Schematic Page Description

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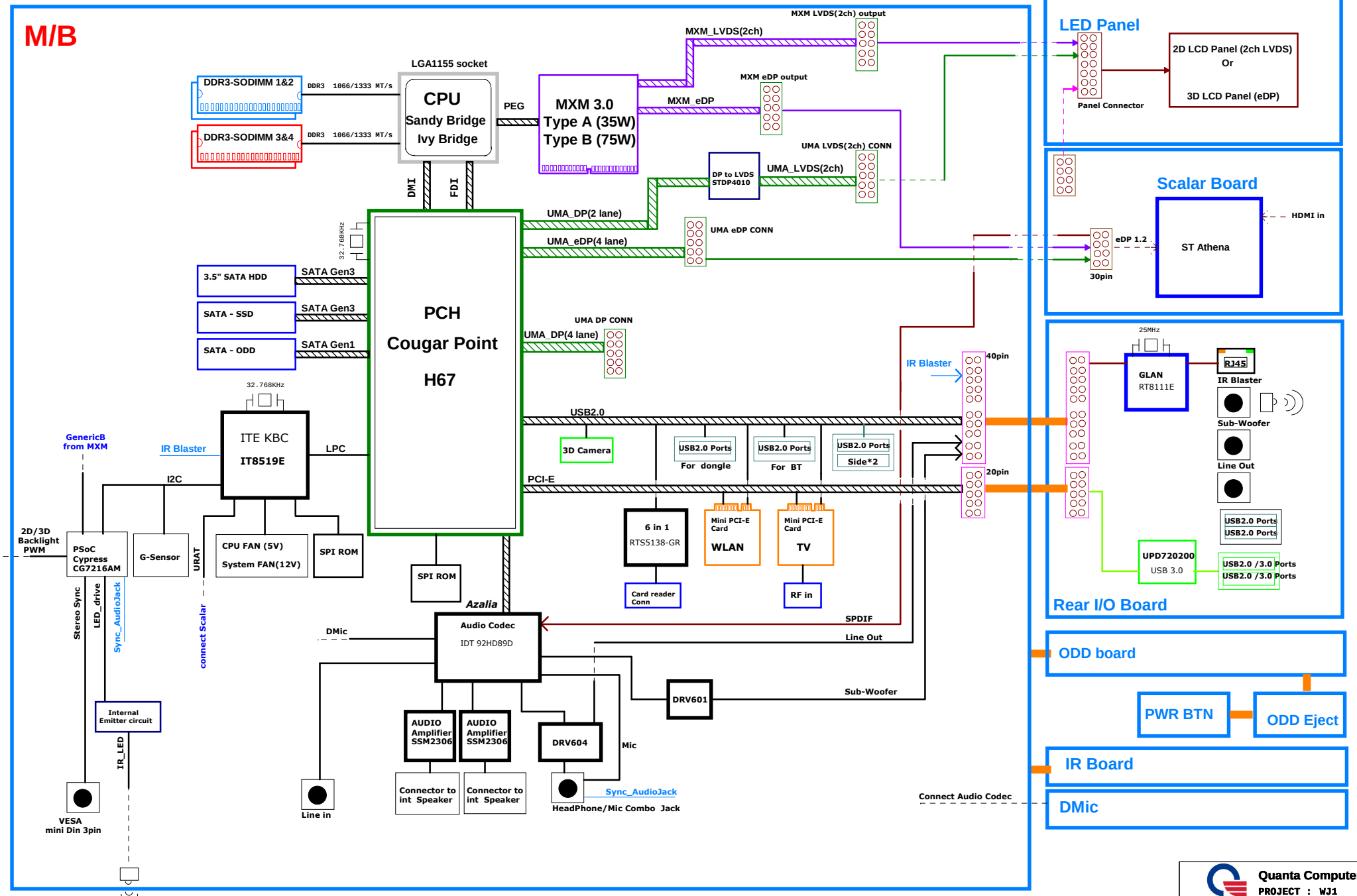
Sugar Bay System Block Diagram



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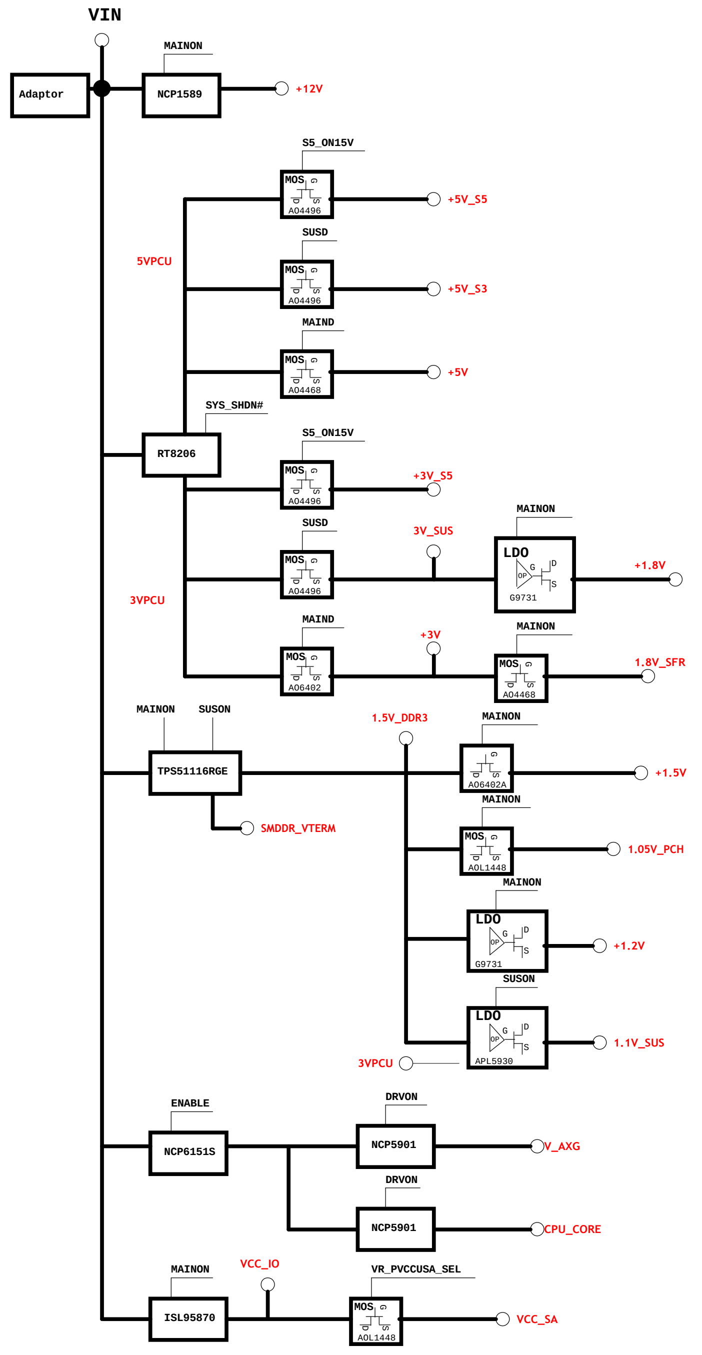
Power Rail	Destination	Voltage	S0 Current
CPU_CORE	Sandy Bridge: CPU core	0.65V-1.3V	112A
V_AXG	Sandy Bridge: CPU AXG	0.5 V-1.3V	35A
VCC_SA	System Agent	0.925 V/0.85 V	8.8A
VCC_IO	Sandy Bridge : Memory controller PCH: DMI PCH : CPU_IO	HI-->1.05V Low-->1.1V 1.1V 1.05V-1.1V-1.16V	8.5A (TDC) 0.065A 0.001A
1.8V_SFR	Sandy Bridge: Internal processor PLL PCH : PCH : Dual channel NAND I/F	1.71V-1.8V-1.89V 1.71V-1.8V-1.89V 1.71V-1.8V-1.89V	1.1A 0.196A 0.156A
+1.8V	LAN re-driver		
1.5V_DDR3	Sandy Bridge: CPU I/O Voltage for DDRIII DIMM :	1.425V-1.5V-1.575V	9A 11A
SMDDR_VTERM	DDRIII Terminator:	0.75V	2A
1.05V_PCH	PCH :PCH_1.05V PCH : Vcc core I/O buffer PCH : DMI buffer voltage PCH : Display PLL A power PCH : Display PLL B power	0.998V-1.05V-1.1V 0.998V-1.05V-1.1V 0.998V-1.05V-1.1V 0.998V-1.05V-1.1V 0.998V-1.05V-1.1V	1.629A 3.251A 0.065A 0.075A 0.075A
+1.5V	Mini PCIE : +1.5V(WLAN)	1.425V-1.5V-1.575V	0.5A
1.1V_SUS			
3V_SUS			
+3V	PCH: I/O buffer voltage PCH: Display DAC Analog power IDT 92HD80 : DVDD Mini PCIE : +3.3V(WLAN) CAREMA 3V FOR MXM STDP4010 (M/B) RTS5138	3.14V-3.3V-3.47V 3.135V-3.3V-3.465V 3.102V-3.3V-3.498V 3.0V-3.3V-3.6V 3.0V-3.3V-3.6V	0.357A 0.069A 2.75A 1A 0.11A 0.035A
+5V	PCH: Core well Ref. voltage SATA ODD SATA HDD(2.5" x SSD) LCD Panel (SAMSUNG) 5V FOR MXM	4.75V-5V-5.25V 4.75V-5V-5.25V 4.75V-5V-5.25V 4.5V-5V-5.5V 4.7V-5V-5.3V	0.001A 1.5A 0.65A 1.6A 2.5A
+5V_S3	USB: x 12 ports	5V	6A
+12V	SSD HDD FAN_CPU CONVERTER : 12V LCD Panel (LG)	11.4V-12V-12.6V 11.4V-12V-12.6V 12V 11.6V-12V-12.4V	0.46A 0.46A 2A 0.226A 1.08A
+3V_S5	PCH : Intel Management Engine PCH : Suspend well I/O Buffer PCH : HD Audio controller EC(IT8519) : VSTBY SPI FLASH ROM	3.14V-3.3V-3.47V 3.14V-3.3V-3.47V 3.14V-3.3V-3.47V 3.0V-3.3V-3.6V	0.086A 0.168A 0.006A
+5V_S5	PCH : Suspend well Ref. Voltage	4.75V-5V-5.25V	0.001A
3VPCU	EC(IT8519) : VPCU	3.0V-3.3V-3.6V	
5VPCU			
VIN	CONVERTER(SUMSUNG) : Vin CONVERTER : Vin 19V FOR MXM	17V-19V-21V 17V-19V-21V 19V	1.1A 1.6A 10A
+1.2V	STDP4010 (M/B)	1.14V-1.2V-1.26V	0.21A



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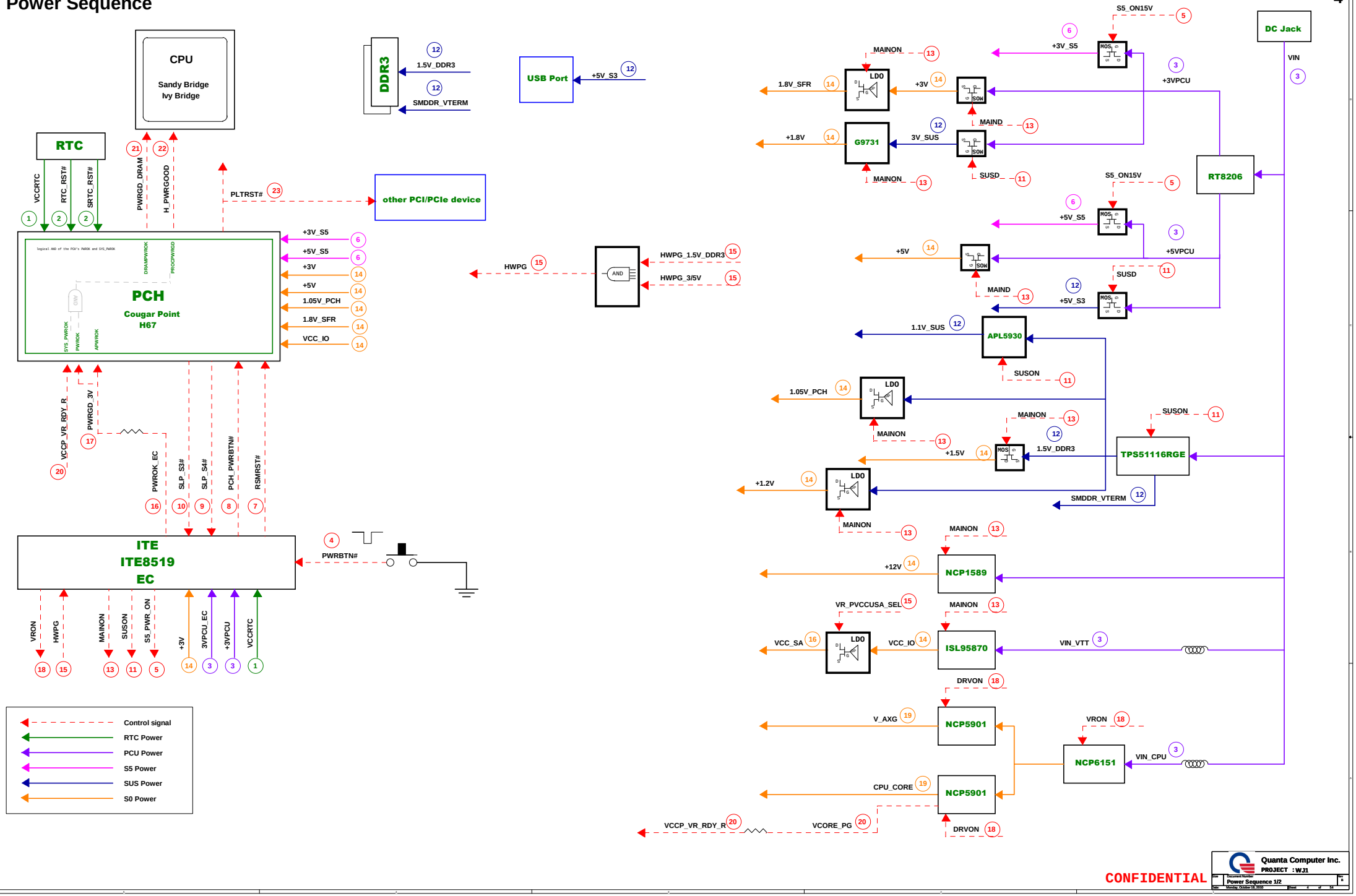
Power Sequence



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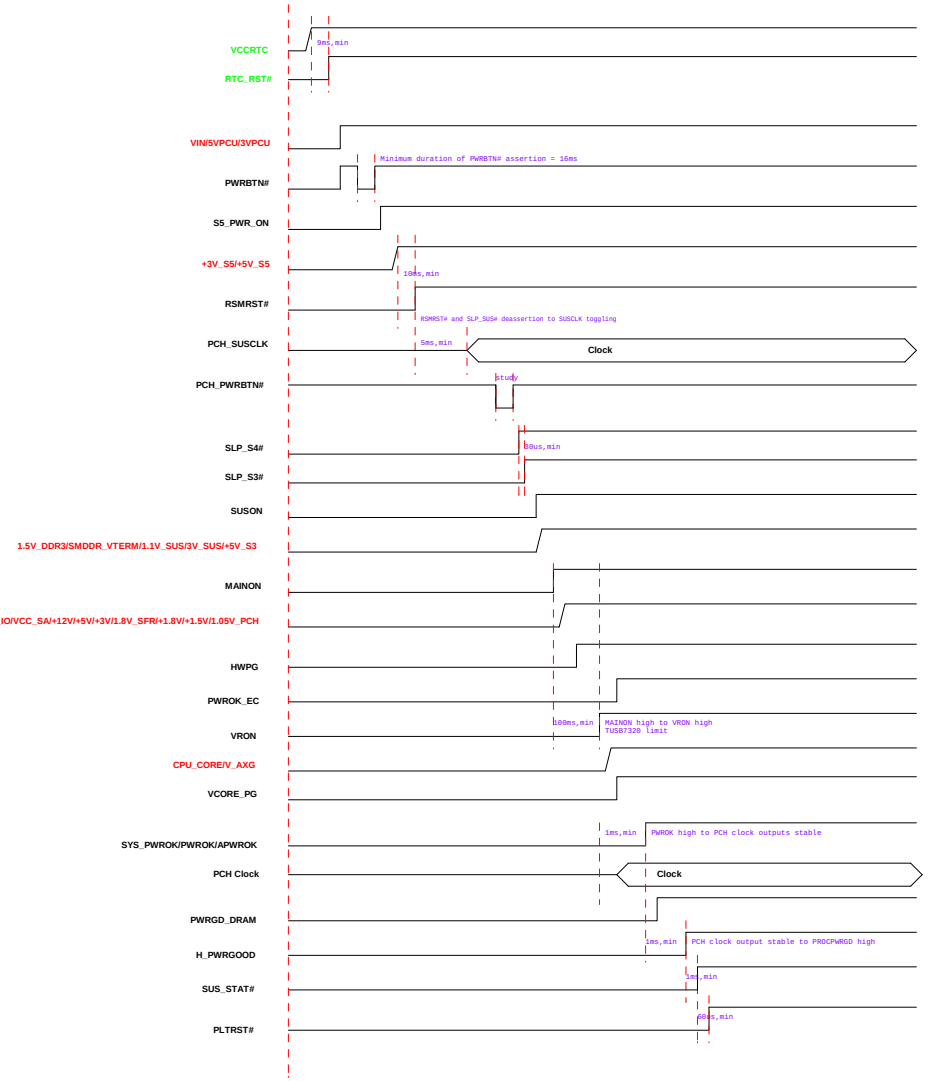
PROJECT : WJ1
Power Sequence 1/2

POWER SEQUENCE

Voltage Rails

Power	Voltage	S0	S3	S4	S5	PCU	G3	Ctl Signal	
VCCRTC	3V	ON	ON	ON	ON	ON	ON		RTC, PCH
VIN	19V	ON	ON	ON	ON	ON	OFF	Adaptor in	
5VPCU	5V	ON	ON	ON	ON	ON	OFF	Adaptor in	IR Receiver
3VPCU	3.3V	ON	ON	ON	ON	ON	OFF	Adaptor in	EC, Flash
+5V_S5	5V	ON	ON	ON	ON	OFF	OFF	S5_PWR_ON	PCH, AMP, BT
+3V_S5	3.3V	ON	ON	ON	ON	OFF	OFF	S5_PWR_ON	PCH, G-sensor, XDP, SPI flash ROM
+5V_S3	5V	ON	ON	OFF	OFF	OFF	OFF	SUSD	USB3.0, USB2.0
3V_SUS	3.3V	ON	ON	OFF	OFF	OFF	OFF	SUSD	
1.5V_DDR3	1.5V	ON	ON	OFF	OFF	OFF	OFF	SUSON	DDR3, CPU DDR3 I/O
SMDDR_VTERM	0.75V	ON	ON	OFF	OFF	OFF	OFF	SUSON	DDR3
1.1V_SUS	1.1V	ON	ON	OFF	OFF	OFF	OFF	SUSON	
+5V	5V	ON	OFF	OFF	OFF	OFF	OFF	MAIND	PCH, CRT, Multi-touch, ODD, HDD, SSD, Buzzer, Panel
+3V	3.3V	ON	OFF	OFF	OFF	OFF	OFF	MAIND	CG7216, CCD, D-Mic, USB controller, WL, TV, RTS5138, Codec, MXM, PCH, DDR3, Flash, EEPROM
+12V	12V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	FAN, Panel, HDD, SSD
+1.8V	1.8V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	LAN re-driver
1.8V_SFR	1.8V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	PCH, CPU_PLL
+1.5V	1.5V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	WL, TV
1.05V_PCH	1.05V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	PCH_IO, PCH_CLK, PCH_PLL, PCH_CORE
VCC_IO	1.05V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	XDP, PCH_DMI, PCH_PROIO, CPU_IO
+1.2V	1.2V	ON	OFF	OFF	OFF	OFF	OFF	MAINON	STDP4010
V_AXG	0.5~1.3V	ON	OFF	OFF	OFF	OFF	OFF	VRON	CPU_AXG
CPU_CORE	0.65~1.3V	ON	OFF	OFF	OFF	OFF	OFF	VRON	CPU_Core
VCC_SA	0.925 /0.85 V	ON	OFF	OFF	OFF	OFF	OFF	VR_PVCCUSA_SEL	CPU_SA

Power	Voltage	S0	S3	S4	S5	PCU	G3		
3VPCU_EC	3.3V	ON	ON	ON	ON	ON	OFF		EC
VIN_CPU	19V	ON	ON	ON	ON	ON	OFF		
VIN_VTT	19V	ON	ON	ON	ON	ON	OFF		
VIN_LCD	19V	ON	ON	ON	ON	ON	OFF		Converter/B
USBVCC2	5V	ON	ON	OFF	OFF	OFF	OFF		USB2.0 port
USB3.0_VCC1	5V	ON	ON	OFF	OFF	OFF	OFF		USB3.0 port
USB3.0_VCC2	5V	ON	ON	OFF	OFF	OFF	OFF		USB3.0 port
3V_USB_A	3V	ON	ON	OFF	OFF	OFF	OFF		USB3.0 controller
VIN_MXM	19V	ON	OFF	OFF	OFF	OFF	OFF		MXM
+5V_MXM	5V	ON	OFF	OFF	OFF	OFF	OFF		MXM
+3V_MXM	3.3V	ON	OFF	OFF	OFF	OFF	OFF		MXM
+12V_HDD	12V	ON	OFF	OFF	OFF	OFF	OFF		HDD
+5V_HDD	5V	ON	OFF	OFF	OFF	OFF	OFF		HDD
+12V_SSD	12V	ON	OFF	OFF	OFF	OFF	OFF		SSD
+5V_SSD	5V	ON	OFF	OFF	OFF	OFF	OFF		SSD
LCDVCC	12 /5V	ON	OFF	OFF	OFF	OFF	OFF		Panel_LVDS
+5V_Touch	5V	ON	OFF	OFF	OFF	OFF	OFF		Multi_touch
CCD_PWR	3.3V	ON	OFF	OFF	OFF	OFF	OFF		CCD
VDDA_CODEC	5V	ON	OFF	OFF	OFF	OFF	OFF		Codec, Audio jack
+AZA_VDD	3.3V	ON	OFF	OFF	OFF	OFF	OFF		Codec
+3V_TV	3.3V	ON	OFF	OFF	OFF	OFF	OFF		TV card
VCC3_CARD	3.3V	ON	OFF	OFF	OFF	OFF	OFF		RTS5138



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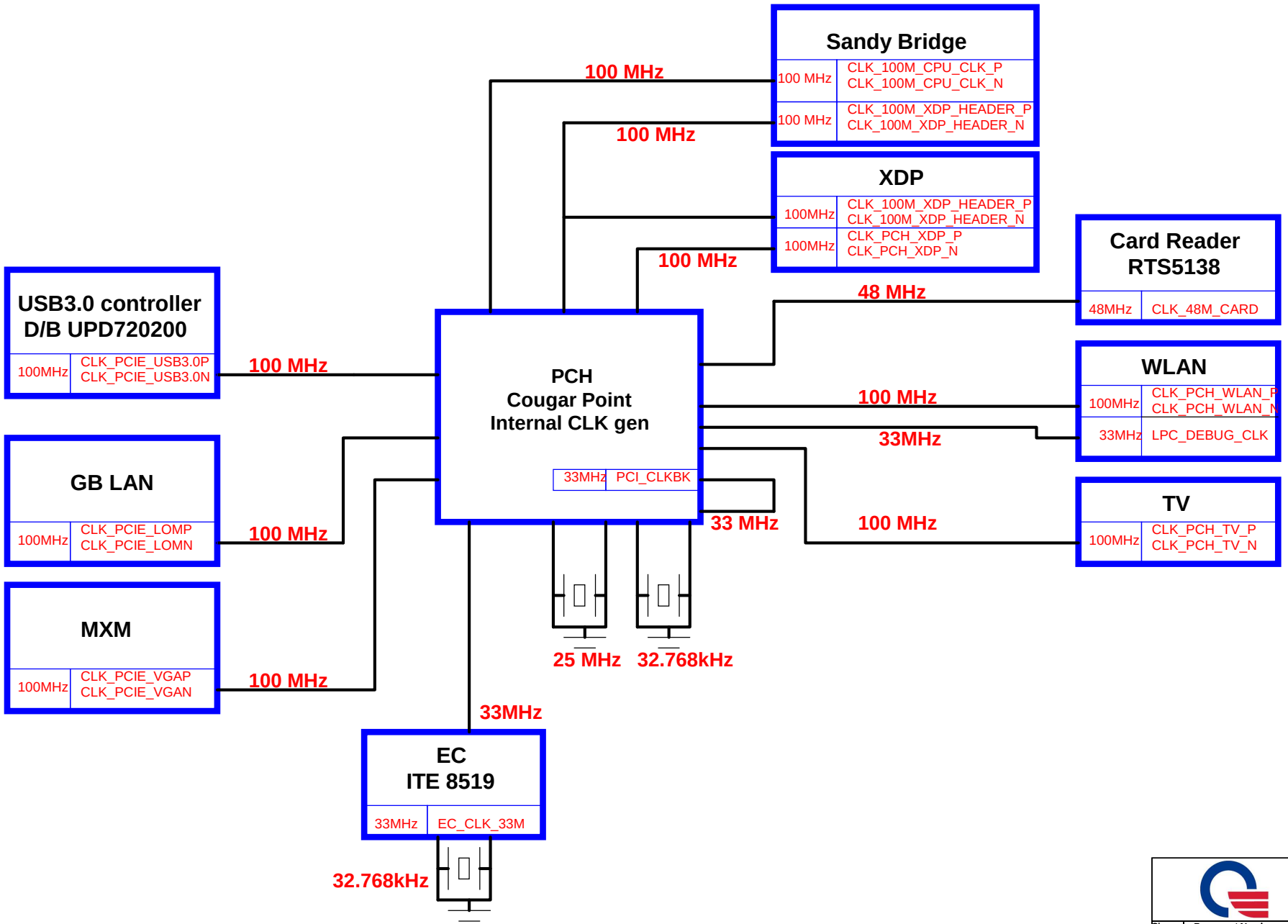

