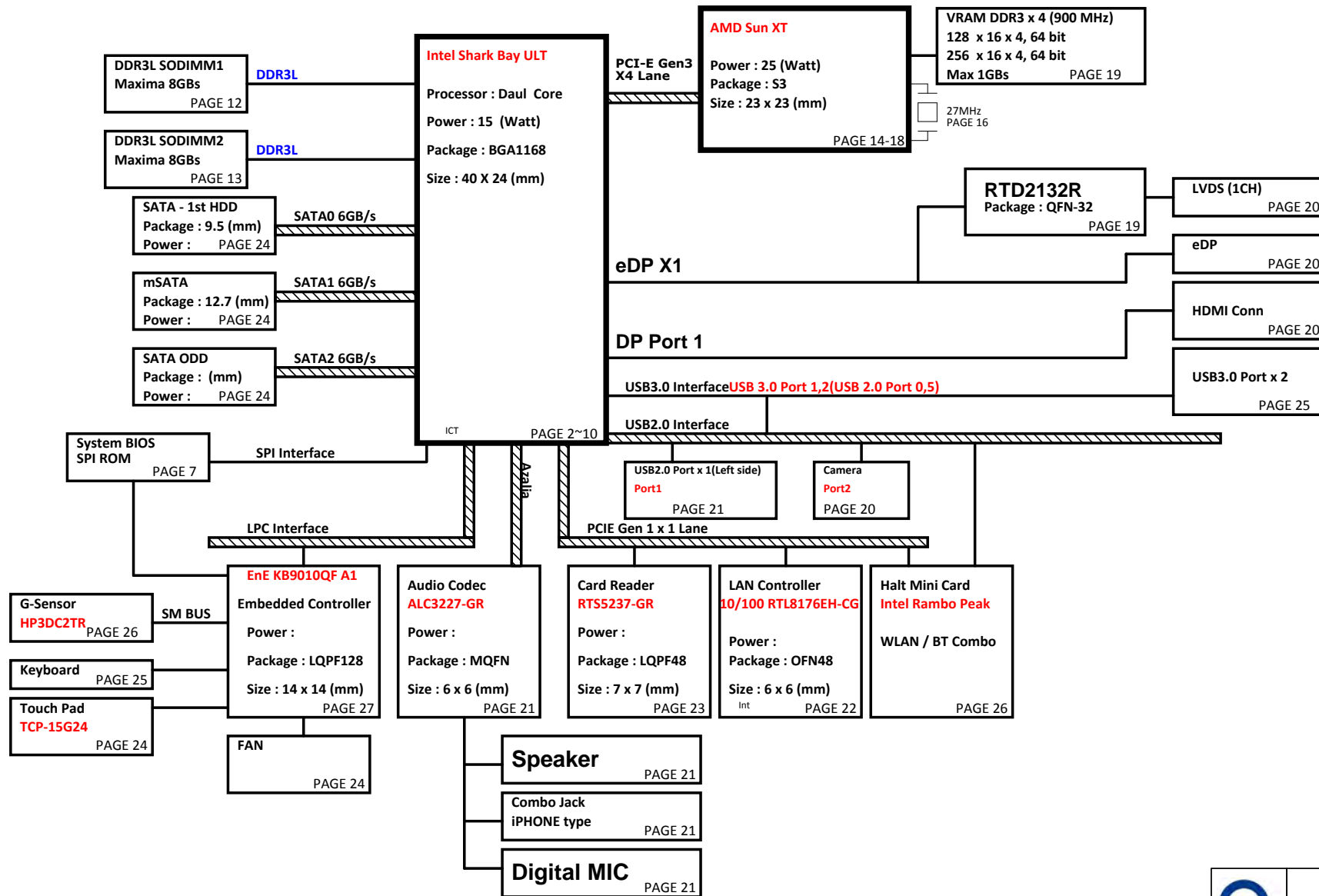
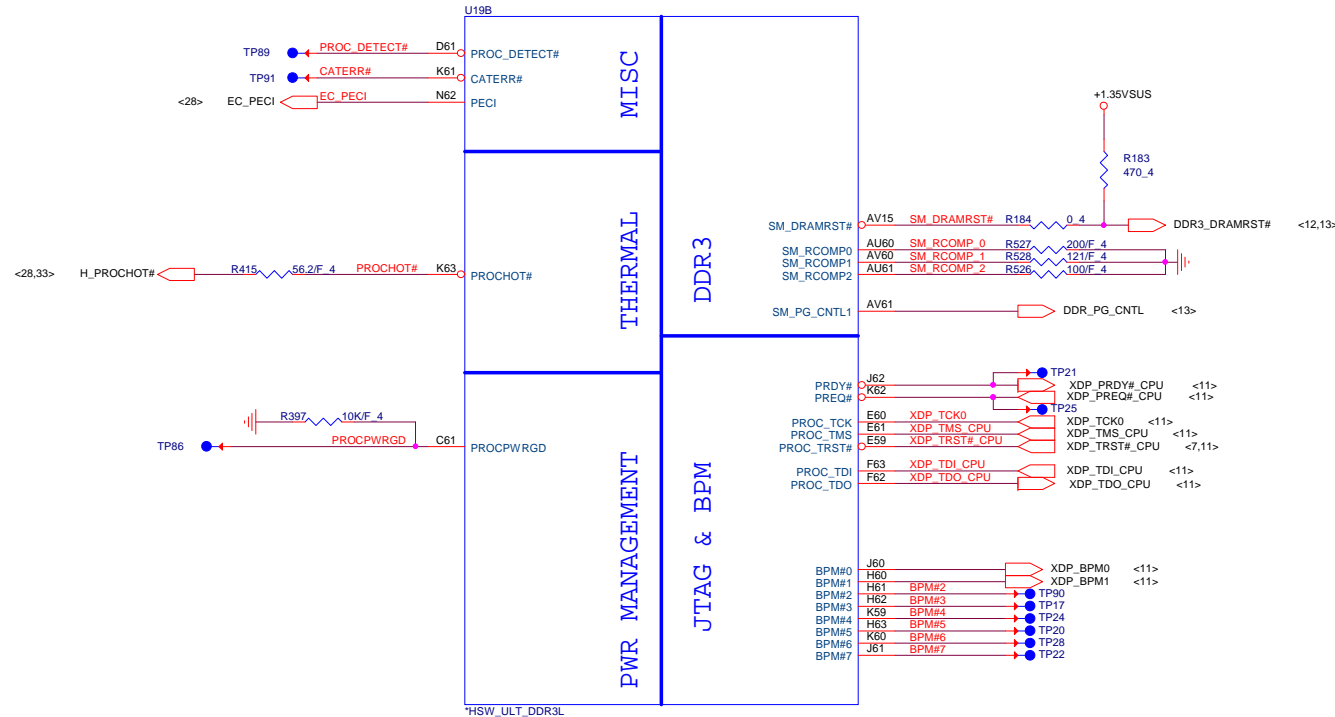
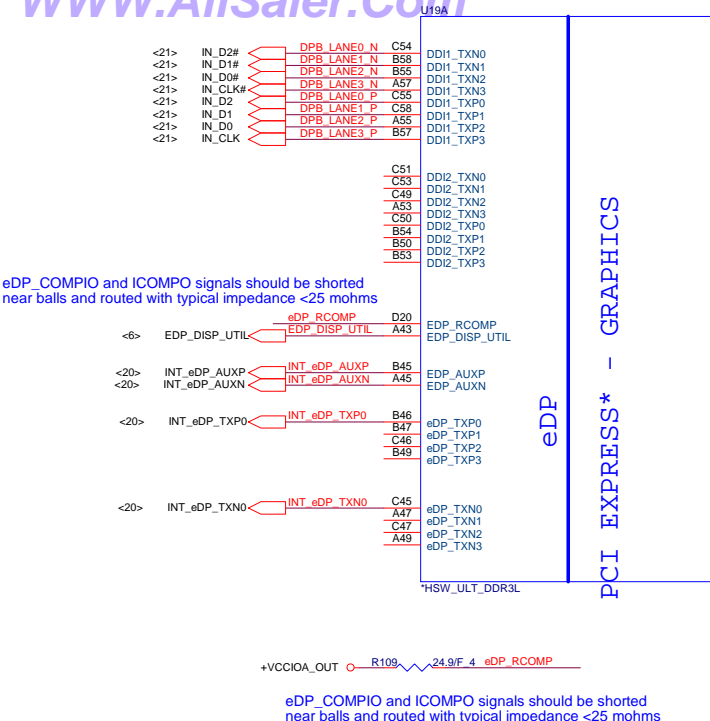


