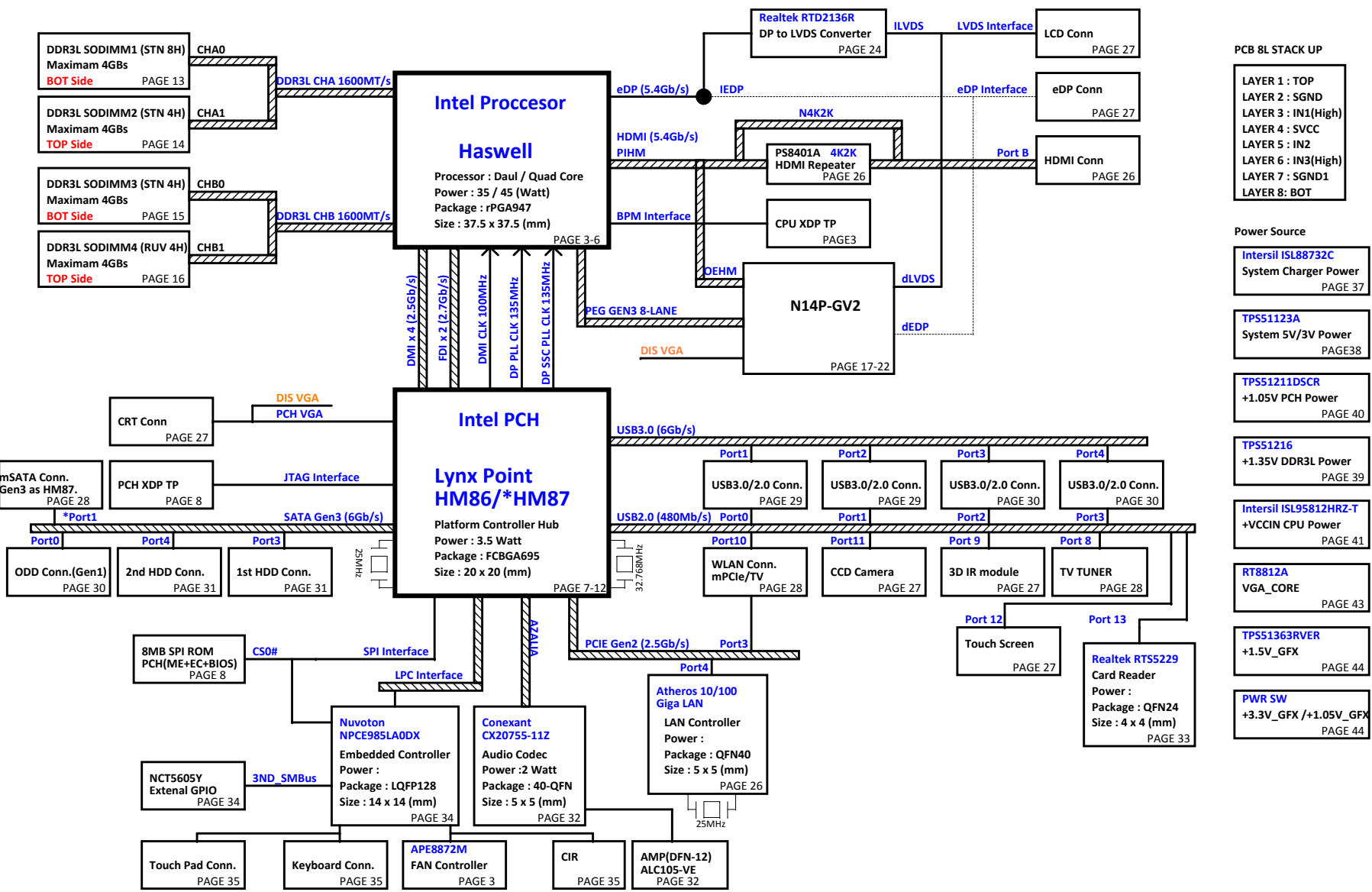


# (17.3") Intel Shark Bay Platform Block Diagram

01



**PCB 8L STACK UP**

LAYER 1 : TOP  
 LAYER 2 : SGND  
 LAYER 3 : IN1(High)  
 LAYER 4 : SVCC  
 LAYER 5 : IN2  
 LAYER 6 : IN3(High)  
 LAYER 7 : SGND1  
 LAYER 8 : BOT

**Power Source**

**Intersil ISL88732C**  
 System Charger Power  
 PAGE 37

**TPS5123A**  
 System 5V/3V Power  
 PAGE 38

**TPS51211DSCR**  
 +1.05V PCH Power  
 PAGE 40

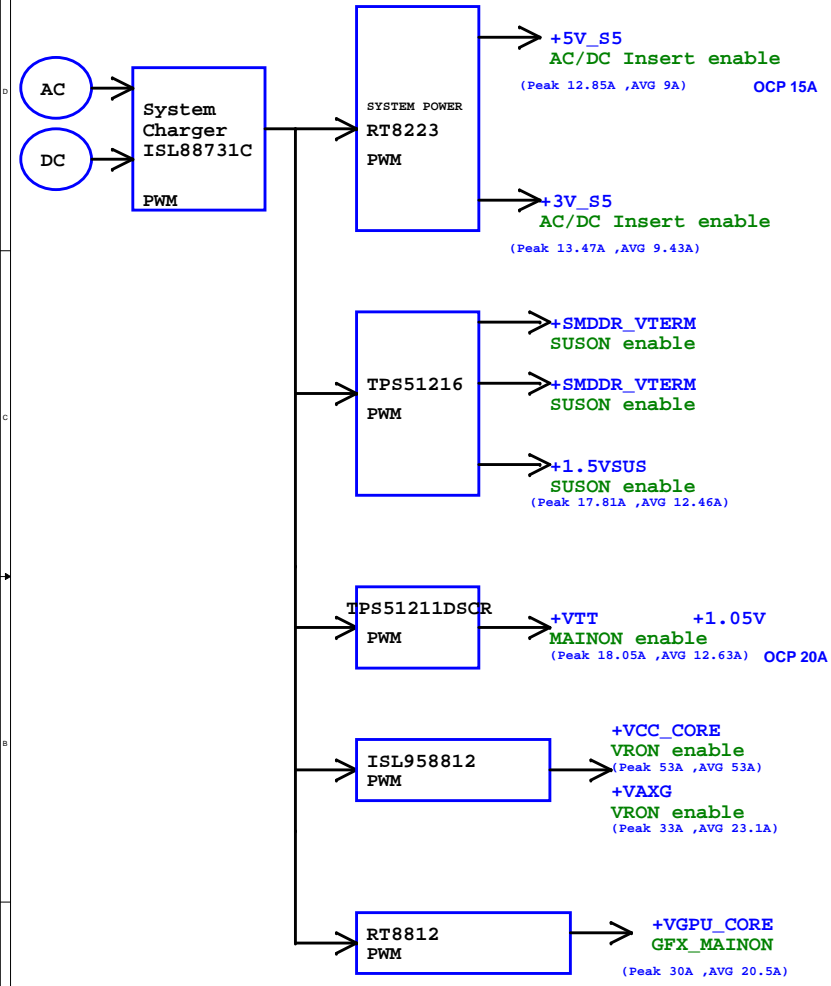
**TPS51216**  
 +1.35V DDR3L Power  
 PAGE 39

**Intersil ISL95812HRZ-T**  
 +VCCIN CPU Power  
 PAGE 41

**RT8812A**  
 VGA\_CORE  
 PAGE 43

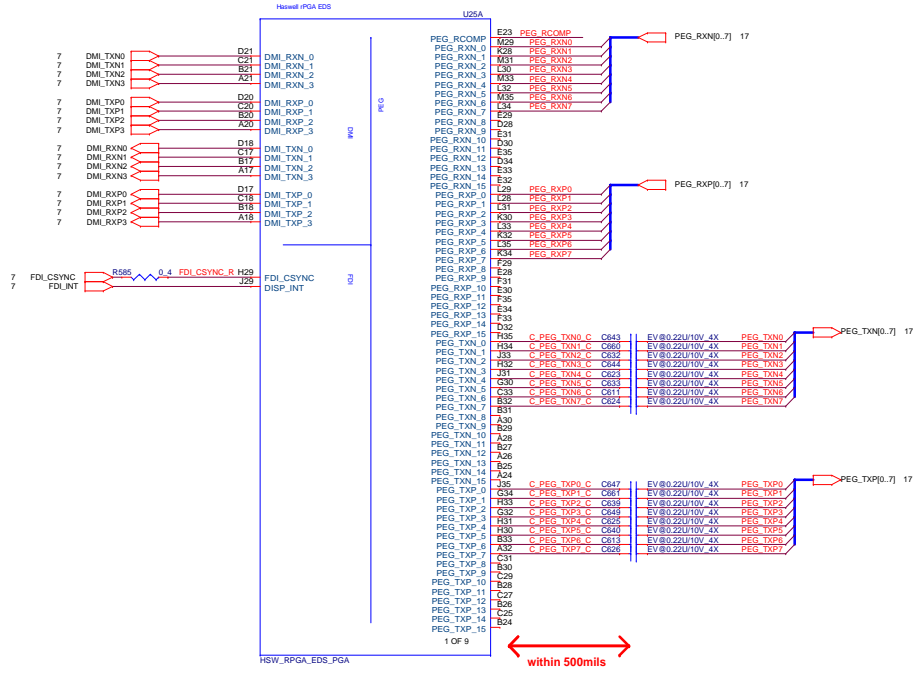
**TPS51363RVER**  
 +1.5V\_GFX  
 PAGE 44

**PWR SW**  
 +3.3V\_GFX / +1.05V\_GFX  
 PAGE 44

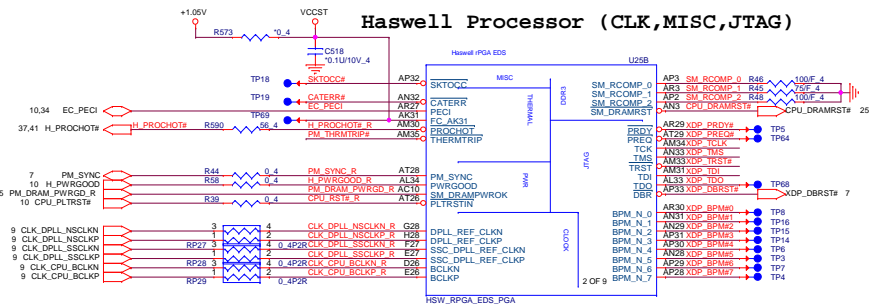


POWER PLANE	VOLTAGE	CONTROL SIGNAL	Power States ACTIVE IN
VIN	10V~+19V		S0-S5
+VCCRTC	+3.0V~+3.3V		S0-S5
+3V	+3.3V	MAIN_ON	S0
+3V_S5	+3.3V	S5_ON	S0-S5
+3V_HDP	+3.3V	MAIN_ON	S0
+3VPCU	+3.3V	AC/DC Insert enable	S0
+5V	+5V	MAIN_ON	S0
+5V_S5	+5V	S5_ON	S0-S5
+5VPCU	+5V	AC/DC Insert enable	S0-S5
WIMAX_P	+3.3V	WMAX_P for WLAN	
+1.8V	+1.8V	MAIN_ON	S0
+1.5V	+1.5V	MAIN_ON	S0
+1.5V_SUS	+1.5V	SUSON	S0-S3
+VCC_CORE		VRON	S0
+VTT	+1.05V	MAIN_ON	S0
+1.05V	+1.05V	MAIN_ON	S0
+VAXG		MPWROK	S0

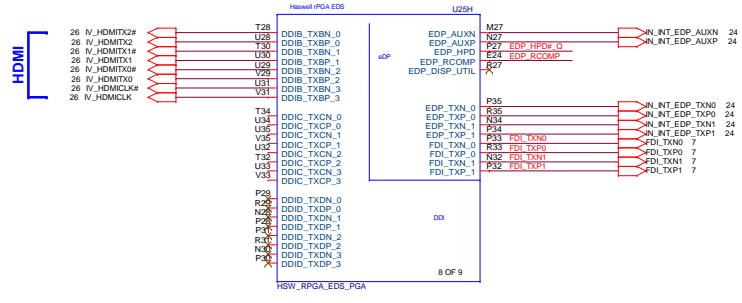
### Haswell Processor (DMI,PEG,FDI)



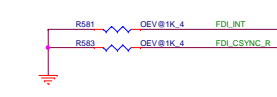
### Haswell Processor (CLK,MISC,JTAG)



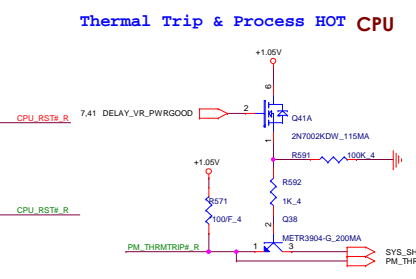
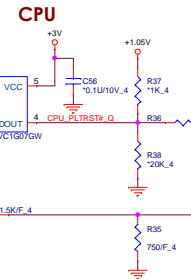
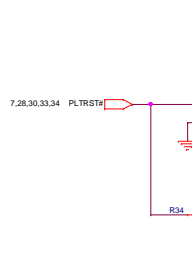
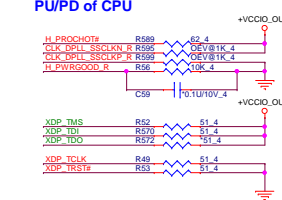
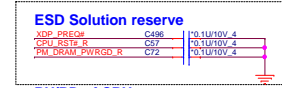
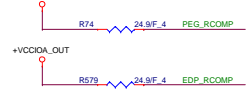
### Haswell Processor (DDI,eDP,FDI)



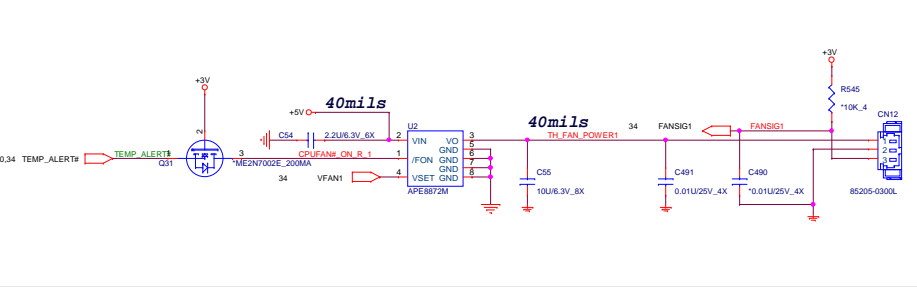
#### FDI Disabling (Discrete Only) <CPU>