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Size	Document Number	Rev
	CLOCK BLOCK DIAGRAM	B

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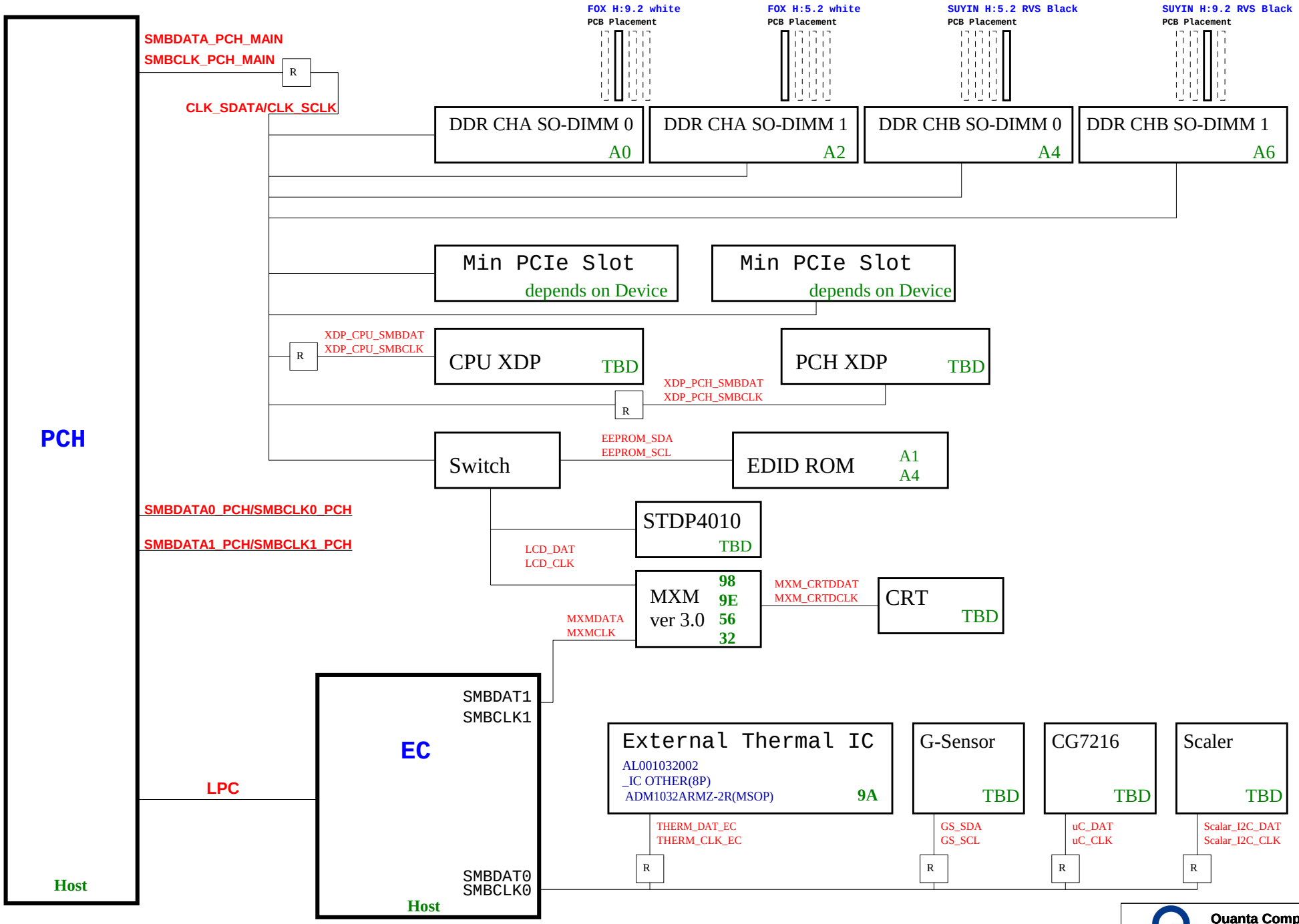
WJ1 SMbus Block Diagram



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	SMBus Block Diagram	B

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NAME	GPIO/PIN	I/O	DESCRIPTION	ACTIVE
		I		INITAL : HIGH / ACTIVE : LOW
		B		
		I		
		I		
		O		
		O		
		I		
		O		
		O		
		O		
		O		
		O		
		I		
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		O		
		O		
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		I		
		I		
		I		
		O		
		O		
		O		
		I		
		I		

NAME	GPIO/PIN	I/O	DESCRIPTION	ACTIVE
		I		
		B		
		I		
		I		
		O		
		O		
		I		
		O		
		O		
		O		
		O		
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	GPIO List	B

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	TBD	B

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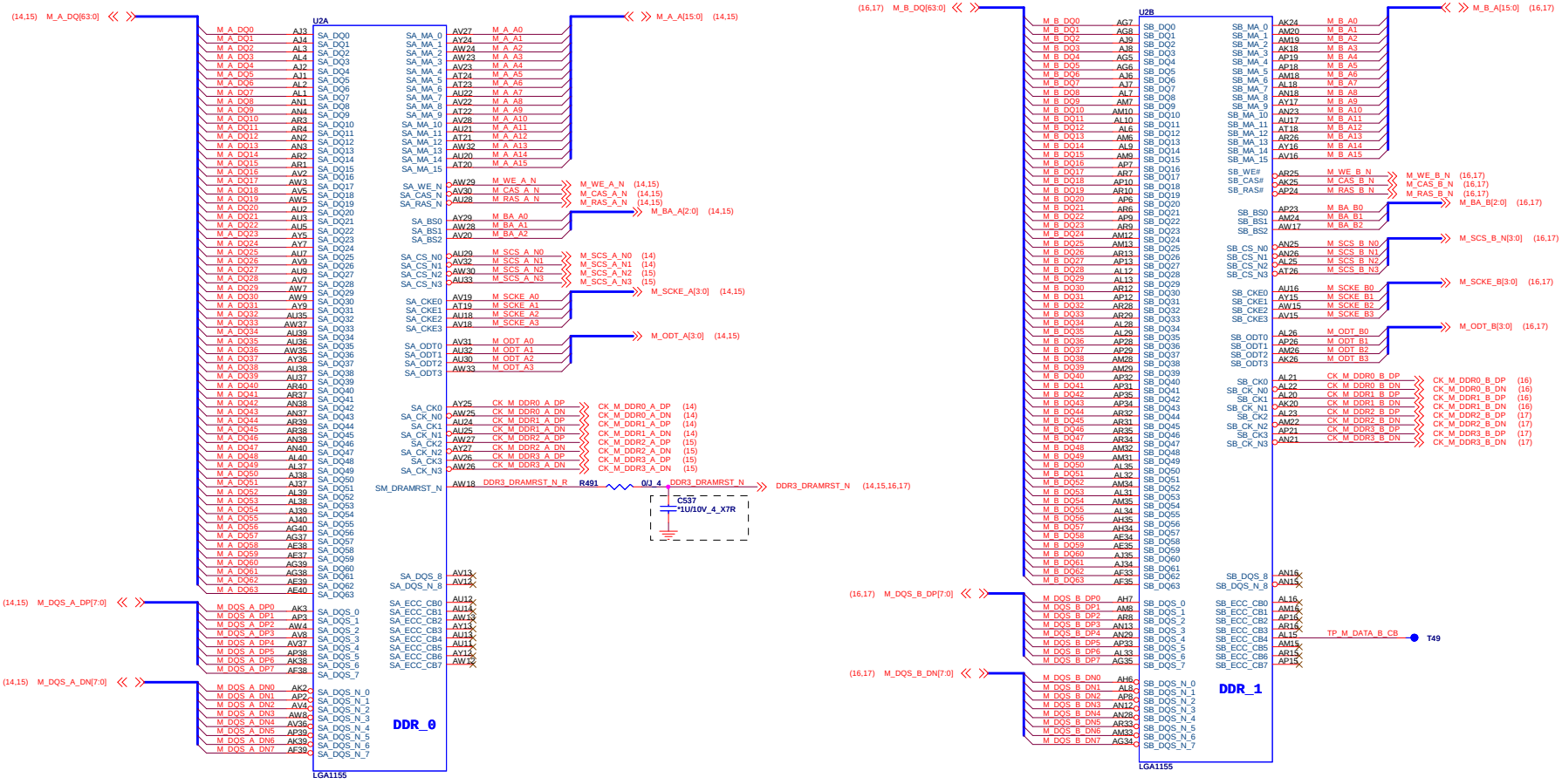

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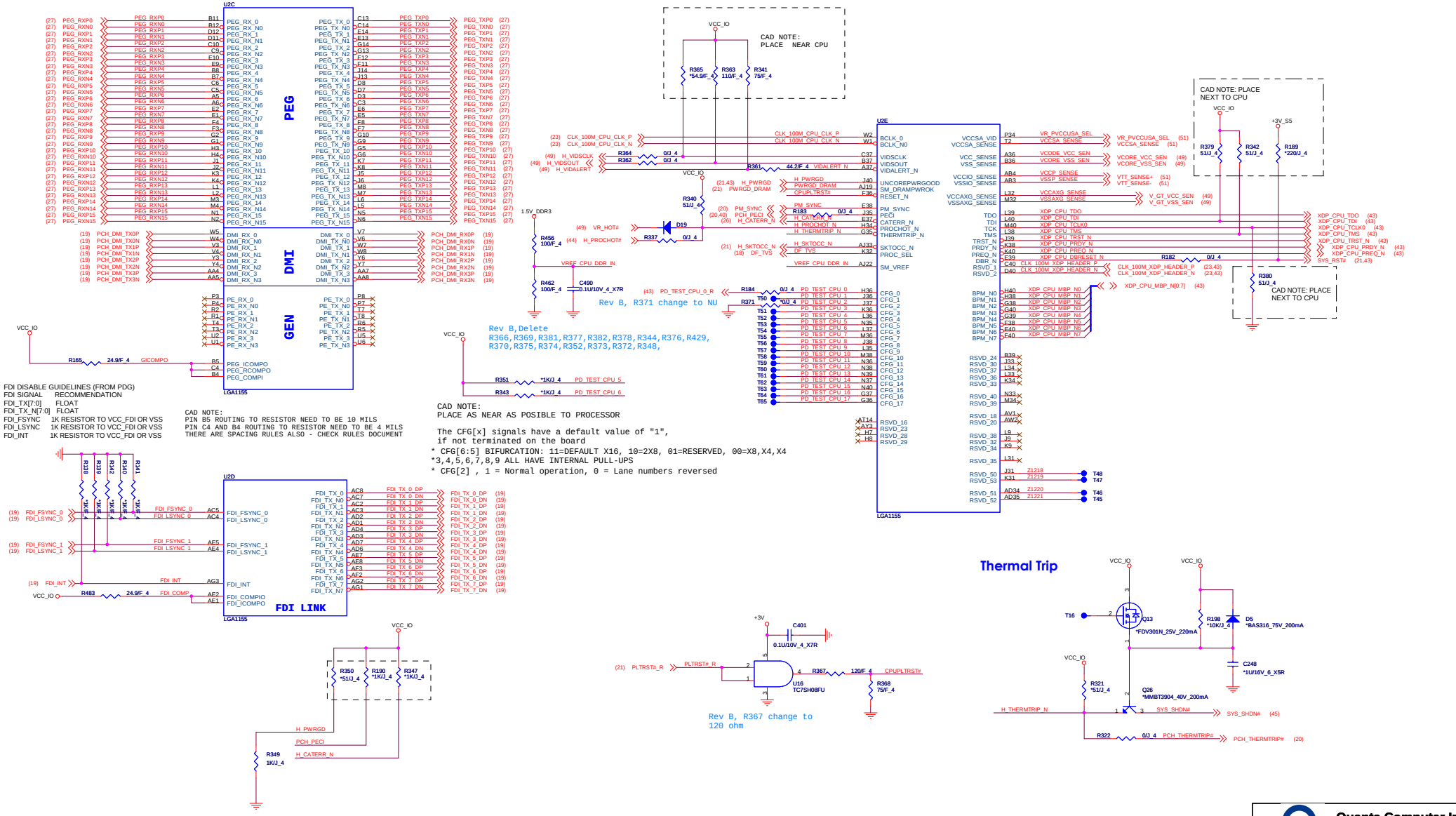

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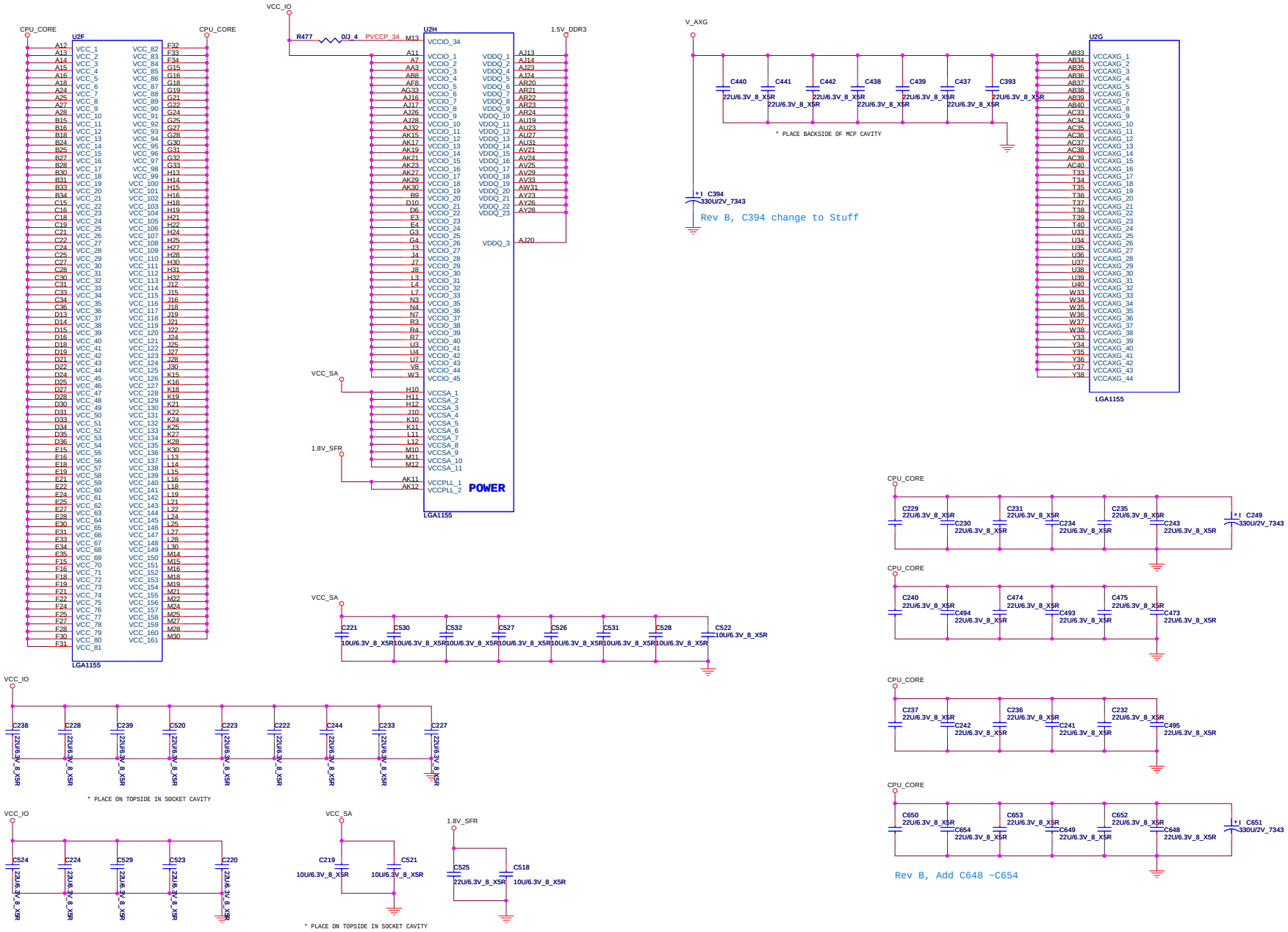

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Size	Document Number	Rev
	CPU-POWER	B

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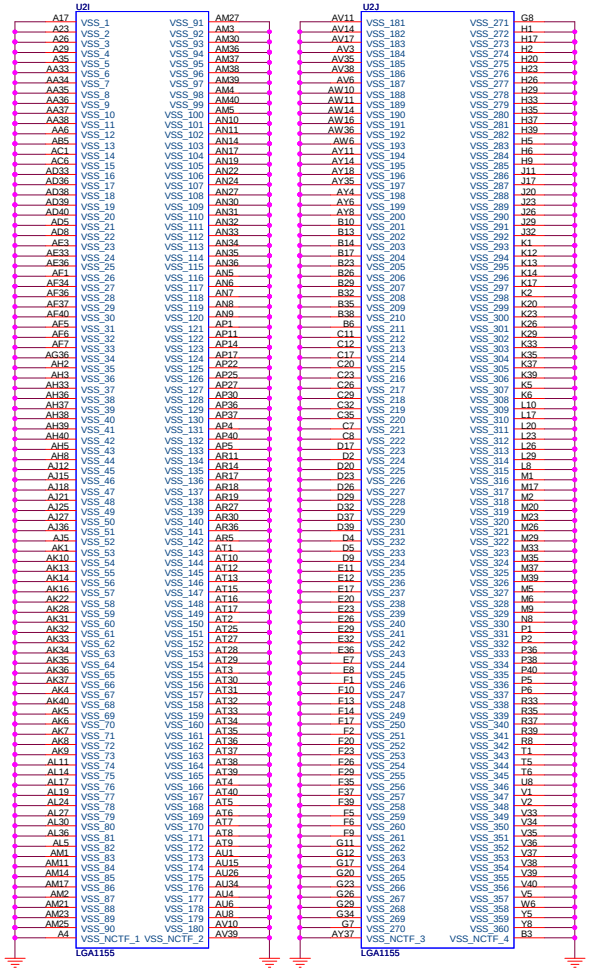

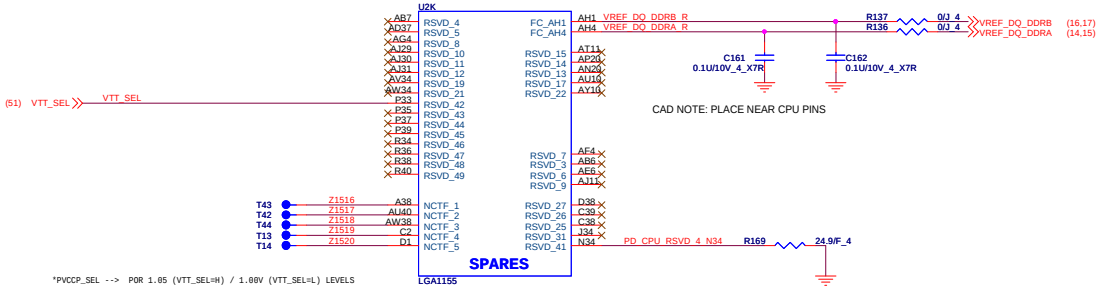

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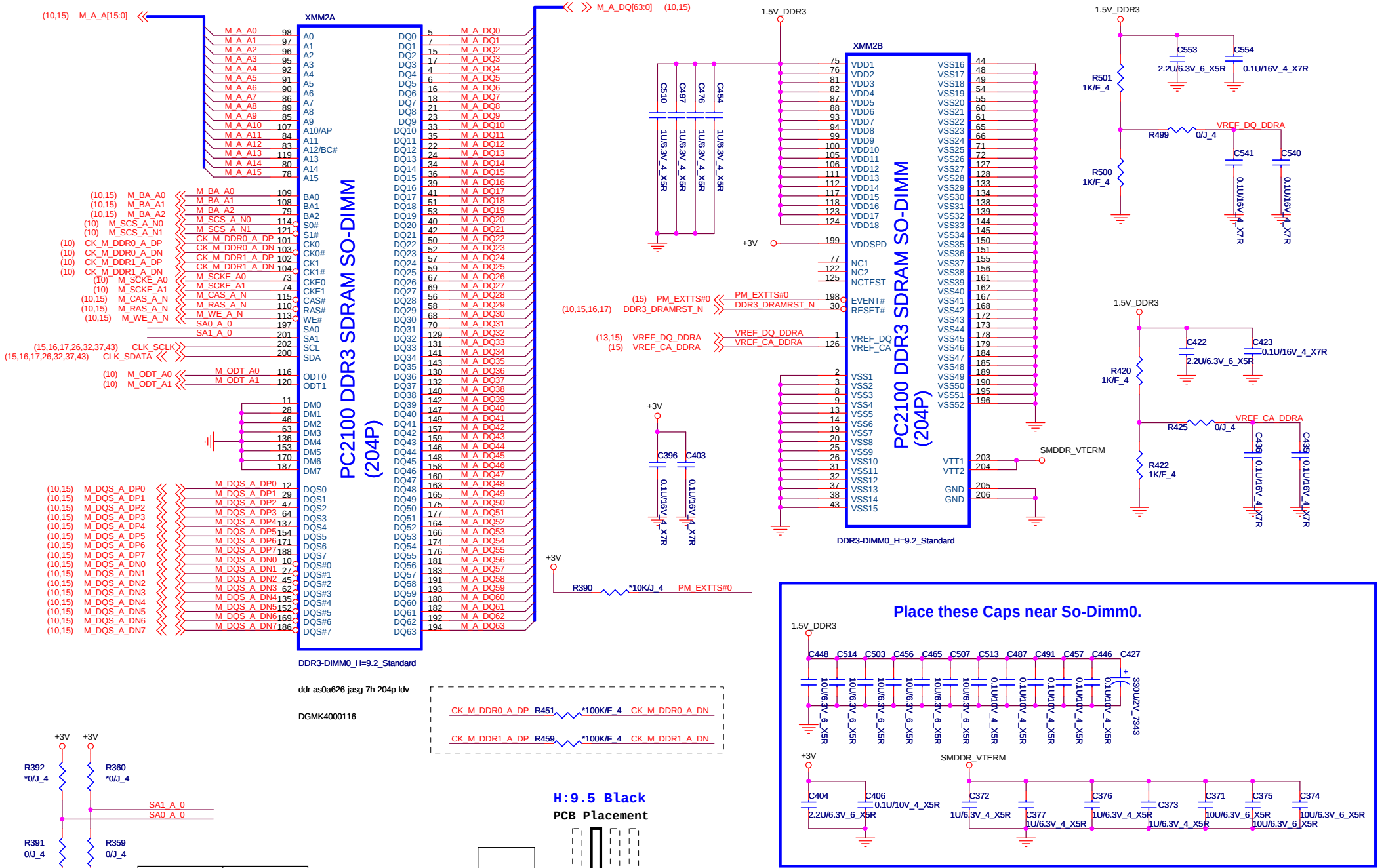
CHANNEL A DIMM 0



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	DDR3 CHA DIMM 0		B
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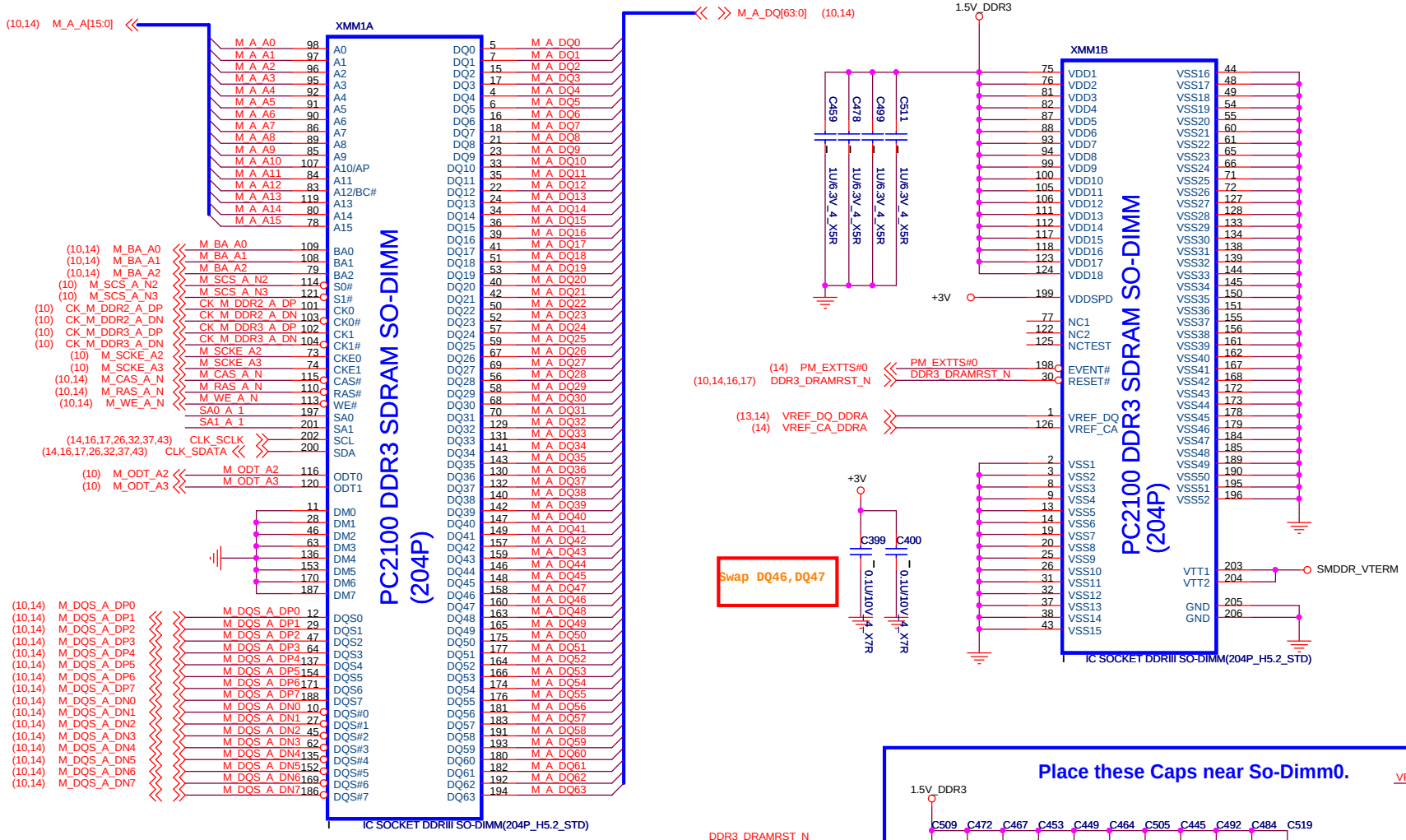
CHANNEL A DIMM 1