# U83 DIS (14"/15.6") Ultra/Slim Intel Shark Bay ULT Platform Block Diagram

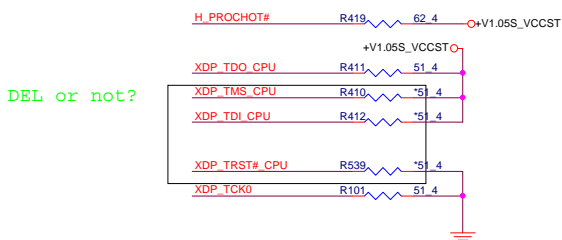
PCB 6L STACK UP


LAYER 1 : TOP  
LAYER 2 : SGND  
LAYER 3 : IN1(High)  
LAYER 4 : IN2(Low)  
LAYER 5 : SVCC  
LAYER 6 : BOT



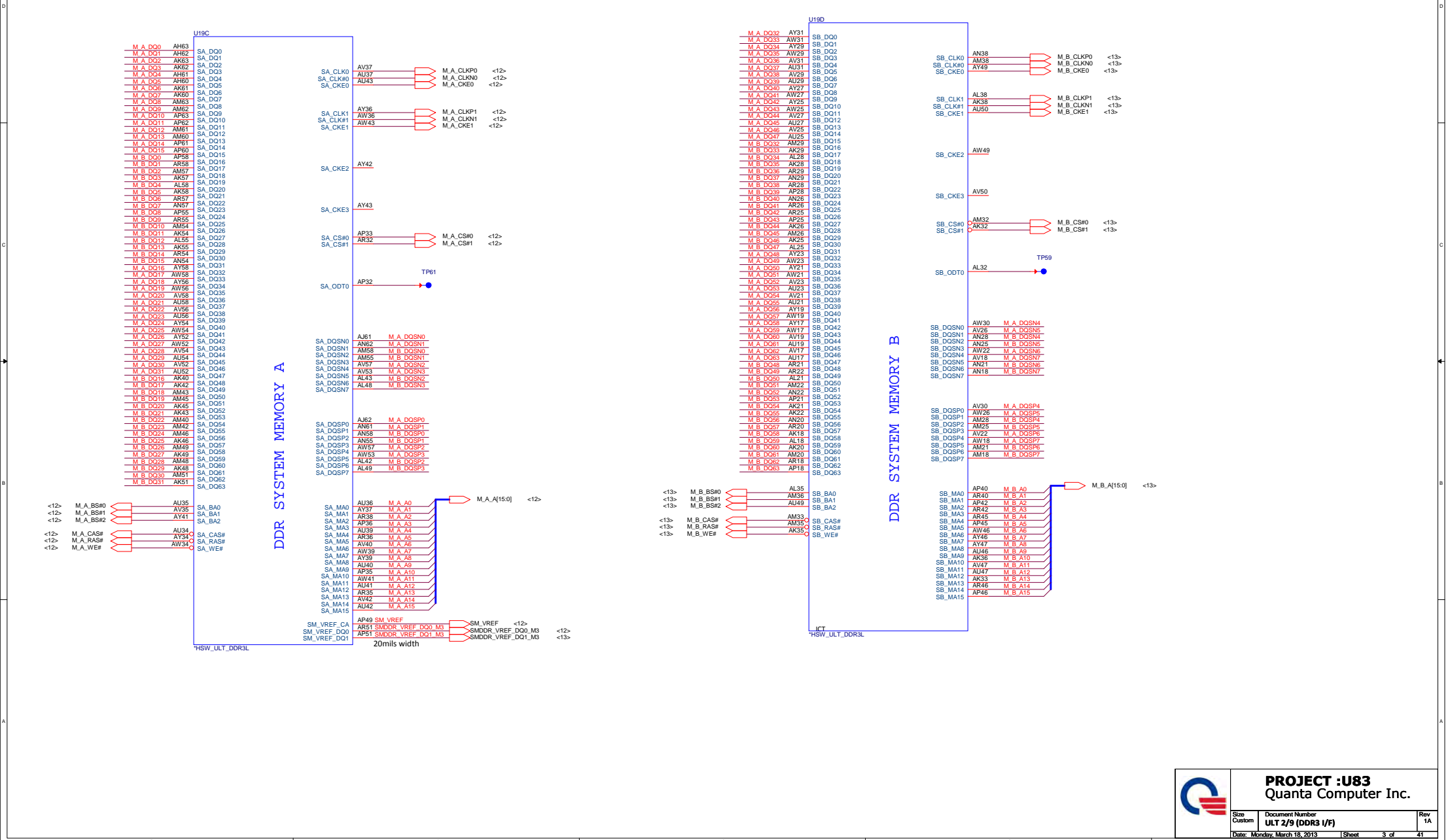


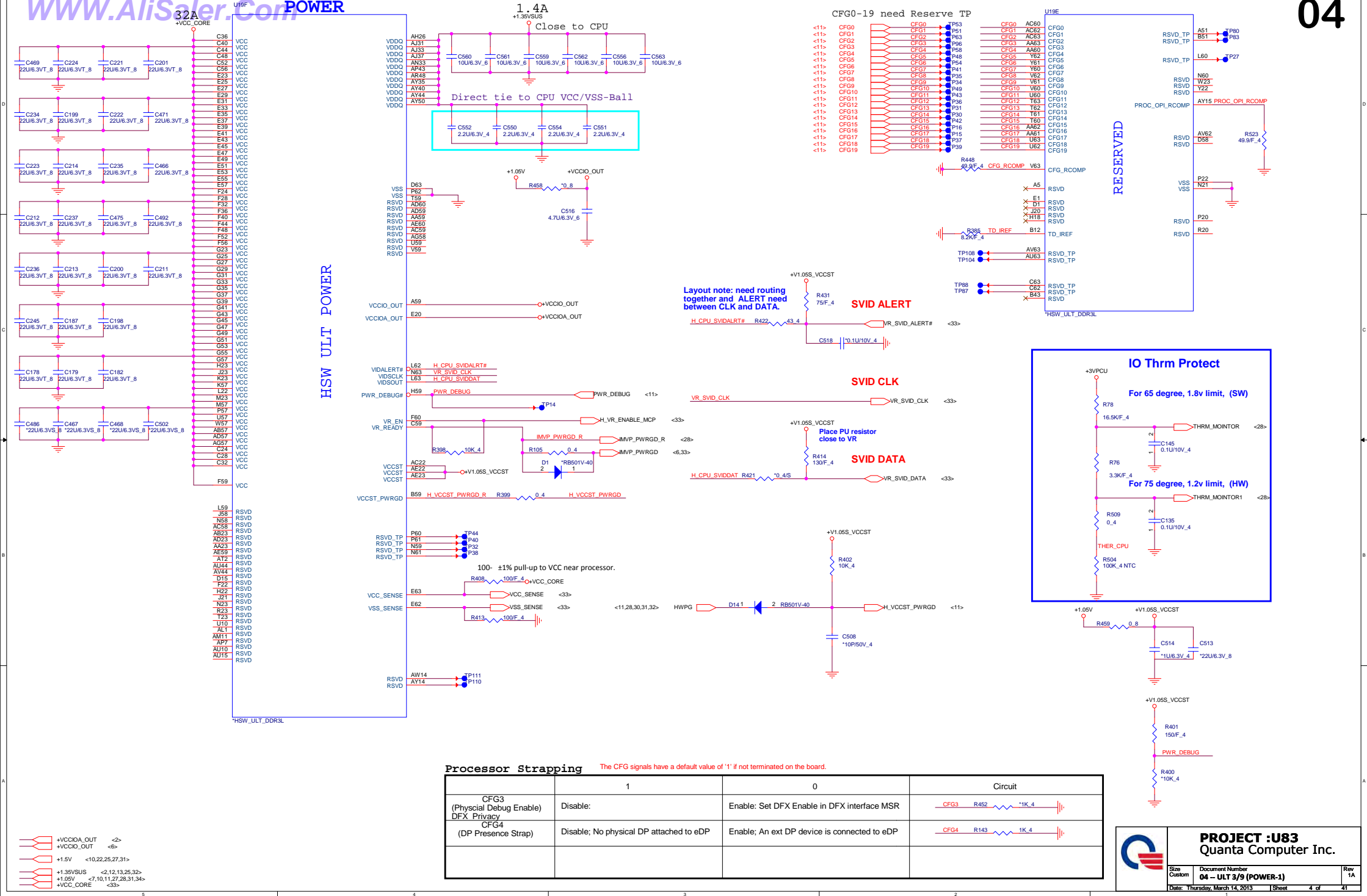
### Processor pull-up (CPU)

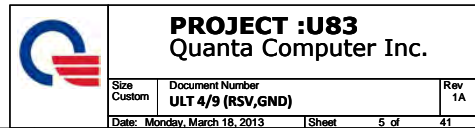


		<b>PROJECT :U83</b>	
		Quanta Computer Inc.	
Size Custom	Document Number <b>ULT 1/9(eDP/DDI)</b>	Rev 1A	
Date: Thursday, March 14, 2013	Sheet	2 of	41

# Haswell ULT Processor (DDR3L)

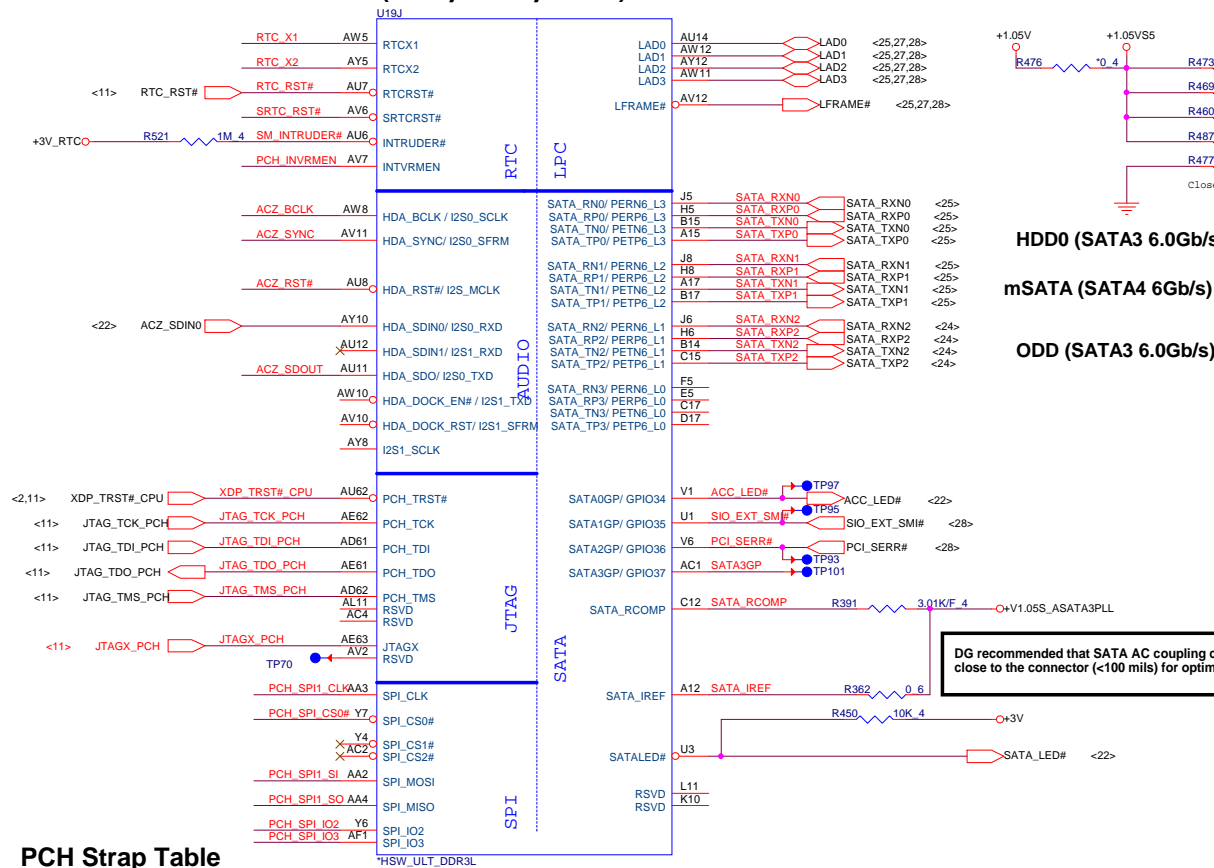








# Lynx Point-LP Platform Controller Hub (HDA, JTAG, SATA)

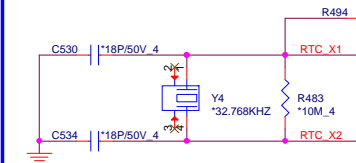


PCH Strap Table

Pin Name	Strap description	Sampled	Configuration	Circuit						
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode							
SDIO_D0 /GPIO66	Top-Block Swap	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)							
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up							
HDA_SDO /I2S0_TXD	Flash Descriptor Security Only for Interposer	PWROK	0 = Default (weak pull-down 20K) 1 = Can be Overriden							
GSPI0_MOSI /GPIO86	Boot BIOS Selection	PWROK	<table border="1"><thead><tr><th>GNT0#</th><th>Boot Location</th></tr></thead><tbody><tr><td>1</td><td>LPC</td></tr><tr><td>0</td><td>SPI(Default)</td></tr></tbody></table>	GNT0#	Boot Location	1	LPC	0	SPI(Default)	
GNT0#	Boot Location									
1	LPC									
0	SPI(Default)									
GPIO15	TLS Confidentiality	PWROK	0 = ME Crypto Transport Layer Security cipher suite with no confidentiality(Default) 1 = Intel ME Crypto TLS cipher suite with confidentiality							
DSWVRMEN	Deep Sx Well On-Die Voltage Regulator Enable	ALWAYS	Should be always pull-up							

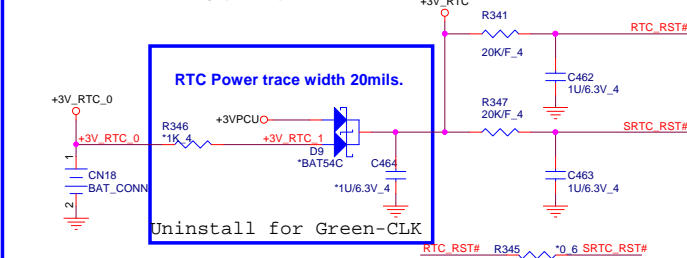
## RTC Clock 32.768KHz

07

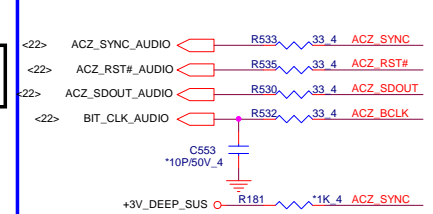


no stuff If use green Clock

## RTC Circuitry(RTC)



## HDA Bus(CLG)

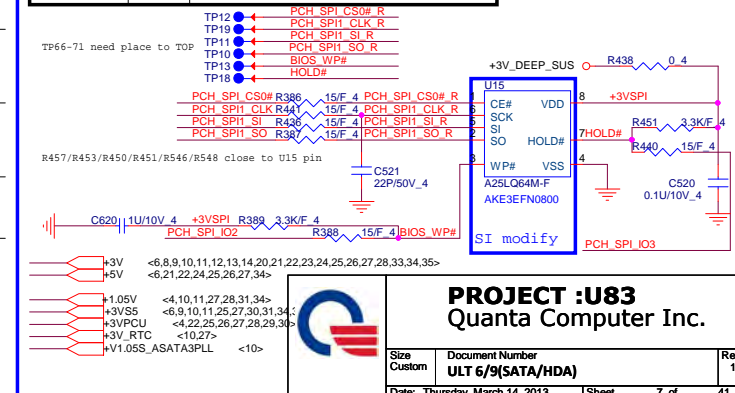


## GPIO Pull UP



Vender	Size	P/N
AMIC	8MB	AKE3EFN0800 (A25LQ64M-F)
Winbond	8MB	AKE3EPF0N07 (W25Q64FVSSIQ)
GigaDevice	8MB	AKE3EGN0Q01 (GD25B64BSIGR)
Socket		DFHS08FS023