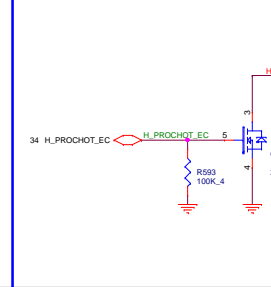
#### DP & PEG Compensation <CPU>



#### FAN Control-->For one FAN solution <THC>



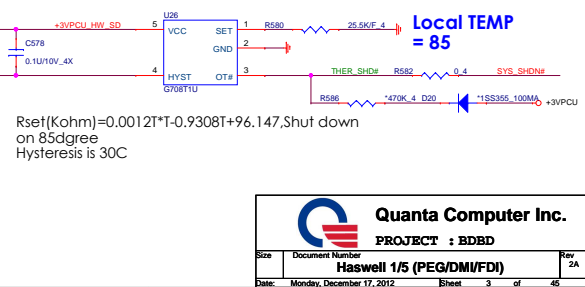
#### Intel Turbo mode only CPU



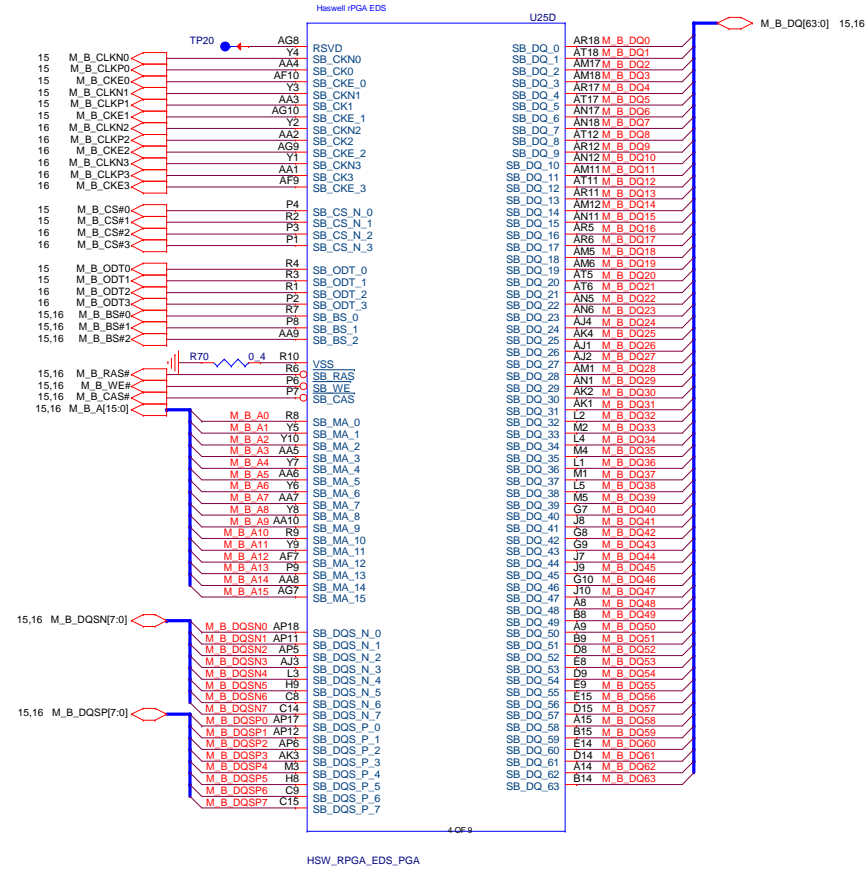
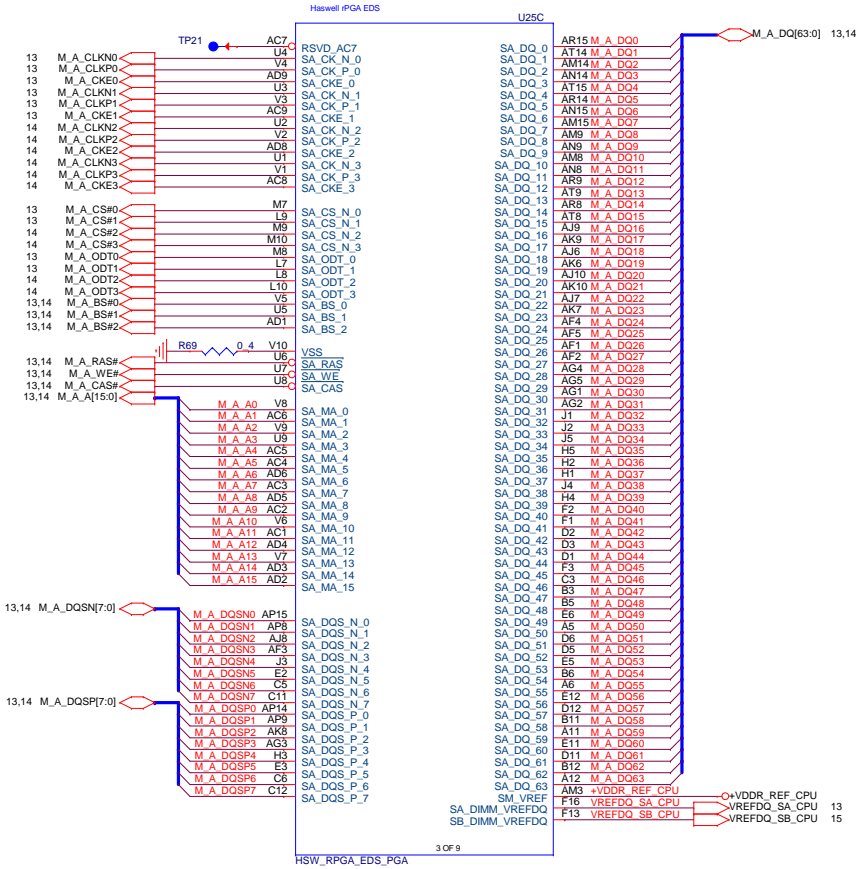
#### CPU Thermal sensor / MB Local TEMP



#### <THC> Local TEMP = 85



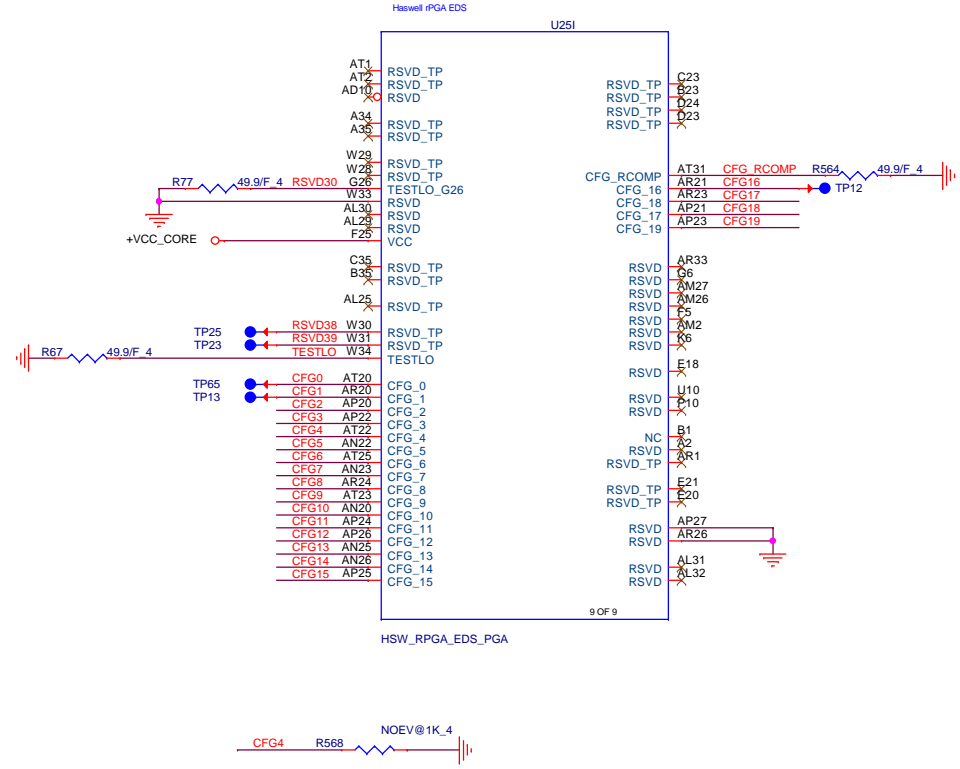
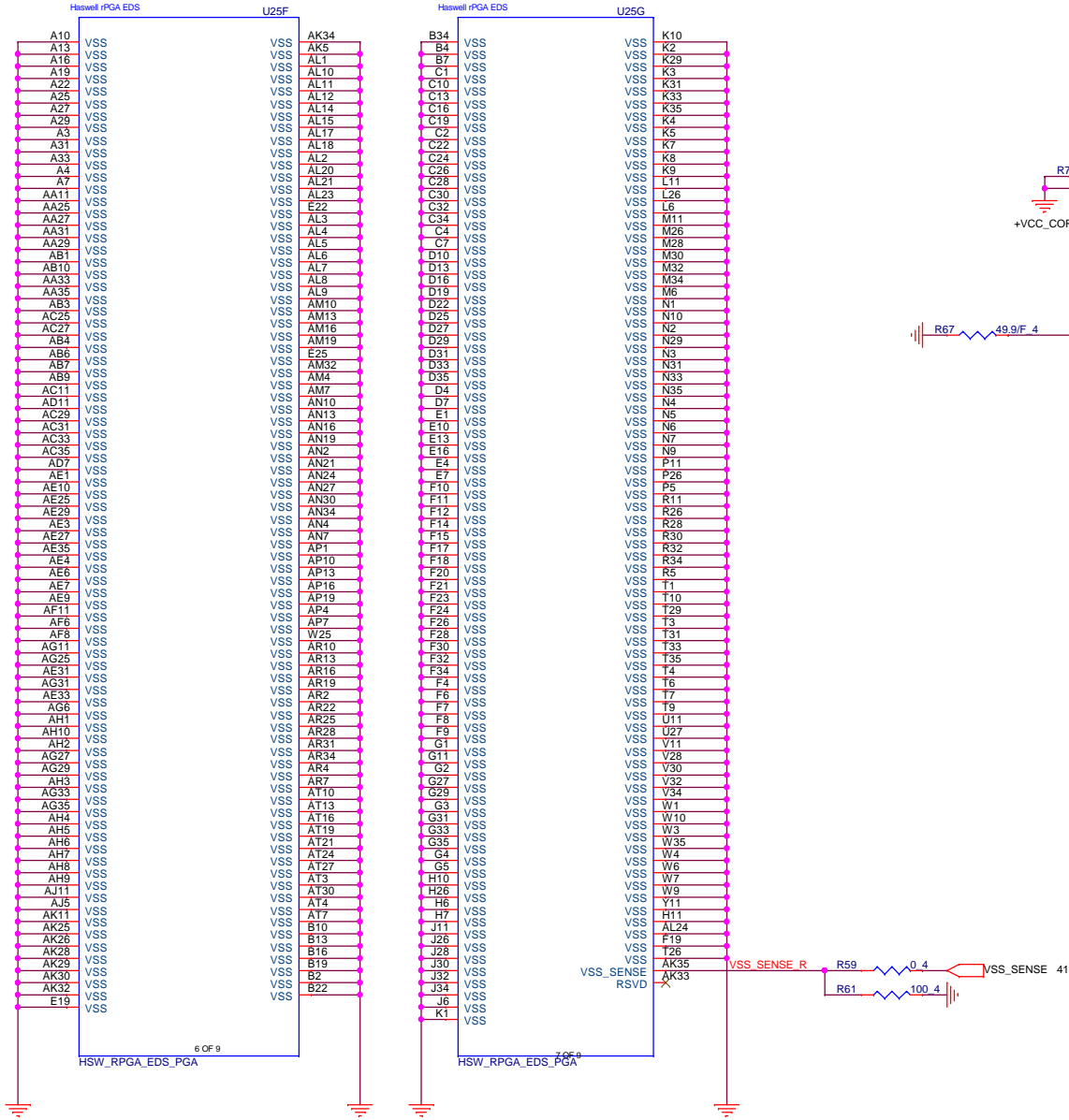
### Haswell Processor (DDR3)





### Haswell Processor (GND)

### Haswell Processor (CFG,RSVD)



**Quanta Computer Inc.**  
**PROJECT : BDBD**

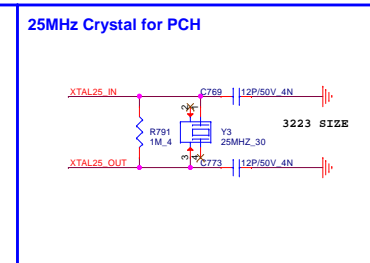
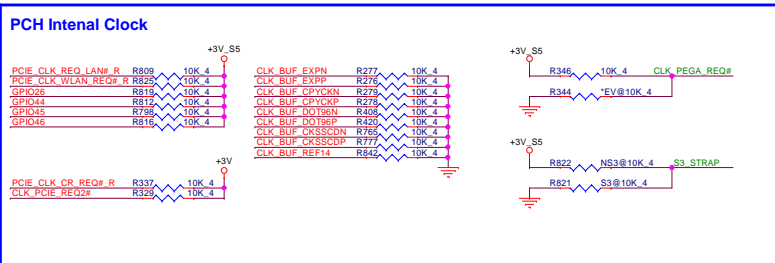
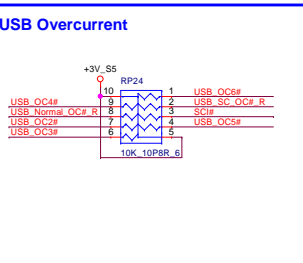
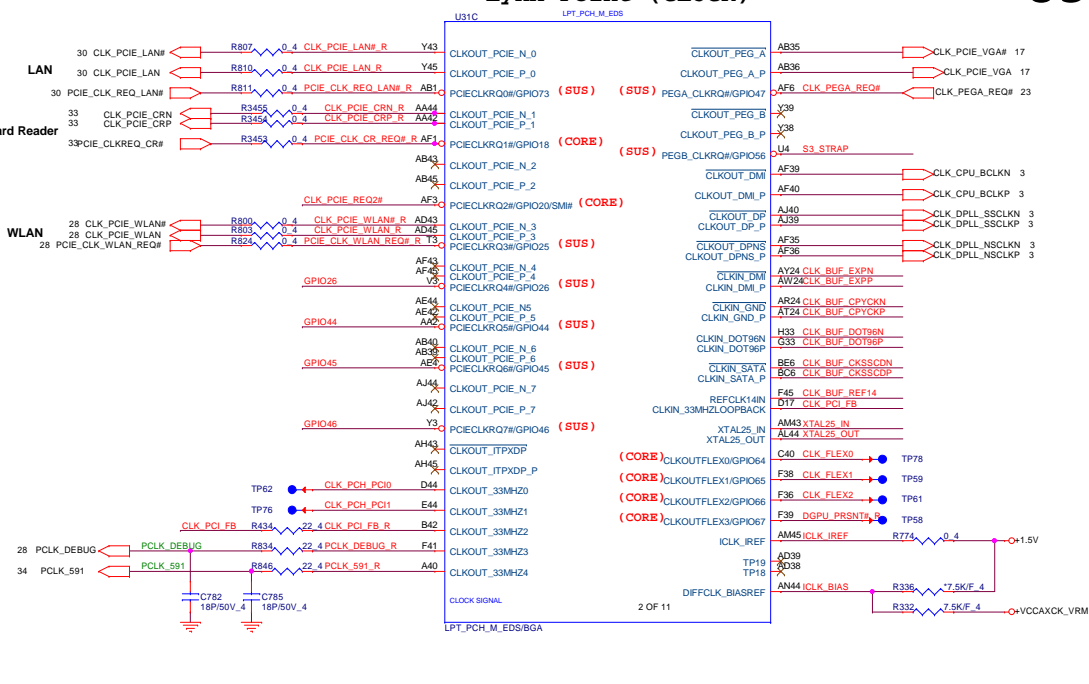
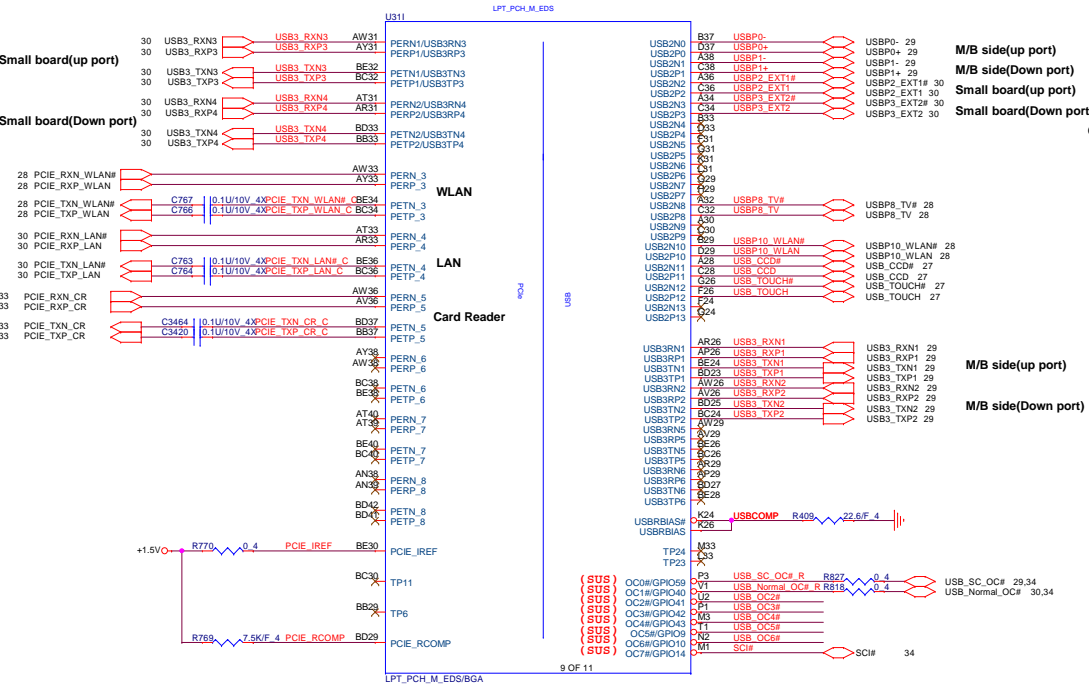
Size	Document Number	Rev
	<b>Haswell 5/5 (CFG/GND)</b>	2A
Date:	Monday, December 17, 2012	Sheet 6 of 45