SPD SA0	1
SPD SA1	0

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	DDR3 CHA DIMM 1	B
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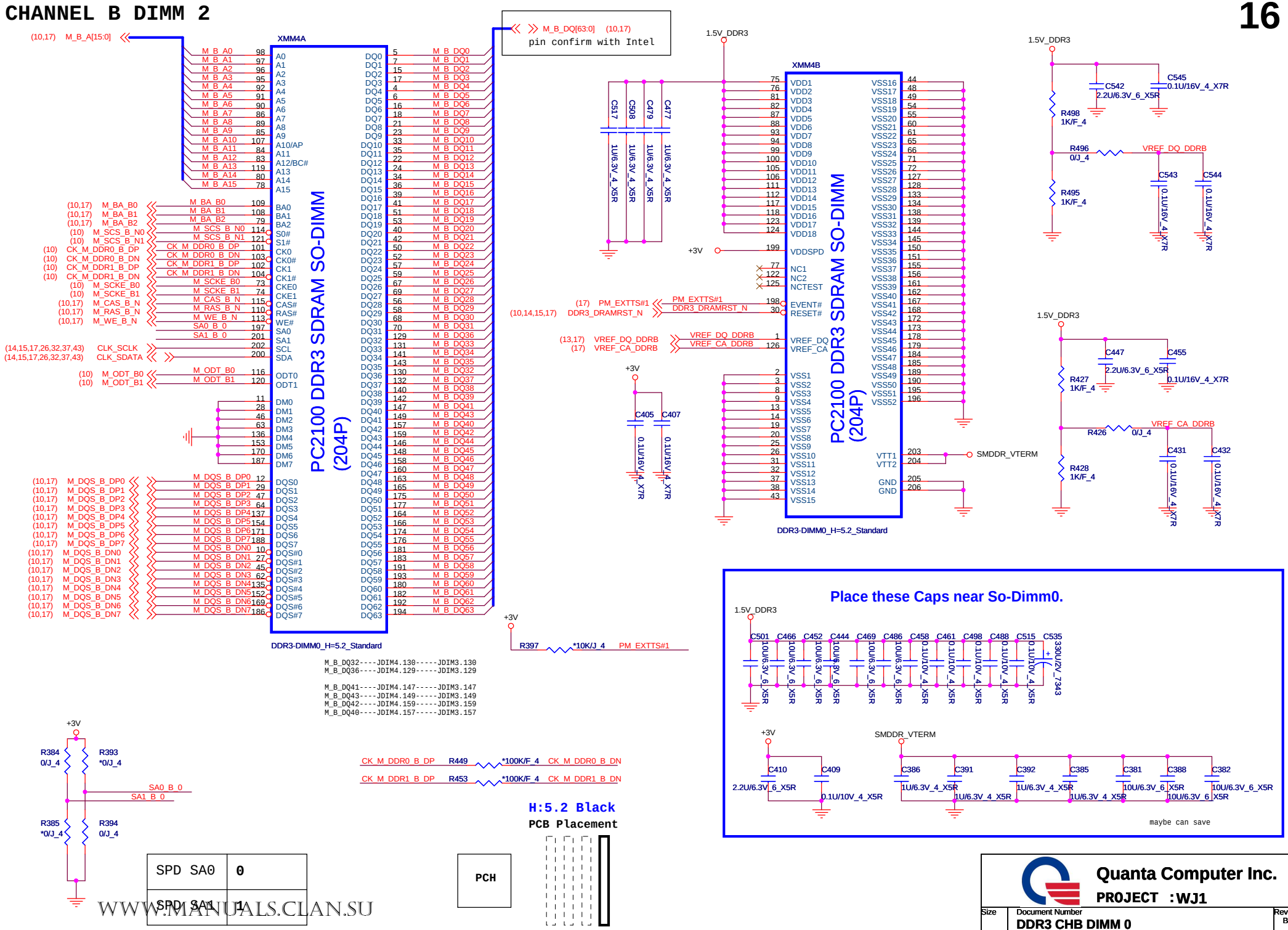
CHANNEL B DIMM 2



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CHANNEL B DIMM 3

SILKSCREEN: DIMM4

XMM3A

PC2100 DDR3 SDRAM SO-DIMM (204P)

IC SOCKET DDRIII SO-DIMM(204P_H9.2_RVS)

XMM3B

PC2100 DDR3 SDRAM SO-DIMM (204P)

IC SOCKET DDRIII SO-DIMM(204P_H9.2_RVS)

Place these Caps near So-Dimm0.

SPD SA0	1
SPD SA1	1

PCH

H:9.5 white

PCB Placement

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	DDR3 CHB DIMM 1	B
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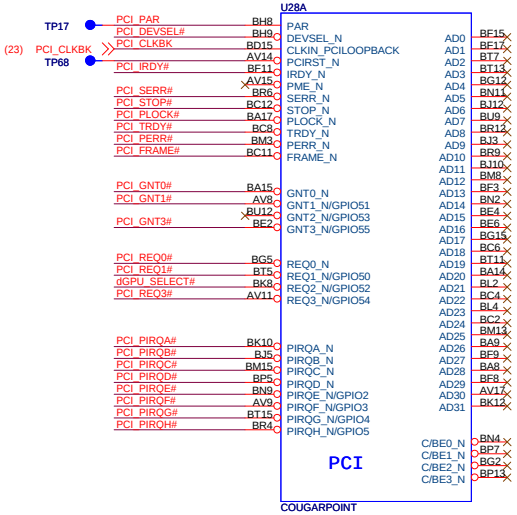
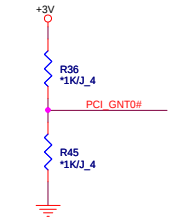
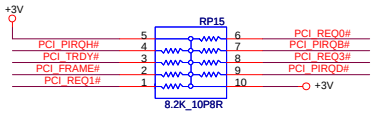
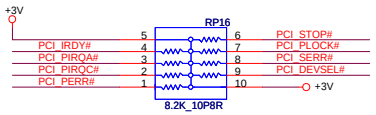
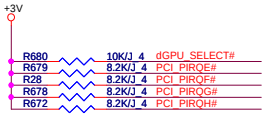
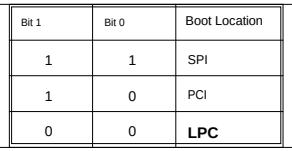
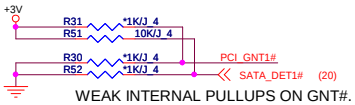
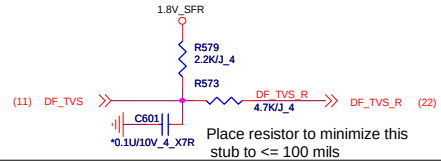
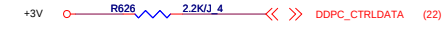
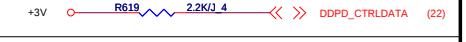


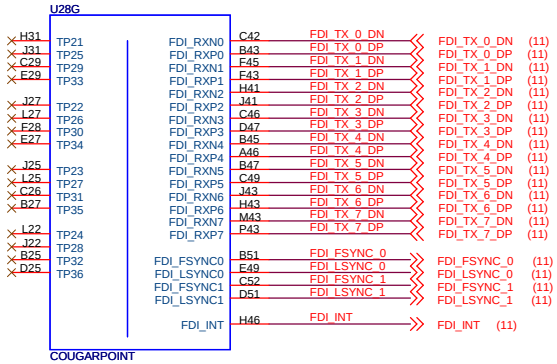


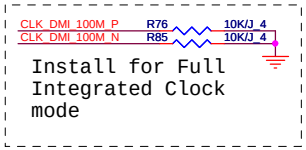


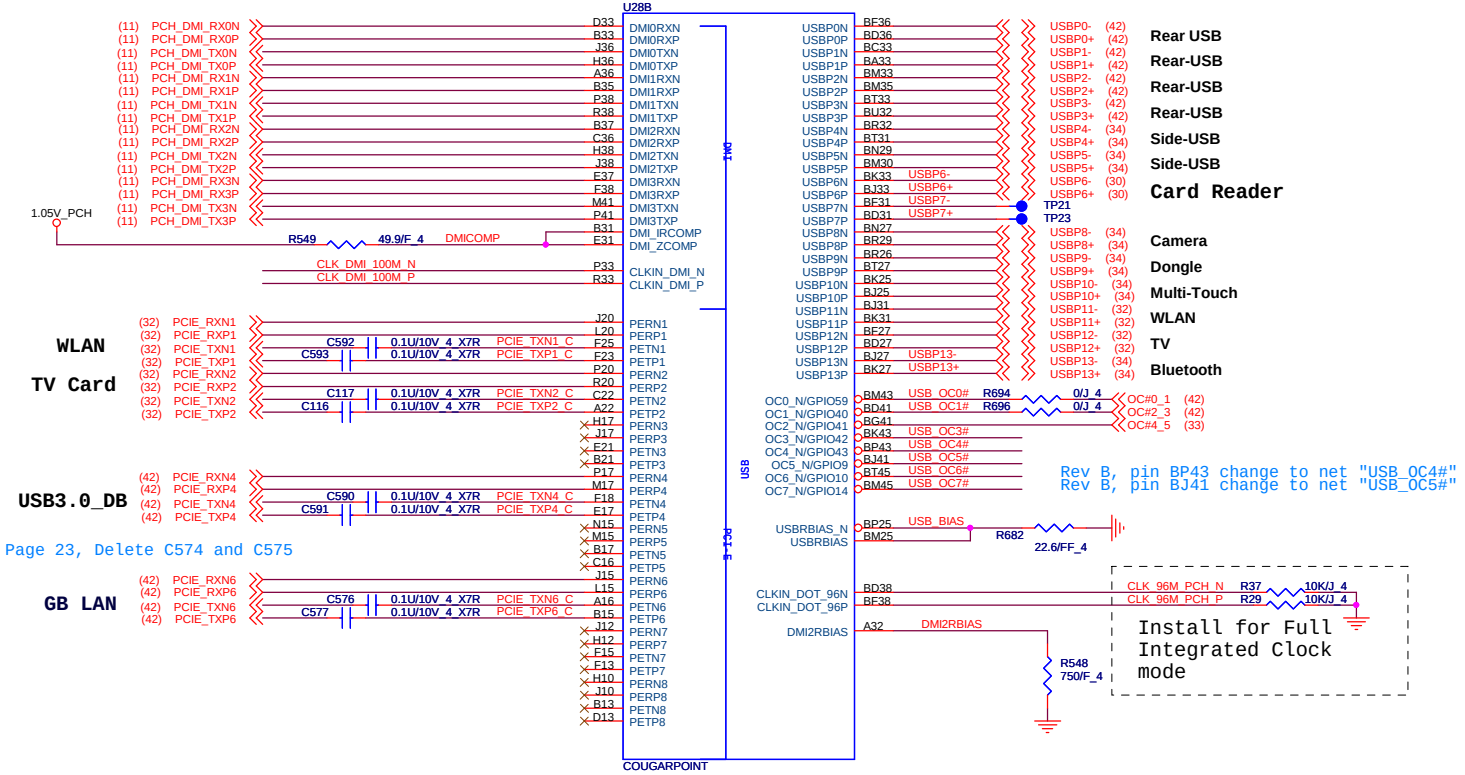




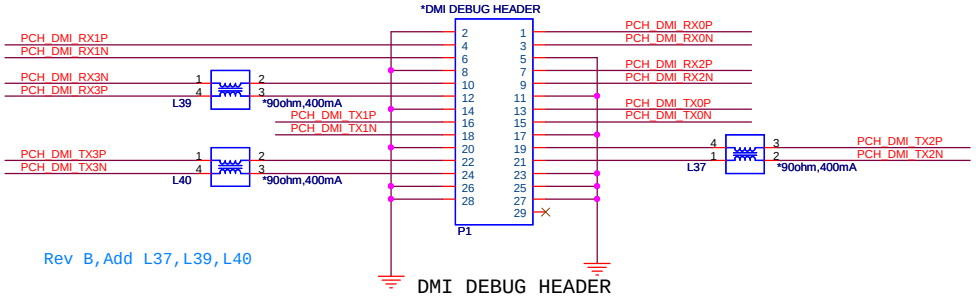
Pin Name	Strap description	Sampled	Configuration	Note
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	
INIT3_3V	Reserved	PWROK	1 = Default (internal weak pull-up) Should not be pull-down	NC
GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)	
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	**Should be always pull-up**	
GNT1# / GPIO51	Boot BIOS Selection 1 [bit-1]	PWROK		
SATA1GP/GPIO19	Boot BIOS Selection 0 [bit-0]	PWROK		
GNT2# / GPIO53	ESI strap (Server only)	PWROK	Default internal pull up	UNUSE, NC
HDA_SDO	Flash Descriptor Security Override /ME Debug Mode	REMRST#	0 = Default 1= Override	Use default
DF_TVS (NV_CLE)	DMI and TDI Termination voltage	PWROK	weak Internal pull-down	
GPIO28	On die Voltage Regulator	RSMRST#	0 = Disable 1 = Enable(default weak internal pull up)	Use default
HDA_SYNC	On-die PLL PWR supply select	RSMRST#	0 = Default On die PLL VR supplied by 1.8V 1 = On die PLL VR supplied by 1.5V	use defaul (0 = 1.8V supply)
GPIO15	TLS Confidentility	RSMRST#	0 = Default, Intel ME Cryto TLS with NO confidentiality 1 = Intel ME Cryto TLS with confidentiality	Use default
SDVO_CTRLDATA	Port B detected	PWROK	0 = Default, not detected 1 = Detected	
DDPC_CTRLDATA	Port C detected	PWROK	0 = Default, not detected 1 = Detected	
DDPD_CTRLDATA	Port D detected	PWROK	0 = Default, not detected 1 = Detected	
DSWVRMEN	Deep S4/S5 well on die regulator enable	ALWAYS	0 = Disable 1 = Enable	
SATA2GP/GPIO36	Reserved	PWROK	Weak internal pull-down Should not be pull high when sampled	Use default
SATA3GP/GPIO37	Reserved	PWROK	Weak internal pull-down Should not be pull high when sampled	Use default
GPIO8	BTM / FCIM		BTM Leave floating FCIM Pull low with 1K to ground	USE BTM





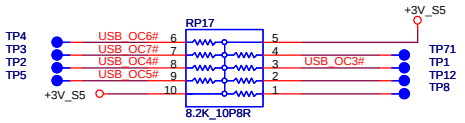


Page 23, Delete C574 and C575



Rev B,Add L37,L39,L40

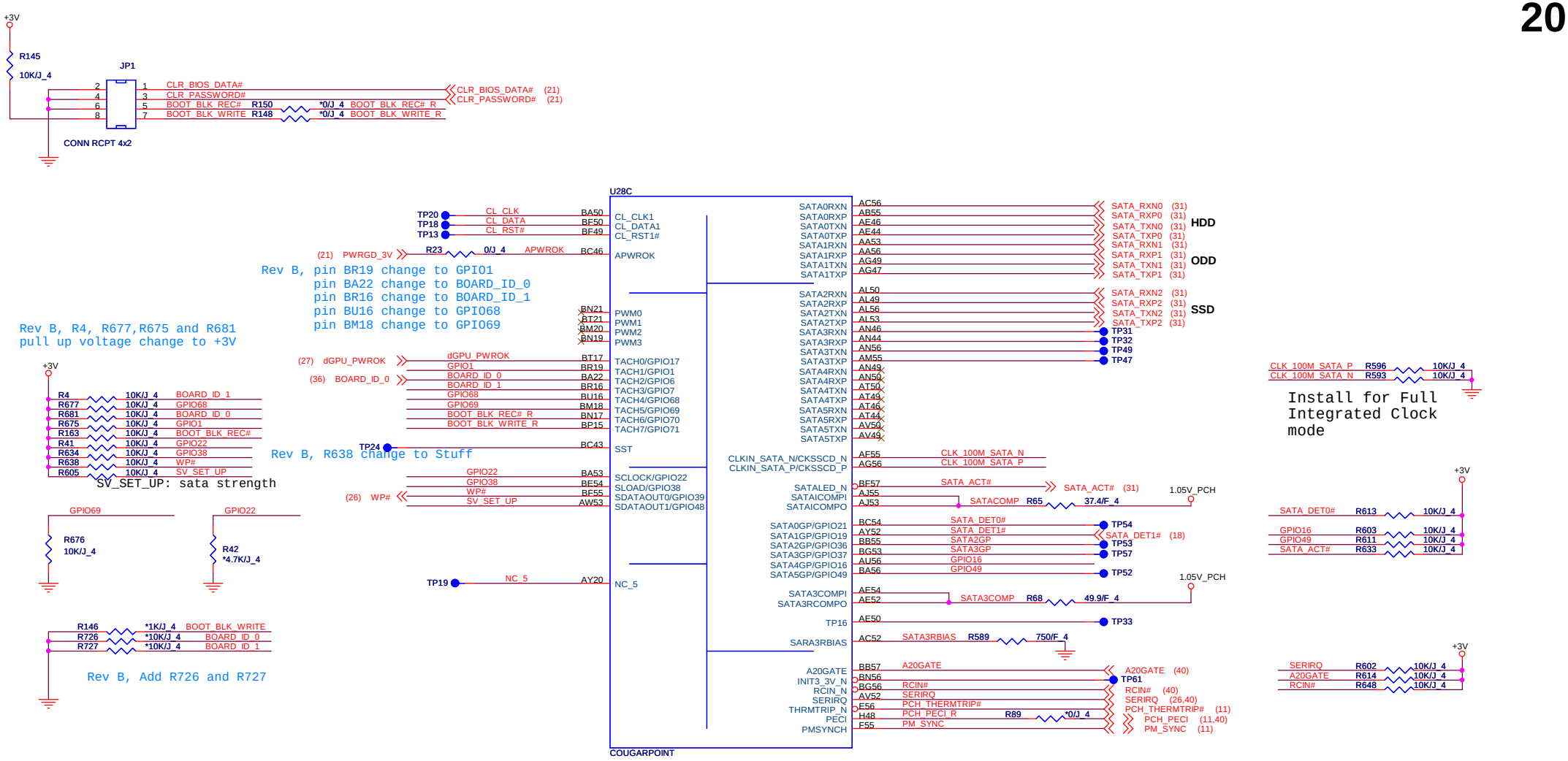
DMI DEBUG HEADER



Rev B, RP17 pin 8 connect to "USB_OC4#", pin 9 connect to "USB_OC5#"
Rev B, RP17 pin 1,2,4 change to float

Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	PCH-DMI, PCI-E, USB	B
Date: Monday, October 18, 2010	Sheet 19 of 54	



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	PCH-SATA, MLINK, GPIO	B
Date: Monday, October 18, 2010	Sheet 20 of 54	

Rev B, R652 pull up voltage change to +3V_S5, NU
Rev B, R19 pull up voltage change to +3V_S5

Rev B, R27, R54 and R659 pull up voltage change to +3V_S5

Rev B, R655,R669,R662,R21 and R53 pull up volatge change to +3V_S5

Rev B, GPIO12 change to EC_SMI#
Rev B, GPIO13 change to EC_SCI#
Rev B, GPIO44 change to CLR_BIOS_DATA#
Rev B, GPIO45 change to CLR_PASSWORD#

Rev B, Delete R629

Rev B, Add
R710,R711,R712 and R713

Rev B, R600 change to NU

Rev B, R604 change to Stuff
Rev B, Add R737, NU

Rev B, SW1 change footprint

Rev B, U30 change footprint

Rev B, C642 and C643 change to 12p

Rev B, R701, U32 and C647 change to NU
R707 change to Stuff

Quanta Computer Inc.
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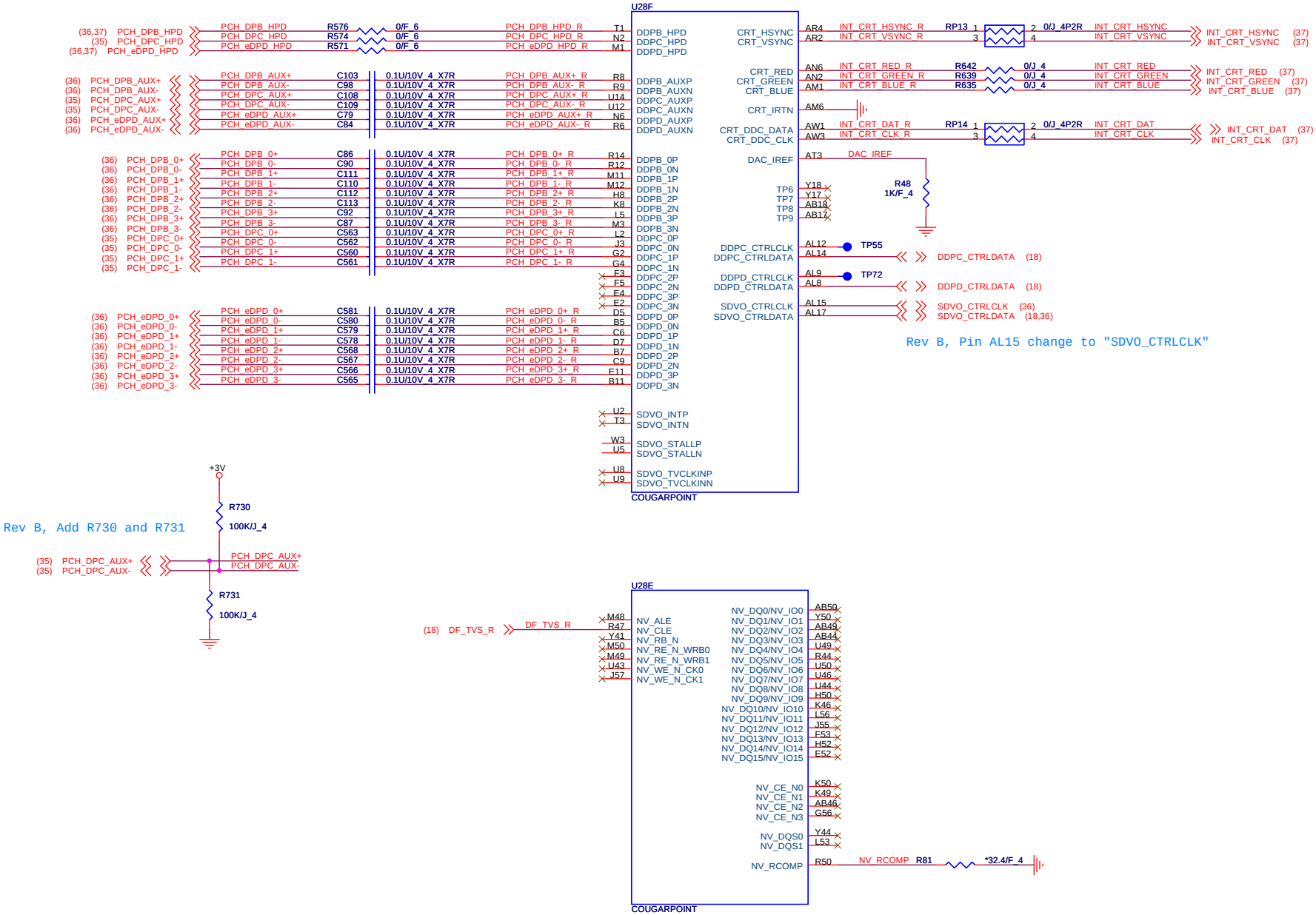
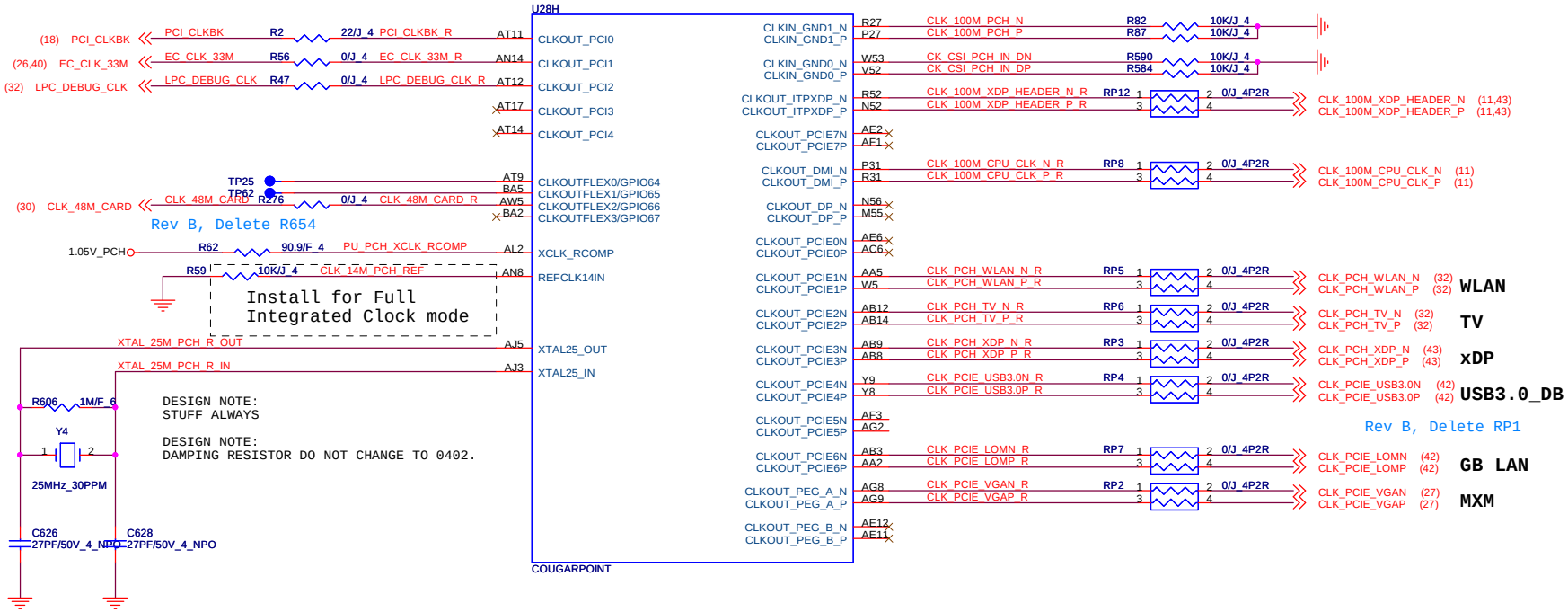
Size | Document Number: PCH-MISC, GPIO, SMBUS | Rev B
Date: Monday, October 18, 2010 | Sheet 21 of 54