## PCH SPI ROM(CLG)

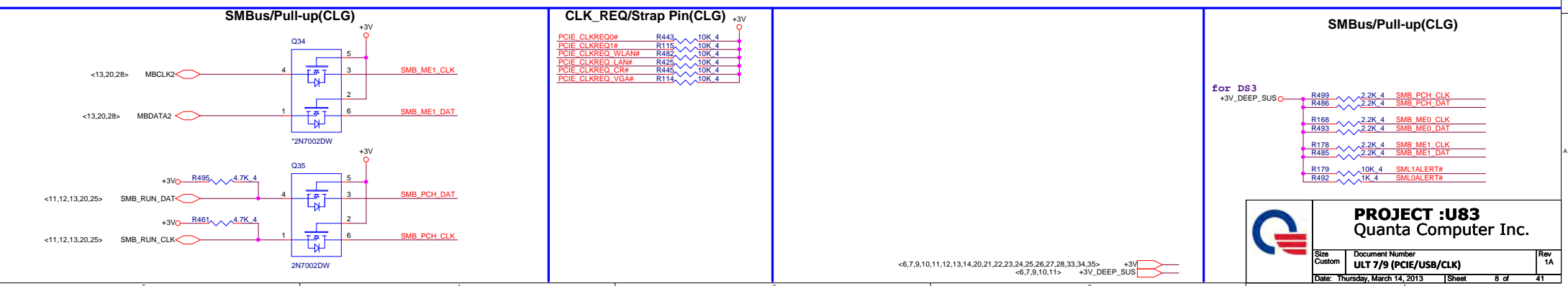
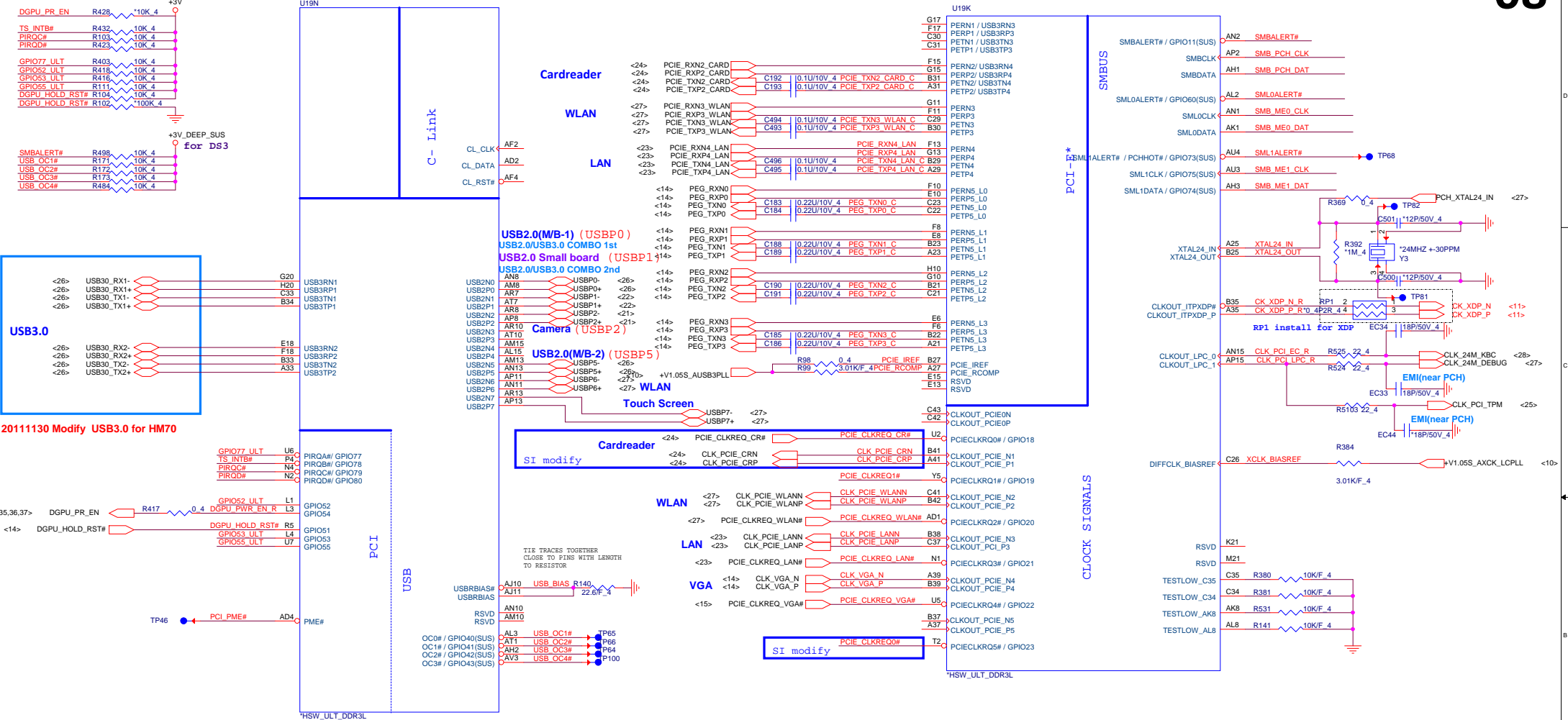


**PROJECT :U83**  
Quanta Computer Inc.

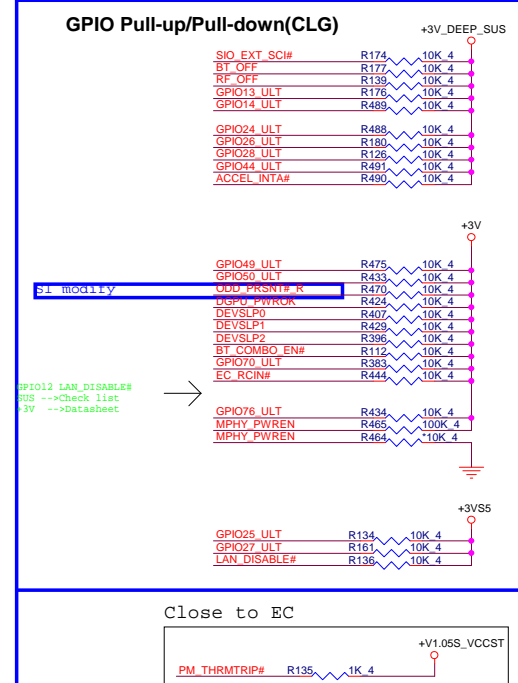
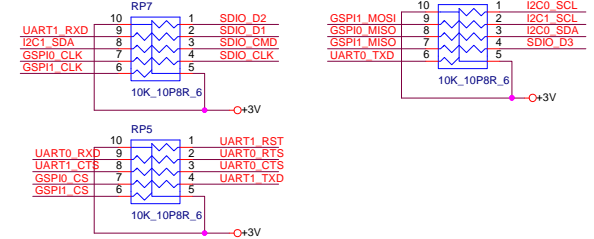
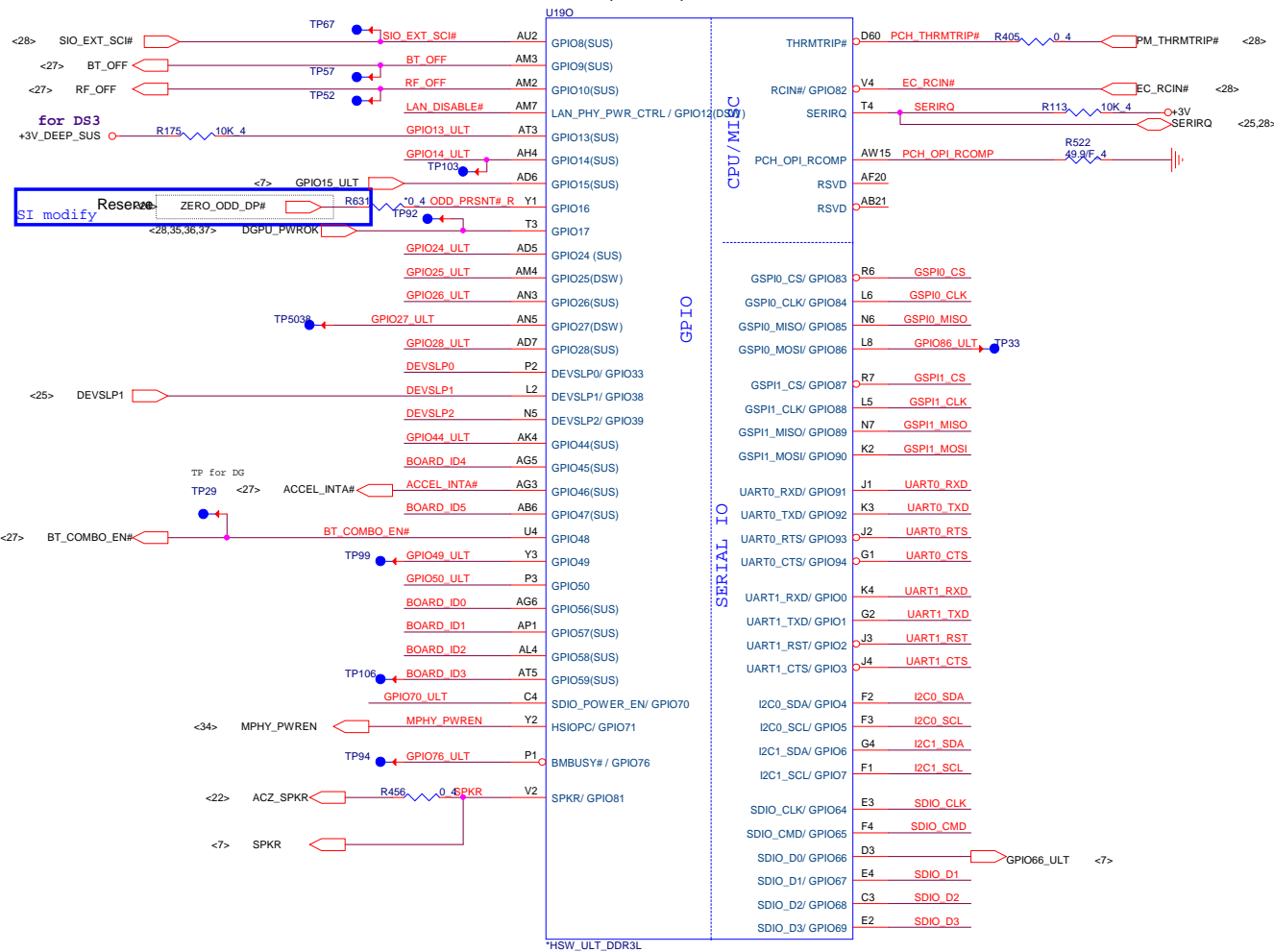
Size	Document Number	Rev
Custom	ULT 6/9(SATA/HDA)	1A
Date: Thursday, March 14, 2013	Sheet 7 of 41	



PC/USBOC# Pull-up(CLG)  
Lynx Point-LP Platform Controller Hub  
(HDA, JTAG, SATA)







Model	BOARD_ID5 UMA: 0 DIS: 1	BOARD_ID4 14: 0 15: 1	BOARD_ID3	BOARD_ID2	BOARD_ID1	BOARD_ID0
U83 DIS-14	1	0	0	0	0	0
U83 UMA-15	0	1	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0

R132	10K 4	BOARD_ID0	R133	10K 4	+3V_DEEP_SUS
R158	10K 4	BOARD_ID1	R159	10K 4	
R155	10K 4	BOARD_ID2	R154	10K 4	
R160	10K 4	BOARD_ID3	R167	10K 4	
R463	10K 4	BOARD_ID4	R466	10K 4	
R128	10K 4	BOARD_ID5	R127	10K 4	

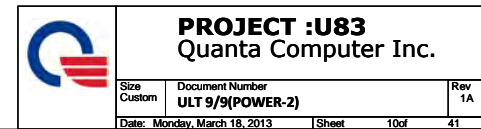
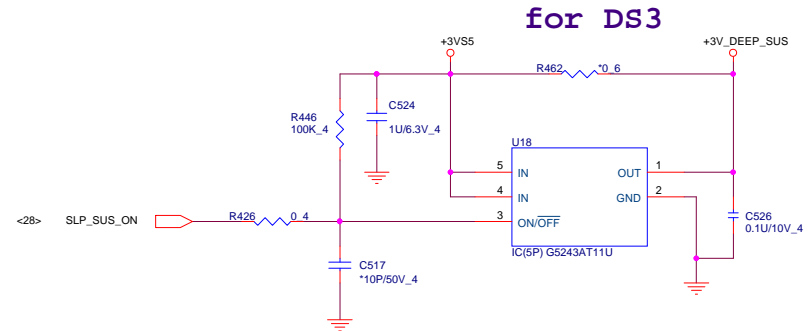
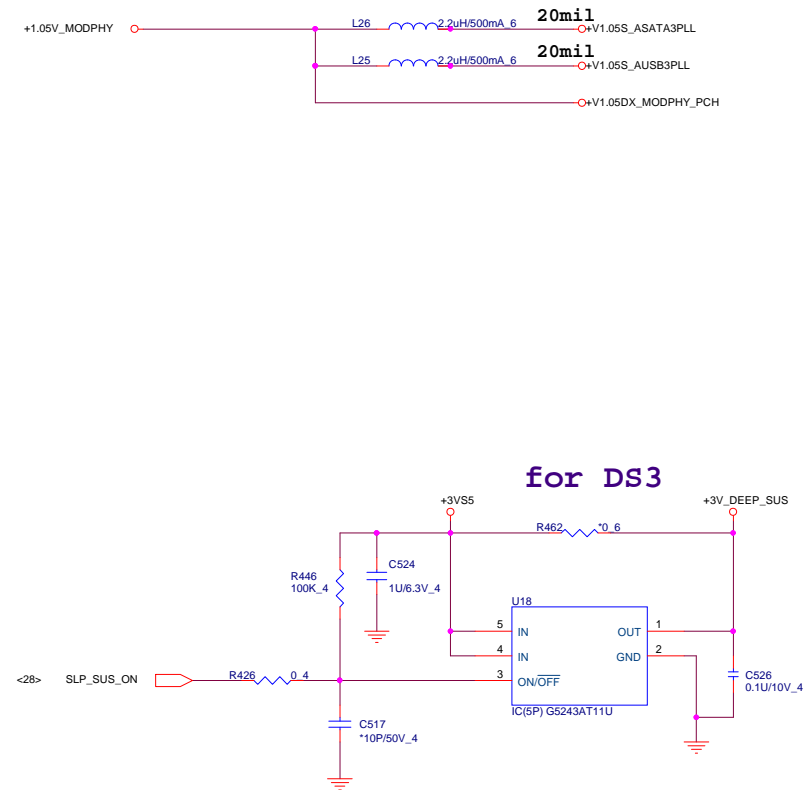
  