### Lynx Point (PCIE,USB3.0,USB2.0)

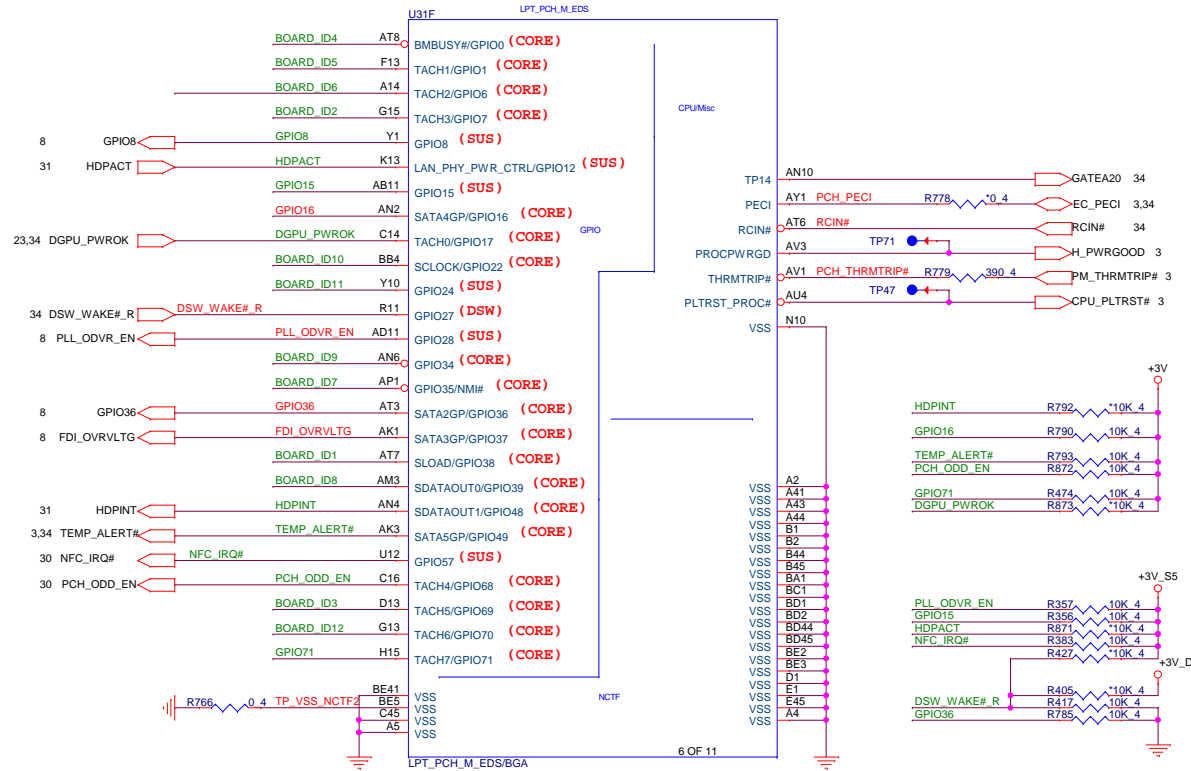
### Lynx Point (CLOCK)



**Quanta Computer Inc.**  
**PROJECT : BDBD**  
**LPT 3/6 (PCIE/USB/CLK)**  
 Date: Monday, December 17, 2012 Sheet 9 of 45 Rev 2A

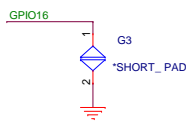
# Lynx Point (GPIO,CPU/MISC,NCTF)

# BOARD ID SETTING CLG/PX/OEV/UGA/CLG-Strap

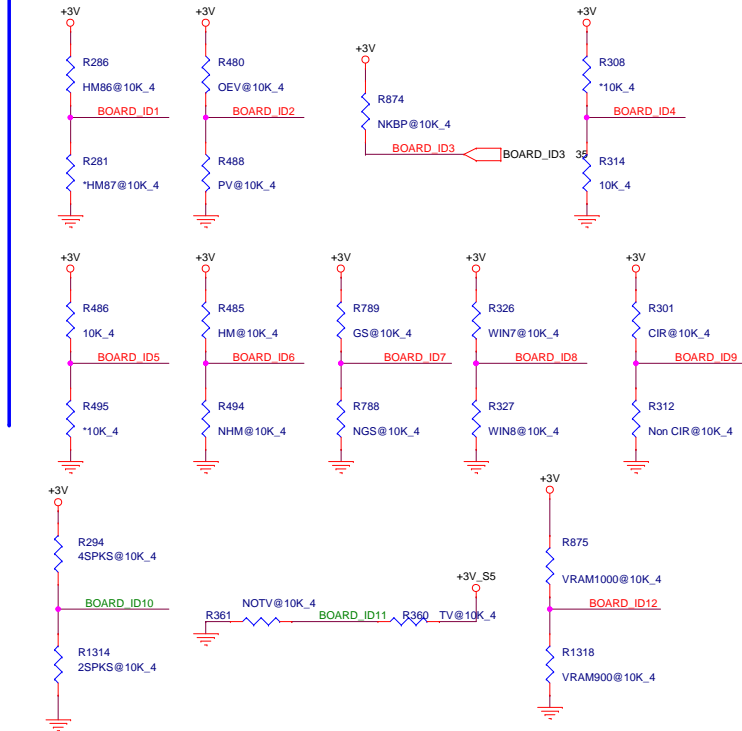
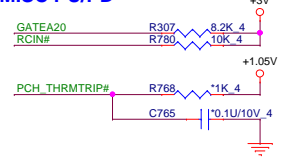


Board ID	ID1	ID2	ID3	ID4	ID5	ID6	ID7	ID8	ID9	ID10	ID11	ID12
HM86 HM87	H L											
Only VGA OPTIMUS		H L										
W/O LED KB W/ LED KB			H L									
UMA Discrete				H L								
17" Premium 17" Gaming					H L							
W/ HDMI W/O HDMI						H L						
W/ G-sensor W/O G-sensor							H L					
WIN7 WIN8								H L				
ECO Mode 3D Mode									H L			
4 SPKS 2 SPKS										H L		
TV SKU SSD SKU											H L	
VRAM 1000 VRAM 900												H L

## PU & Password Clear



## PCH MISC PU/PD



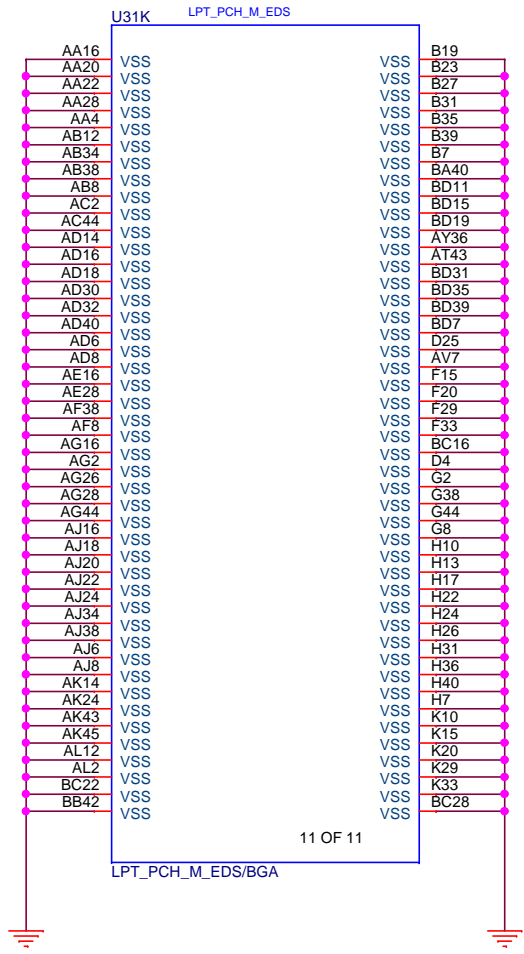
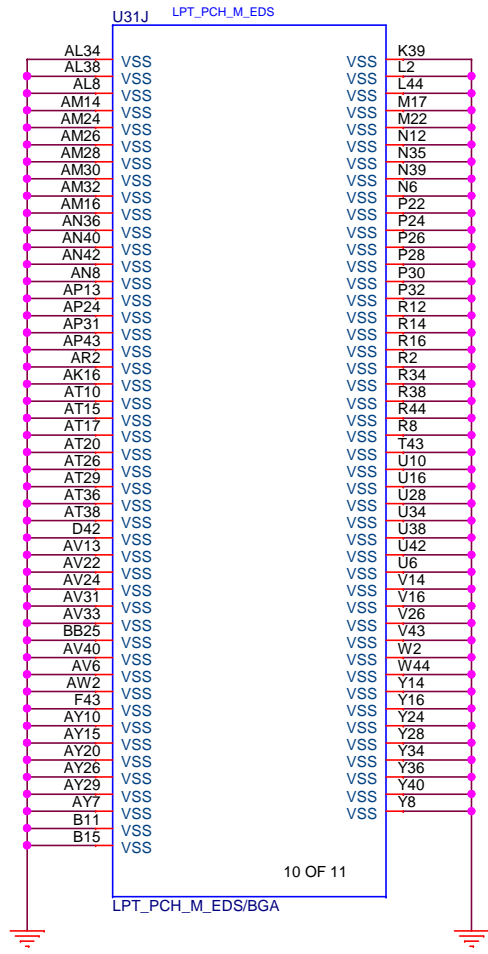
**Quanta Computer Inc.**  
PROJECT : BDBD

Size	Document Number	Rev
	<b>LPT 4/6 (GPIO/MISC)</b>	2A
Date: Monday, December 17, 2012		Sheet 10 of 45



Lynx Point (GND)

Lynx Point (GND)



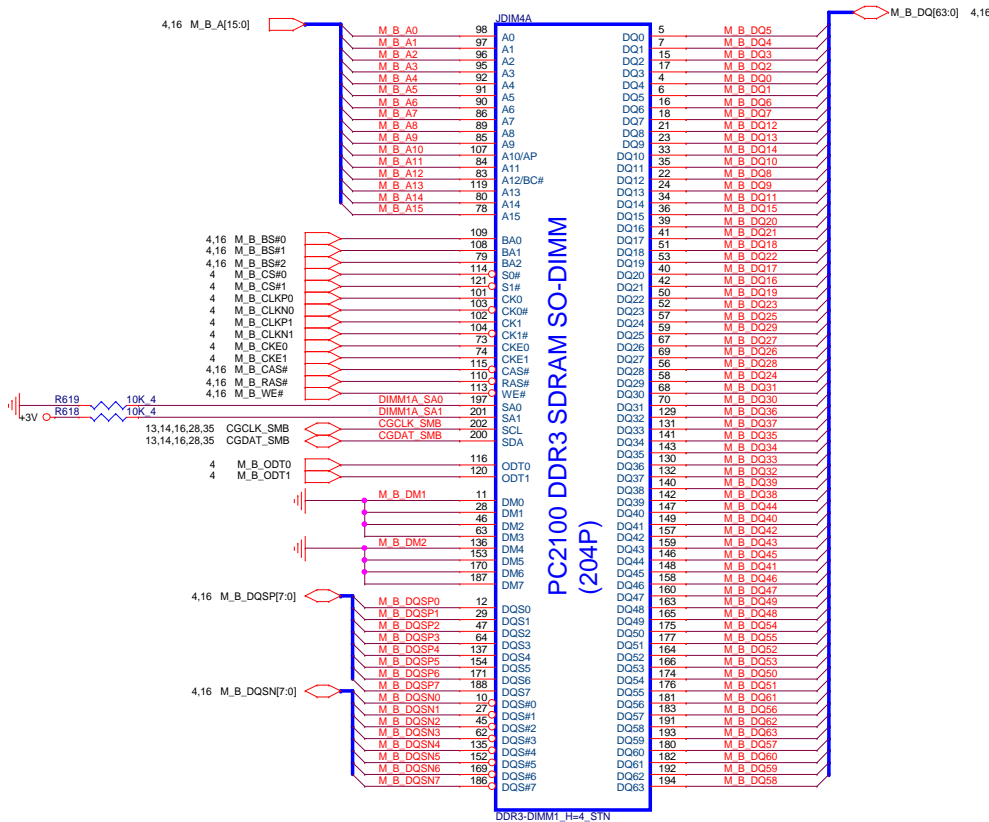
**Quanta Computer Inc.**  
PROJECT : BDBD

Size	Document Number	Rev
	<b>LPT 6/6 (GND)</b>	2A
Date:	Monday, December 17, 2012	Sheet 12 of 45

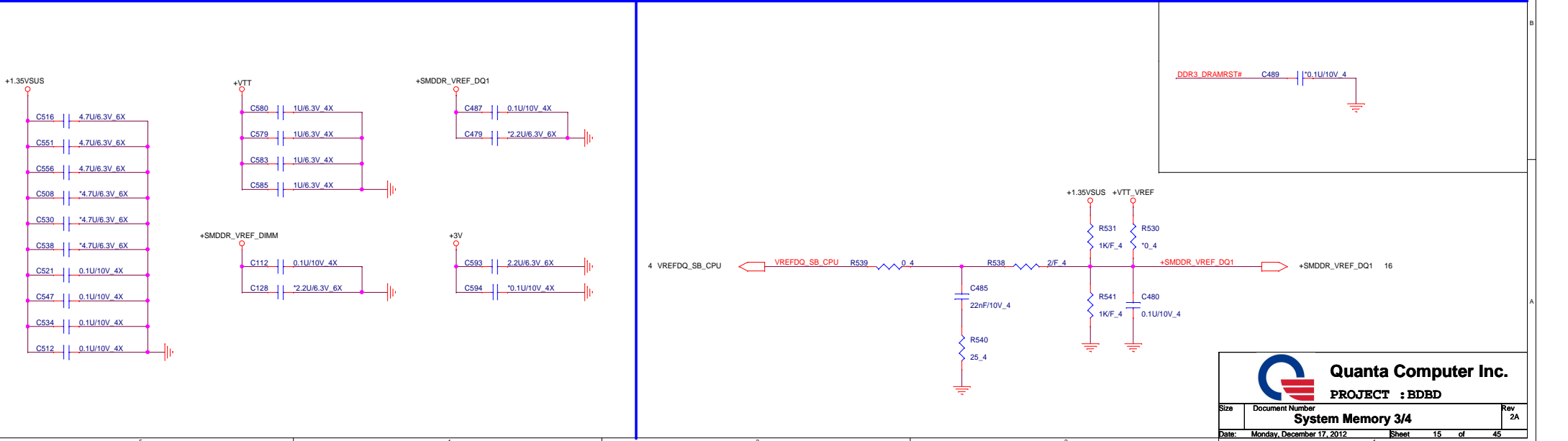
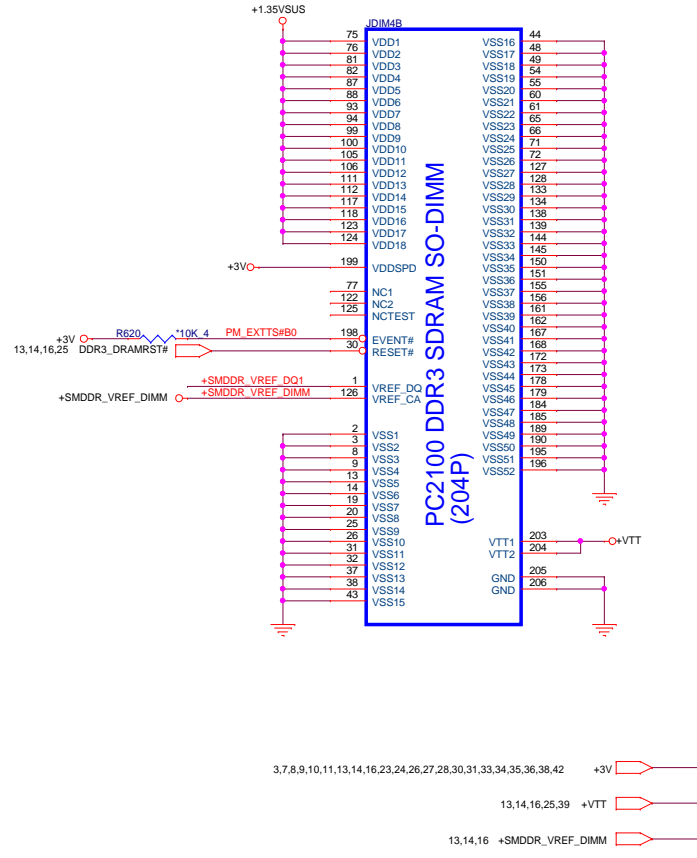