Quanta Computer Inc.
PROJECT : WJ1

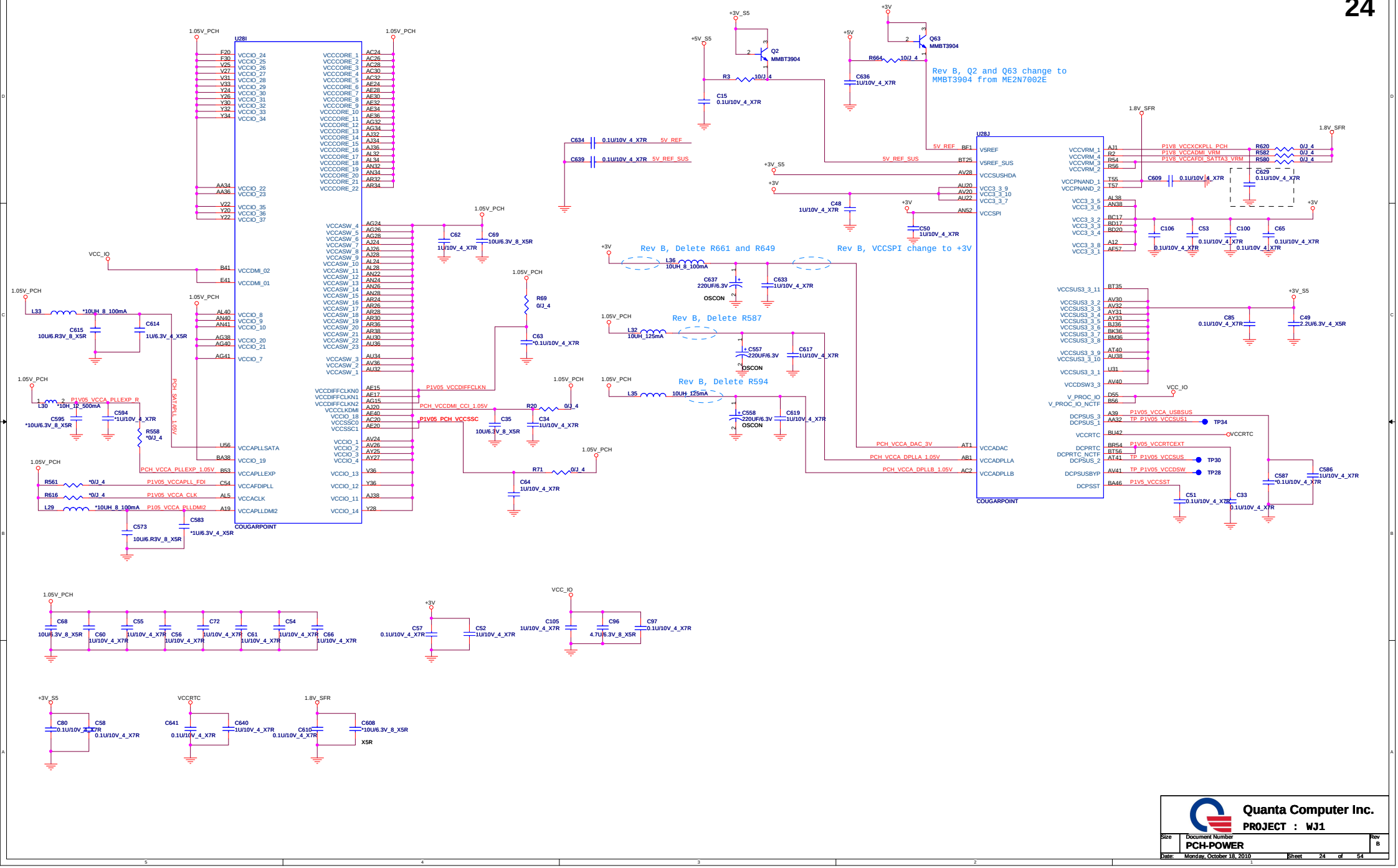
Size	Document Number	Rev
	PCH-DISPLAY, FDILINK	B
Date: Monday, October 18, 2010	Sheet 22 of 54	



Quanta Computer Inc.
PROJECT : WJ1

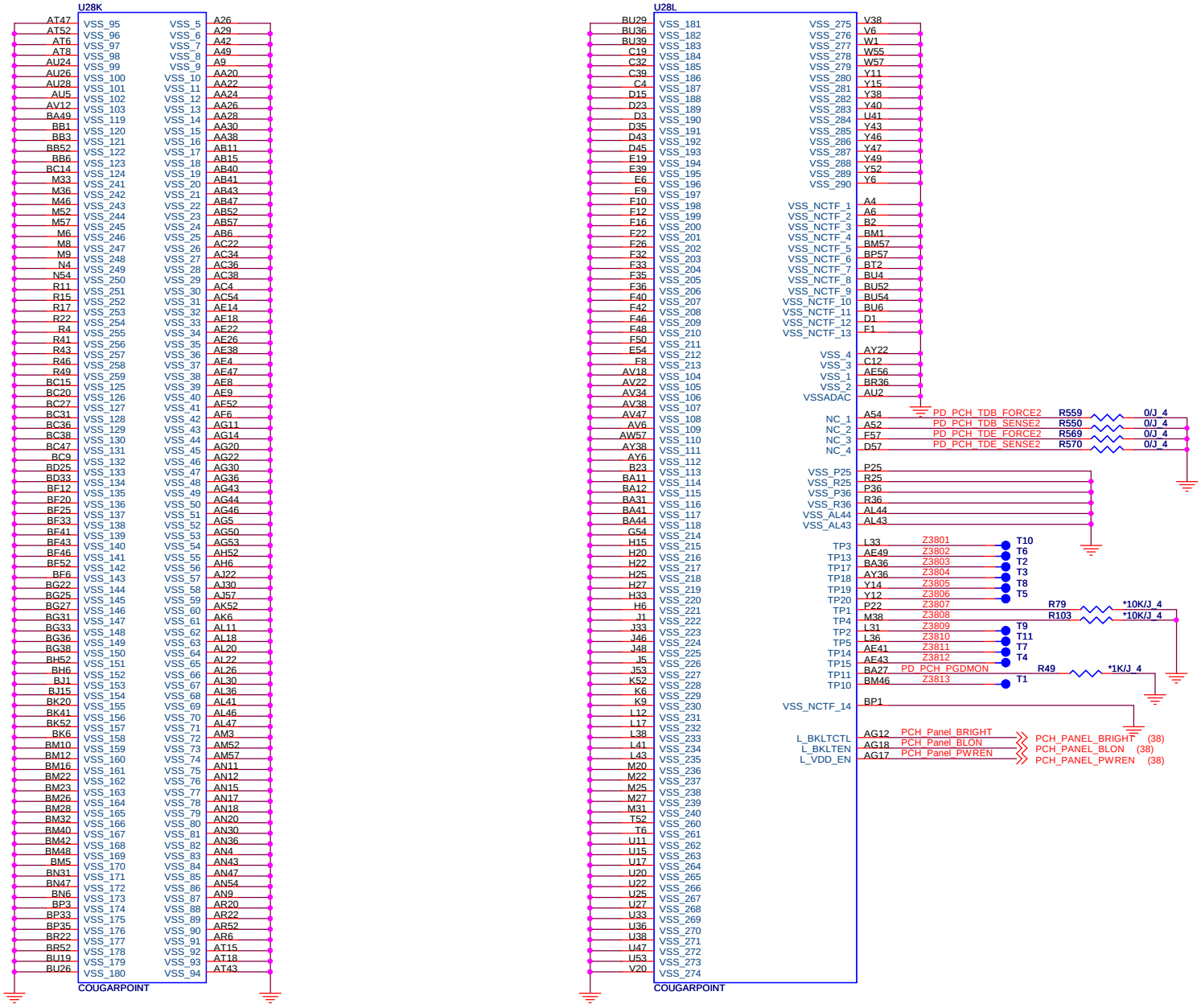
Size	Document Number	Rev
	PCH-CLOCK DISTRIBUTION	B

Date: Monday, October 18, 2010 Sheet 23 of 54



Quanta Computer Inc.
PROJECT : WJ1

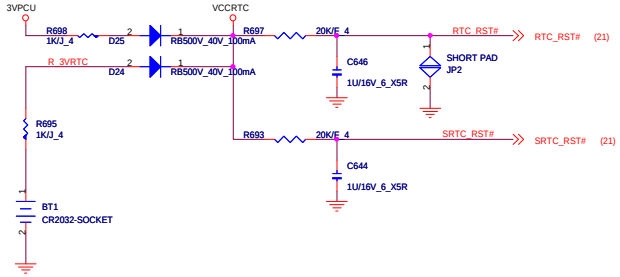
Size	Document Number	Rev
	PCH-POWER	B
Date: Monday, October 18, 2010	Sheet 24 of 54	



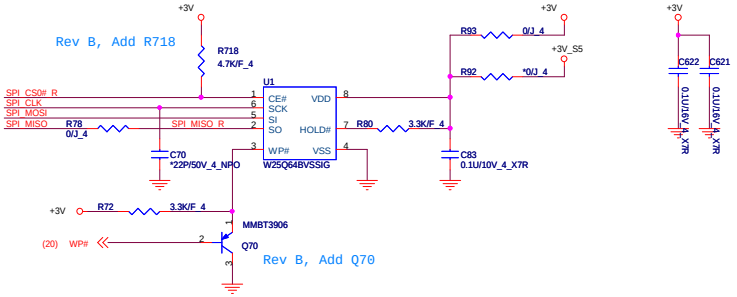
Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	PCH-GND	B

Date: Monday, October 18, 2010 Sheet 25 of 54

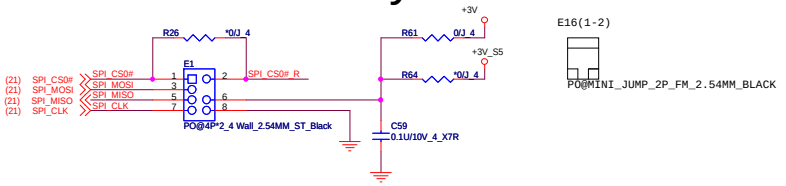


Rev B, Add R718

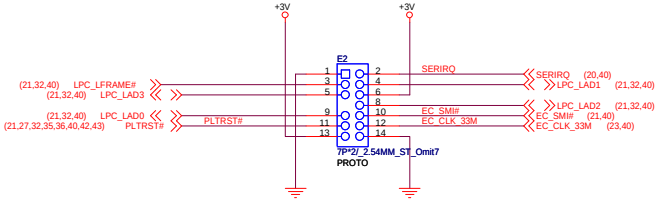


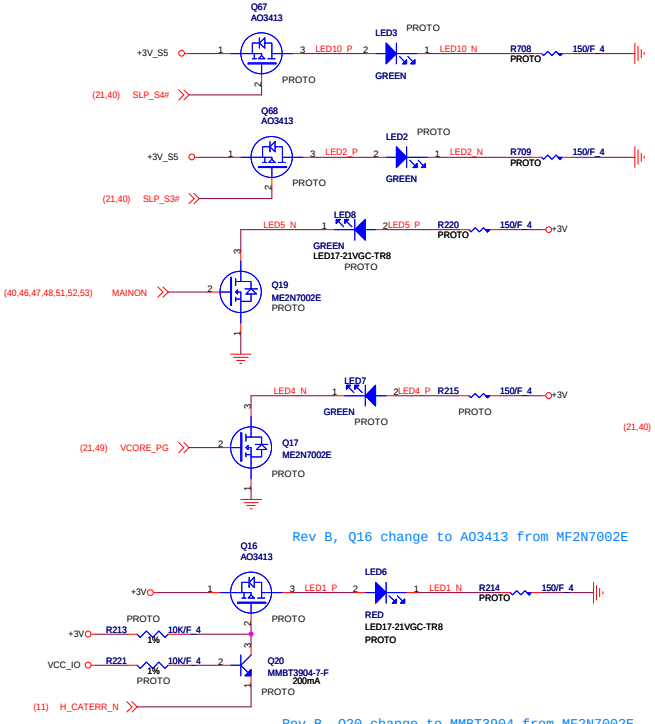
Rev B, Add Q70

ROM recovery



LPC HEADER



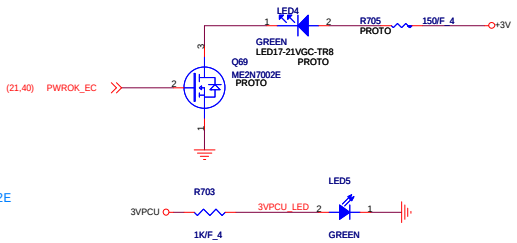


Rev B, Q67 and Q68 change to AO3413 from ME2N7002E

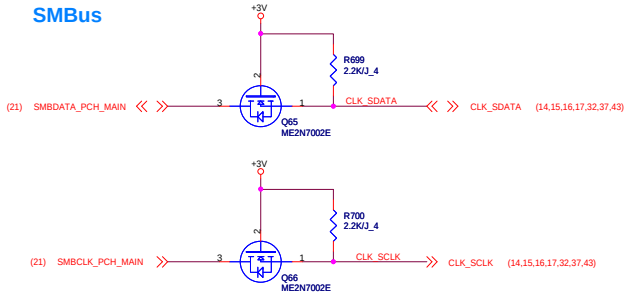
Rev B, Add R708 and R709

Rev B, Q16 change to AO3413 from MF2N7002E

Rev B, Q20 change to MMBT3904 from ME2N7002E



SMBus



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	RTC/ SPI/ PWRGD Logic	B
Date: Monday, October 18, 2010	Sheet 26 of 54	

MXM3.0	n-Vidia	AMD
LVDS	LVDS	LVDS/Int. DP
DP_D	N/A	X
DP_A	HDMI	HDMI
DP_C	Ext. DP/DVI	Ext. DP/DVI
DP_B	N/A	N/A

dGPU_PRSNT#	Sku
Low	MXM
High	WO/ MXM

MAINON	Behavior
Low	Enable dGPU PWR
High	Disable dGPU PWR

To low power status mode

1 : FULL POWER
0 : LOW POWER

MXM_ACIN R133 *SHORT_4 MXM_PWR_LEVEL# (40)

To EC

MXMPWR_EN_R R134 *SHORT_4 MXMPWR_EN (40)

For Scaler BD control

DP(Port A) CONN for MXM

Thermo SMBus

For CRT Debug

MXM VIN Power switch

MXM 3V/5V Power switch

Rev B, Add R728

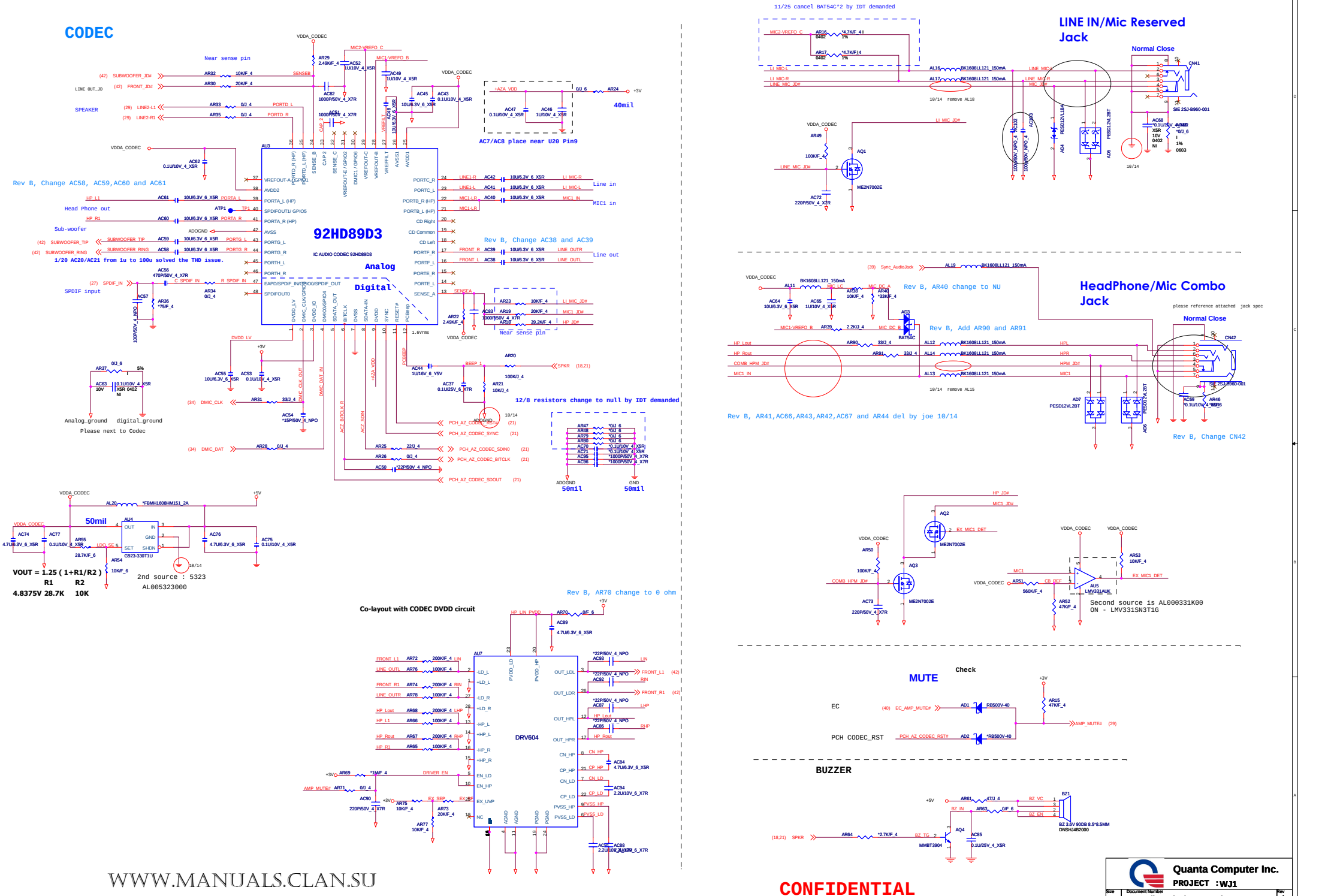
Rev B, Add R729

Rev B, Add R734

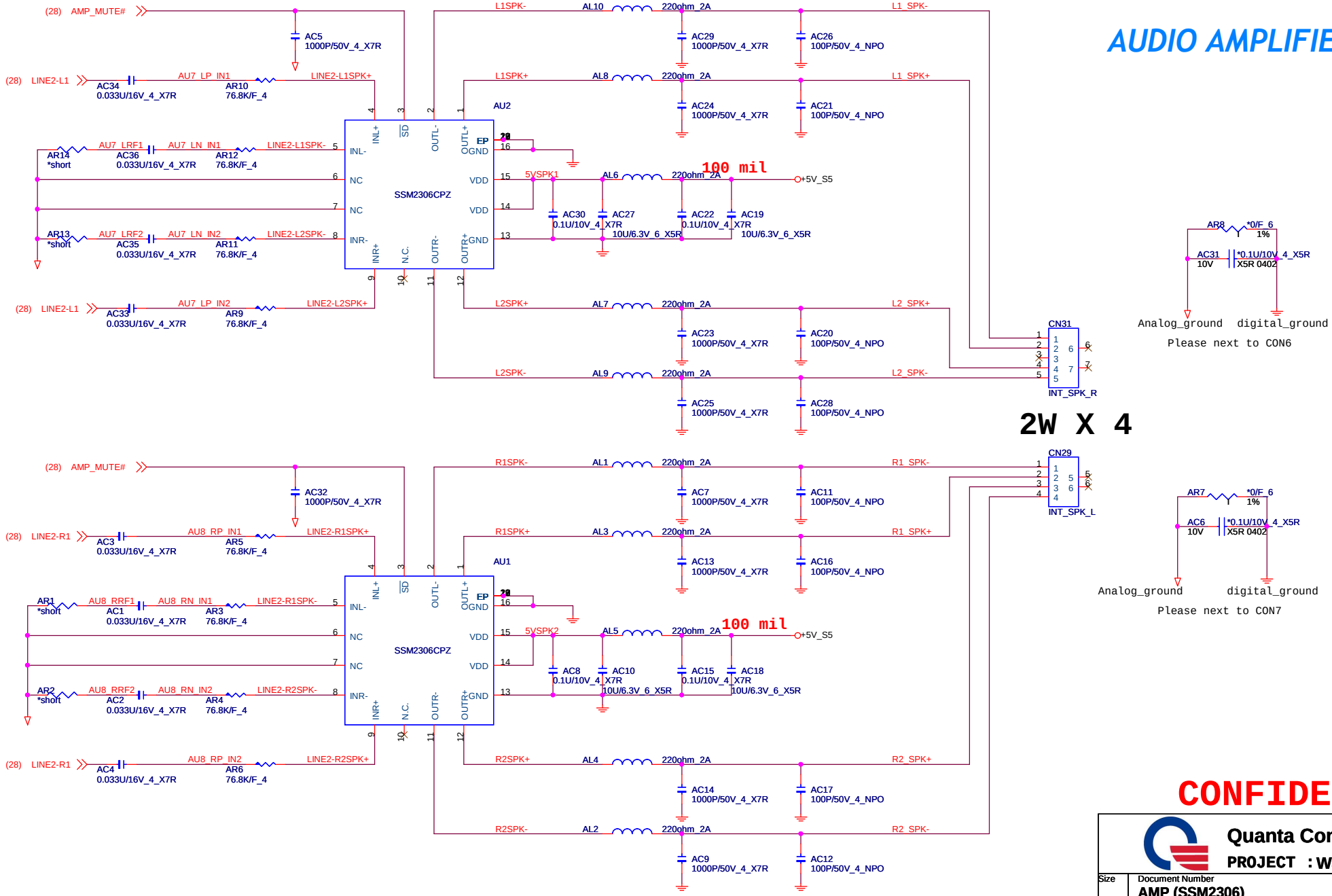
Rev B, Add R733

Rev B, CN7 change footprint & P/N

Quanta Computer Inc.
PROJECT : WJ1
Size: Document Number: MXM 3.0 Rev: B
Date: Monday, October 18, 2010 Sheet 27 of 54

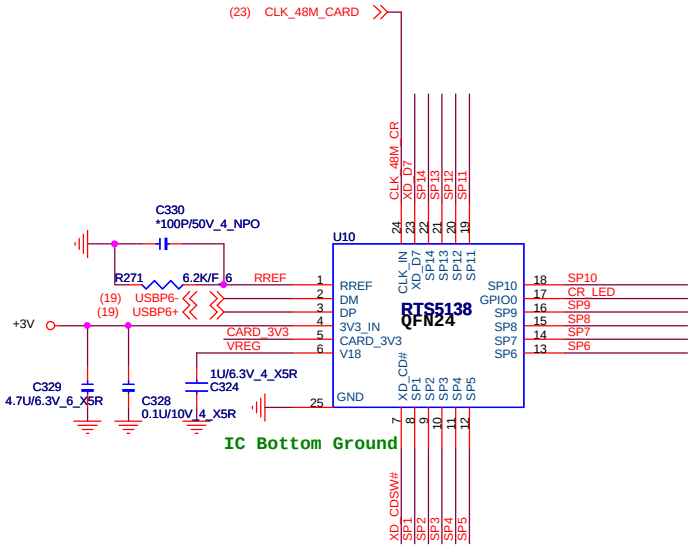


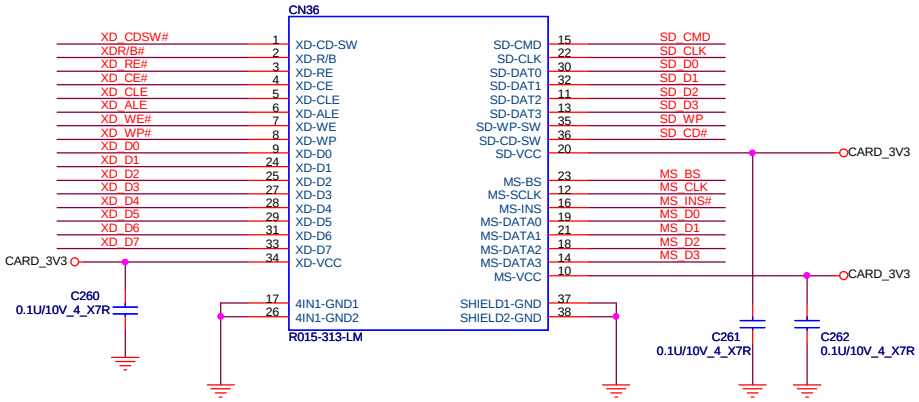
AUDIO AMPLIFIER



CONFIDENTIAL

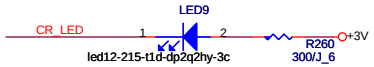
Quanta Computer Inc. PROJECT : WJ1		
Size	Document Number AMP (SSM2306)	Rev A
Date: Monday, October 18, 2010	Sheet 29 of 54	