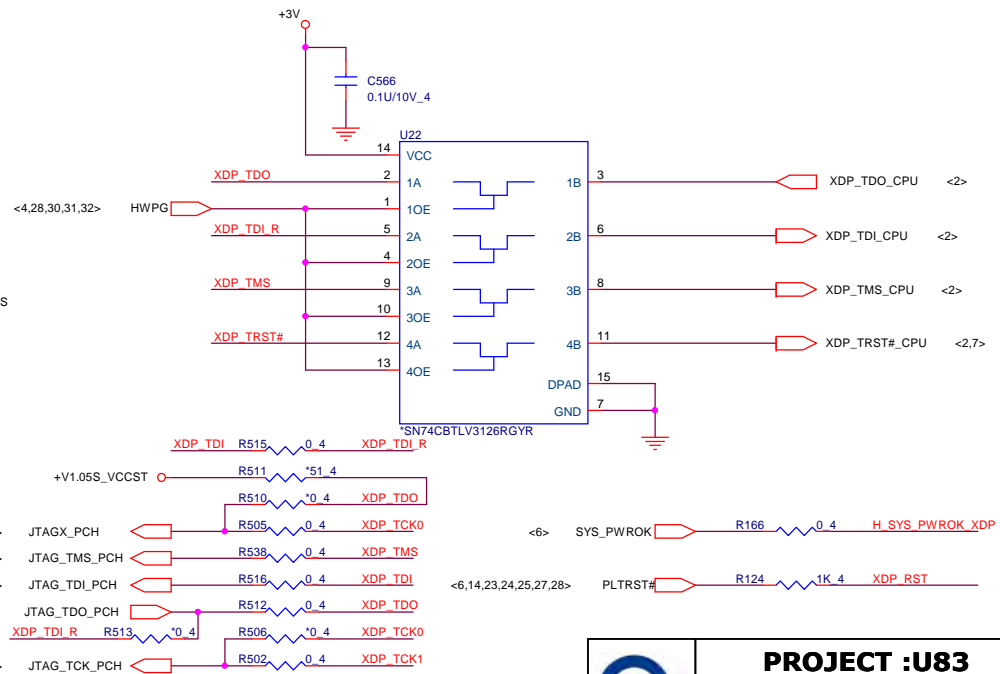
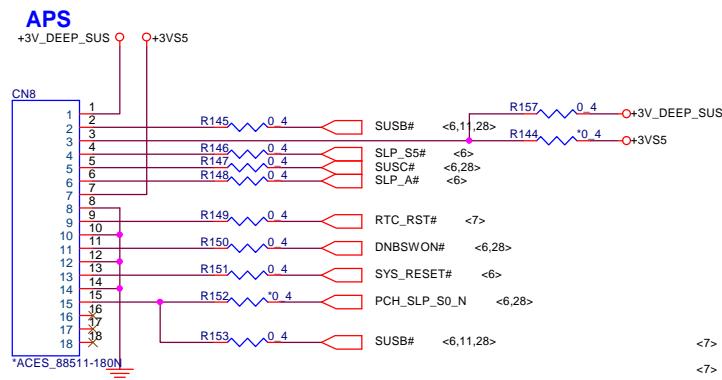
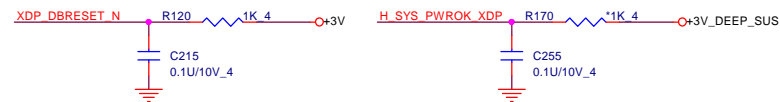
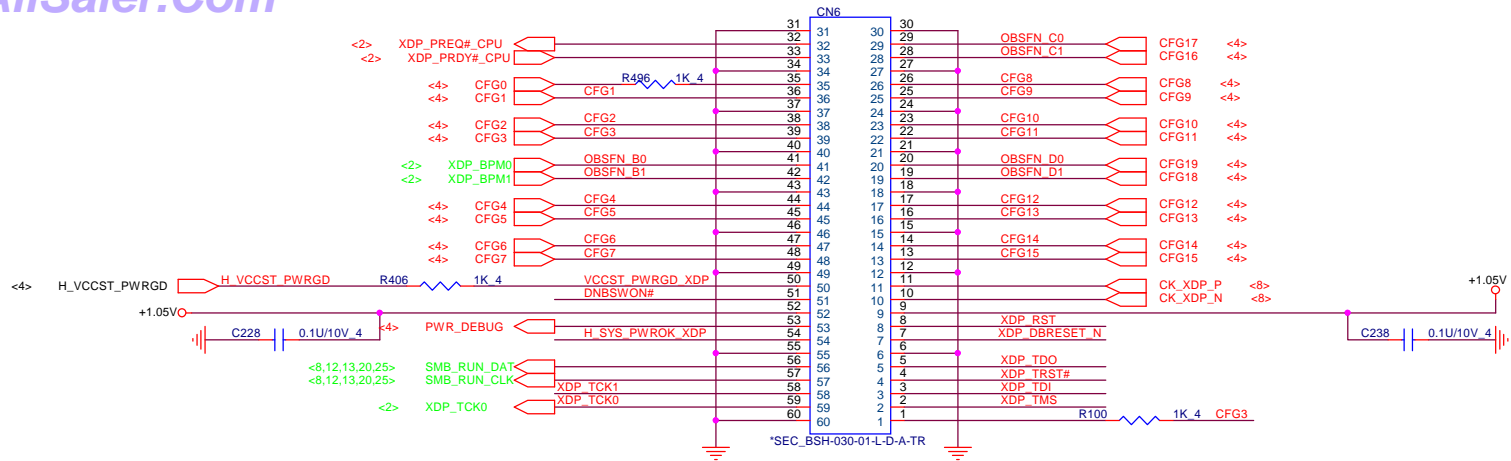
Stuff	DIS	UMA
Ra	Ra	Rb
Rb	Rb	Ra

PROJECT :U83  
Quanta Computer Inc.

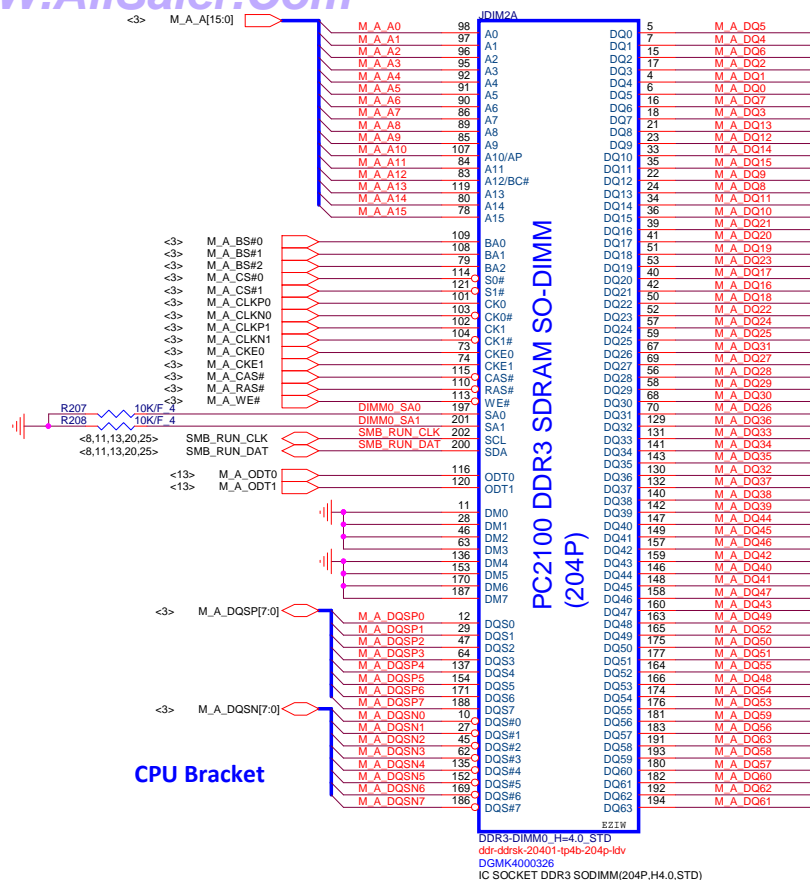
Size Custom Document Number ULT 8/9 (GPIO/MISC) Rev 1A

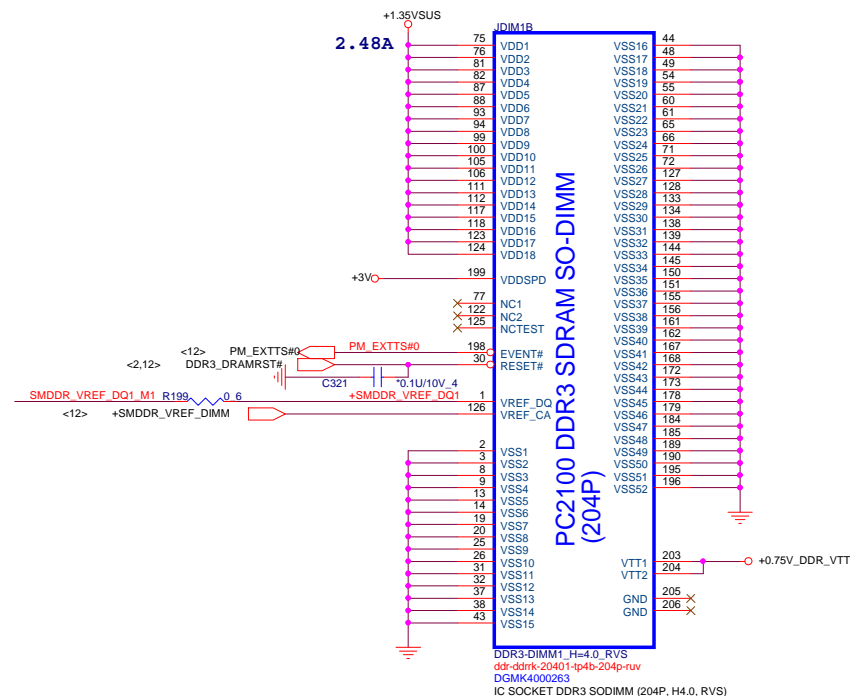
Date: Thursday, March 14, 2013 Sheet 9 of 41





	<b>PROJECT :U83</b> Quanta Computer Inc. ULT		
	Size	Document Number	Rev
	<b>HSW XDP &amp; APS</b>		1A
Thursday, March 14, 2013		Sheet	41





<8,20,28> MBCLK2 MBCLK2 8 SCLK VCC 1

<8,20,28> MBDATA2 MBDATA2 7 SDA DXP 2

PM\_EXTTS#0 6 ALERT# DYN 3

+3V R185 \*10K/F 4 OVERT# GND 5

U3 EMC1412-1-ACZL-TR  
Need Check PW(800)