### BOT Side Far away CPU



PC2100 DDR3 SDRAM SO-DIMM (204P)



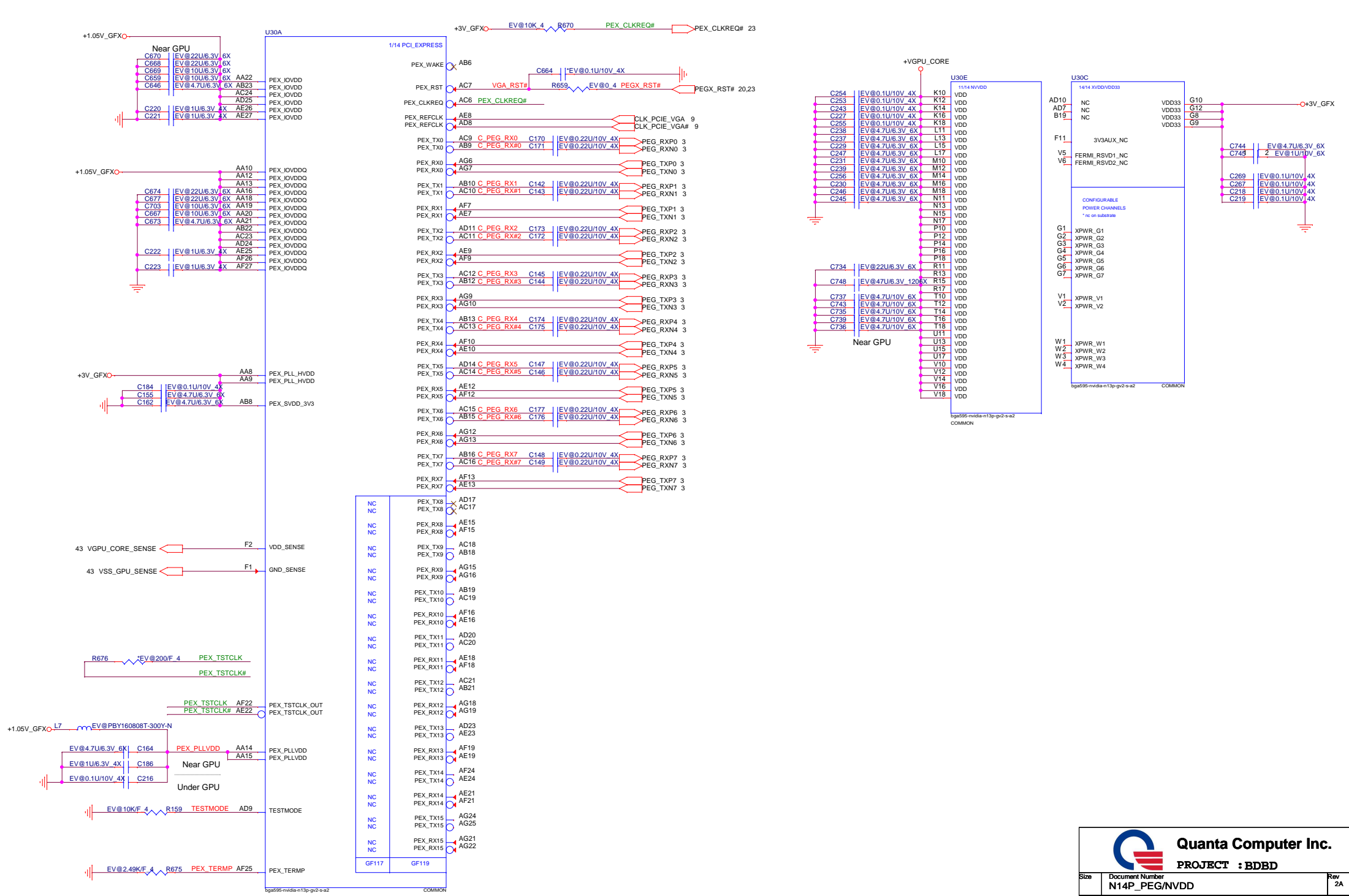
**Quanta Computer Inc.**  
**PROJECT : BDBD**


Size	Document Number	Rev
		2A

**System Memory 3/4**

Date: Monday, December 17, 2012 Sheet 15 of 45

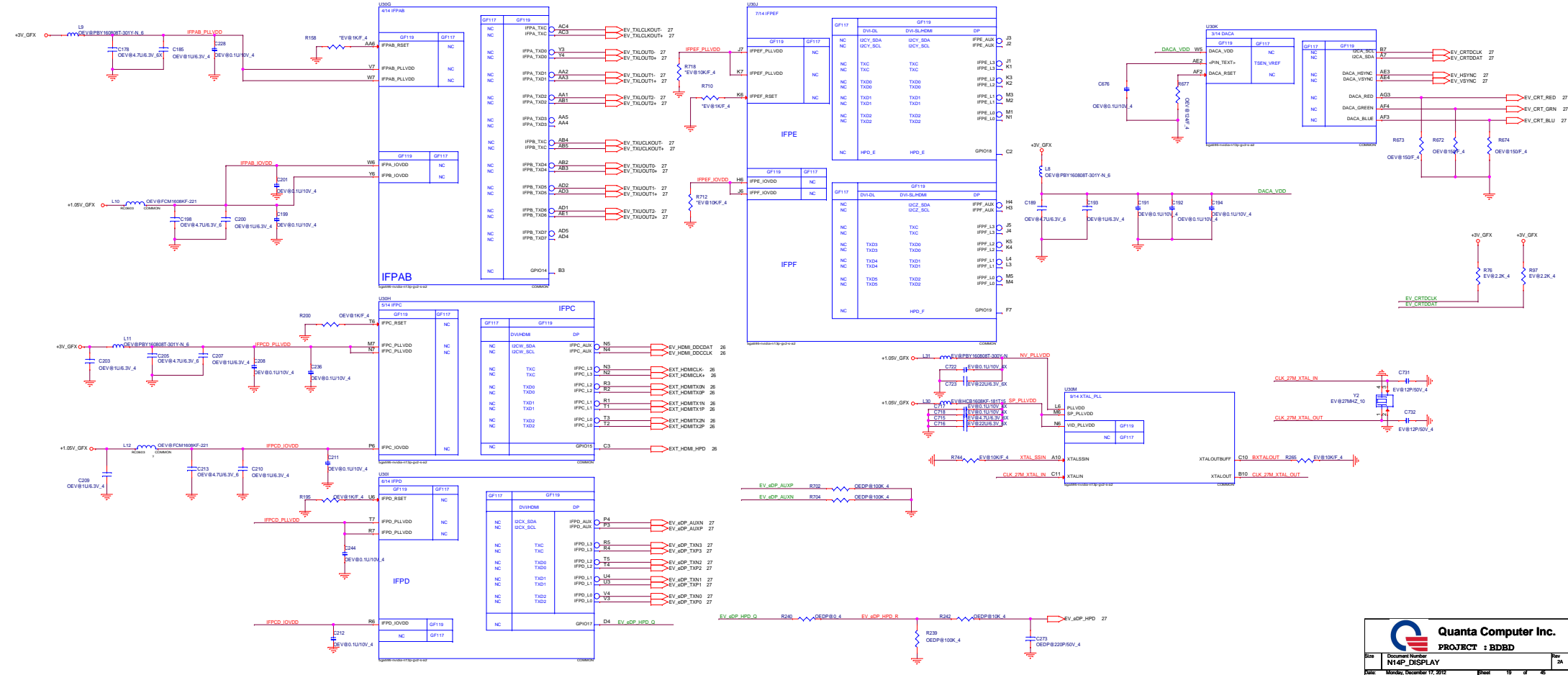


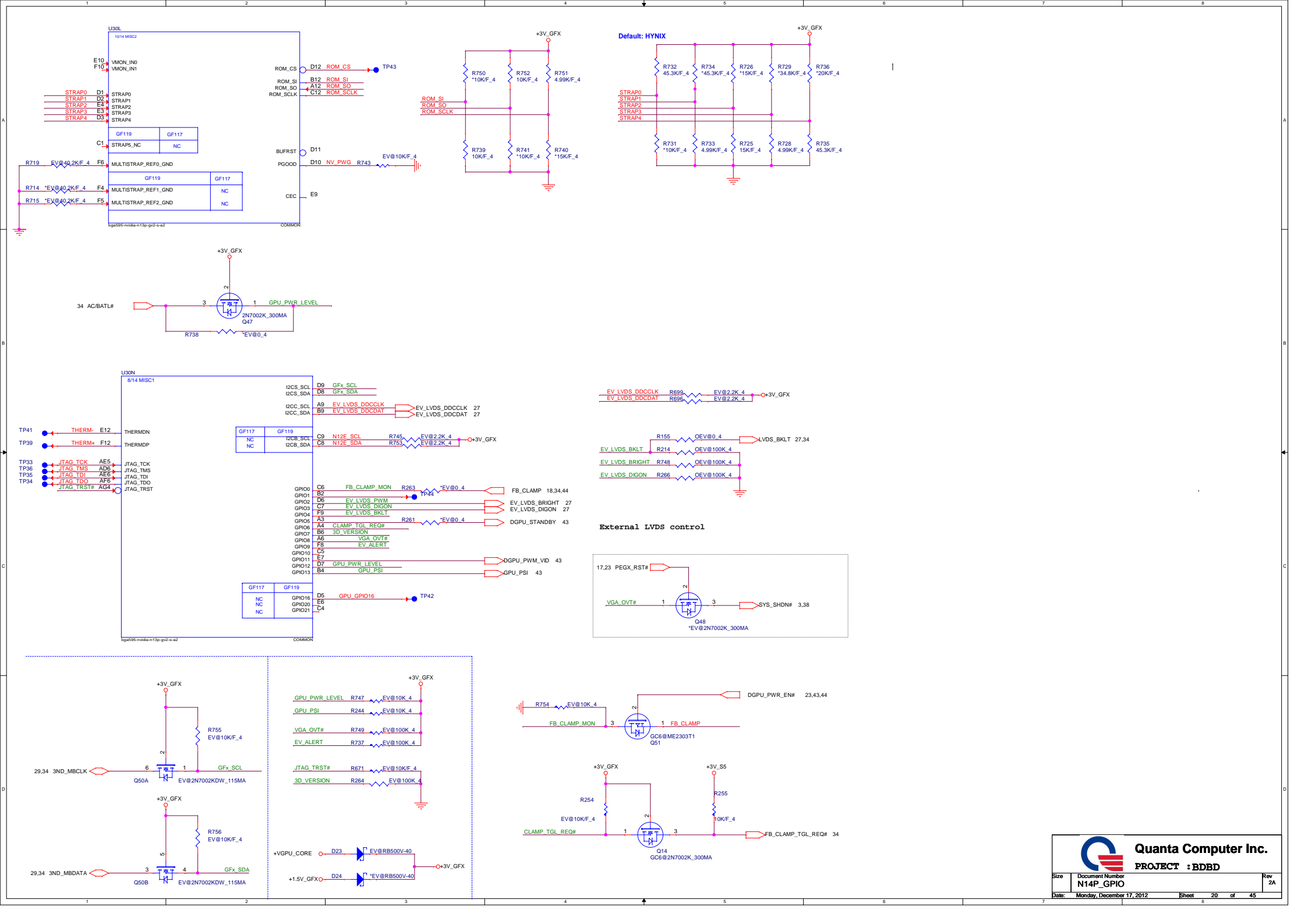


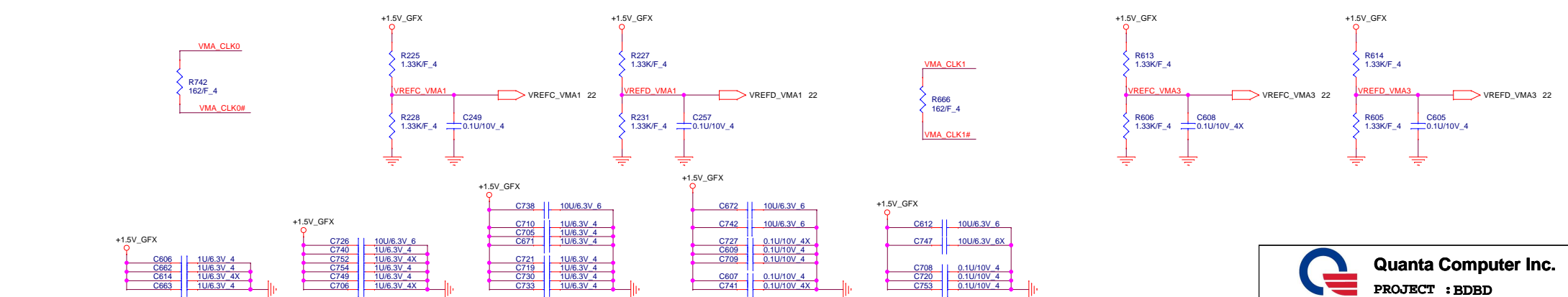
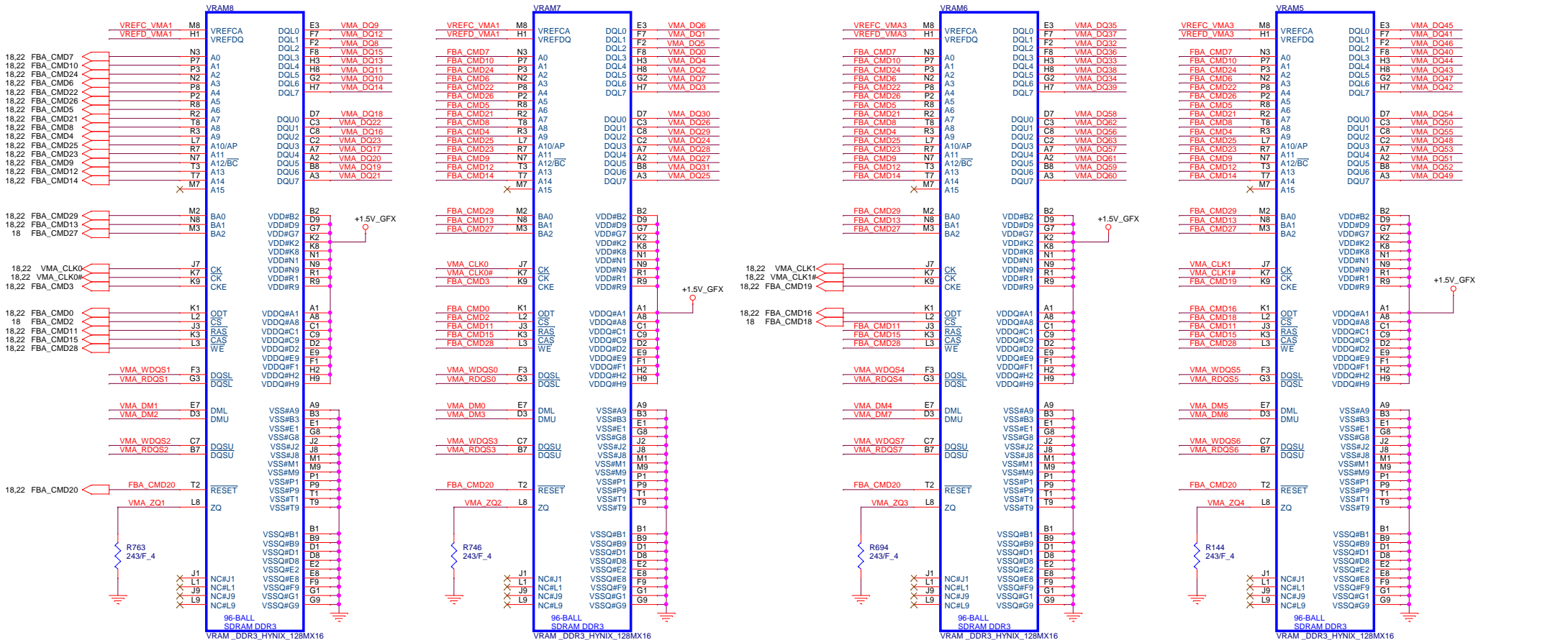
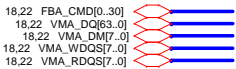