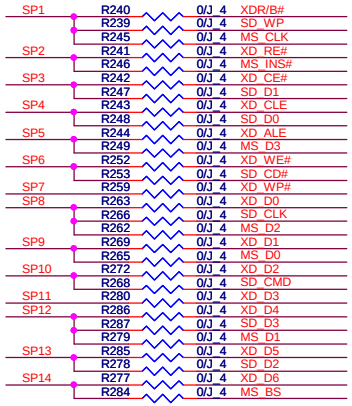




Share Pin

Share Pin	XD	MS	SD
SP1	XDR/B#	MS_CLK	SD_WP
SP2	XD_RE#	MS_INS#	
SP3	XD_CE#		SD_D1
SP4	XD_CLE	MS_D7	SD_D0
SP5	XD_ALE	MS_D3	SD_D7
SP6	XD_WE#		SD_CD#
SP7	XD_WP	MS_D6	SD_D6
SP8	XD_D0	MS_D2	SD_CLK
SP9	XD_D1	MS_D0	SD_D5
SP10	XD_D2		SD_CMD
SP11	XD_D3	MS_D4	SD_D4
SP12	XD_D4	MS_D1	SD_D3
SP13	XD_D5	MS_D5	SD_D2
SP14	XD_D6	MS_BS	





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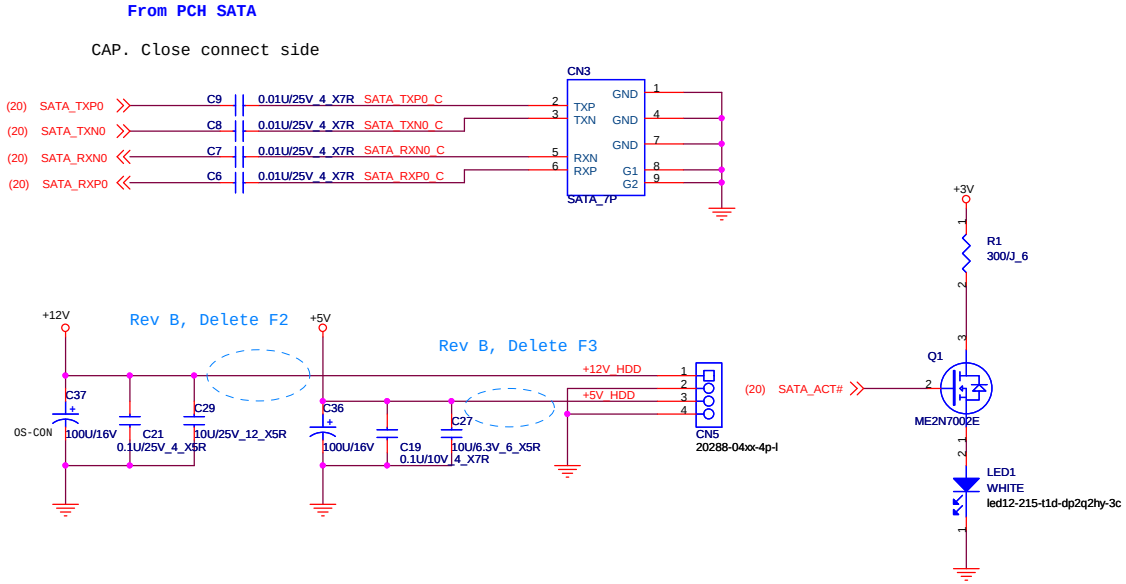
Quanta Computer Inc.
PROJECT : WJ1

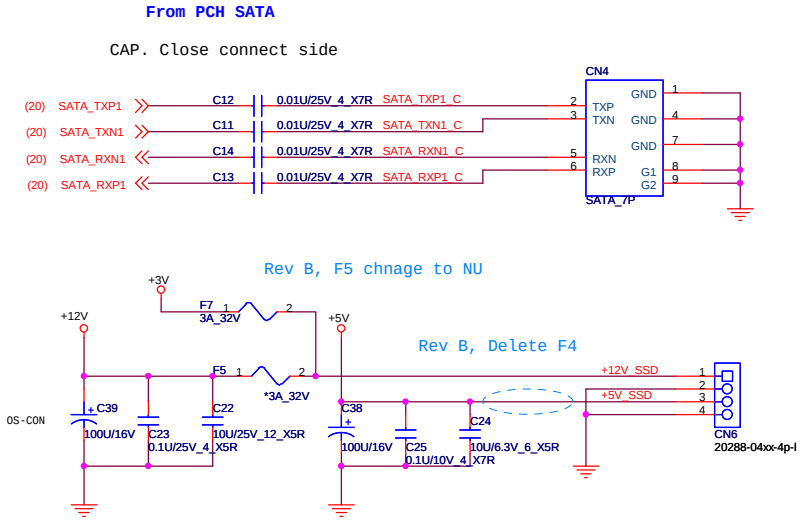
Size	Document Number	Rev
	RTS5138	B
Date: Monday, October 18, 2010	Sheet 30 of 54	

1st 2.5"/3/5" SATA HDD

SATA HDD CONNECTOR



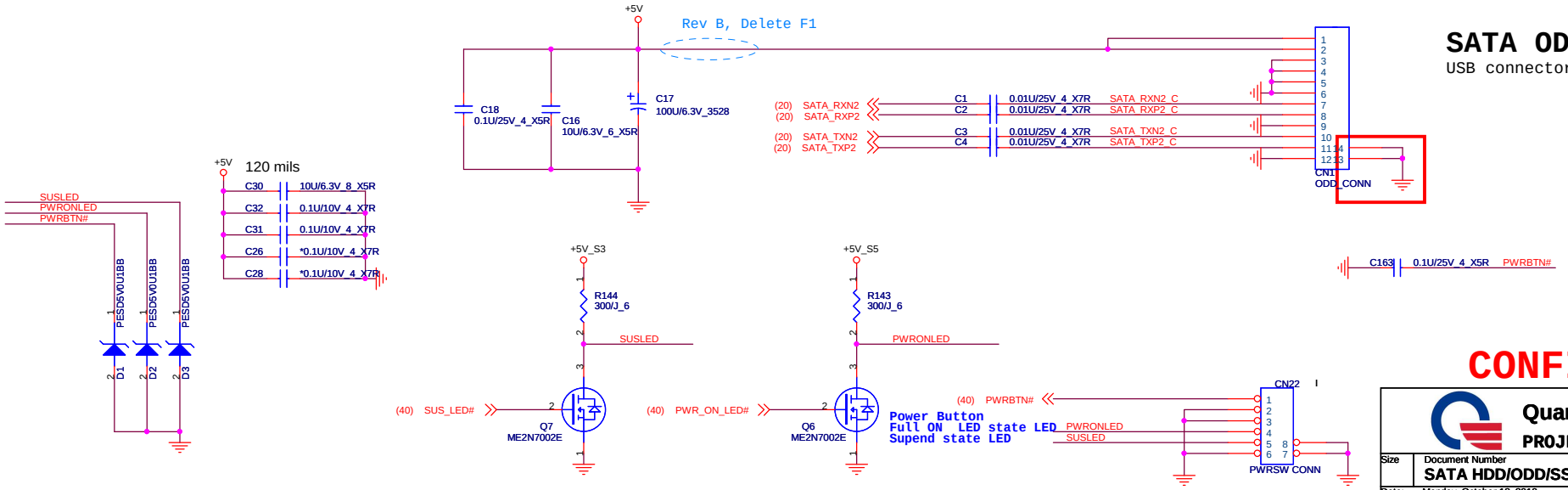
SATA SSD CONNECTOR



SATA CD-ROM

SATA ODD CONNECTOR

USB connector same as ZN6



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Quanta Computer Inc.

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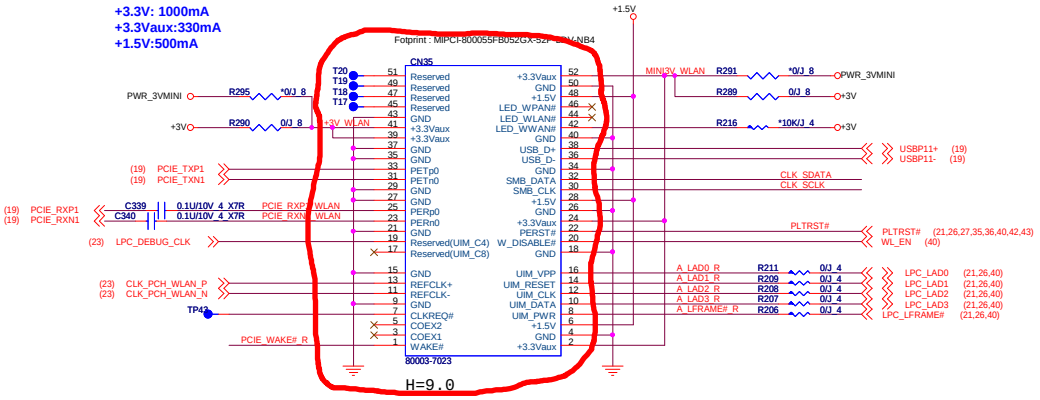
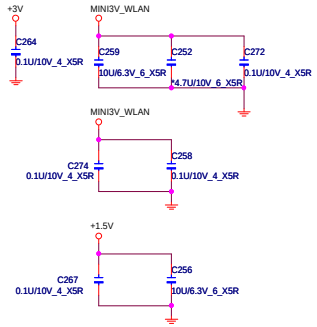
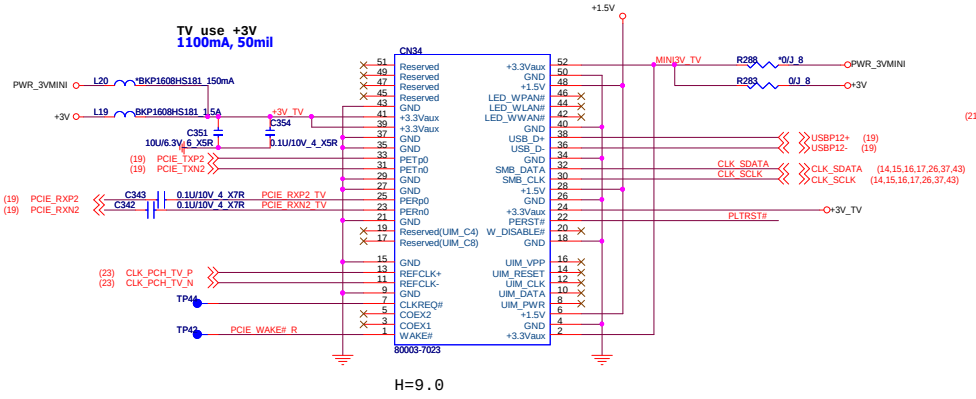
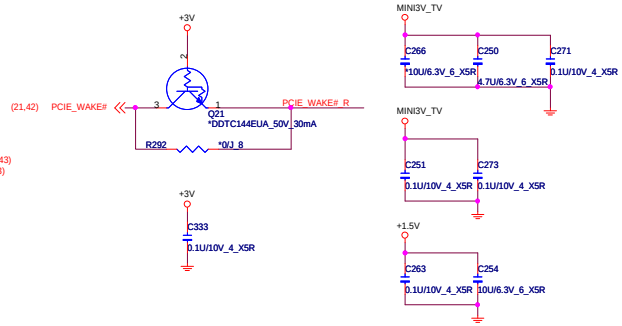
Size	Document Number	Rev
	SATA HDD/ODD/SSD	B
Date: Monday, October 18, 2010	Sheet 31 of 54	

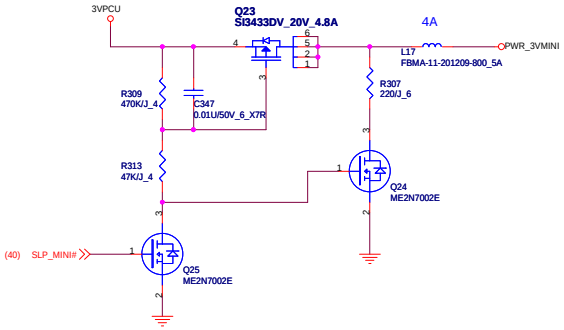


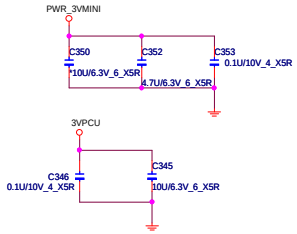


TV









Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	MINI PCIE (WLAN/TV)	B

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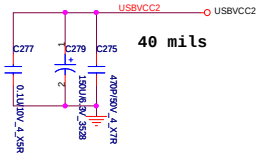
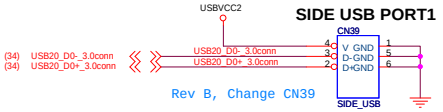
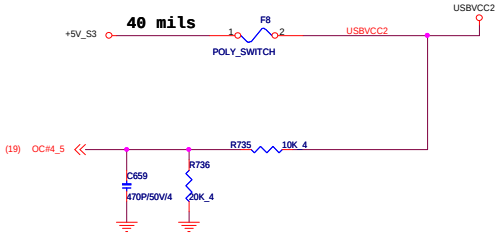
Rev B, Delete USB3.0 Controller
Delete U8,R224,R254,R255,R256,R706,R236,C292,
C293,R226,R237,R235,R238,R255,R261,R270,
R267,R264,C332,U12,L12,C288,C286,C319,
C318,C316,C312,C317,C285,C302,C300,C289,
C307,C290,C326,C294,C308,C320,C314,C305,
C325,C315,C313,C287,C322,C311,C309,C291,
C310,C323,C327,C306,C321,R232,R233,L14,
U6,U5,R230,R231,L13,C296,C297,C298,C299,
U7,U4,R222,R227,R223,R281,R282,C304,
R234,C301,C295,R220,C303,C278,C276,C280,
C284,U11,R274

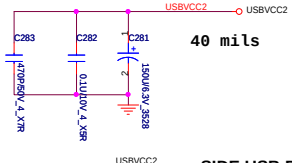


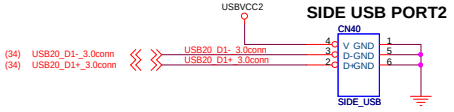


Rev B, Change CN39



Rev B, Add F8,R735,R736 and C659





Quanta Computer Inc.
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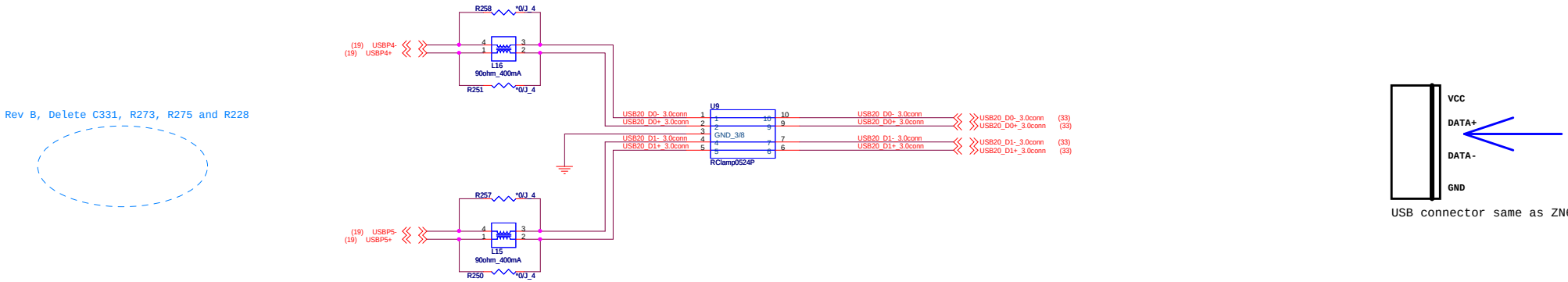
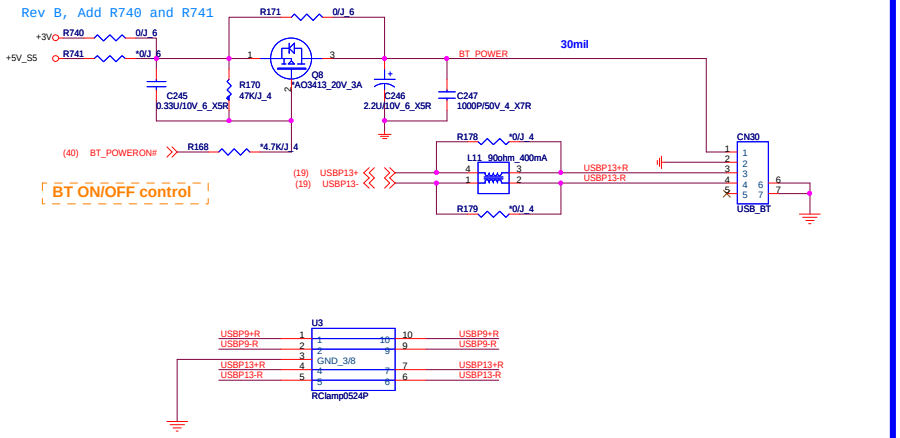
Size	Document Number	Rev
	Side USB Connector	B
Date: Monday, October 18, 2010	Sheet 33 of 54	

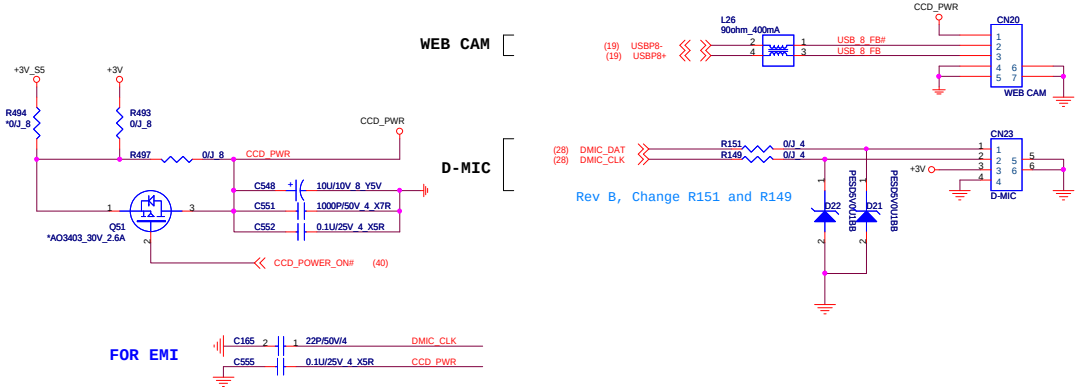
Side USB



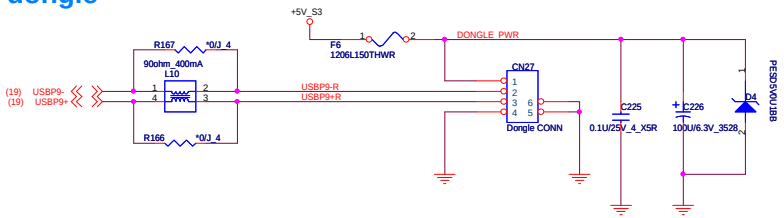
BLUETOOTH CONNECTOR



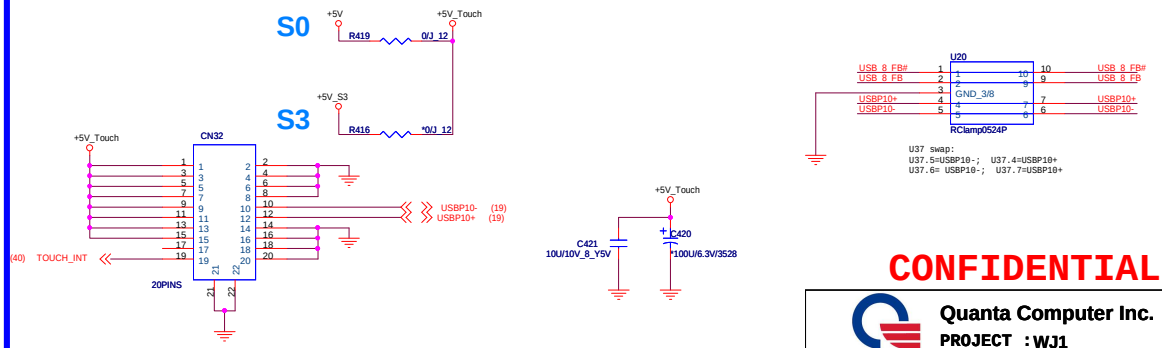
WEB CAM MODULE



For dongle



MULTI-TOUCH



Quanta Computer Inc.
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Size	Document Number	Rev
	USB/CCD/BT/MT	B
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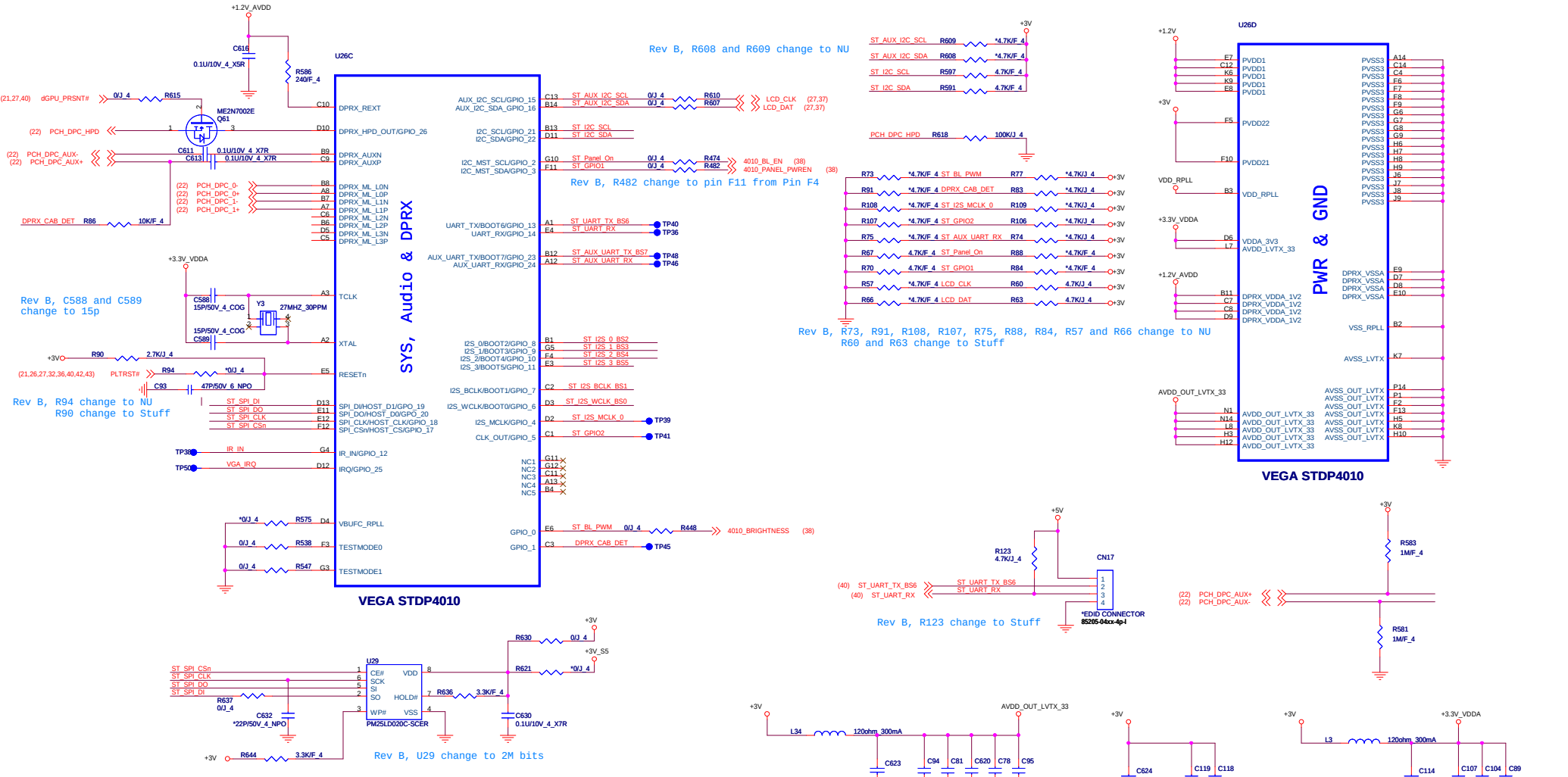

Net Name	Function	Value	Note
ST_I2S_WCLK_BS0	Pull low to GND	0	
ST_I2S_BCLK_BS1	Pull low to GND	0	
ST_I2S_0_BS2	IC_OSC_SEL 0 = TCLK from external source 1 = TCLK from internal ring oscillator	0	
ST_I2S_1_BS3	TTL_LVDS_OUT 0 = Output is in LVDS format 1 = Output is in TTL format	0	
ST_I2S_2_BS4	OCM_BOOT_SEL 0 = OCM boot from internal ROM 1 = OCM boot from external ROM/Flash	1	
ST_I2S_3_BS5	Wide_Narrow_Bus 0 = LVDS_Dual / TTL_Single 1 = LVDS_Quad / TTL_Dual	0	
ST_UART_TX_BS6	Pull low to GND	0	
ST_AUX_UART_TX_BS7	I2C_DEV_ID 0 = R/W: 0xE6, 0xE7 1 = R/W: 0xE4, 0xE5	0	