C271 0.01U/16V\_4 +3V

C272 \*2200P/50V\_4

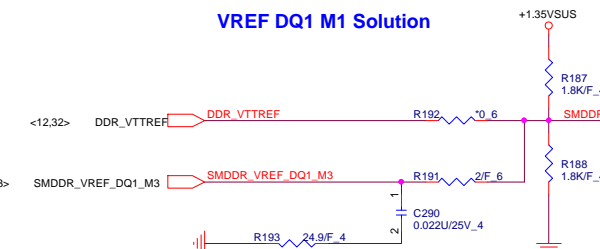
DDR\_THERMDA

DDR\_THERMDC

Q2 \*METR3904-G

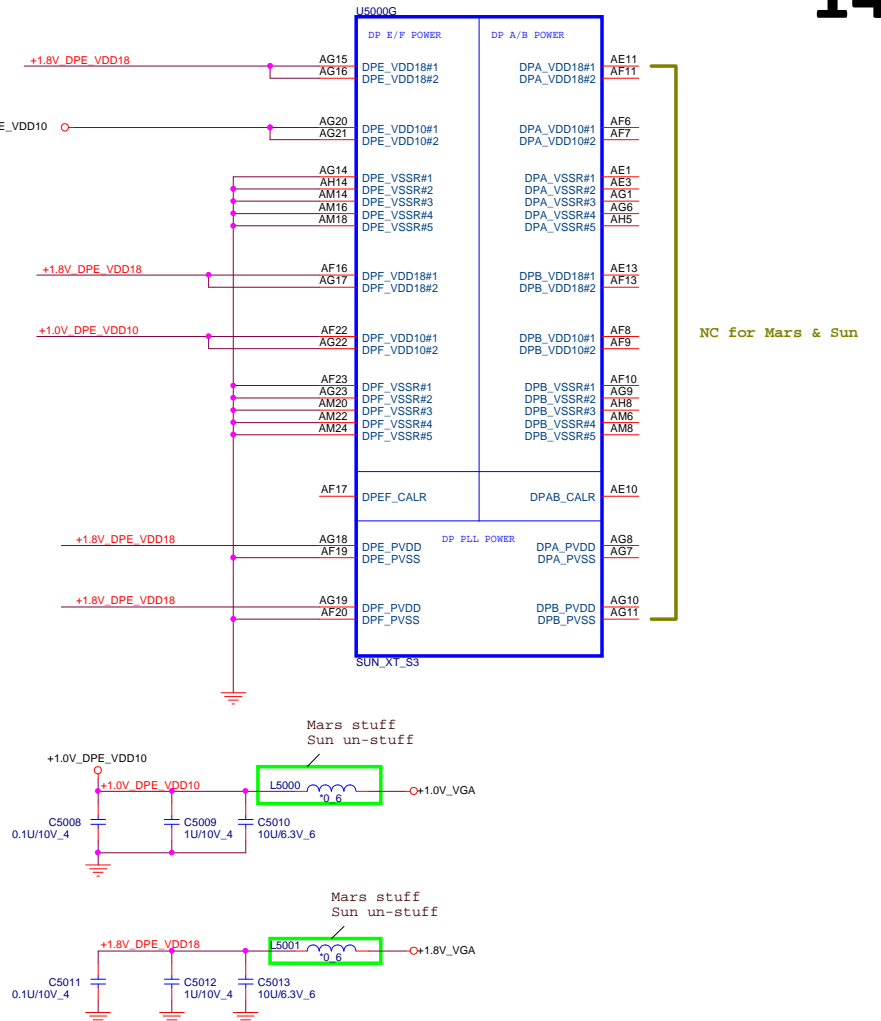
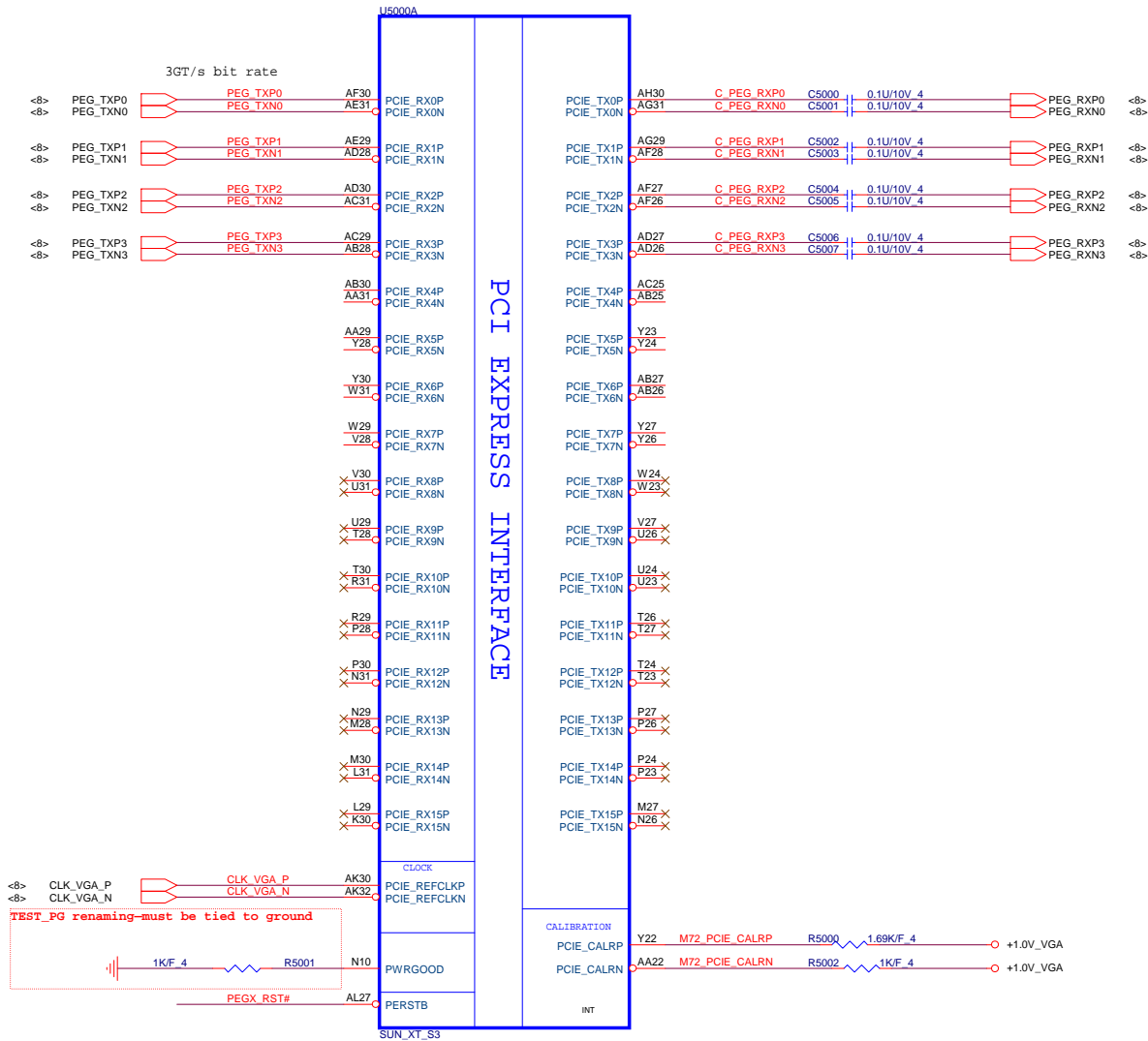
Main:AL001412003  
2nd:AL000431014

EMC1412-1-ACZL-TR(98h)  
TMP431ADGKR(98h)




**PROJECT :U83**  
Quanta Computer Inc.

Size Custom	Document Number <b>DDR3 DIMM1-RVS(4.0H)</b>	Rev 1A
Date: Thursday, March 14, 2013	Sheet	13 of 41



+1.0V\_VGA <15,17,36>  
+1.8V\_VGA <15,17,27,36>

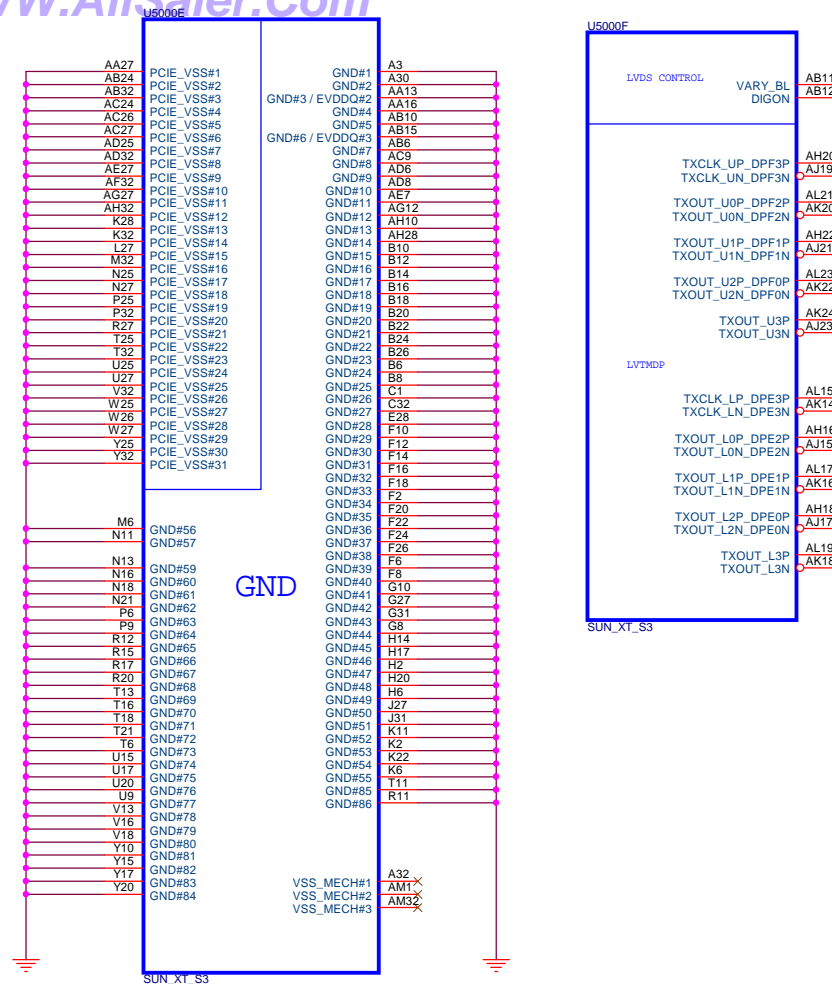
 <b>PROJECT :U83</b> <b>Quanta Computer Inc.</b>		
Size Custom	Document Number <b>Sun S3 PCIe_Interface</b>	Rev 1A
Date: Thursday, March 14, 2013   Sheet 14 of 41		



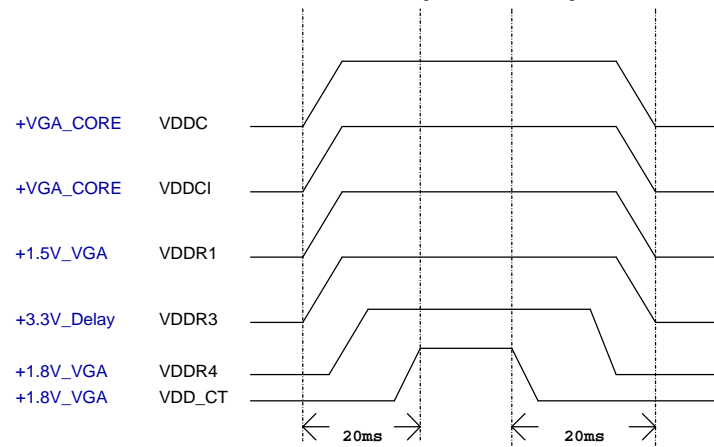
Com

15





## Power Up/Down Sequence



## Memory Aperture size(Seymour)

GPIO9 BIOSROM		GPIO13 ROMIDCFG2	GPIO12 ROMIDCFG1	GPIO11 ROMIDCFG0
0	128M	0	0	0
0	256M	0	0	1
0	64M	0	1	0
0	32M	0	1	1
0	512M	1	0	0
0	1G	1	0	1
0	2G	1	1	0
0	4G	1	1	1

It is a shared pin strap with CONFIG[2:0] if BIOS\_ROM\_EN is set to 0.

### CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS

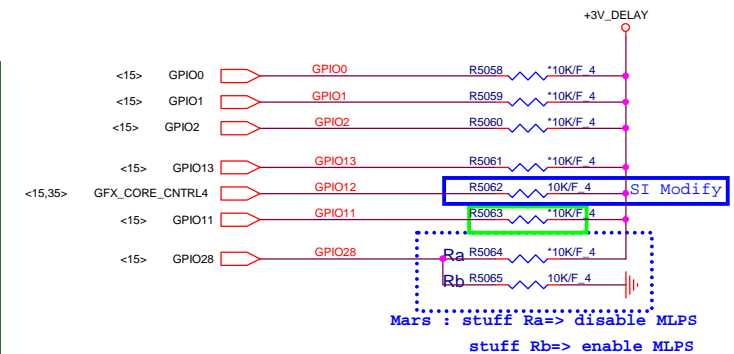
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	0
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
RSVD	GPIO2	RESERVED	0
RSVD	GPIO8	RESERVED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21	RESERVED	0
BIOS_ROM_EN	GPIO22_ROMCSB	ENABLE EXTERNAL BIOS ROM	0
ROMIDCFG(2:0)	GPIOQ[13:1]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	0 0 1
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS (Removed on Seymour/Whistler)	0
RSVD	H2SYNC	RESERVED	0
AUD[1]	HSYNC	SEE DATABOOK FOR DETAIL	0
AUD[0]	VSYS	SEE DATABOOK FOR DETAIL	0
RSVD	GENERICC	RESERVED	0

## NOTE1: AMD RESERVED CONFIGURATION STRAPS

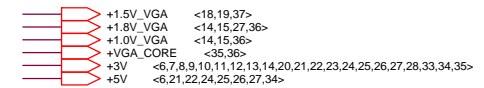
ALLOW FOR PULLUP PADS FOR THESE STRAPS BUT DO NOT INSTALL RESISTOR. IF THESE GPIOs ARE USED, THEY MUST KEEP "LOW" AND NOT CONFLICT DURING RESET.

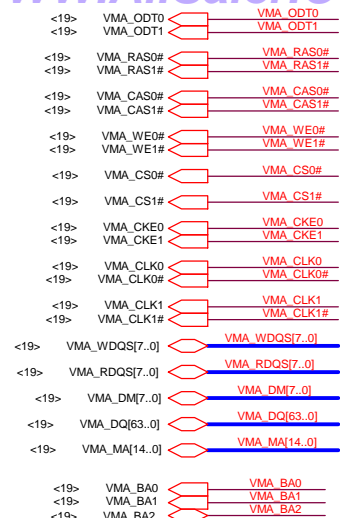
GPIO21 H2SYNC GENERICC GPIO8 GPIO2



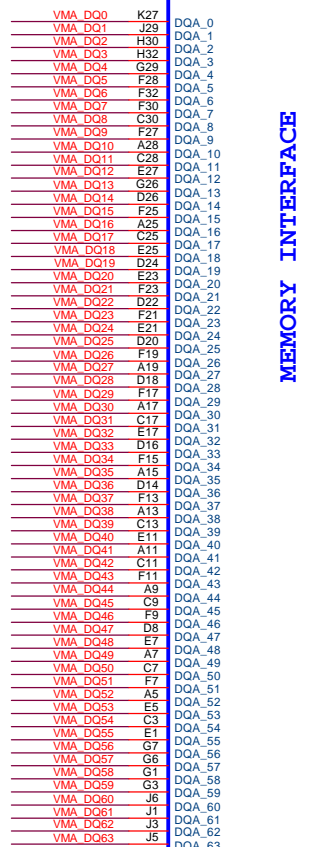
**PROJECT :U83**  
Quanta Computer Inc.