**Quanta Computer Inc.**  
**PROJECT : BDBD**

Size	Document Number <b>N14P_PEG/NVDD</b>	Rev <b>2A</b>
Date	Monday, December 17, 2012	Sheet 17 of 45





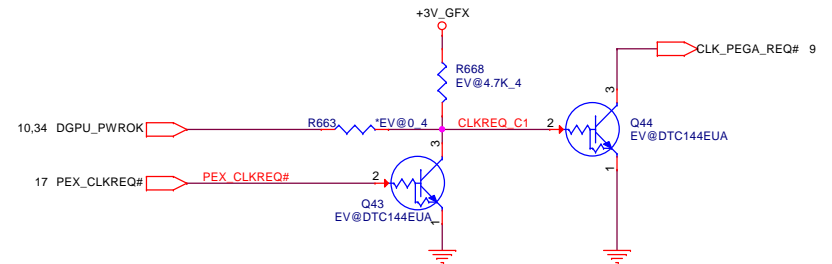
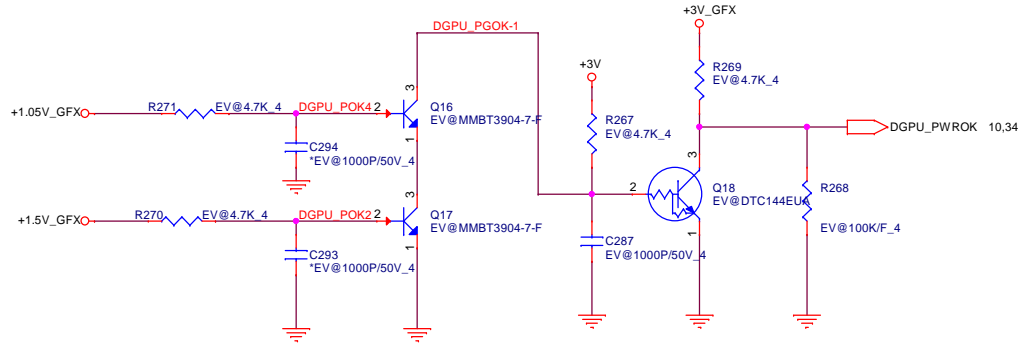
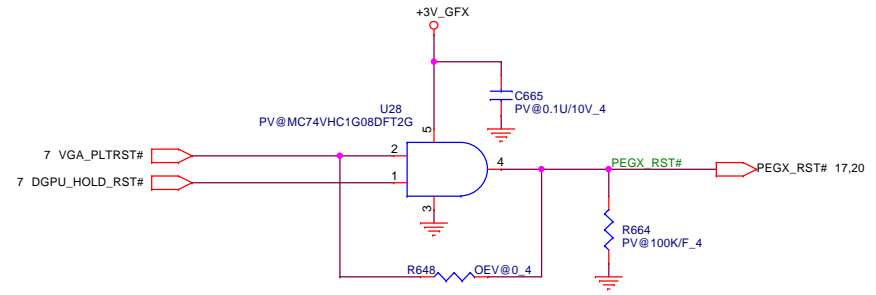
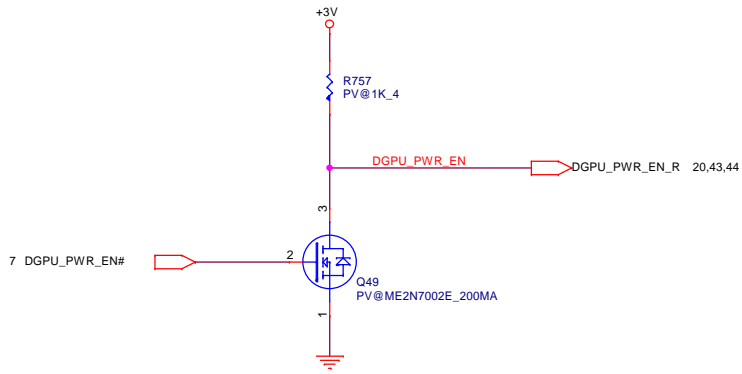




**Quanta Computer Inc.**  
PROJECT : BDBD

Size	Document Number	Rev
	N14P_VRAM RANK0	2A
Date:	Monday, December 17, 2012	Sheet 21 of 45



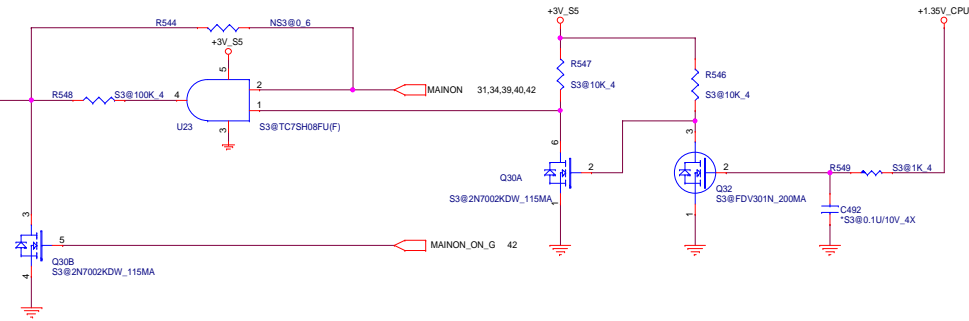


**Quanta Computer Inc.**  
**PROJECT : BDBD**

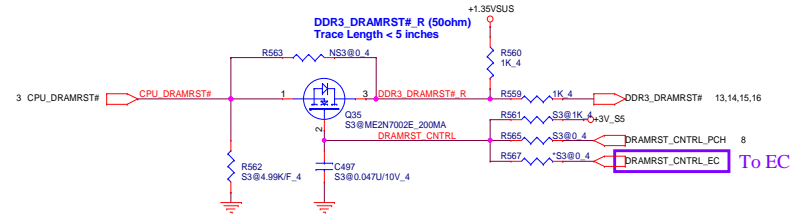
Size	Document Number	Rev
	Blank	2A
Date:	Monday, December 17, 2012	Sheet 23 of 45



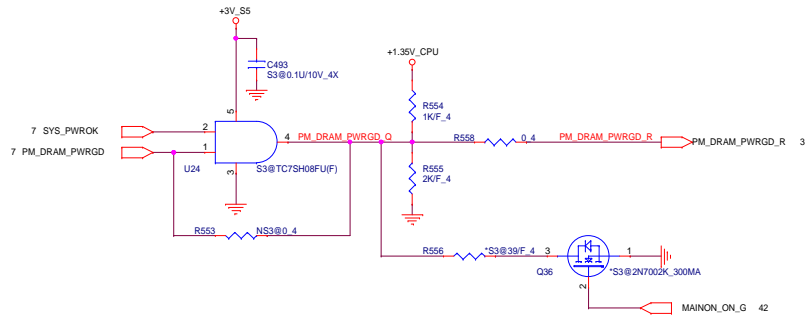
For S3 power Reduction Sequence S3P/NS3P/CPU



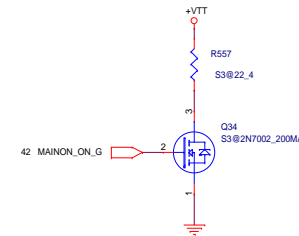
SM\_DRAMRST# Topology S3P/NS3P/CPU



S3 power Reduction (SM\_DRAMPWROK) S3P/NS3P/CPU

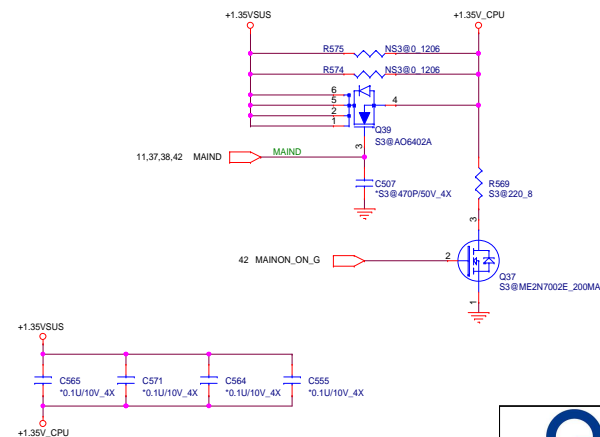


For S3 power Reduction VTT discharge S3P/NS3P/CPU



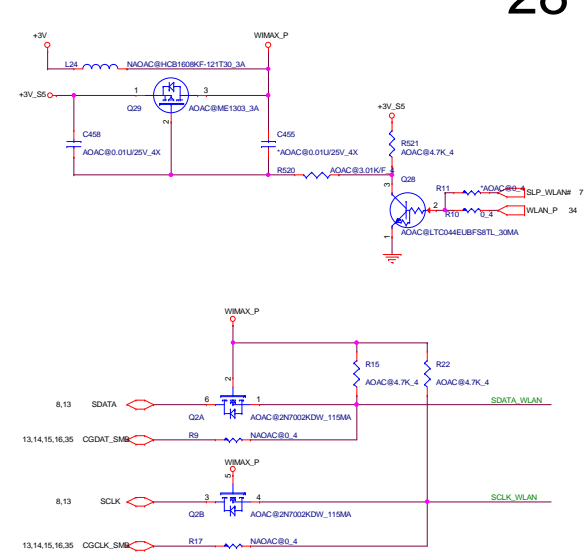
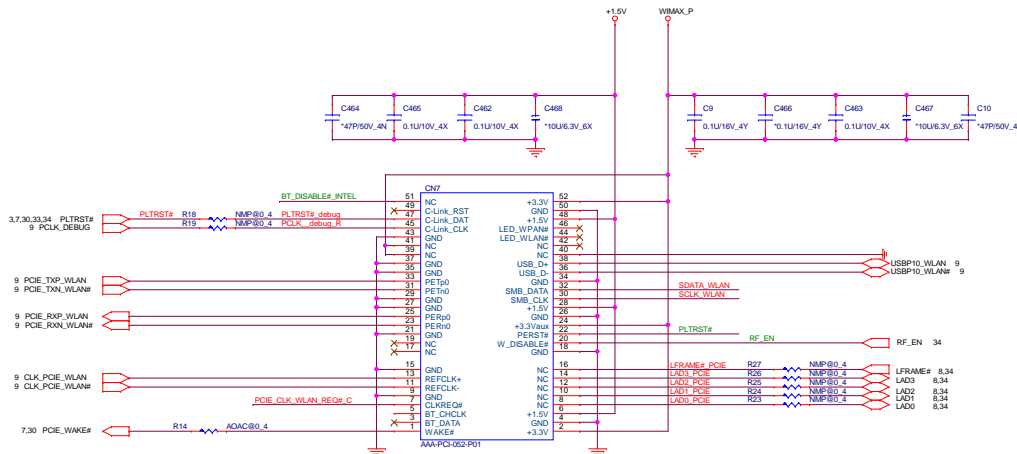
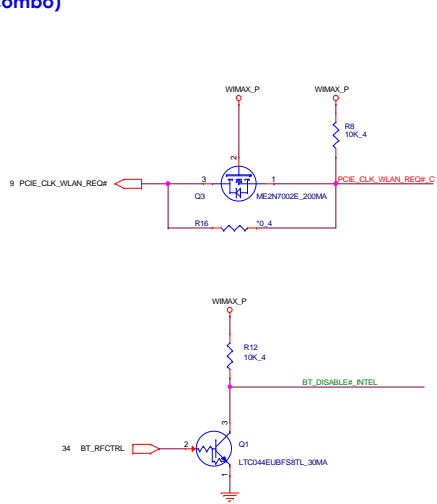
CPU SM\_VREF S3P/NS3P/CPU