Rev B, R543 change to NU, R544 change to Stuff

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Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	DP to LVDS (STDP4010)	B
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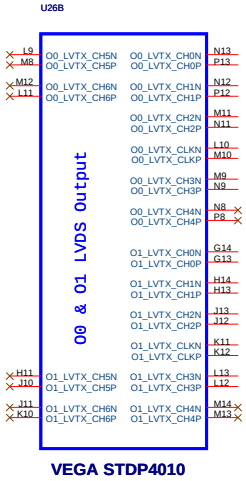
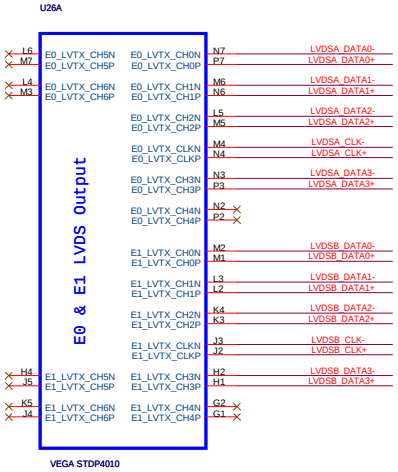
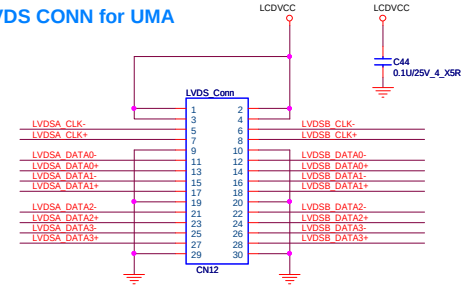
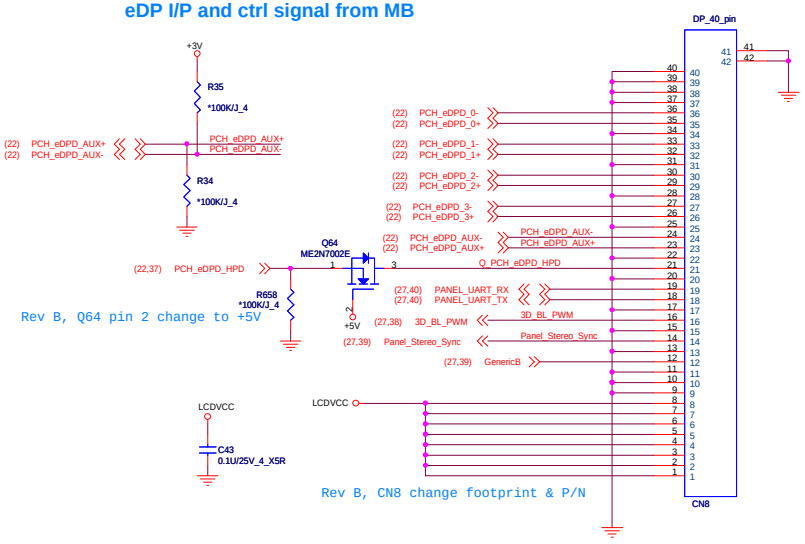




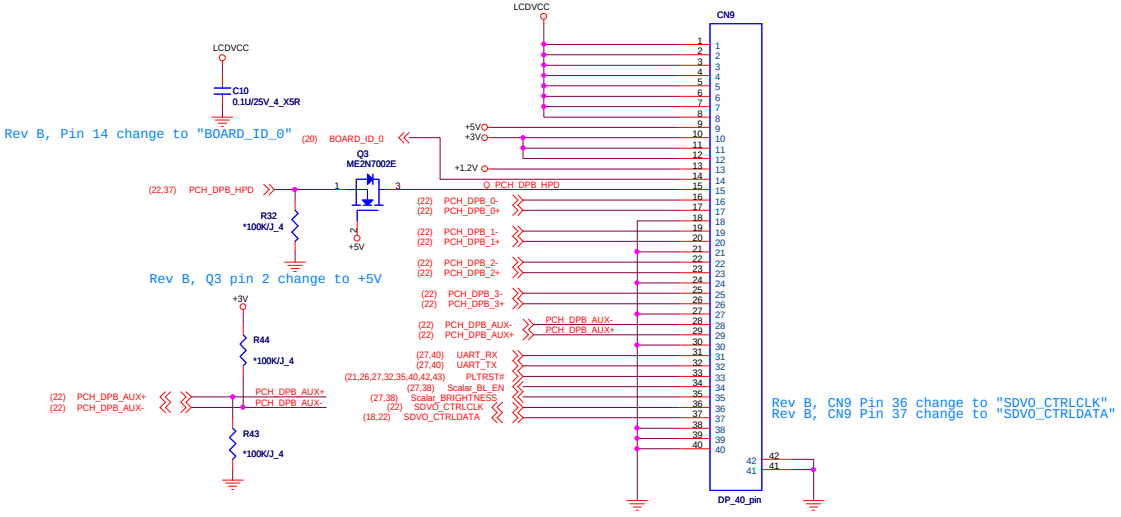
LVDS CONN for UMA



eDP I/P and ctrl signal from MB



DP I/P and ctrl signal from MB



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	STDP4010 / eDP/DP connector	B
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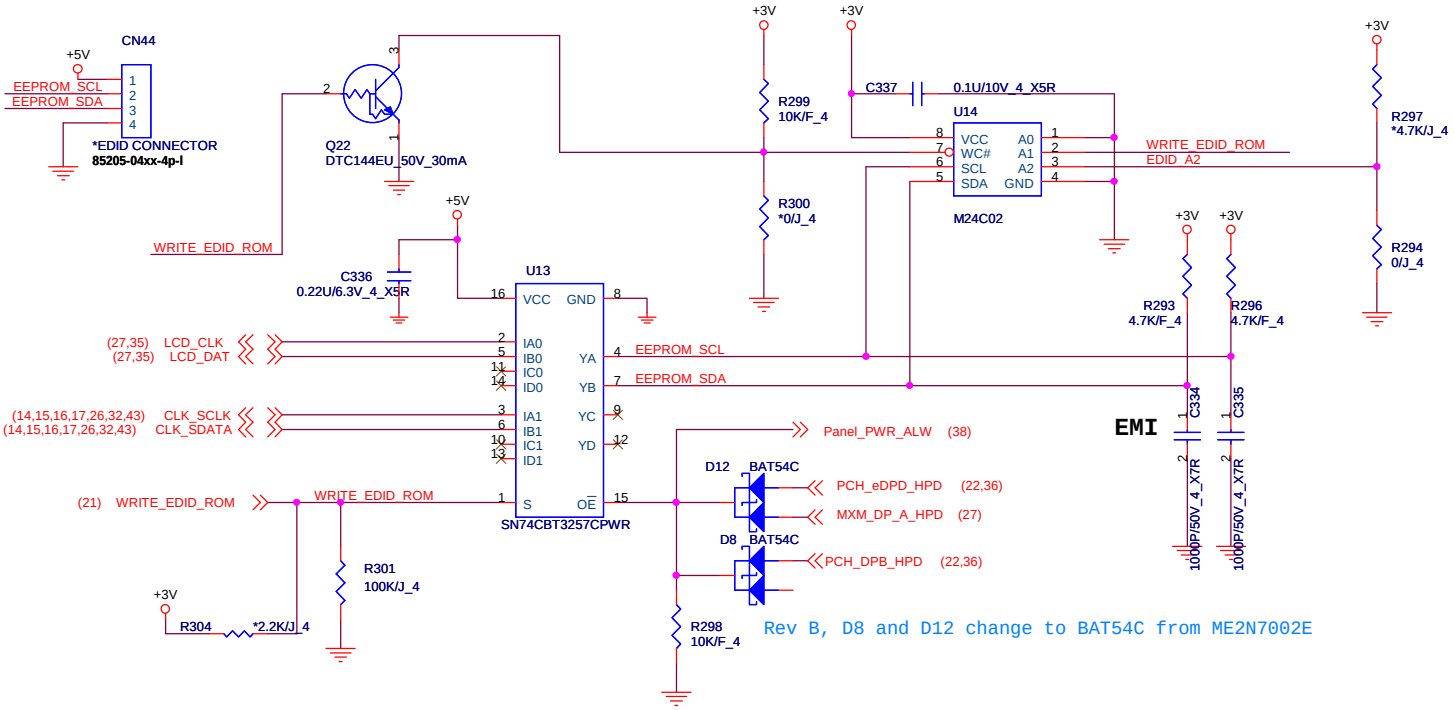
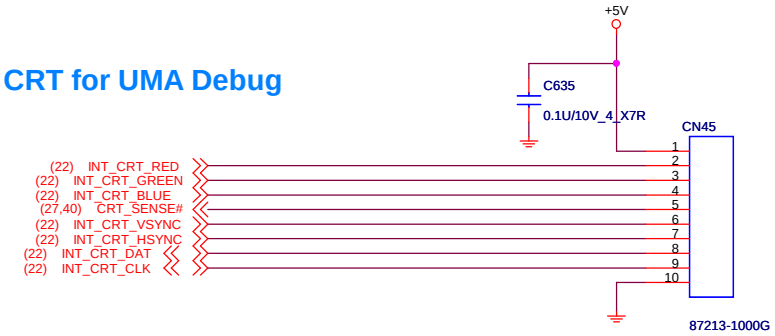
EEPROM IIC Selection

PANEL EDID DATA



Rev B, D8 and D12 change to BAT54C from ME2N7002E

CRT for UMA Debug



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Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	Panel (EDID)	B
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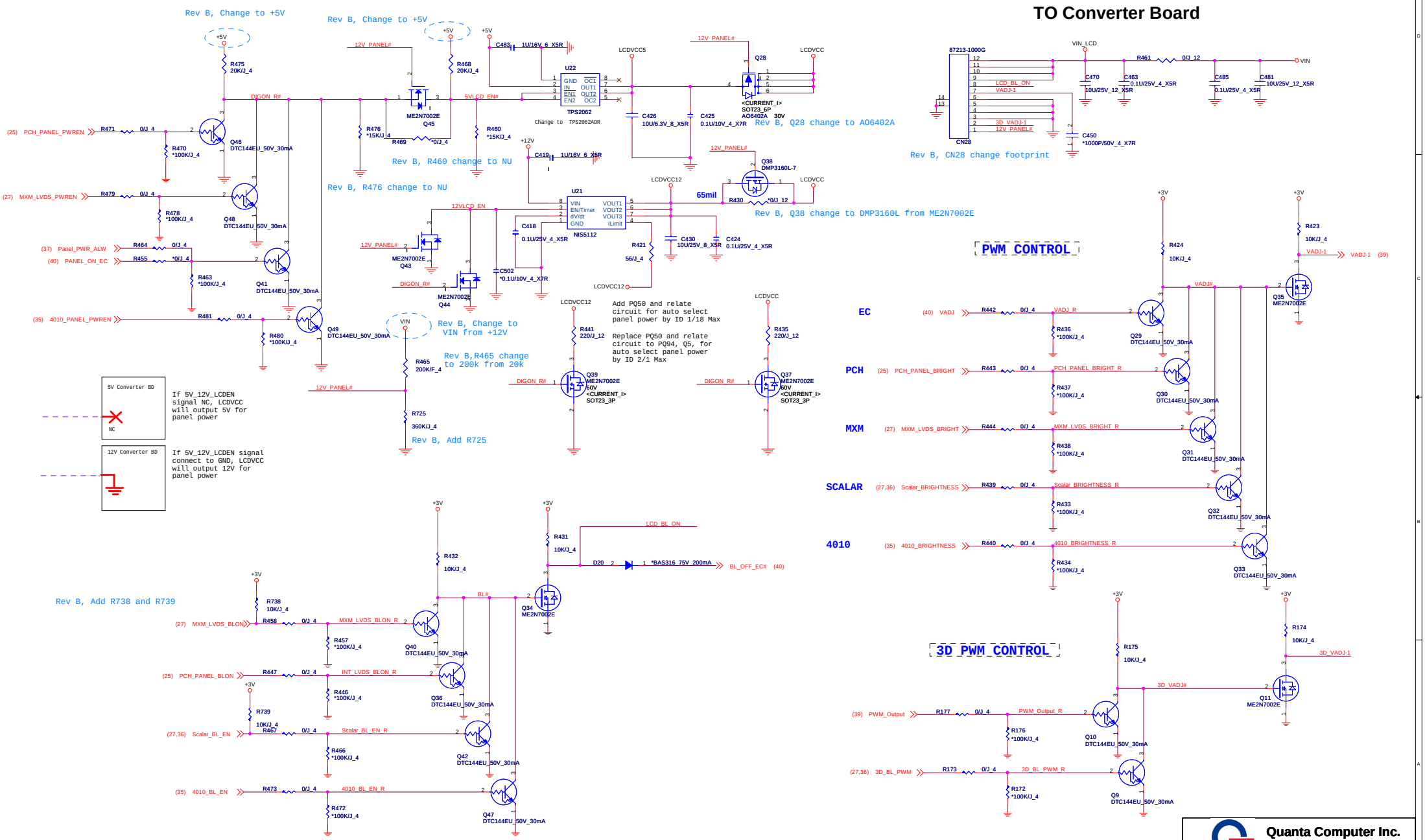
PANEL VCC CONTROL



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	Panel (Control)	B

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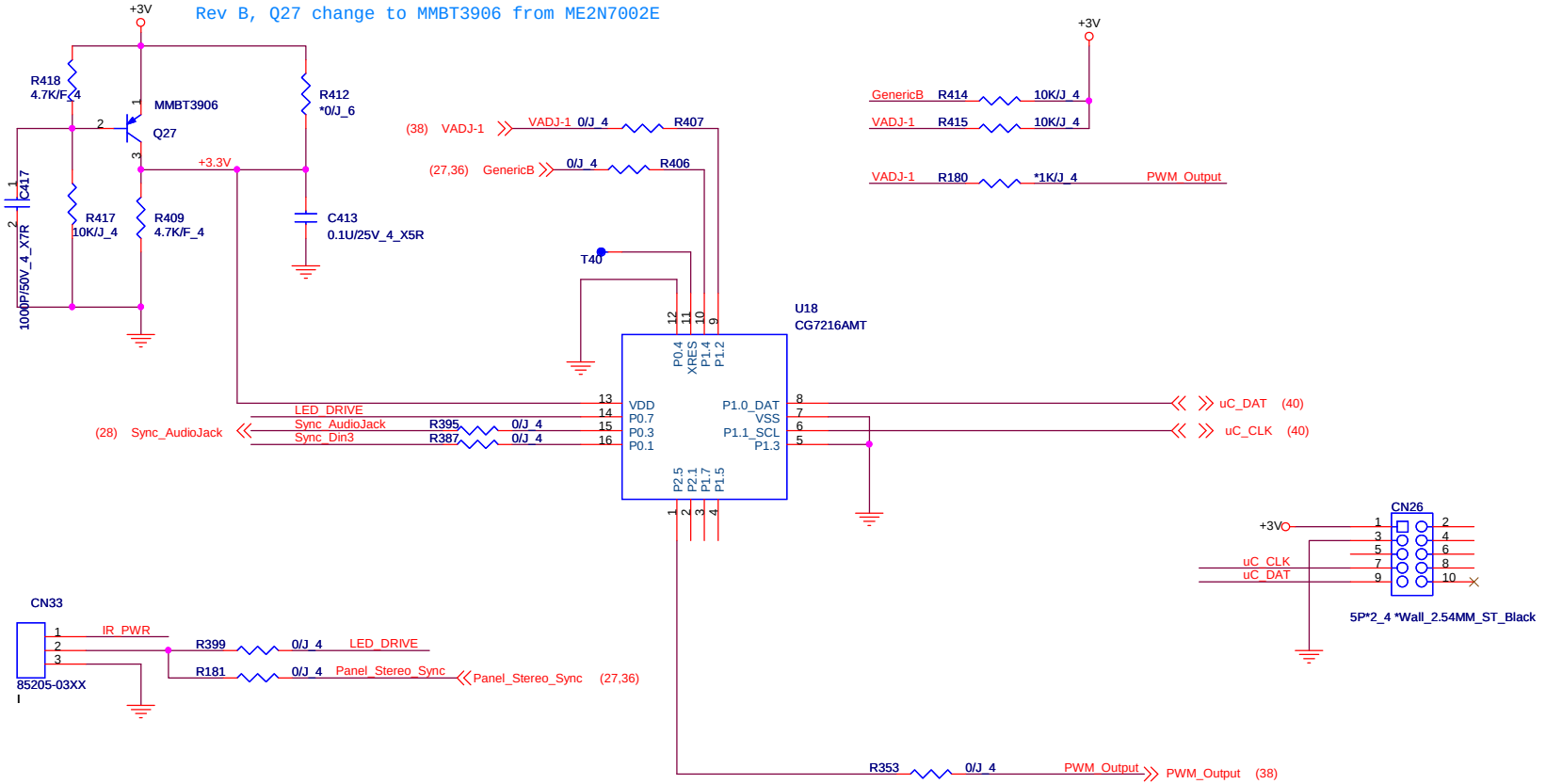
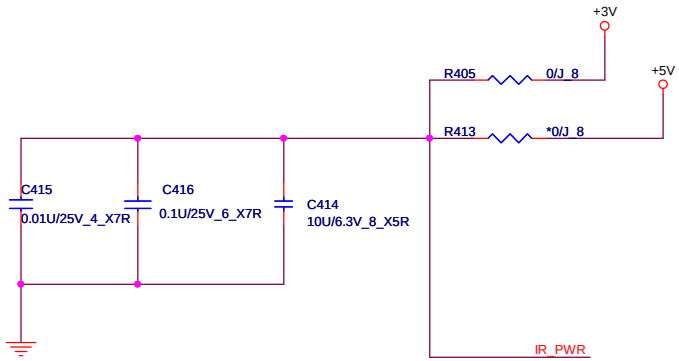
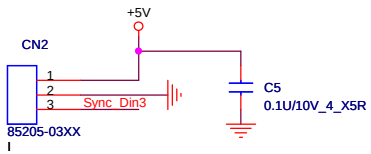
Rev B, Q27 change to MMBT3906 from ME2N7002E







To VESA minDIN3 connector

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Quanta Computer Inc.
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Size	Document Number	Rev
	uC Cypress CG7216AM	B

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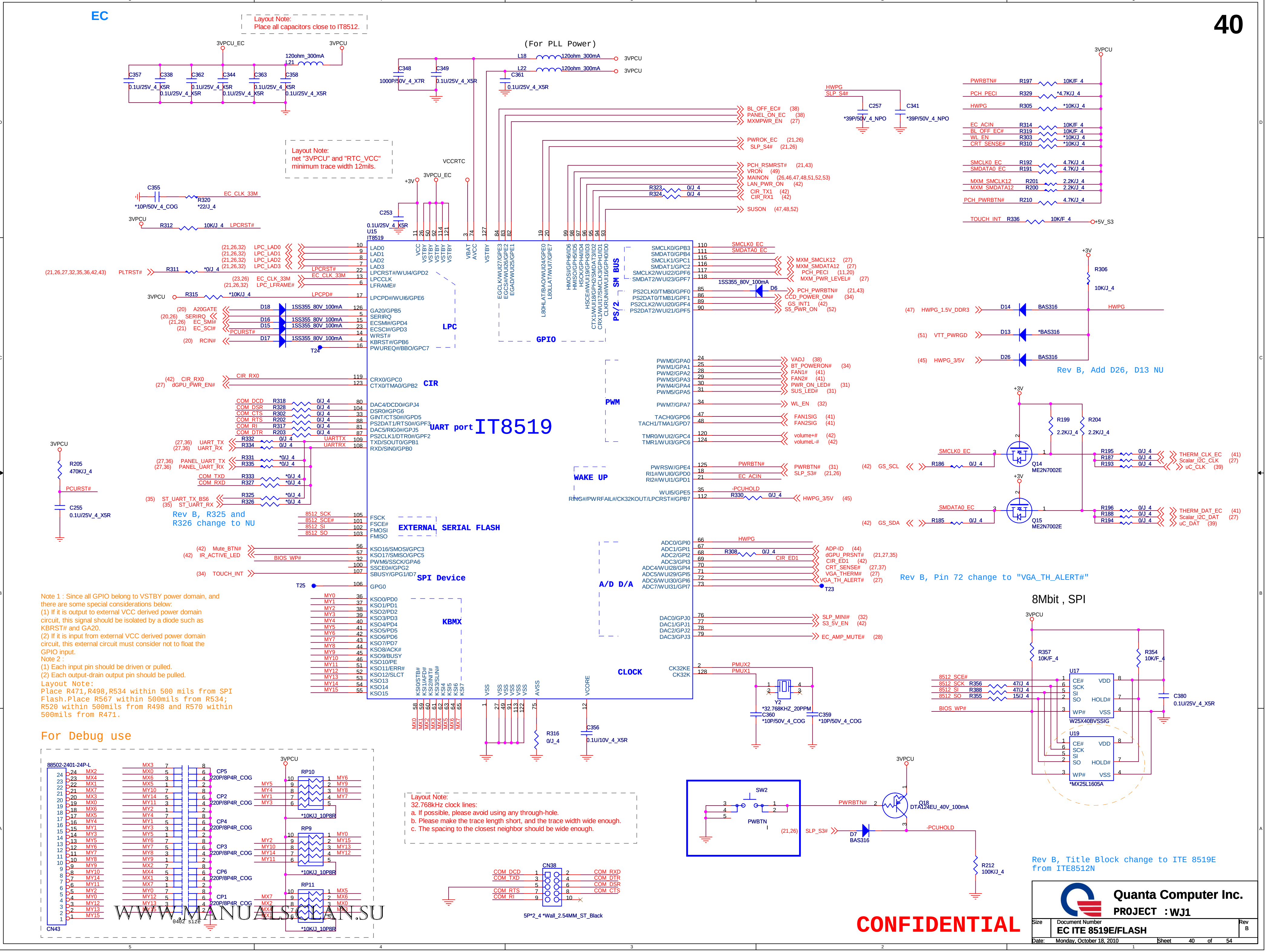
EC



Note 1 : Since all GPIO belong to VSTBY power domain, and there are some special considerations below:
(1) If it is output to external VCC derived power domain circuit, this signal should be isolated by a diode such as KBRST# and GA20.
(2) If it is input from external VCC derived power domain circuit, this external circuit must consider not to float the GPIO input.
Note 2 :
(1) Each input pin should be driven or pulled.
(2) Each output-drain output pin should be pulled.

Layout Note:
Place R471,R498,R534 within 500 mils from SPI Flash.Place R567 within 500mils from R534; R520 within 500mils from R498 and R570 within 500mils from R471.

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Quanta Computer Inc.	
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Size	Document Number: EC ITE 8519E/FLASH	Rev B
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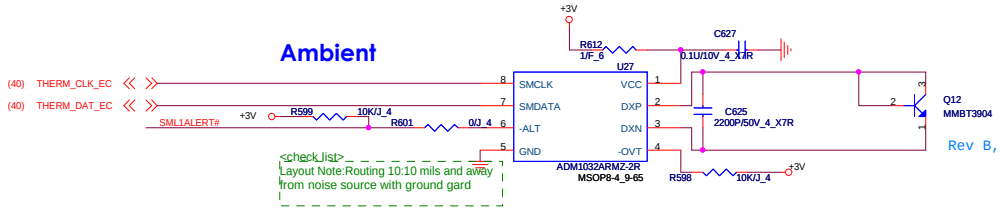
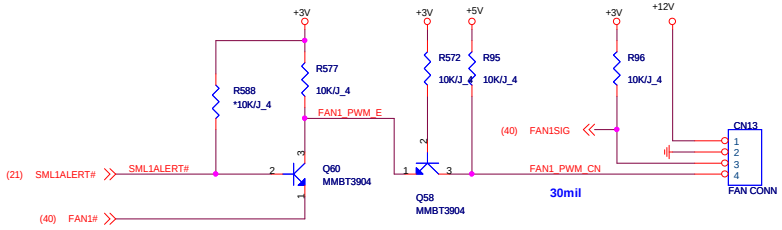
Ambient



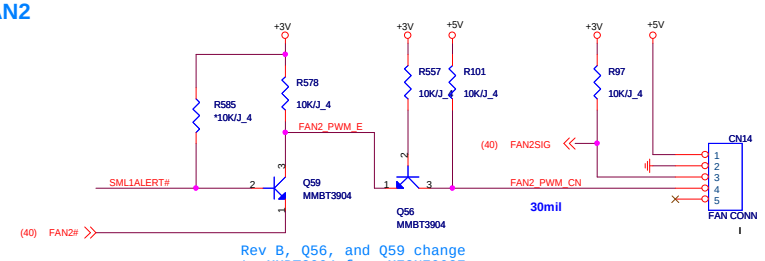
Rev B, Q12 change to MMBT3904 from ME2N7002E

FAN1

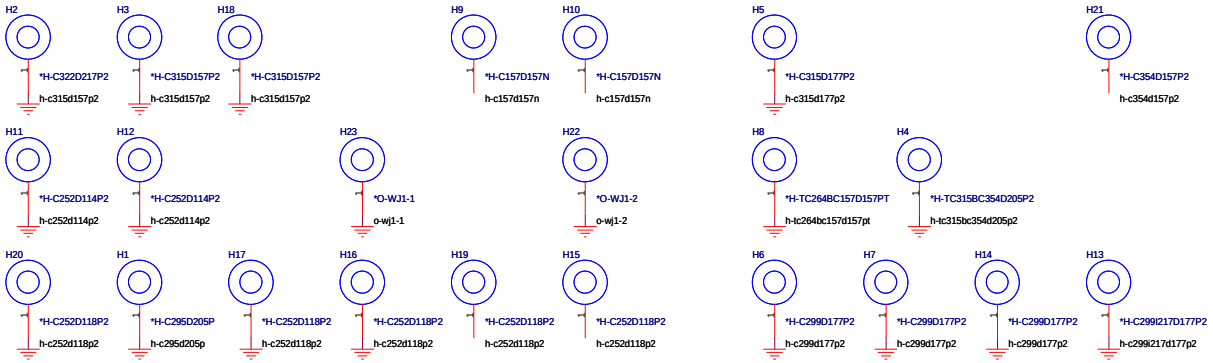


Rev B, Q58, and Q60 change to MMBT3904 from ME2N7002E

FAN2



Rev B, Q56, and Q59 change to MMBT3904 from ME2N7002E



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	FAN/Thermal Protection/Screw	B
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40 pin I/O Connector

Sub-woofer
Line Out
PCIe Wake
PCIe x1 for LAN controller
USB port x2
IR Blaster
PCIe Clock
Platform Reset
USB OC#
USB port x2

LAN Redriver

Rev B, Add R721
Rev B, Q57 change to AO3413 from ME2N7002E
Rev B, R721 and Q55 change to NU

20 pin for USB3.0 Controller

Rev B, CN15 pin 1 change to "3V_SUS"
Rev B, CN16 pin 3,5,7 +1.5V_SUS change to 1.5V_DDR3
PCIe x1 for USB3.0 controller

Eject Button
IR / PWRBTN / PWRLED

IR Receiver
Normal IR
Learning IR
IR LED
Learing Receiver in
Rev B, Q50 change to MMBT3904 from ME2N7002E

The aqua-white (470 +/- 5 nm) color is used to indicate the system is powered on and in the S0 state. The amber (590 +/- 5 nm) color is used to indicate the system is in one of the standby states (S3, S4, S5).