Size Custom	Document Number Sun S3 GND / LVDS/ Straps	Rev 1A
Date: Thursday, March 14, 2013	Sheet 16 of 41	

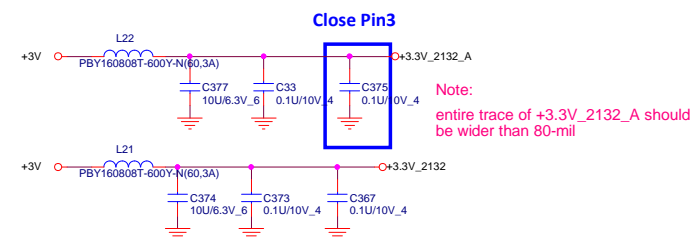
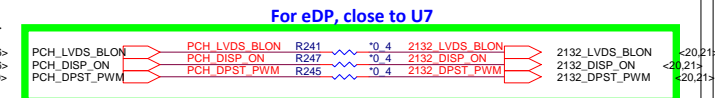
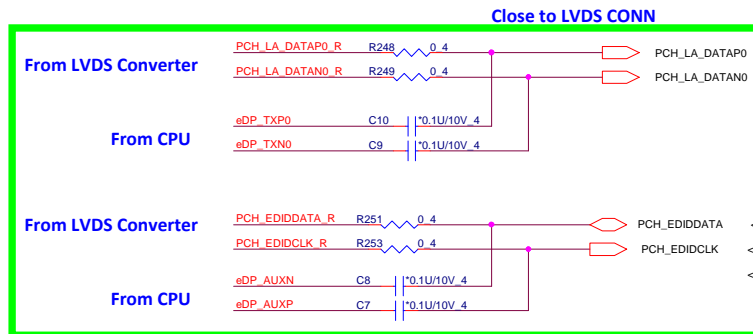




support 1gbt  
VRAM ( 64M X 16 )

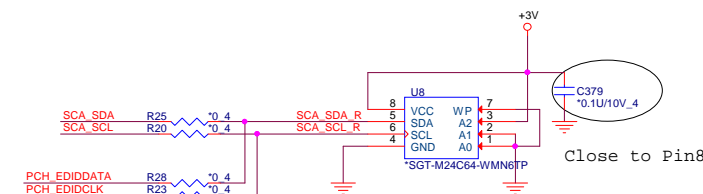






```
SCA_SCL pull high => EEPROM mode
SCA_SDA pull low  => EEPROM Free mode
```

**Address=0xA8**



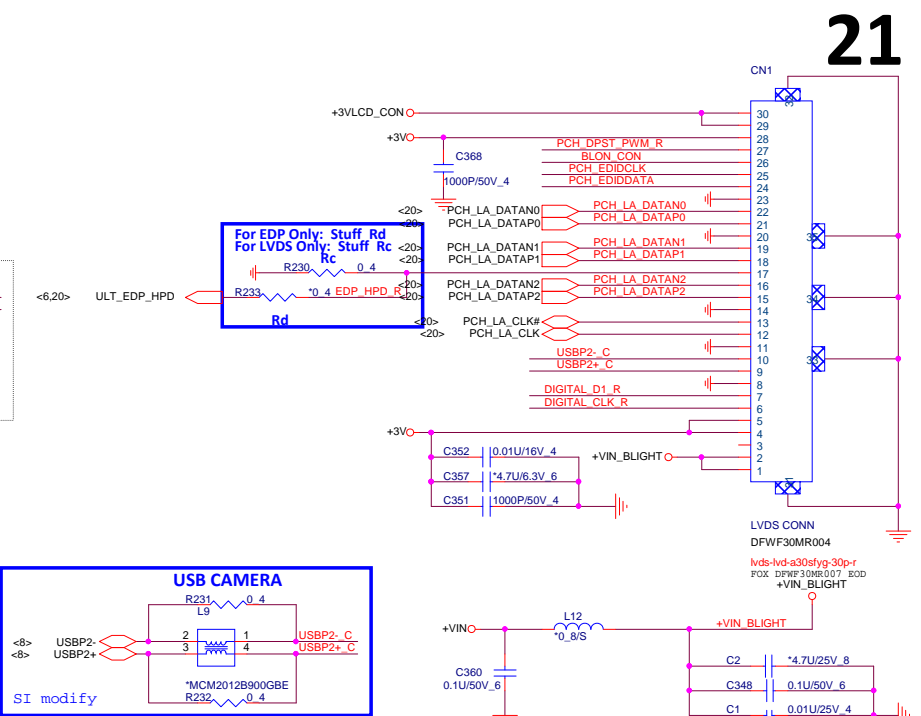
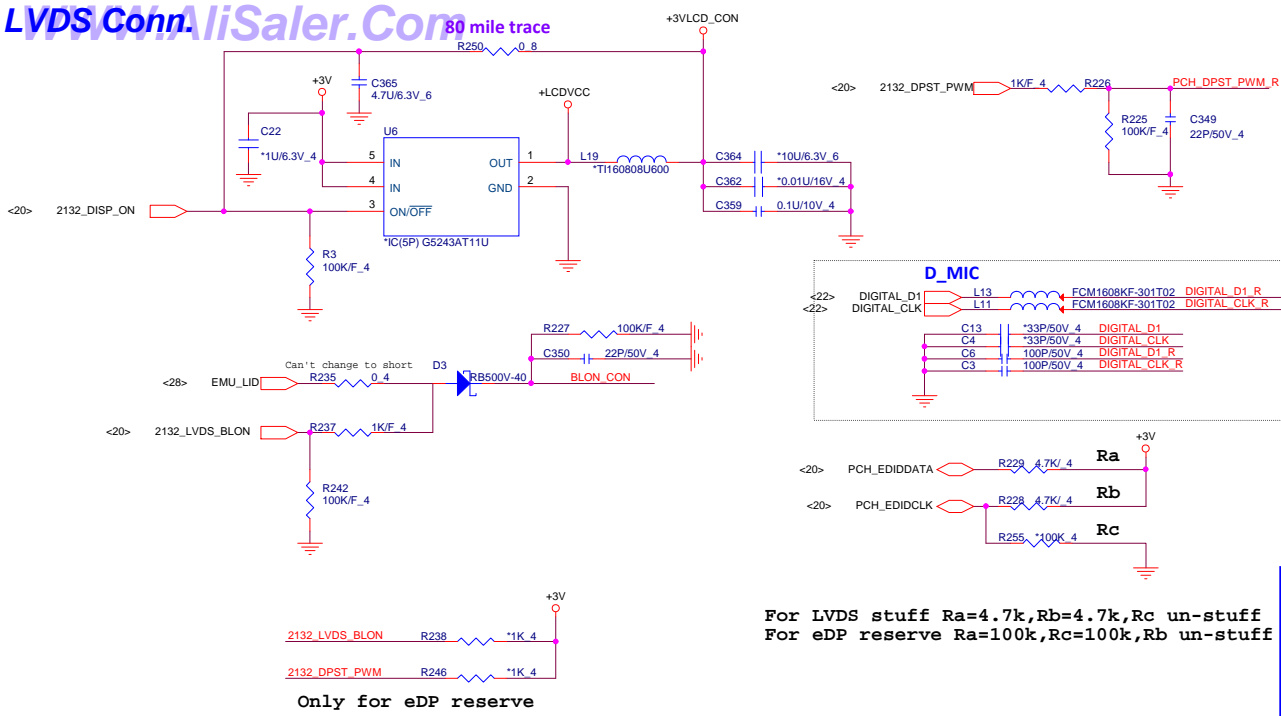
RTD2132S => R25, R20  
RTD2132R => R28, R23

		MODE_CFG0(PIN30)	
		0	1
MODE_CFG1(PIN31)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

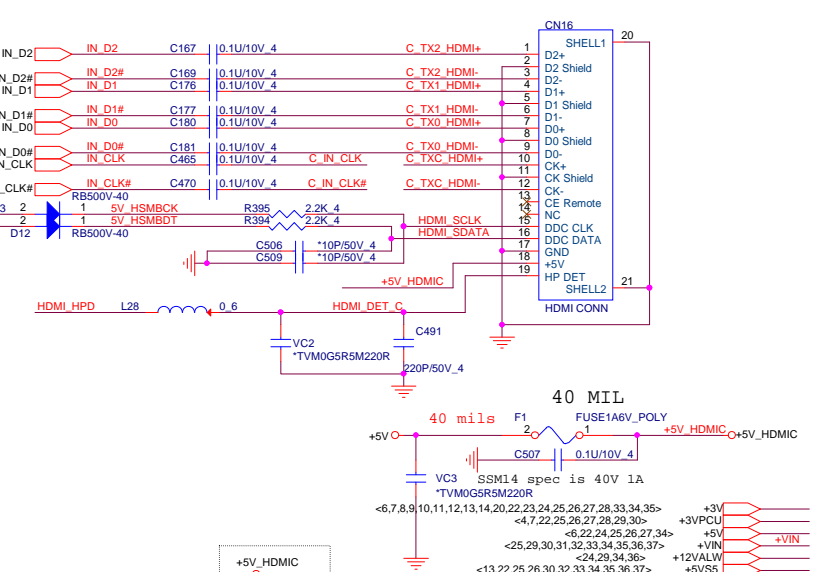
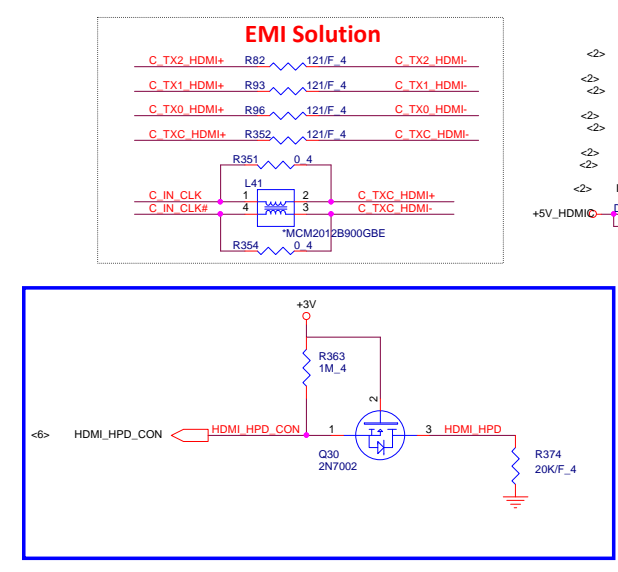
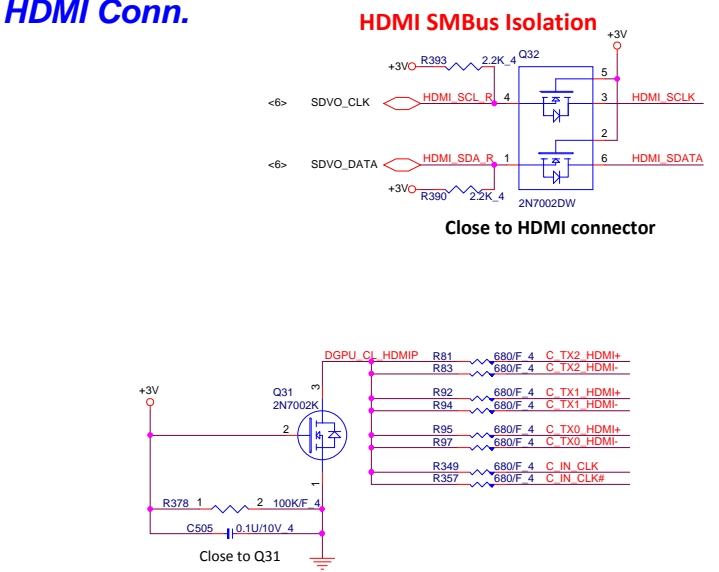


**PROJECT :U83**  
Quanta Computer Inc.

Size Custom	Document Number <b>LVDS converter RTD2132R</b>	Rev 1A
Date: Monday, March 18, 2013		Sheet 20 of 41

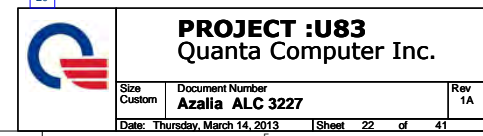


HDMI Conn.