S3 power Reduction (CPU Power) S3P/NS3P/CPU





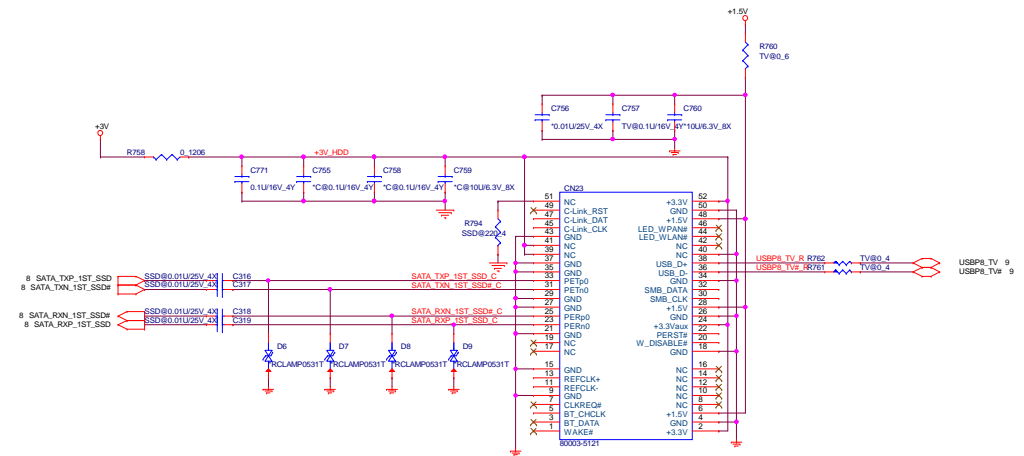




TV Tuner: 1.5V@240mA 3.3V@470mA

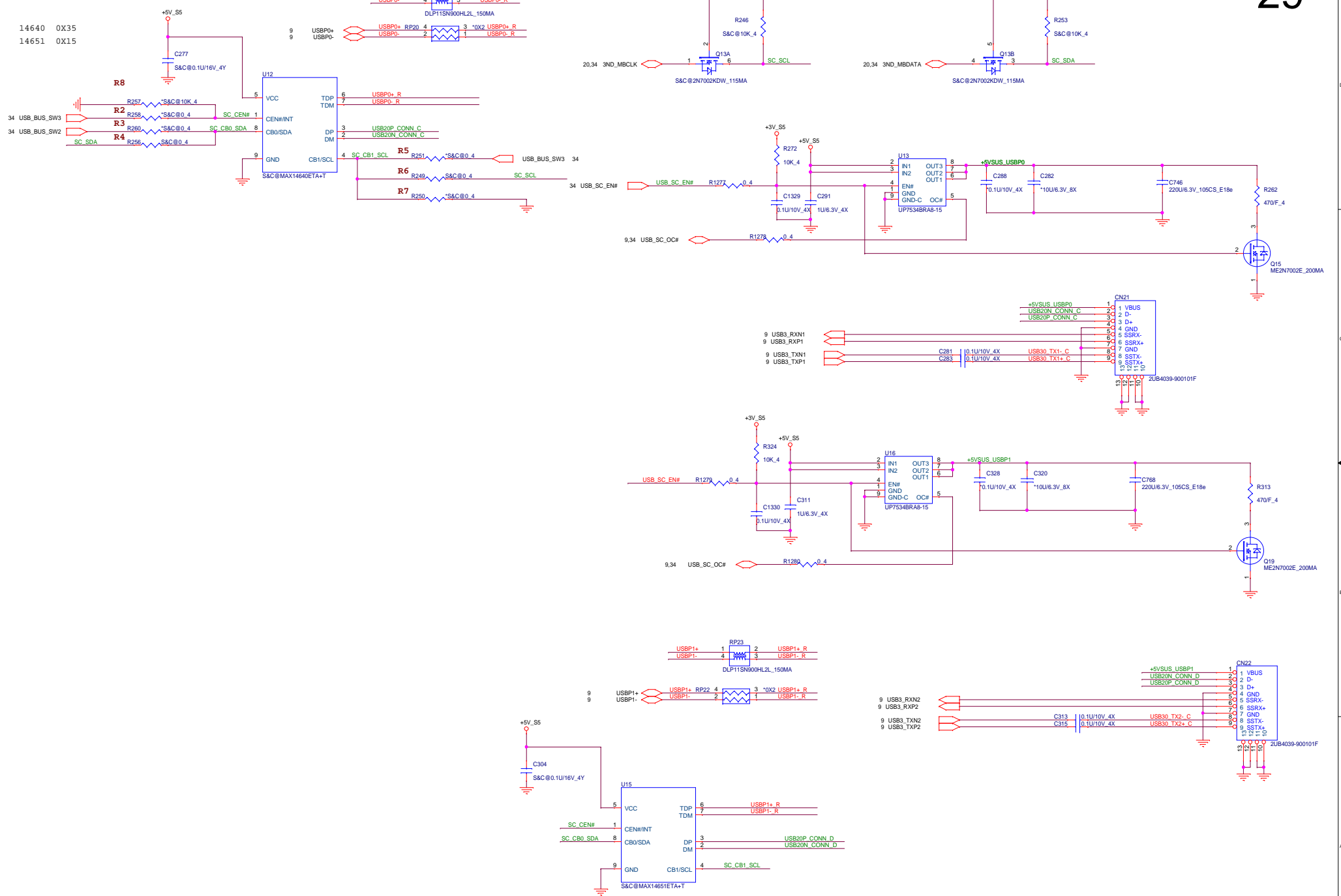
TV Tuner / MSATA

<SSD>



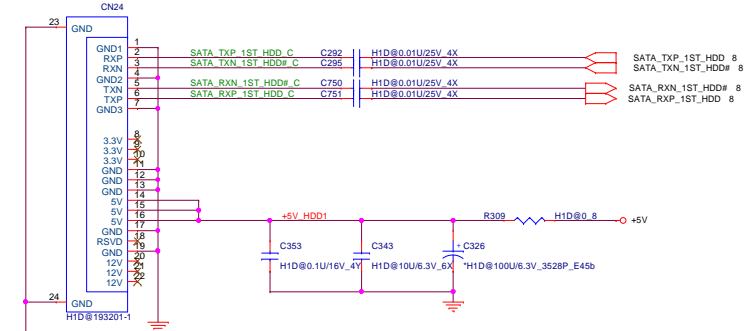
# USB CONNECT <U3B/USB> RIGHT(UR)

14640 0X35  
14651 0X15

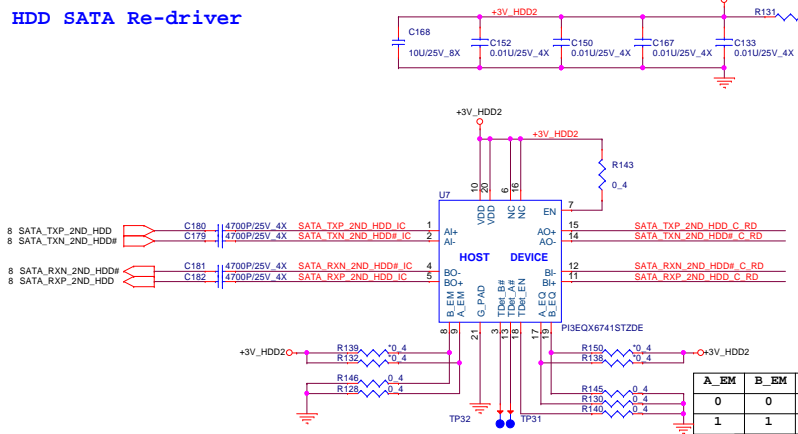




SATA HDD1



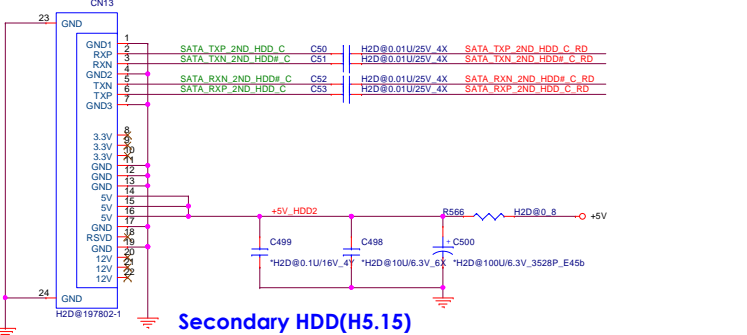
2nd HDD SATA Re-driver



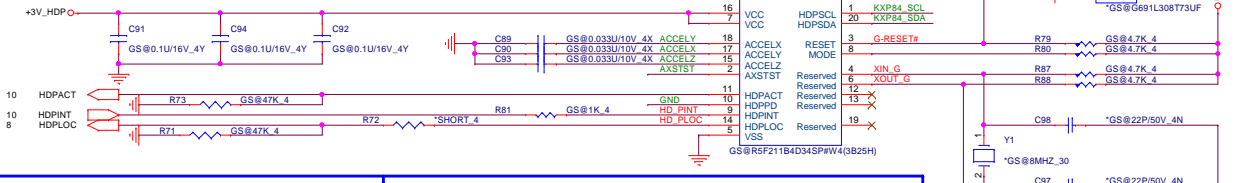
A_EQ	B_EQ	1.5 Gb/s	3 Gb/s	6 Gb/s
0	0	1 bB	2.5 bB	3 bB
1	1	4 bB	7.5 bB	9 bB
floating		2.5 bB	5 bB	6 bB

A_EM	B_EM	3 Gb/s	6 Gb/s
0	0	550mV pp	650mV pp
1	1	550mV pp+3dB Pre-emphasis	650mV pp+1.5dB Pre-emphasis

SATA HDD2



3D-u-micro P <GSR>



3D-Sensor IC <GSR>

FS (Full Scale) selection

FS	0	1
	2g Full-Scale	6g Full-Scale

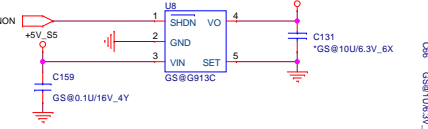
PD (Power Down) selection

PD	0	1
	Normal Mode	Power-down mode

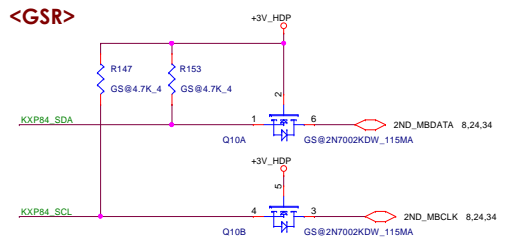
HDPPD selection

HDPPD	0	1
	Normal Mode	Power-down mode

3D-LDO Power <GSR>

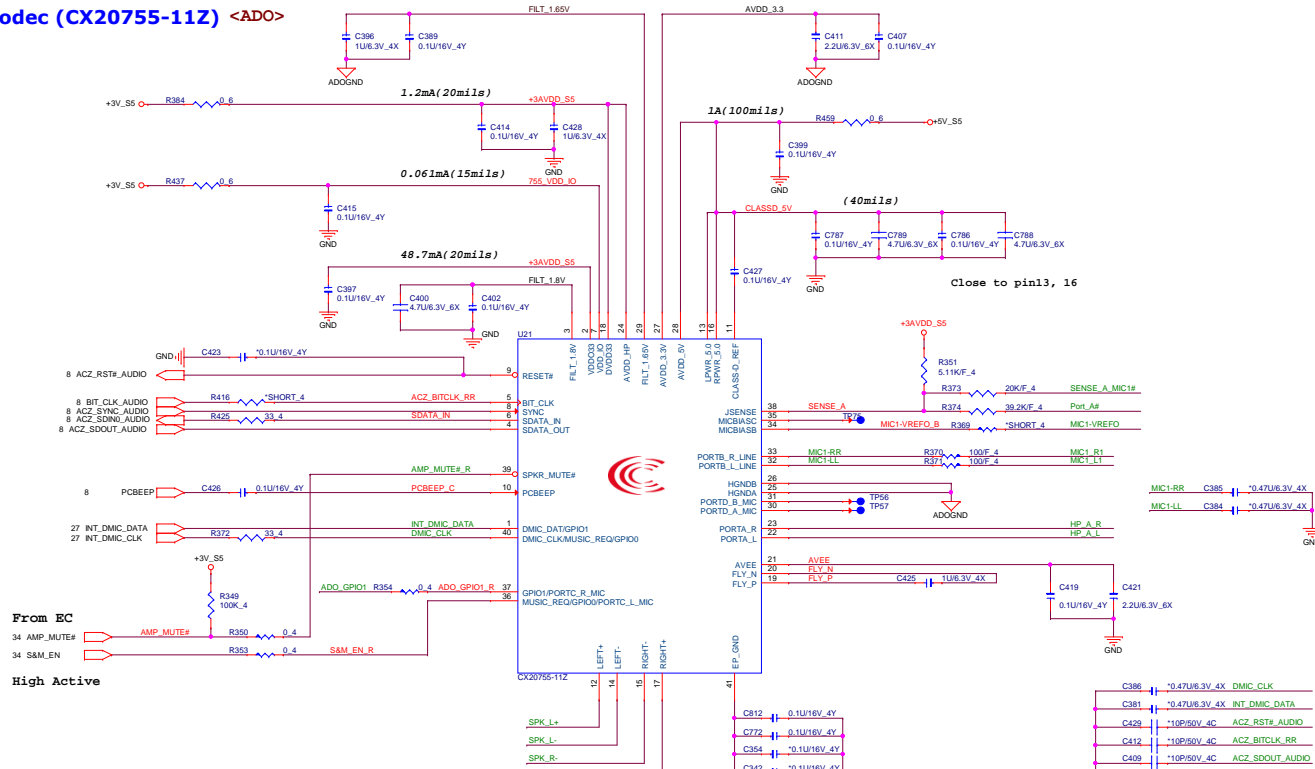


3D-SMBus <GSR>

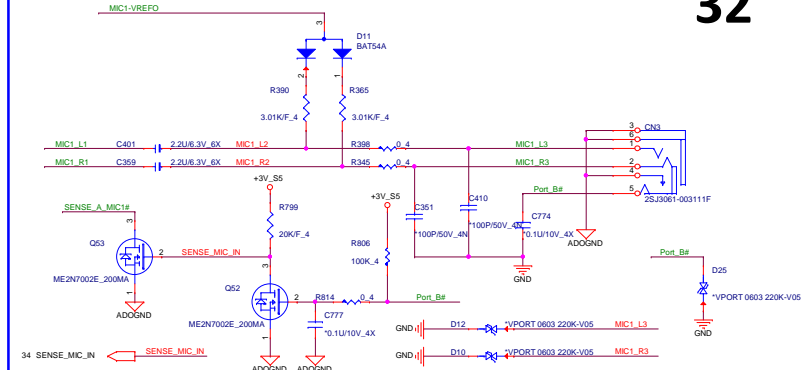


Quanta Computer Inc.  
PROJECT : BDDB  
HDD/ODD  
Date: Monday, December 17, 2012 Bsheet 31 of 45 Rev 2A