PWRBTN# must pull up to PCU power well

FOR EMI
AS close CN45 as possible

Volume up
Volume down
Audio mute

Rising Time > 1ms
Rev B, Add U33,C655,C656,C657,C658,R722,R723 and R724

Rev B, C534 and C536 connect to L23 pin 1 from Pin 2

Quanta Computer Inc.
PROJECT : WJ1
Size | Document Number: I/O Board connector | Rev: B
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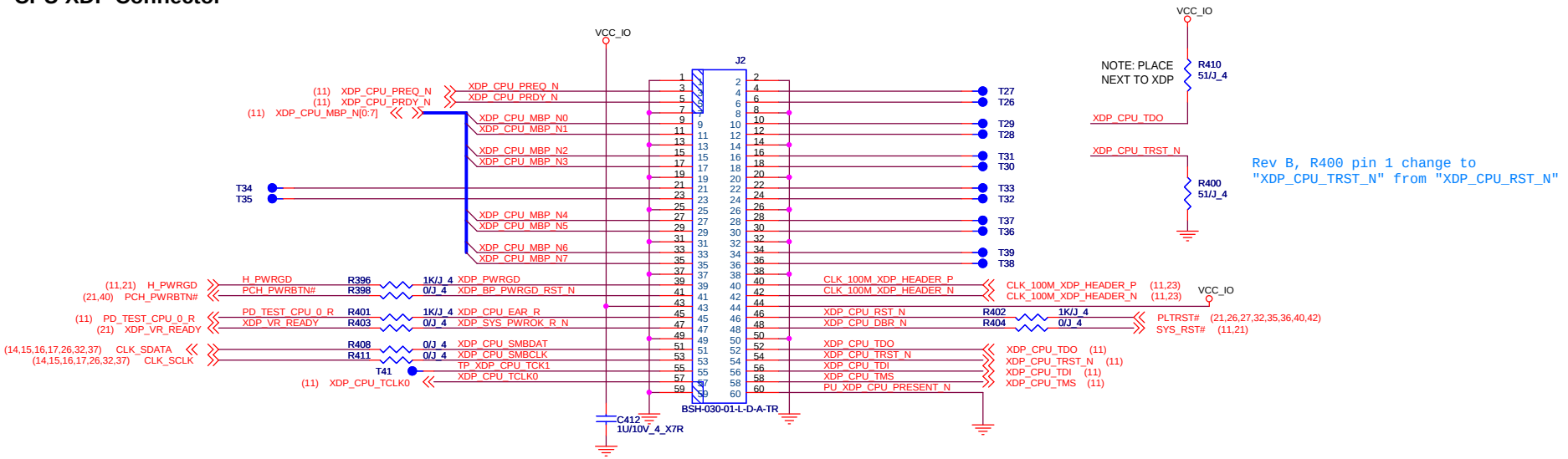
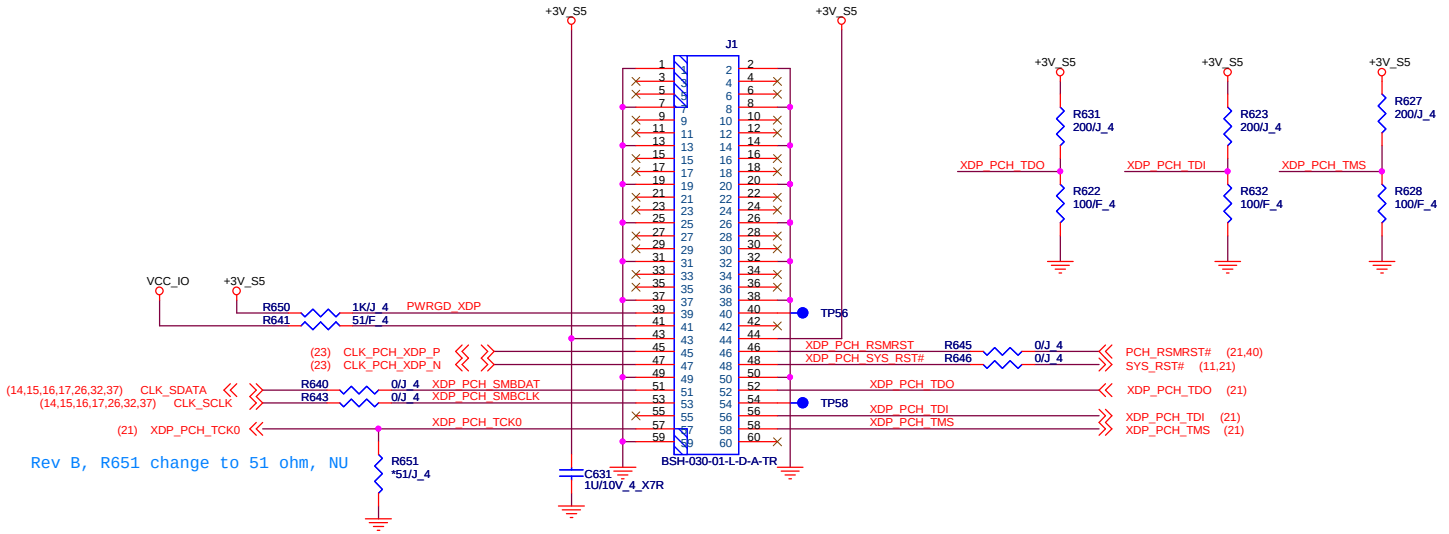
CPU XDP Connector



PCH XDP Connector



Quanta Computer Inc.
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Size	Document Number	Rev
	CPU/PCH XDP	B
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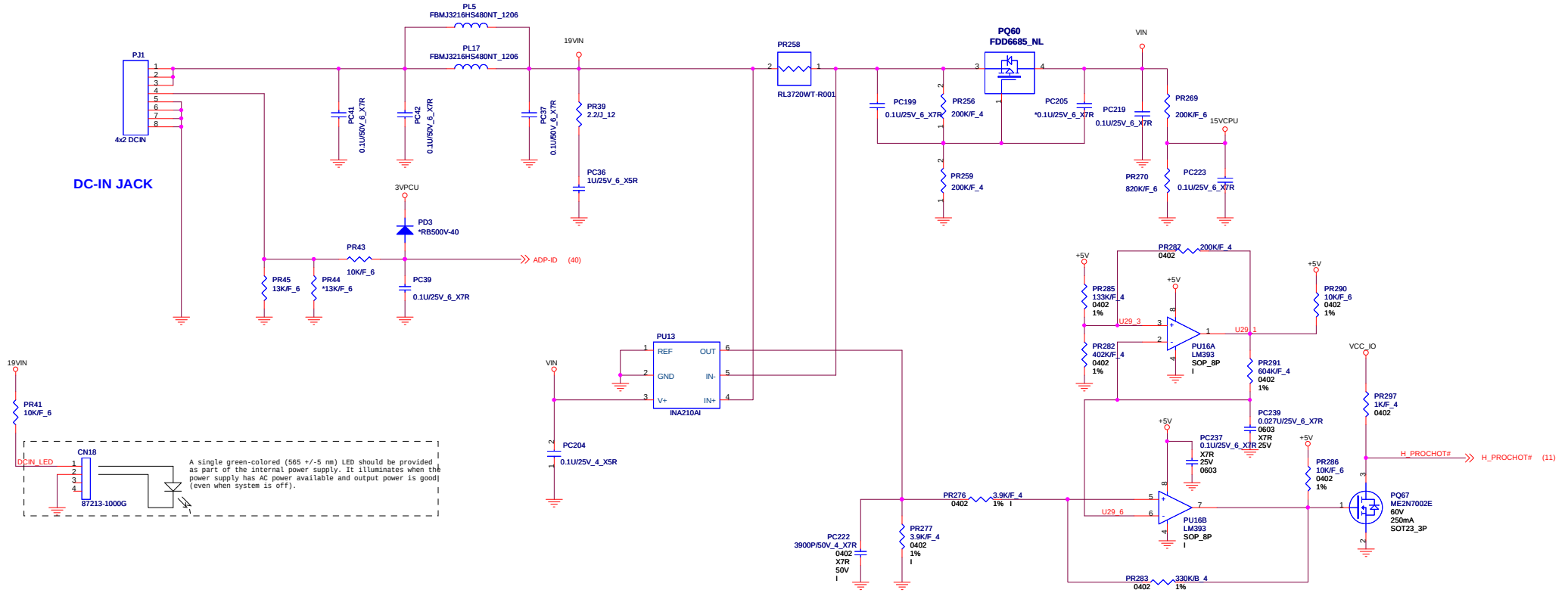
DC IN JACK

ramp-up time for all power rails
50 us <All power rails except 5V_S5 <40 ms
100 us <5V_S5<40 ms



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	ACIN	B

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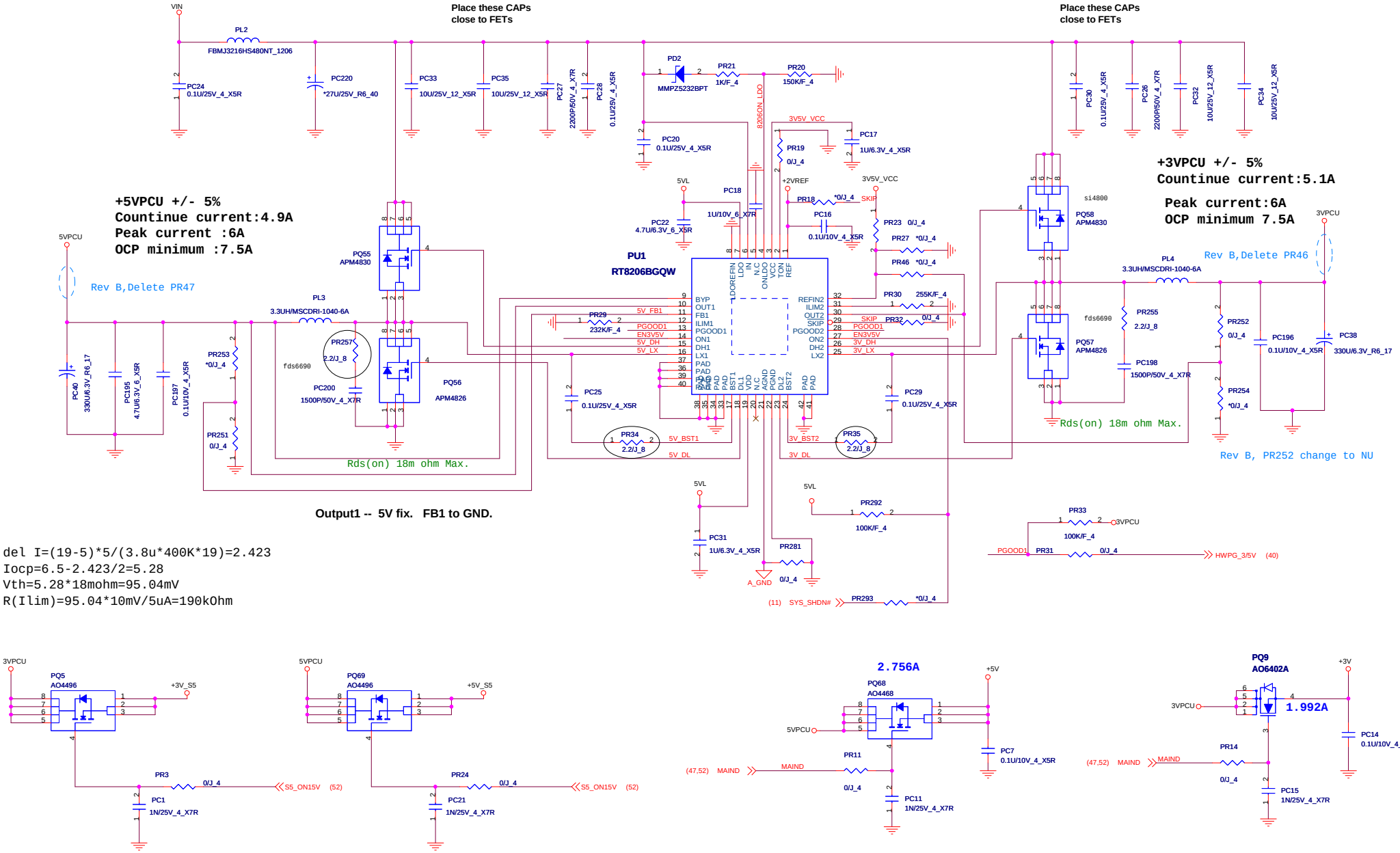
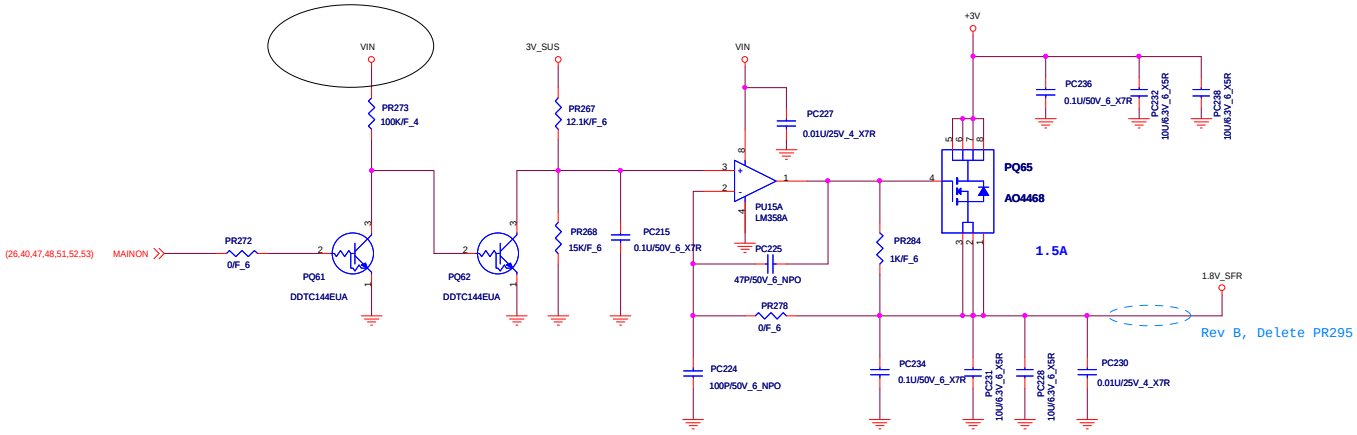
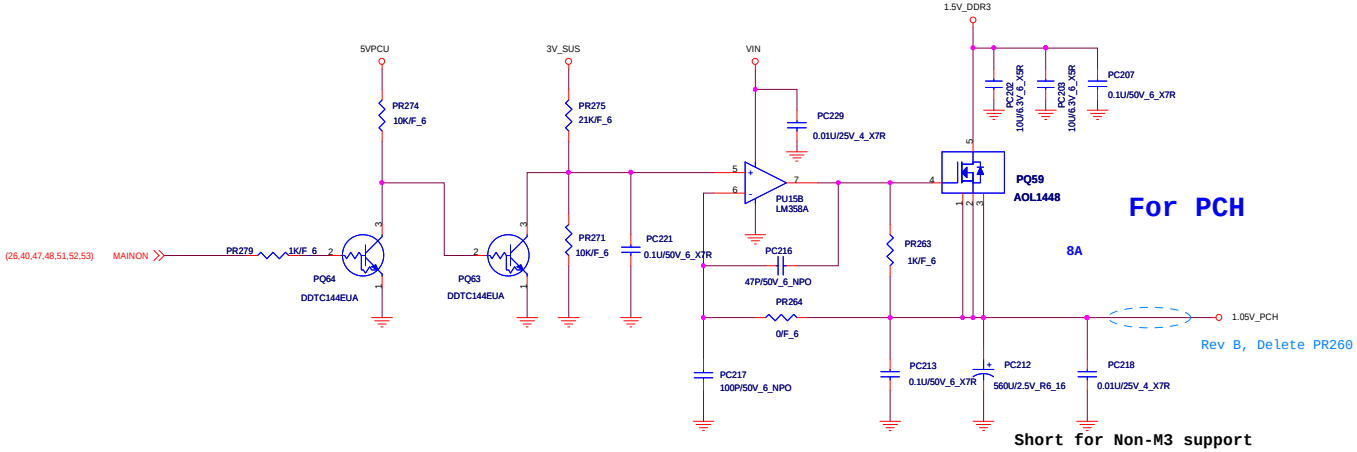


1.8V_SFR, 1.05V_PCH



Main source:AL000358012
Second source:AL000358071



Short for Non-M3 support

Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	1.8V_SFR/1.05V_PCH	B
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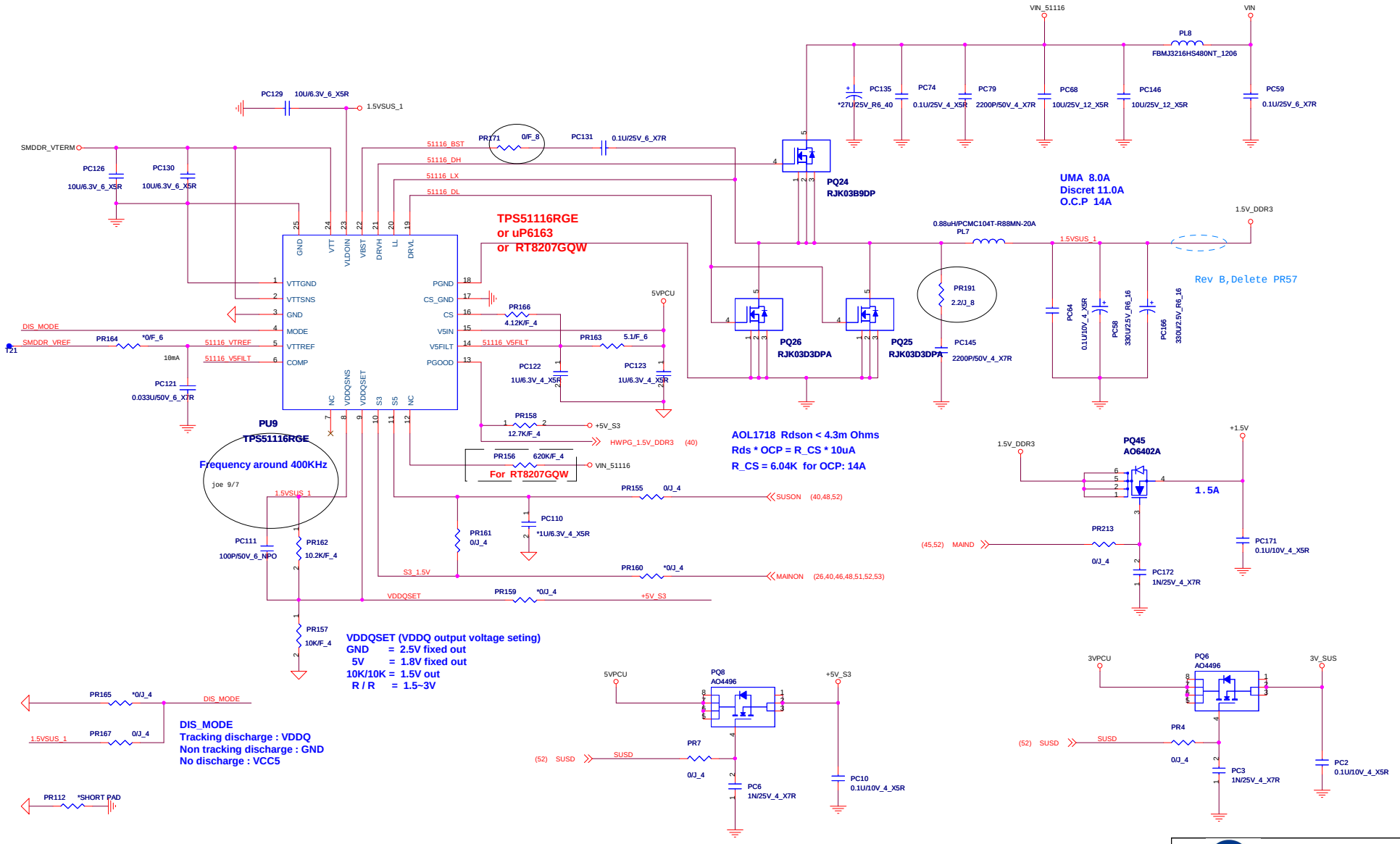
DDRIII-- 1.5VSUS



Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	1.5V_DDR3(TPS51116)	A
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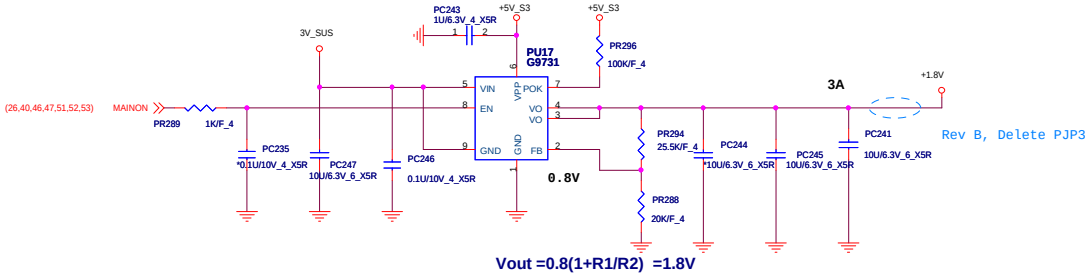
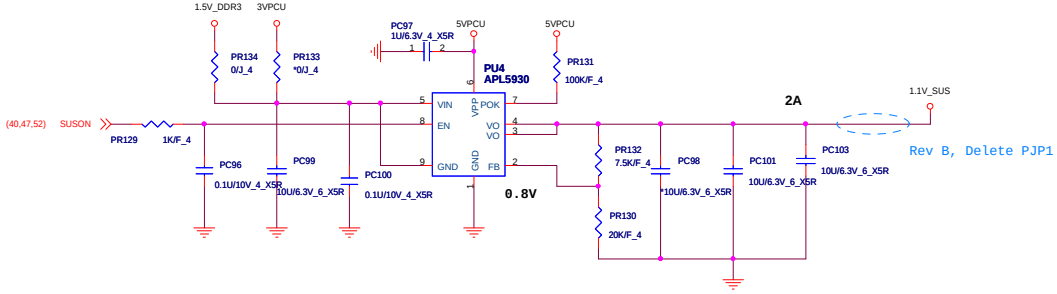
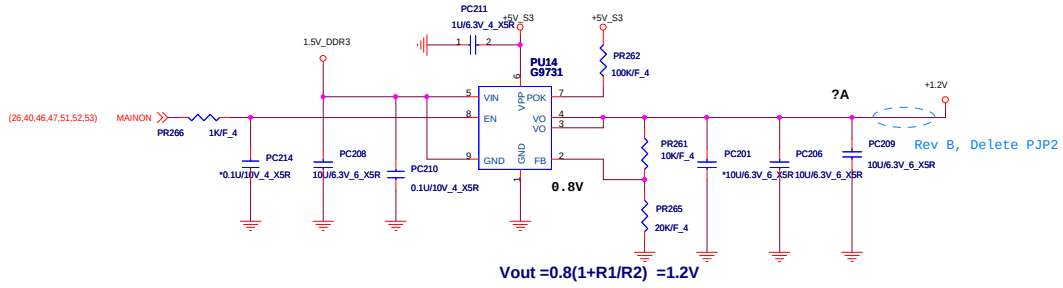


Vout =0.8(1+R1/R2) =1.8V





Vout =0.8(1+R1/R2) =1.2V

Quanta Computer Inc.
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Size	Document Number	Rev
	LDO +1.8V/1.1VSUS	B

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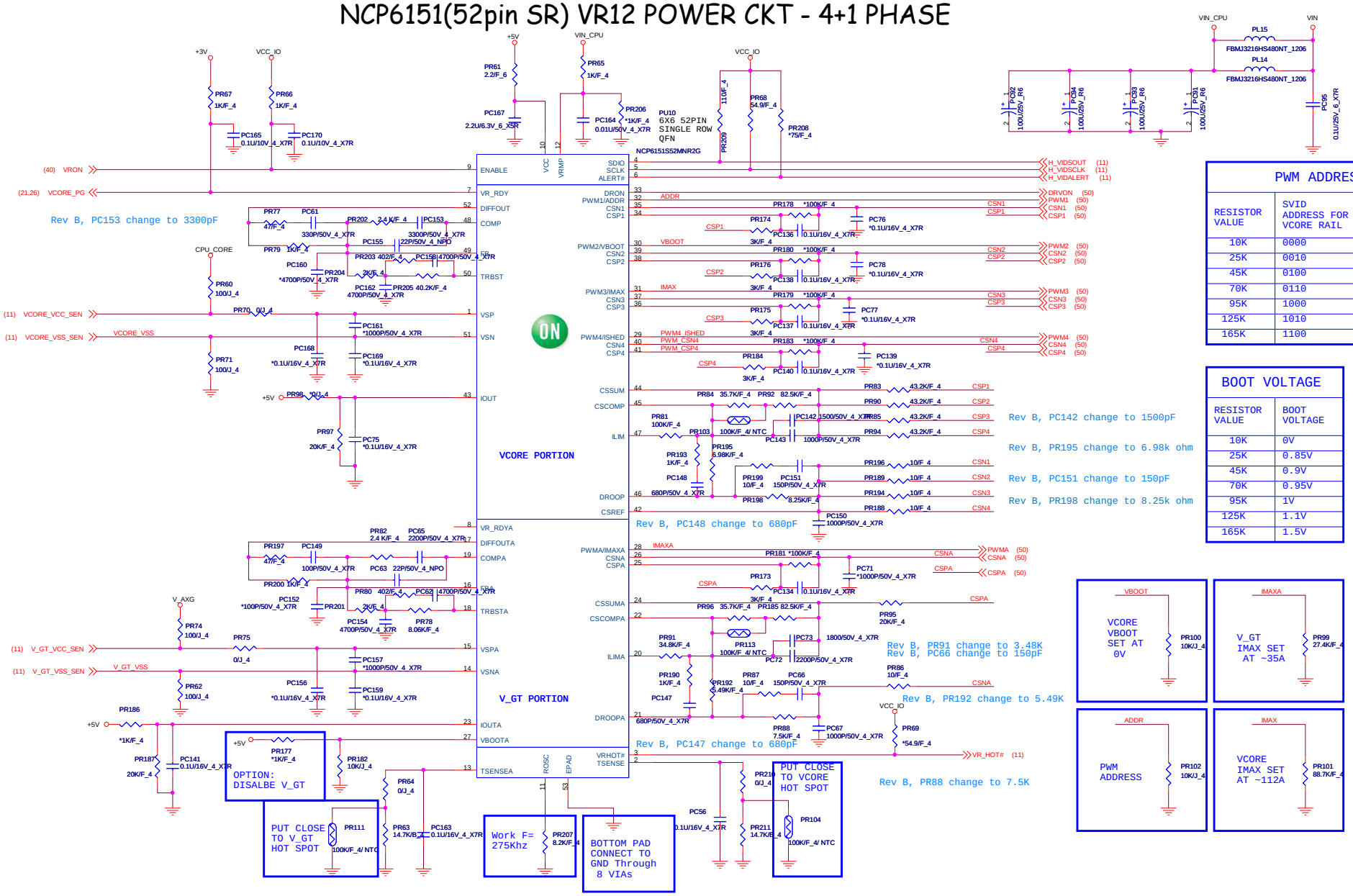
NCP6151(52pin SR) VR12 POWER CKT - 4+1 PHASE