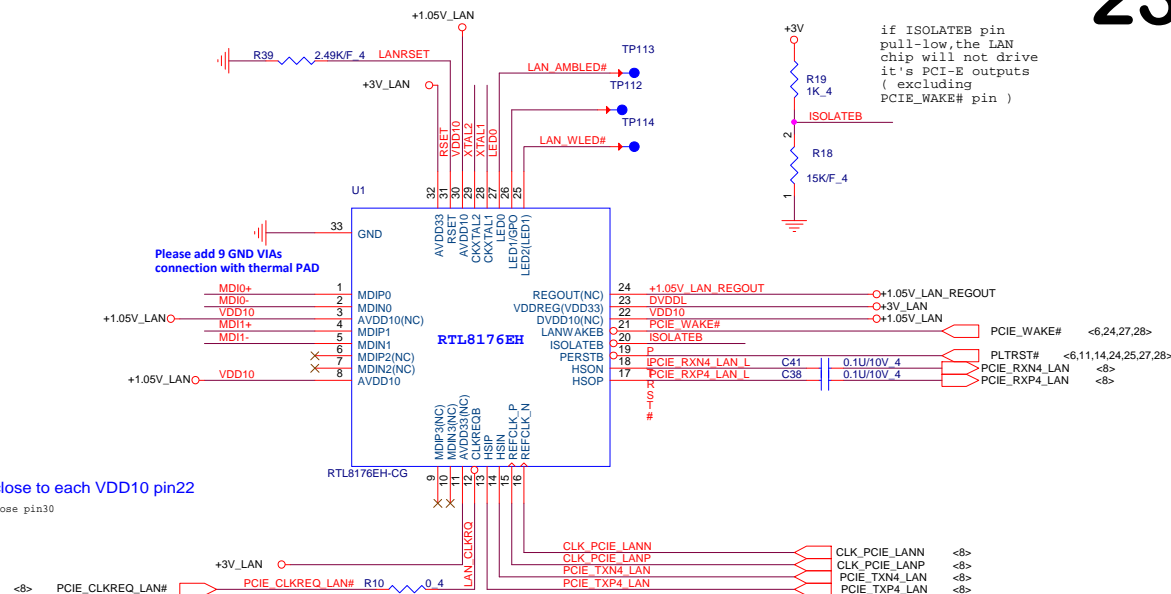


<b>PROJECT :U83</b> <b>Quanta Computer Inc.</b>		
Size Custom	Document Number LCD/HDMI/Camera/D-MIC	Rev 1A
Date: Thursday, March 14, 2013	Sheet 21 of	41

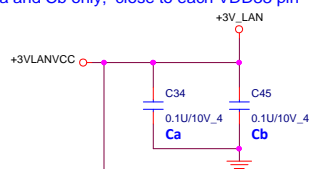
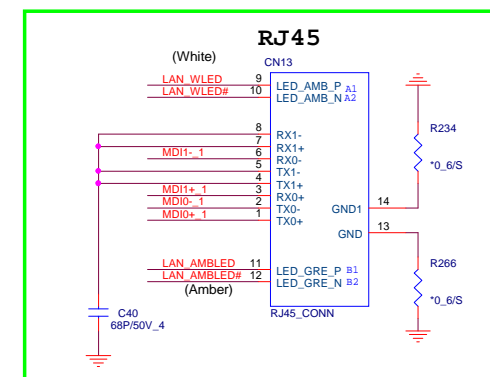




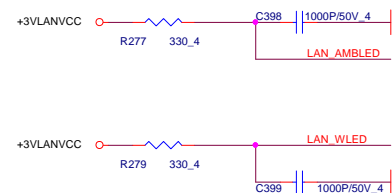




TWD Type

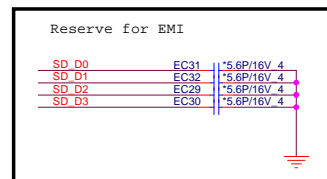


Remove For Not Using SWR mode



**PROJECT :U83**  
Quanta Computer Inc.

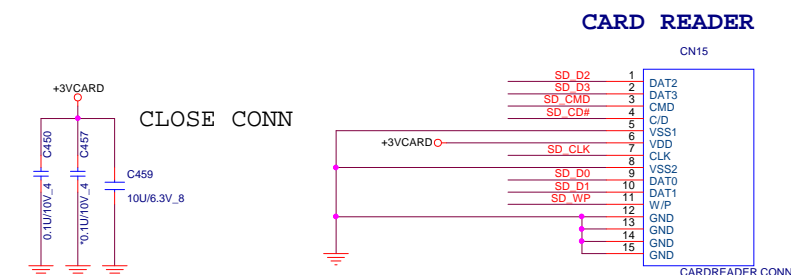
Size Custom	Document Number <b>LAN RTL8176EH/RJ45</b>	Rev 1
Date: Friday, March 15, 2013	Sheet 23 of 41	



SP1	SD D1	
SP2	SD D0	MS D1
SP3	SD CLK	MS D0
SP4	SD CMD	MS D2
SP5	SD D3	MS D3
SP6	SD D2	MS CLK
SP7	SD WP	MS BS

## Share Pin

SD / MMC

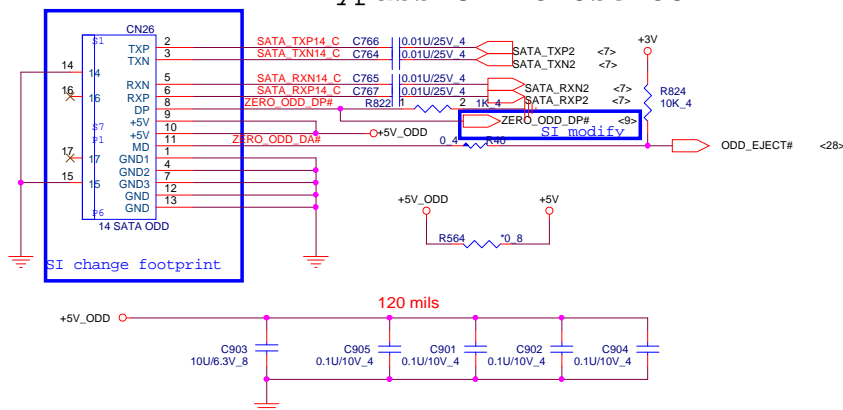


R3X Type

**SATA ODD  
CONNECTOR**

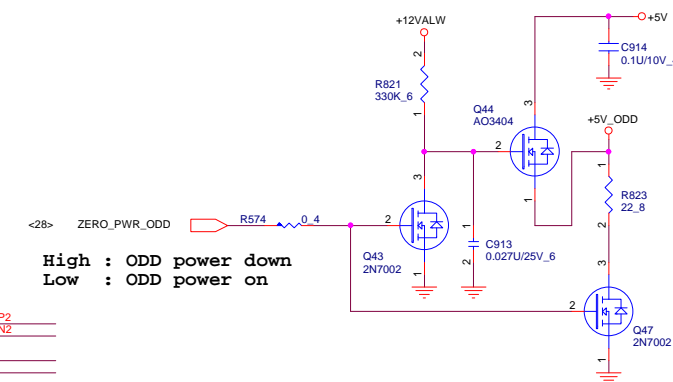
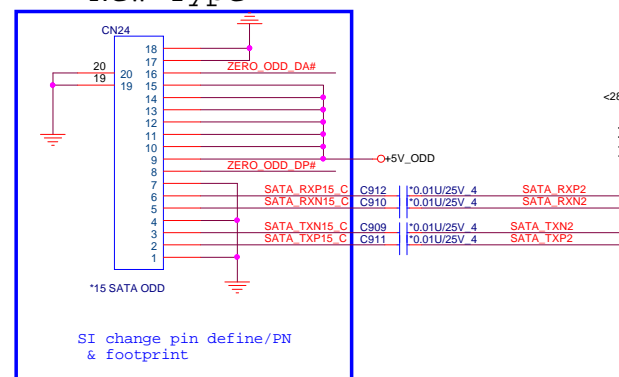
**14" SATA ODD**

Bypass CAP close conn



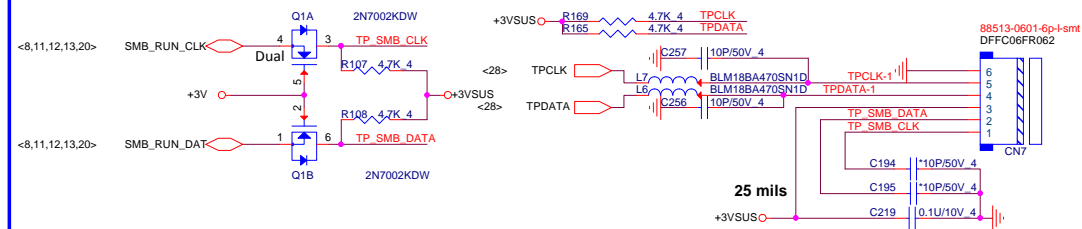
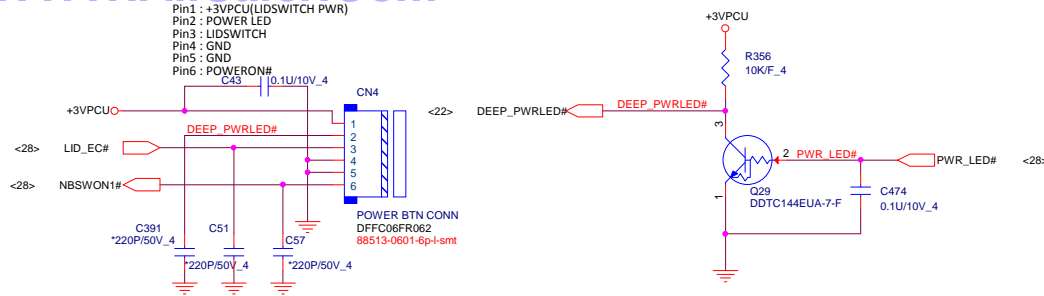
**15" SATA ODD**

New Type

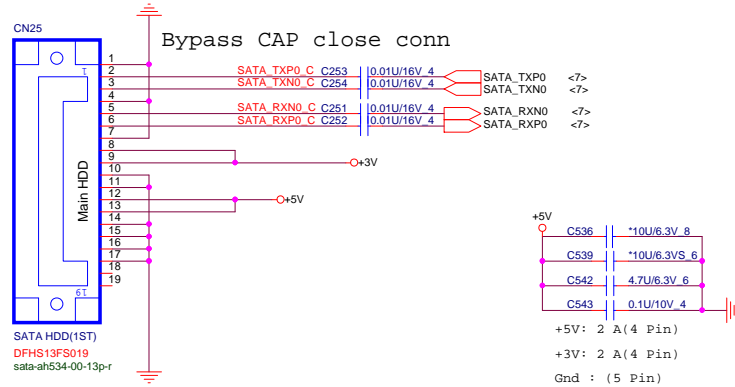


**PROJECT :U83**  
Quanta Computer Inc.

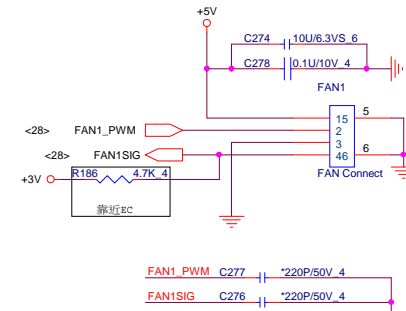
Size Custom	Document Number <b>CR RTS5237 &amp; CR SOCKET</b>	Re 1
Date: Thursday, March 14, 2013	Sheet 24 of 41	



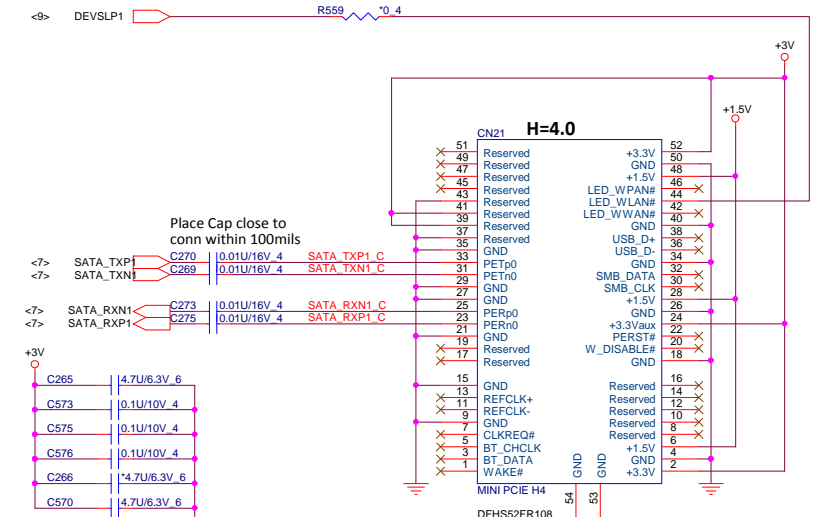
SATA HDD Connector(Cable type)