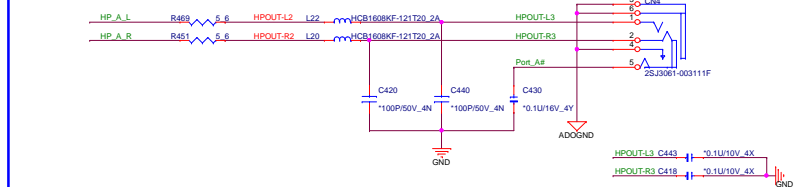
Codec (CX20755-11Z) <ADO>



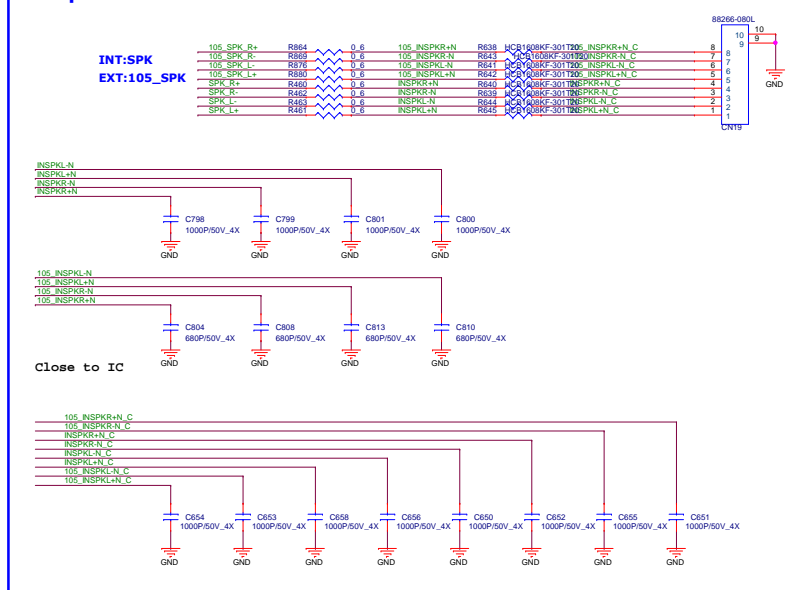
External MIC



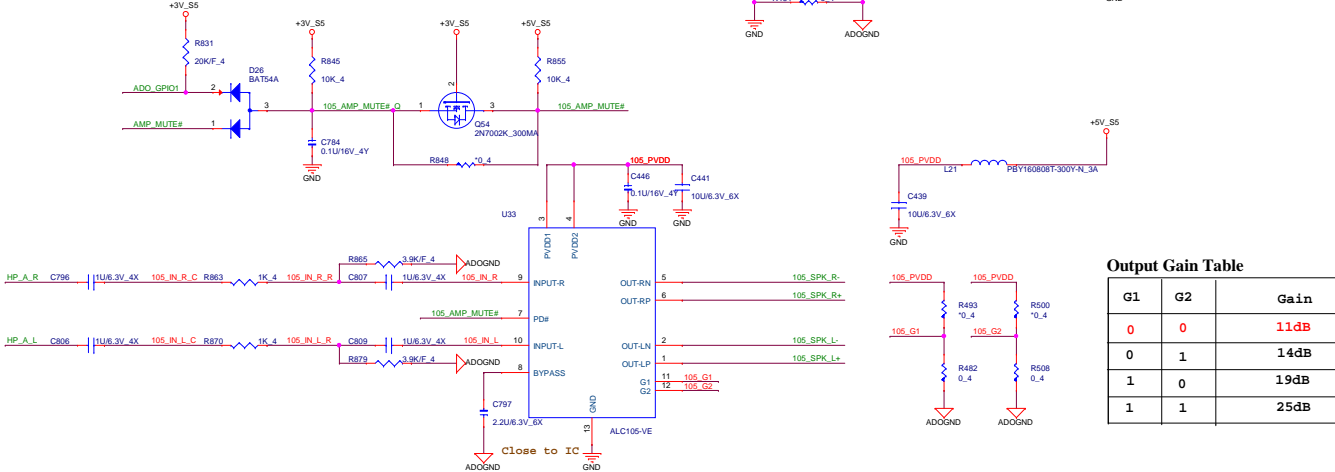
Headphone <ADO>



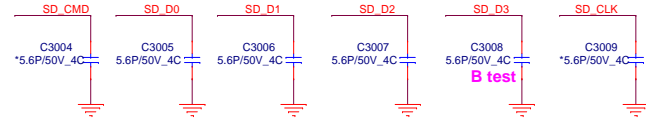
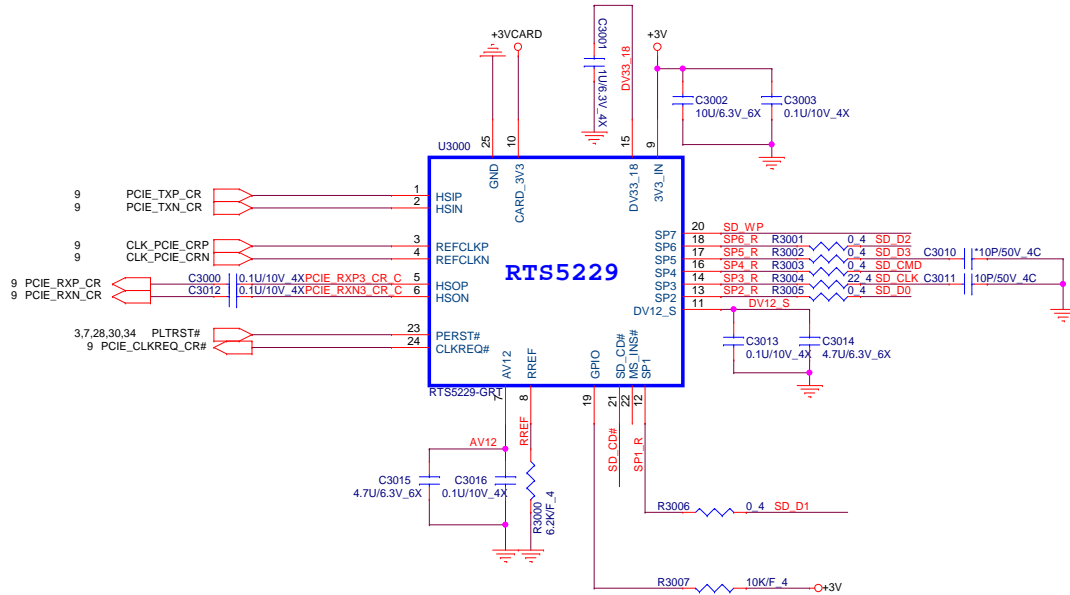
4 Speakers <ADO>



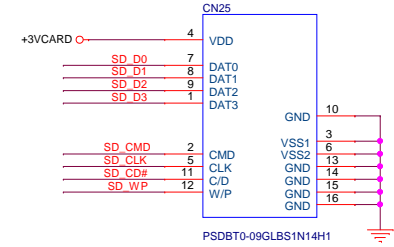
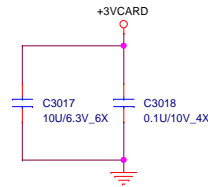
Twitter SPK




Quanta Computer Inc.  
PROJECT : BDBD  
Docu. Number : Audio Codec (CX20755)  
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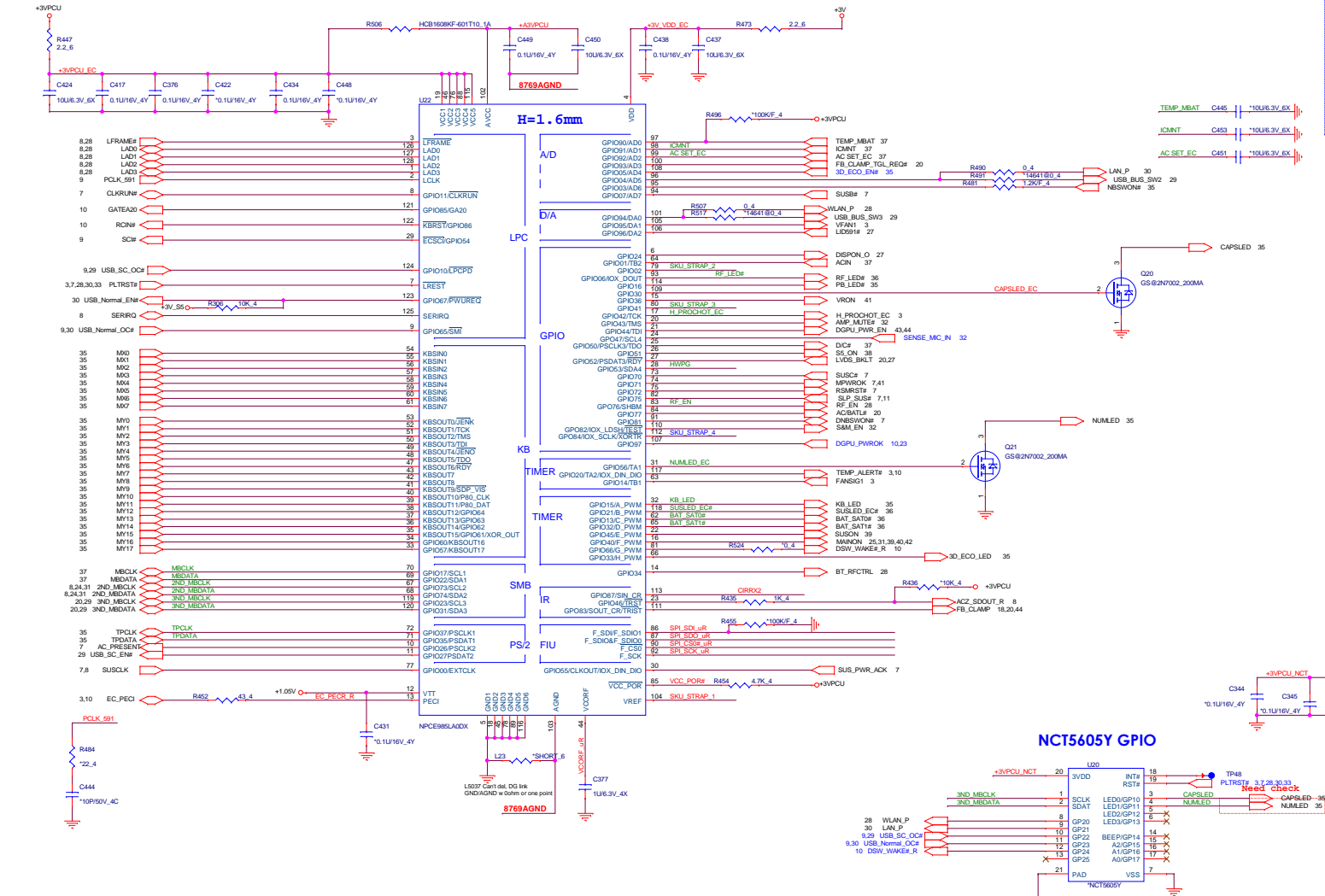


**SD / MMC  
CARD READER**



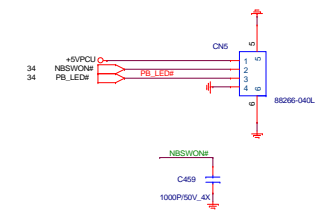
 <b>Quanta Computer Inc.</b> PROJECT : BDBD		
Size	Document Number	Rev
	Card Reader(AU6437)	2A
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EC<KBC>

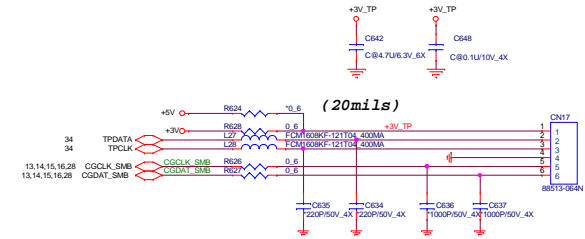


Power board with LED <PSW>

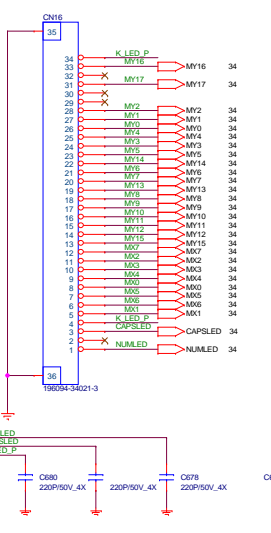
Power Button Connector <PSW>



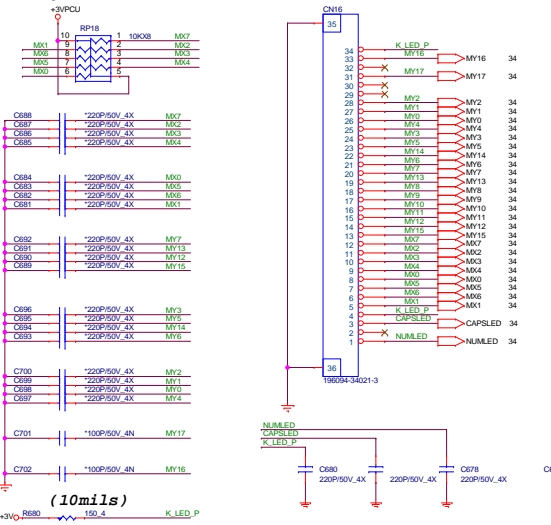
Touch Pad Connector <TPD> <EMI>



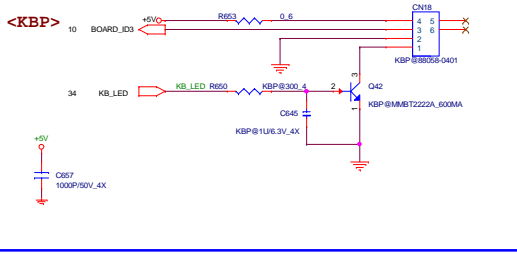
TP board <TPD>



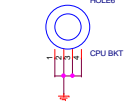
INT KeyBoard <KBC>



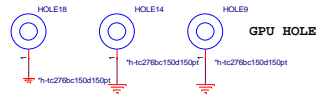
K/B LED power



CPU BKT INTEL-CPU-BKT2

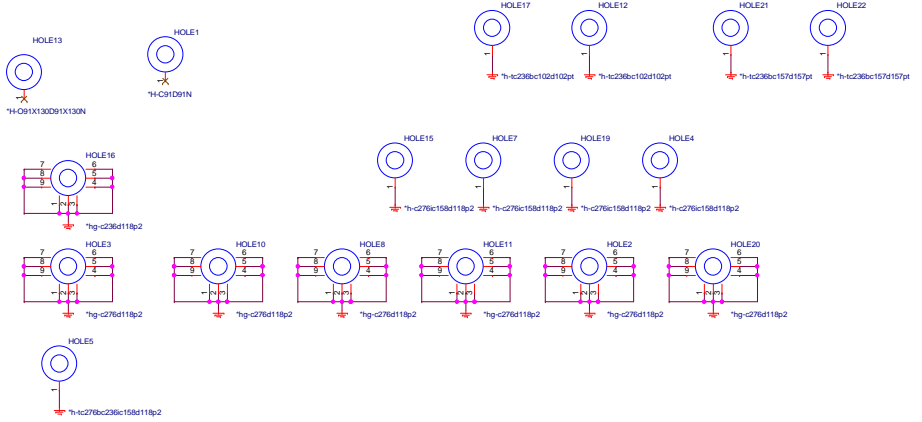


GPU



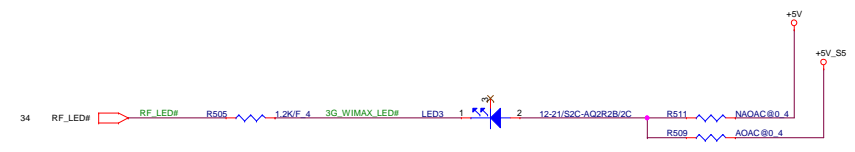
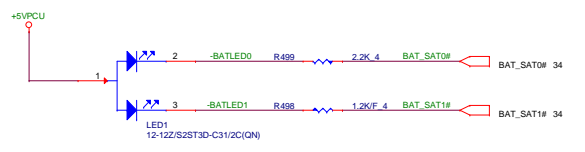
GPU HOLE

HOLE



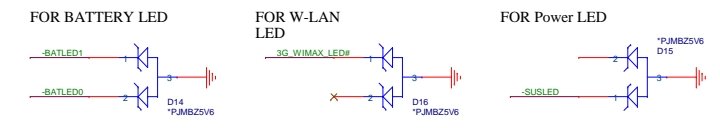
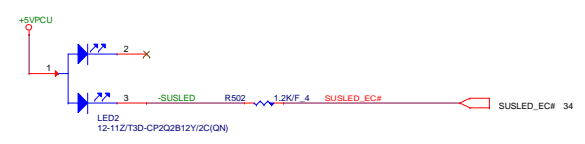
LED BATTERY