PWM ADDRESS

RESISTOR VALUE	SVID ADDRESS FOR VCORE RAIL	SVID ADDRESS FOR V_GT RAIL
10K	0000	0001
25K	0010	0011
45K	0100	0101
70K	0110	0111
95K	1000	1001
125K	1010	1011
165K	1100	1101

BOOT VOLTAGE

RESISTOR VALUE	BOOT VOLTAGE
10K	0V
25K	0.85V
45K	0.9V
70K	0.95V
95K	1V
125K	1.1V
165K	1.5V

Quanta Computer Inc.
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Size | Document Number: CPU(NCP6151S) | Rev A
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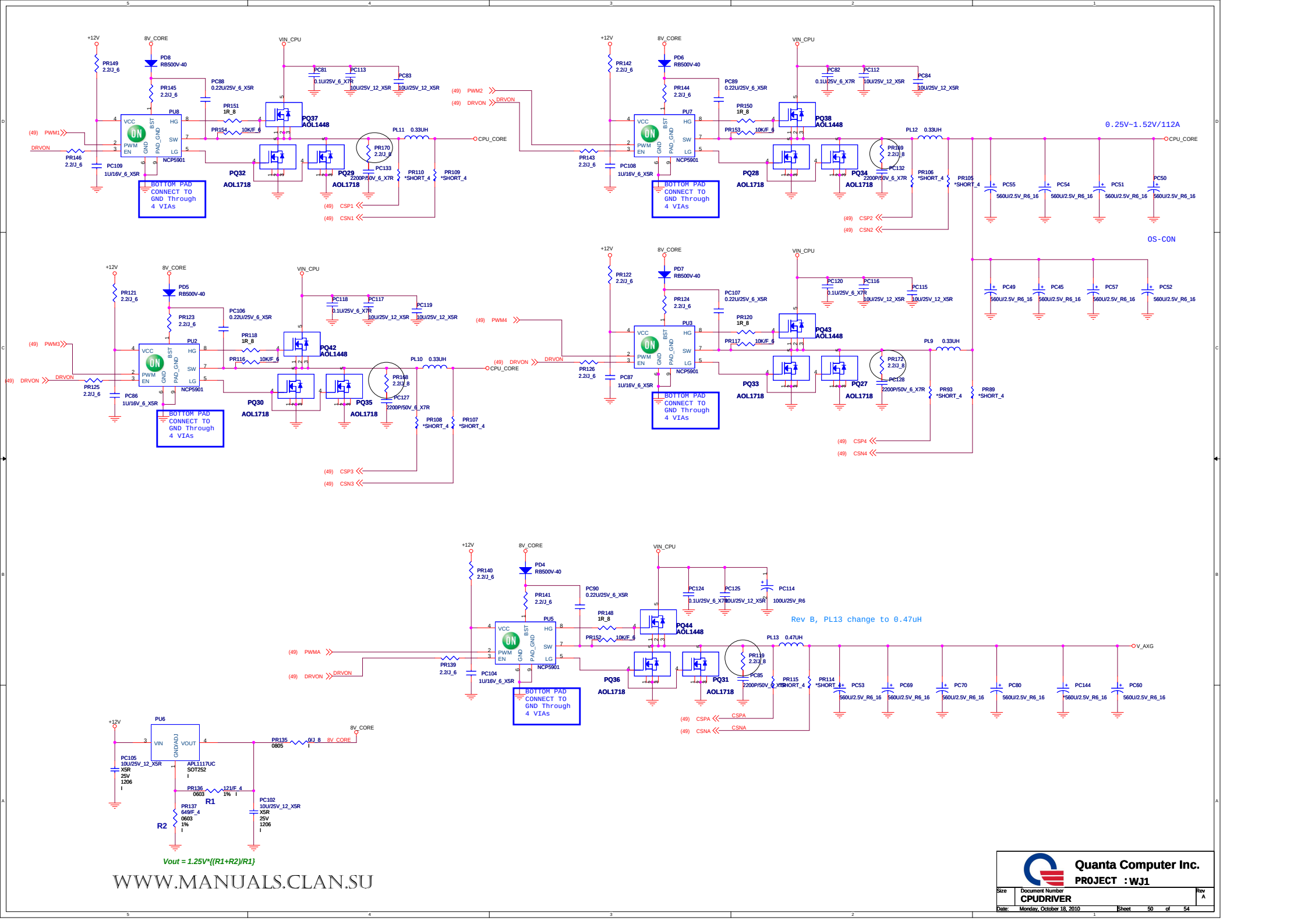
+12V
8V_CORE
VIN_CPU
PR149 2.2/J_6
PD8 RB500V-40
PR145 2.2/J_6
PC88 0.22U/25V_6_X5R
PC81 0.1U/25V_6_X7R
PC113 10U/25V_12_X5R
PC83 10U/25V_12_X5R
PU8
PR151 1R_8
PR154 10K/F_6
PQ37 AOL1448
PL11 0.33UH
CPU_CORE
(49) PWM1
DRVON
PR146 2.2/J_6
PC109 1U/16V_6_X5R
NCP5901
PQ32 AOL1718
PQ29 AOL1718
PR170 2.2/J_8
PC133 2200P/50V_6_X7R
PR110 *SHORT_4
PR109 *SHORT_4
(49) CSP1
(49) CSN1
BOTTOM PAD CONNECT TO GND Through 4 VIAs
PR142 2.2/J_6
PD6 RB500V-40
PR144 2.2/J_6
PC89 0.22U/25V_6_X5R
PC82 0.1U/25V_6_X7R
PC112 10U/25V_12_X5R
PC84 10U/25V_12_X5R
PU7
PR150 1R_8
PR153 10K/F_6
PQ38 AOL1448
PR143 2.2/J_6
PC108 1U/16V_6_X5R
PQ28 AOL1718
PQ34 AOL1718
PR169 2.2/J_8
PC132 2200P/50V_6_X7R
PL12 0.33UH
PR106 *SHORT_4
PR105 *SHORT_4
PC55 560U/2.5V_R6_16
PC54 560U/2.5V_R6_16
PC51 560U/2.5V_R6_16
PC50 560U/2.5V_R6_16
(49) CSP2
(49) CSN2
0.25V~1.52V/112A
OS-CON
(49) PWM2
(49) DRVON
PR121 2.2/J_6
PD5 RB500V-40
PR123 2.2/J_6
PC106 0.22U/25V_6_X5R
PC118 0.1U/25V_6_X7R
PC117 10U/25V_12_X5R
PC119 10U/25V_12_X5R
PU2
PR118 1R_8
PR116 10K/F_6
PQ42 AOL1448
PL10 0.33UH
(49) PWM3
(49) DRVON
PR125 2.2/J_6
PC86 1U/16V_6_X5R
PQ30 AOL1718
PQ35 AOL1718
PR168 2.2/J_8
PC127 2200P/50V_6_X7R
PR108 *SHORT_4
PR107 *SHORT_4
(49) CSP3
(49) CSN3
(49) PWM4
PR122 2.2/J_6
PD7 RB500V-40
PR124 2.2/J_6
PC107 0.22U/25V_6_X5R
PC120 0.1U/25V_6_X7R
PC116 10U/25V_12_X5R
PC115 10U/25V_12_X5R
PU3
PR120 1R_8
PR117 10K/F_6
PQ43 AOL1448
PL9 0.33UH
PR126 2.2/J_6
PC87 1U/16V_6_X5R
PQ33 AOL1718
PQ27 AOL1718
PR172 2.2/J_8
PC128 2200P/50V_6_X7R
PR93 *SHORT_4
PR89 *SHORT_4
PC49 560U/2.5V_R6_16
PC45 560U/2.5V_R6_16
PC57 560U/2.5V_R6_16
PC52 560U/2.5V_R6_16
(49) CSP4
(49) CSN4
PR140 2.2/J_6
PD4 RB500V-40
PR141 2.2/J_6
PC90 0.22U/25V_6_X5R
PC124 0.1U/25V_6_X7R
PC125 10U/25V_12_X5R
PC114 100U/25V_R6
PU5
PR148 1R_8
PR152 10K/F_6
PQ44 AOL1448
Rev B, PL13 change to 0.47uH
PL13 0.47UH
V_AXG
(49) PWMA
(49) DRVON
PR139 2.2/J_6
PC104 1U/16V_6_X5R
PQ36 AOL1718
PQ31 AOL1718
PR119 2.2/J_8
PC85 2200P/50V_6_X7R
PR115 *SHORT_4
PR114 *SHORT_4
PC53 560U/2.5V_R6_16
PC69 560U/2.5V_R6_16
PC70 560U/2.5V_R6_16
PC80 560U/2.5V_R6_16
PC144 *560U/2.5V_R6_16
PC60 560U/2.5V_R6_16
(49) CSPA
(49) CSNA
PU6
VIN
GND/ADJ
VOUT
APL1117UC SOT252
PC105 10U/25V_12_X5R X5R 25V 1206
PR135 0/J_8 0805
PR136 121/F_4 0603 1%
R1
PR137 649/F_4 0603 1%
R2
PC102 10U/25V_12_X5R X5R 25V 1206
Vout = 1.25V*((R1+R2)/R1)
WWW.MANUALS.CLAN.SU
Quanta Computer Inc.
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Size
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CPUDRIVER
Rev A
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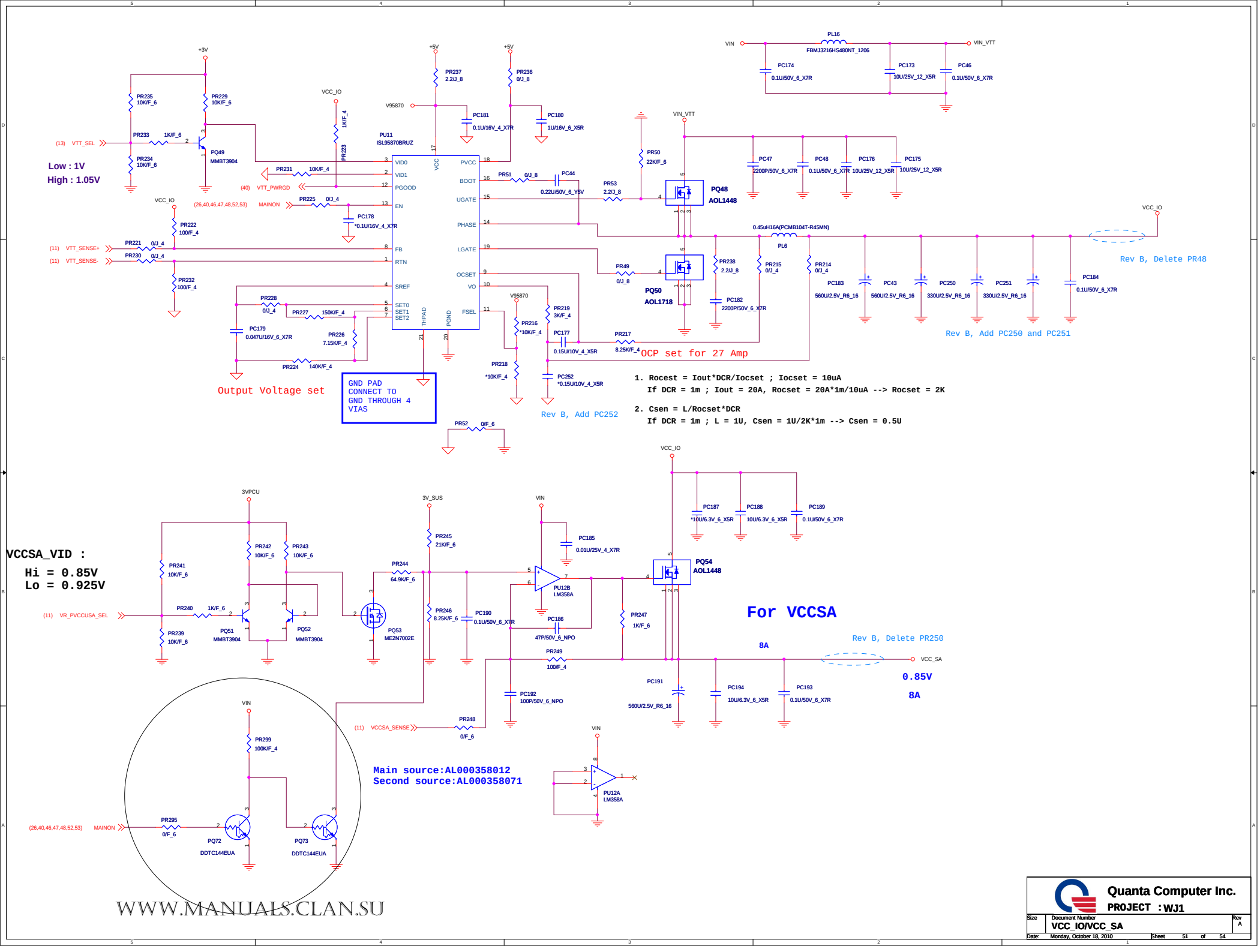
Low : 1V
High : 1.05V
Output Voltage set
GND PAD CONNECT TO GND THROUGH 4 VIAS
Rev B, Add PC252
OCP set for 27 Amp
Rev B, Delete PR48
Rev B, Add PC250 and PC251
1. Rocest = Iout*DCR/Iocset ; Iocset = 10uA
If DCR = 1m ; Iout = 20A, Rocset = 20A*1m/10uA --> Rocset = 2K
2. Csen = L/Rocset*DCR
If DCR = 1m ; L = 1U, Csen = 1U/2K*1m --> Csen = 0.5U
VCCSA_VID :
Hi = 0.85V
Lo = 0.925V
For VCCSA
8A
0.85V
8A
Rev B, Delete PR250
Main source:AL000358012
Second source:AL000358071
WWW.MANUALS.CLAN.SU
Quanta Computer Inc.
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VCC_IO/VCC_SA
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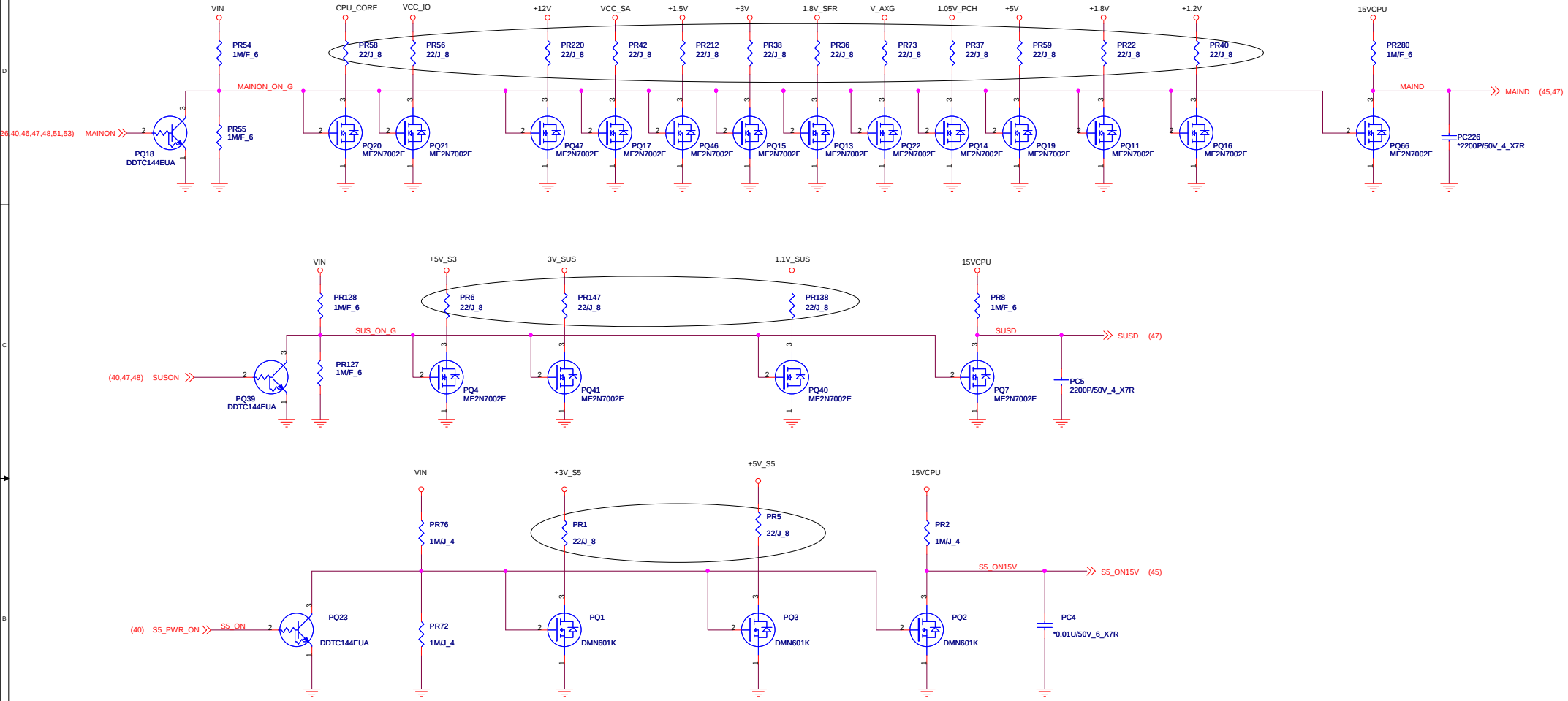

Quanta Computer Inc.
PROJECT : WJ1

Size	Document Number	Rev
	DISCHARGE	B

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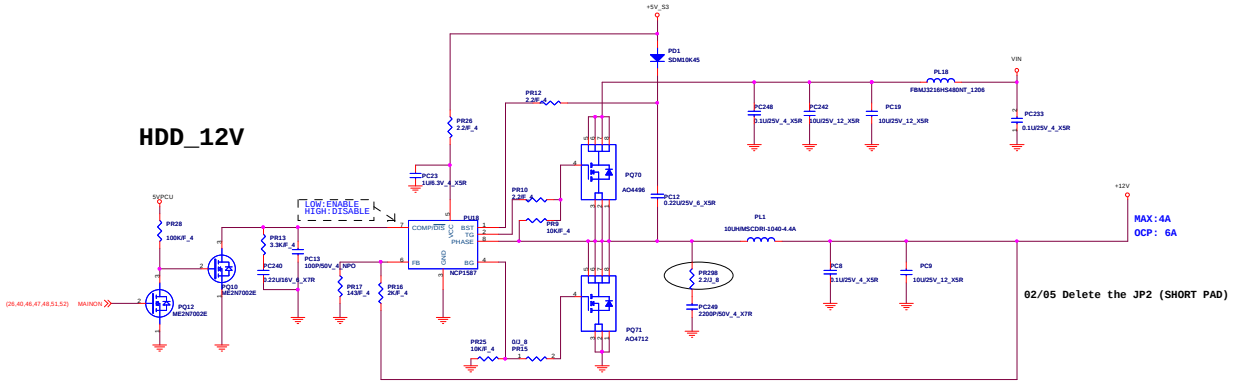
HDD_12V



Quanta Computer Inc.		
PROJECT : WJ1		
Size	Document Number: 12V HDD	Rev: B
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EVT(Rev. A) to DVT(Rev. B)

Page 02, SATA HDD and SDD change to SATA Gen3 from Gen2
Page 11, R371 change to NU
R367 change to 120 ohm
Delete R366,R369,R381,R377,R382,R378,R344,
R376,R429,R370,R375,R374,R352,R373,R372,R348

Page 12, C394 change to Stuff
Add C648~C654

Page 19, U28 pin BP43 change to net "USB_OC4#"
U28 pin BJ41 change to net "USB_OC5#"
RP17 pin 8 connect to "USB_OC4#", pin 9 connect to "USB_OC5#"
RP17 pin 1,3,5,7 change to floating
Add L37,L39,L40
Delete C574 and C575

Page 20, R638 change to Stuff
R675,R677 and R681 pull up voltage change to +3V
U28 pin BR19 change to GPIO1
U28 pin BA22 change to BOARD_ID_0
U28 pin BR16 change to BOARD_ID_1
U28 pin BU16 change to GPIO68
U28 pin BM18 change to GPIO69
Add R726 and R727, NU

Page 21, R600 change to NU
Add R710,R711,R712 and R713
R701, U32 and C647 change to NU
R707, R604 change to Stuff
U30 change footprint
R19,R27, R54 and R659 pull up voltage change
to +3V_S5
R652 pull up voltage change to +3V_S5, NU
R655,R669, R662, R21 and R53 pull up voltage
change to +3V_S5
GPIO12 change to "EC_SMI#"
GPIO13 change to "EC_SCI#"
GPIO44 change ro "CLR_BIOS_DATA#"
GPIO45 change to "CLR_PASSWORD#"
SW1 change footprint
C642 and C643 change to 12p
Delete R629

Page 23, Delete RP1,R654
Page 24, Q2 and Q63 change to MMBT3904 from ME2N7002E
U28 pin AN52, VCCSPI change to +3V from +3V_S5
Delete R661, R649,R587 and R594

Page 26, Q67 and Q68 change to AO3413 from ME2N7002E
Q16 change to AO3413 from MF2N7002E
Q20 change to MMBT3904 from MF2N7002E
Add R708, R709 and R718,Q70

Page 27, CN7 change footprint & P/N
Add R728 and R729, NU
Add R733 and R734

Page 28, AR70 change to 0 ohm from 10 ohm
AD4 change footprint and Stuff
AR69, AR40 change to NU, AR71 change to Stuff
Change AC38,AC39,AC58,AC59,AC60 and AC61
AR41,AC66,AR43,AR42,AC67 and AR44 change to NU
Add AR90 and AR91

Page 31, F5 change to NU
Delete F1,F2,F3 and F4

Page 33, Delete USB3.0 Controller
Delete U8,R224,R254,R255,R256,R706,R236,C292,
C293,R226,R237,R235,R238,R255,R261,R270,
R267,R264,C332,U12,L12,C288,C286,C319,
C318,C316,C312,C317,C285,C302,C300,C289,
C307,C290,C326,C294,C308,C320,C314,C305,
C325,C315,C313,C287,C322,C311,C309,C291,
C310,C323,C327,C306,C321,R232,R233,L14,
U6,U5,R230,R231,L13,C296,C297,C298,C299,
U7,U4,R222,R227,R223,R281,R282,C304,R234,
C301,C295,R220,C303,C278,C276,C280,C284,
U11,R274
Change CN39 and CN40
Add F8,R735,R736 and C659

Page 34, Delete C331, R273, R275 and R228
Change R151 and R149
Add R740 and R741, R741 NU

Page 35, R94,R73,R91,R108,R107,R75,R88,R84,R57,R66,R545,R608 and R609 change to NU
R90, R123, R60, R63 and R544 change to Stuff
U29 change to 2M bits
C588 and C589 change to 15p
R608 and R609 change to NU
R482 change to U26 pin F11

Page 36, CN8 change footprint & P/N
Q64 pin 2 change to +5V
Q3 pin 2 change to +5V
CN9 pin 14 change to "BOARD_ID_0"

Page 37, D8 and D12 change to BAT54C from ME2N7002E
Page 38, Q38 change to DMP3160L from ME2N7002E
CN28 change footprint
Add R725
R465 change to 200K, R465 pin 1 change to VIN
R475 and R468 pull up voltage change to +5V
R476 and R460 change to NU
Q28 change to AO6402A
Add R738 and R739

Page 39, Q27 change to MMBT3906 from ME2N7002E
Page 40, Title Block change to ITE 8519E from ITE8512N
R325 and R326 change to NU
U15 pin 72 change to "VGA_TH_ALERT#" and change P/N
Add D26
D13 change to NU

Page 41, Q56,Q58,Q59 and Q60 change to MMBT3904 from ME2N7002E
Q12 change to MMBT3904 from ME2N7002E

Page 42, Q57 change to AO3413 from ME2N7002E
Q50 change to MMBT3904 from ME2N7002E
CN16 pin 3,5,7 "+1.5V_SUS" change to "1.5V_DDR3"
CN16 pin 1 change to "3V_SUS" from "+5V_S3"
Add U33,C655,C656,C657,C658,R721,R722,R723 and R724
R721 and Q55 change to NU

Page 43, R400 pin 1 change to "XDP_CPU_TRST_N" from "XDP_CPU_RST_N"
R651 change to 51 ohm, NU

Page 45, PL3 and PL4 change to 3.3uH
Delet PR46 and PR47
PR252 change to NU

Page 46, Delete PR295 and PR260
Page 47, Delete PR57
Page 48, Delete PJP1,PJP2,PJP3

Page 49, PC142 change to 1500pF
PC153 change to 3300pF
PC151 change to 150pF
PR198 change to 8.25k
PR195 change to 6.98k
PC148 change to 650pF
PR81 change to 100k
PC66 change to 150pF
PC147 change to 680pF
PR88 change to 7.5k
PR192 change to 5.49k
PR91 change to 34.8k

Page 50, PL13 change to 0.47uH
PC60 change to Stuff

Page 51, PL16 change
Add PC250 and PC251, PC252
Delete PR48 and PR250

Quanta Computer Inc.
PROJECT : WJ1

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