RF LED LED

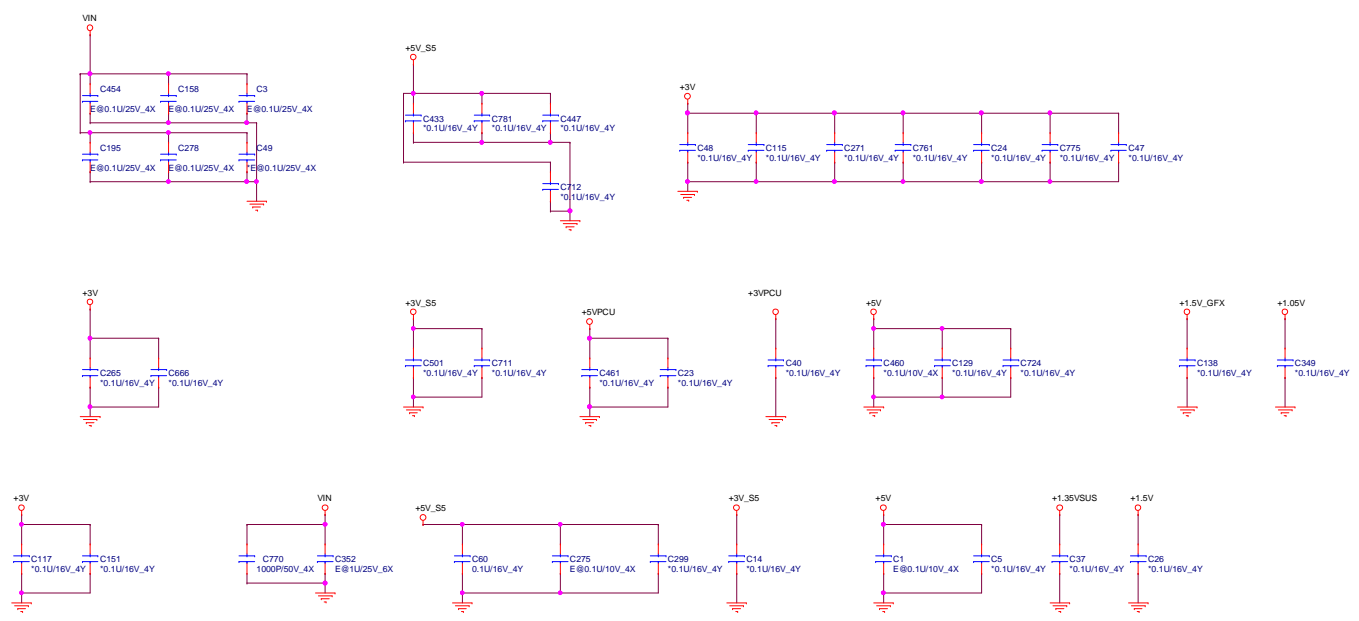


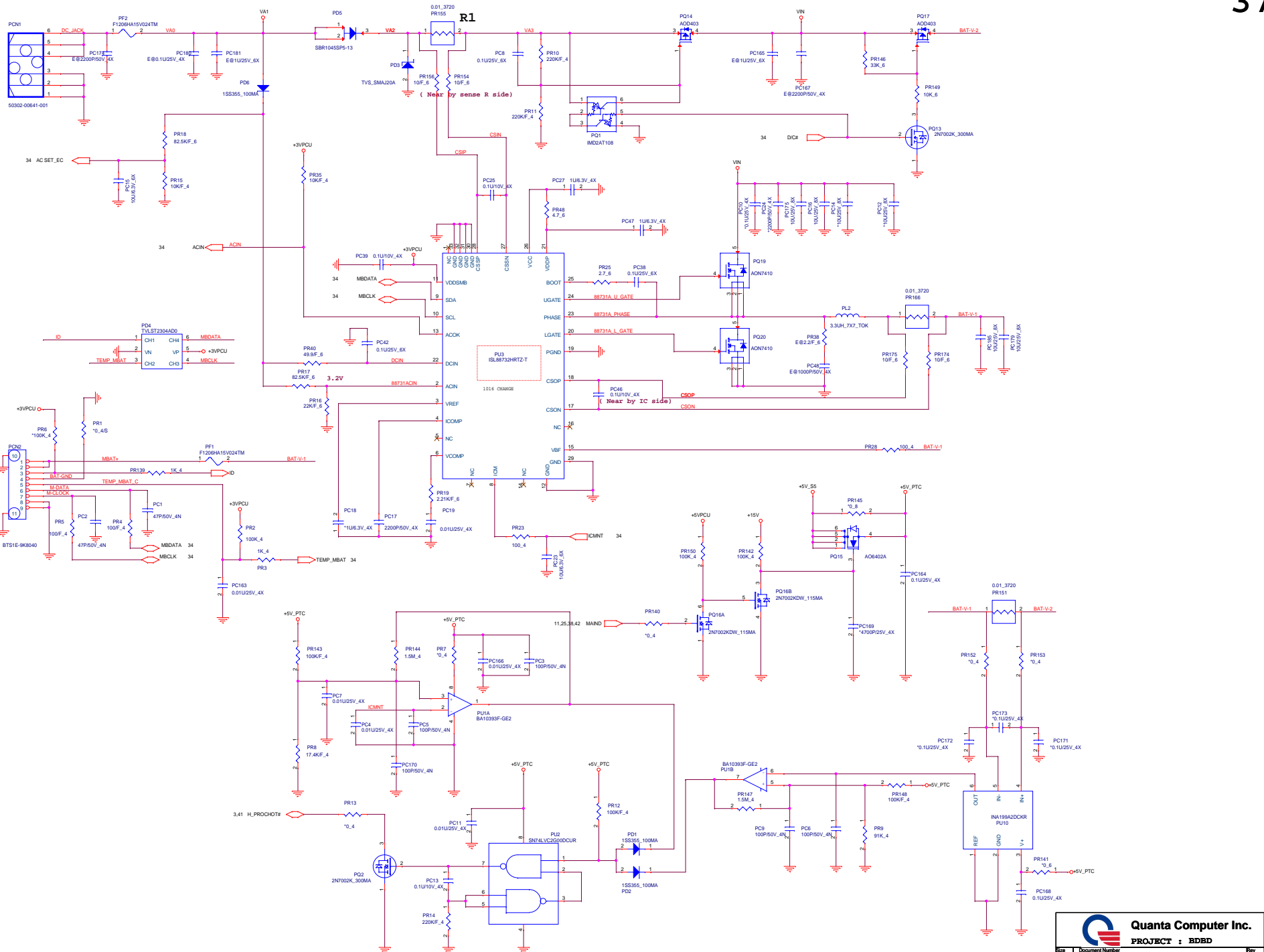
POWER LED

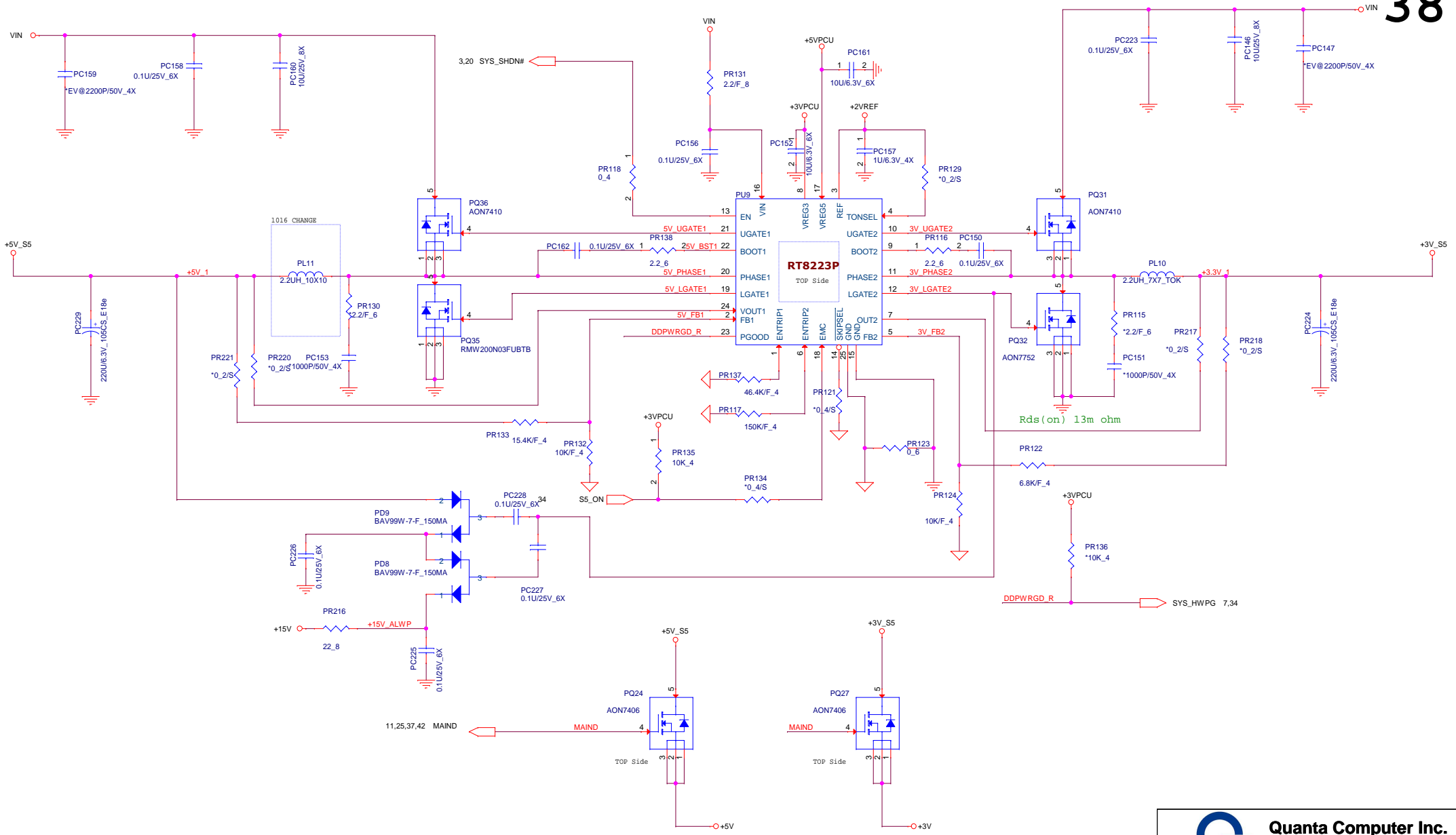
ESD Protect LED




EMI





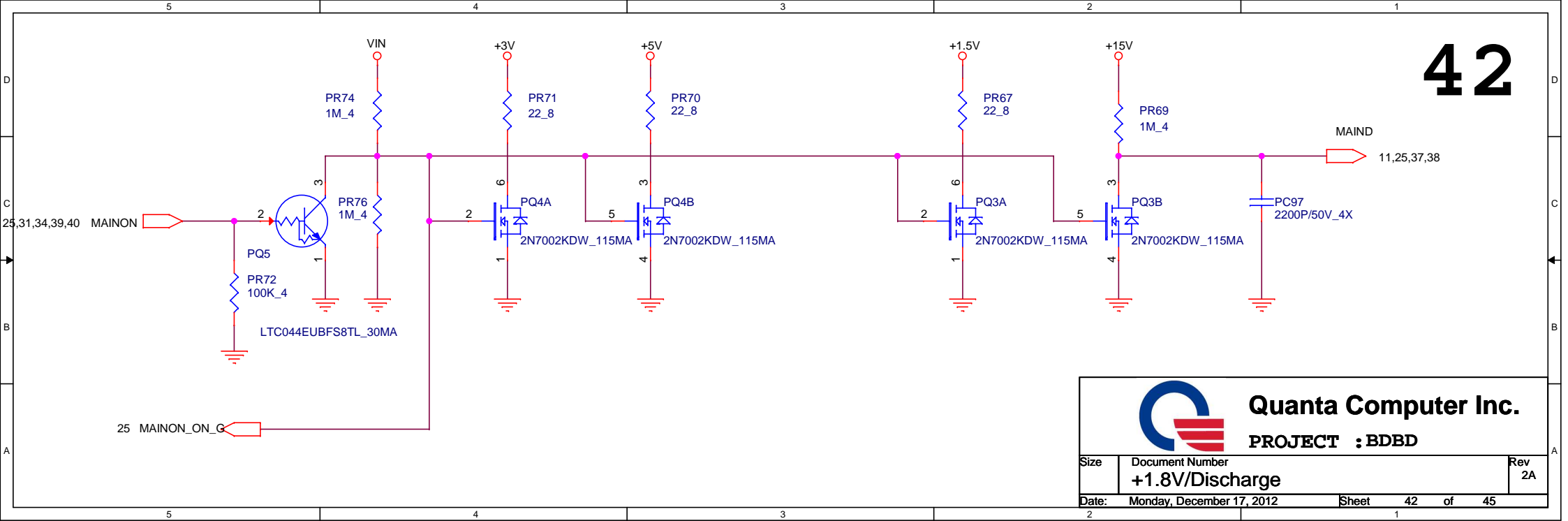


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	System 3V/5V(TPS51123A)	2A
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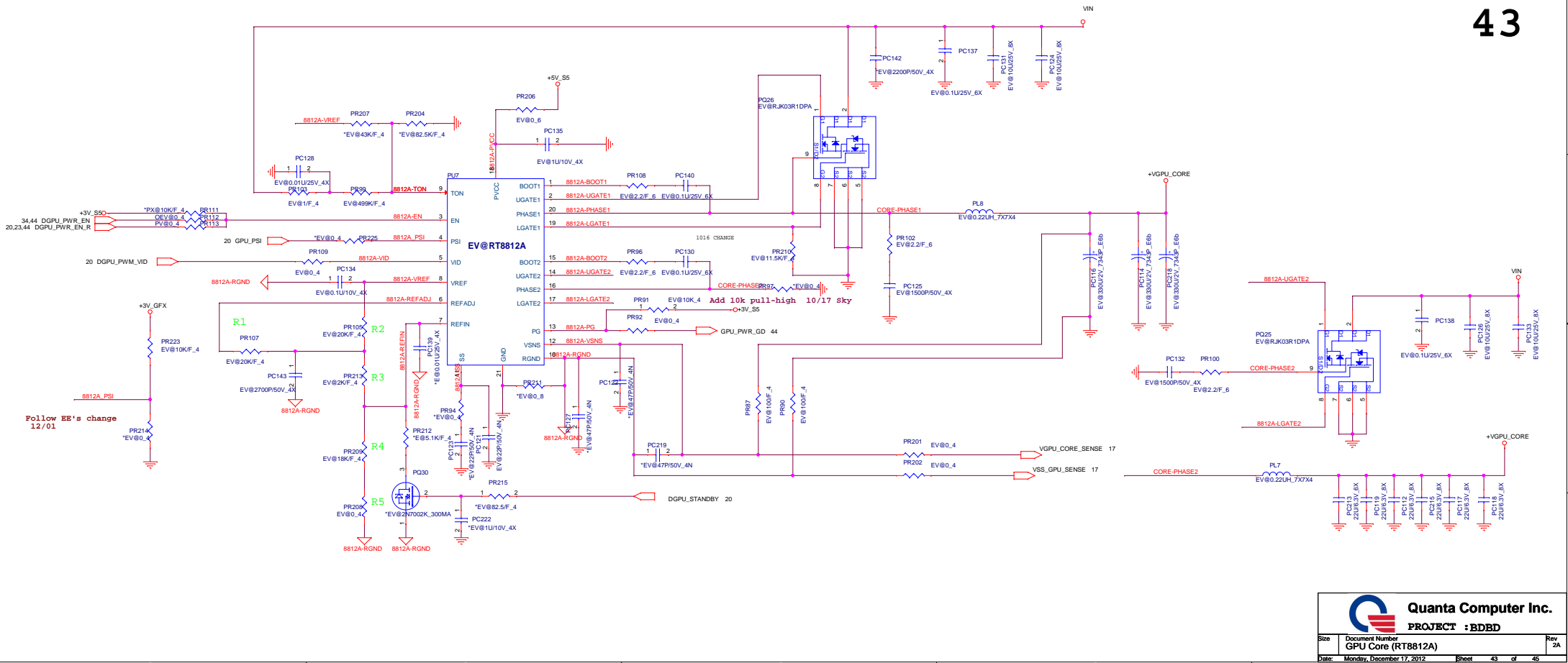




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**PROJECT : BDBD**

Size	Document Number	Rev
	<b>+1.8V/Discharge</b>	2A
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**Quanta Computer Inc.**  
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Size	Document Number	Rev
	GPU Core (RT8812A)	2A
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1. Level 1 Environment-related Substances Should Never be Used.  
 2. Recycled Resin and Coated Wire should be procured from Green Partners.



Model	REV	CHANGE LIST	MODEL		
			PAGE	FROM	To
BDBD	B2A	PAGE 8: C795,C805 Change to 15pf PAGE 8: CN11 Change socket type PAGE 8:Add R1328 and R1516 for QUAD IO PAGE 9: Change C769,C763 to 12pf PAGE 10: Add board ID for SPK,CIR,TV PAGE 19: Change C731,C732 to 12pf PAGE 30: Add LAN IC PAGE 32: Change R638,R639,R640,R641,R642,R643,R644,R645 to bead PAGE 33: Change Card read to RTS5229 PAGE 34: Add R523 for PB_LED change to high active PAGE 34:Remove R411 for optimu PAGE 35: Change R499,R498,R505,R502 for LED brightness SPEC	1	1A	
			2	1A	
			3	1A	
			4	1A	
			5	1A	
			6	1A	
			7	1A	
			8	1A	
			9	1A	
			10	1A	
			11	1A	
			12	1A	
			13	1A	
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			16	1A	
			17	1A	
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			28	1A	
			29	1A	
			30	1A	

DOC NO. 20121217	PROJECT MODEL :	BDBD	APPROVED BY:		DATE:	
	PART NUMBER:		DRAWING BY:		REVISION:	



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Change list

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