FAN

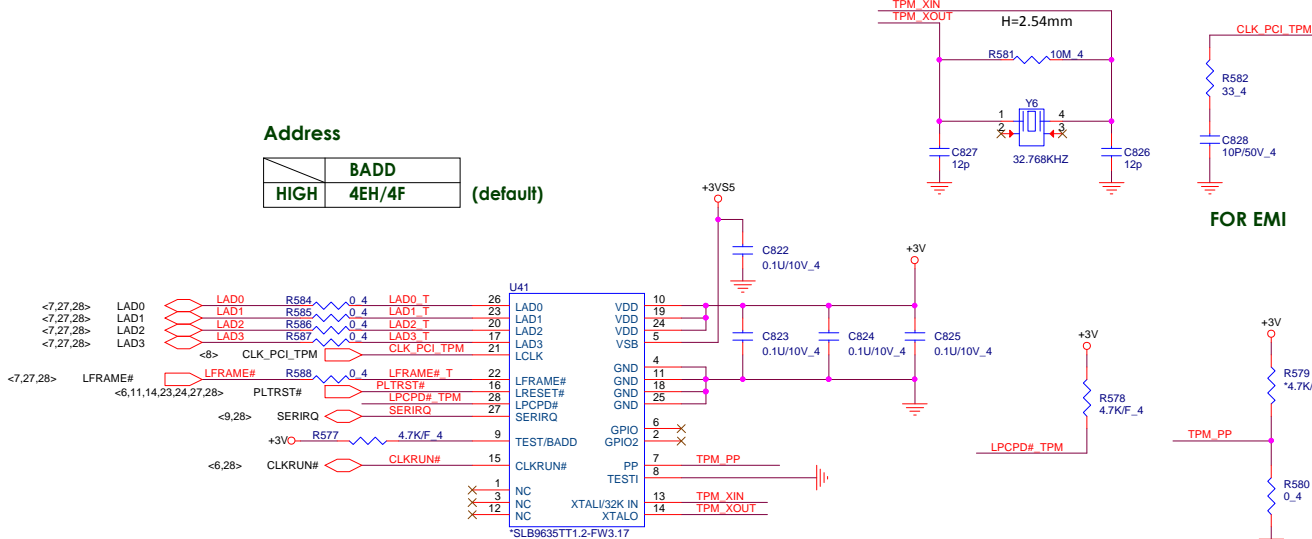


Mini PCI-E Card 2- Full size mSATA



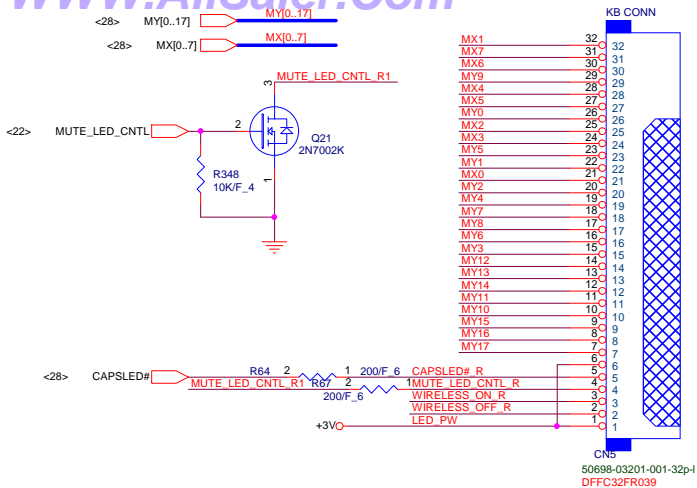
TPM (1.2)

Address	BADD
HIGH	4EH/4F (default)

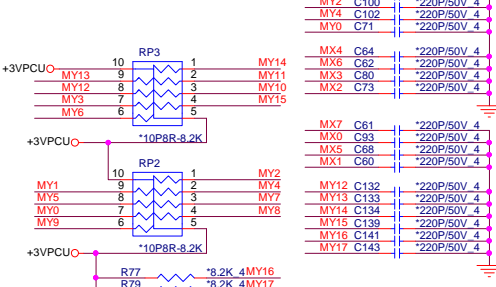


**PROJECT :U83**  
Quanta Computer Inc.

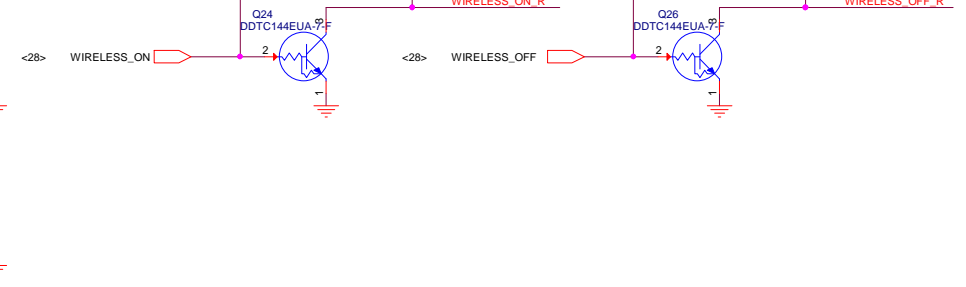
Size	Document Number	Rev
Custom	HDD/mSATA/FAN/LED	1A
Date: Thursday, March 14, 2013	Sheet	25of 41



### KEYBOARD PULL-UP

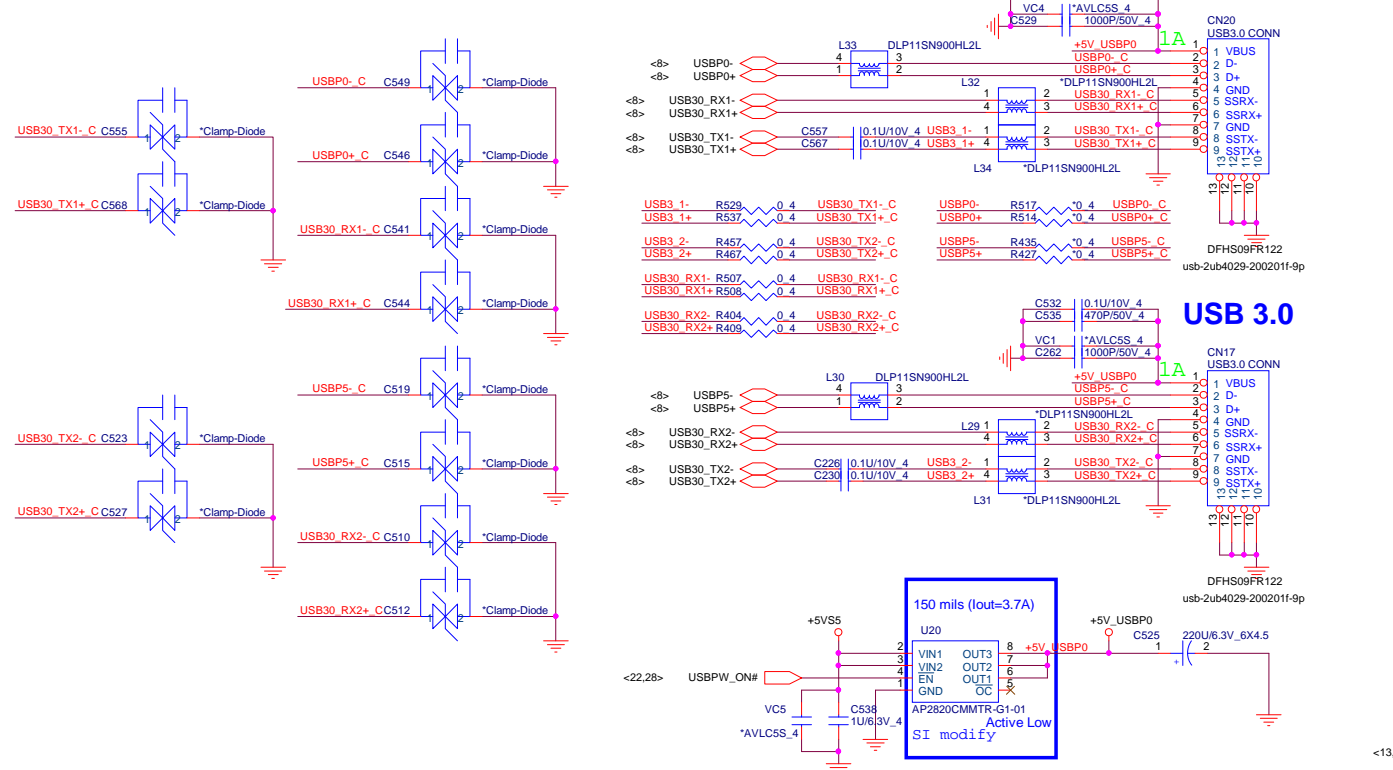


### WIRELESS ON/OFF

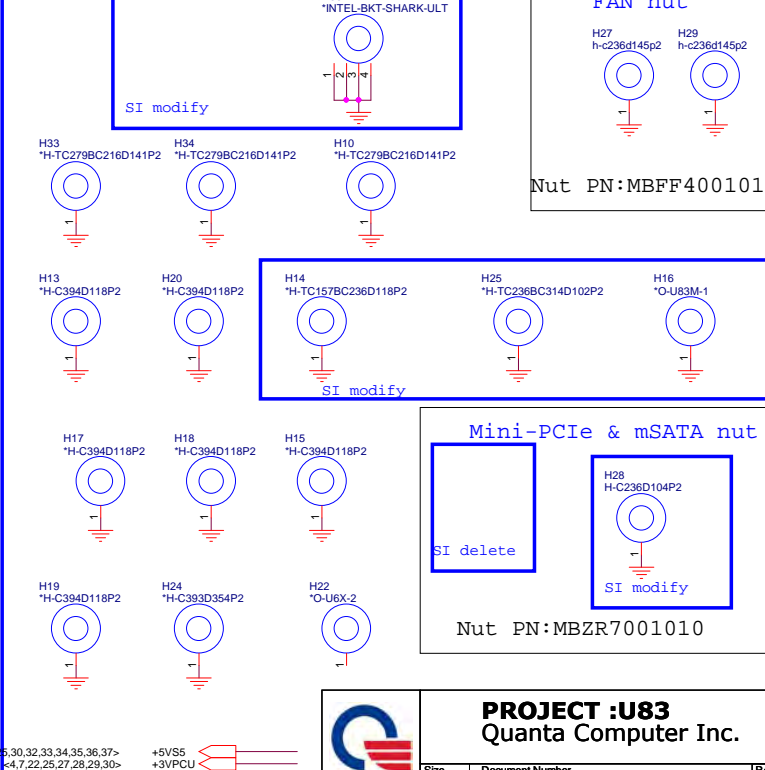


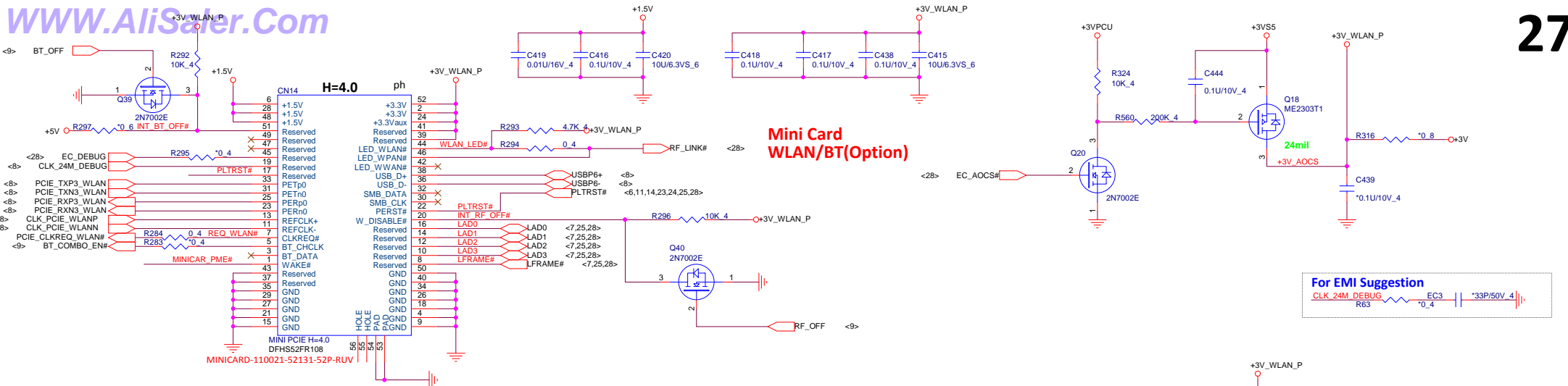
R6X Type

### USB 2.0/3.0 Combo

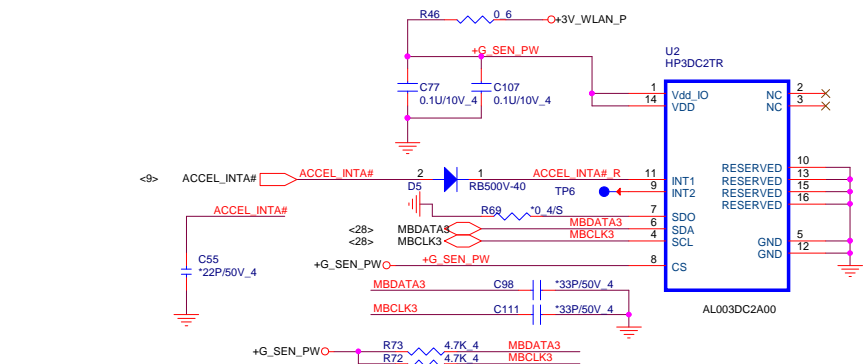


### Hole

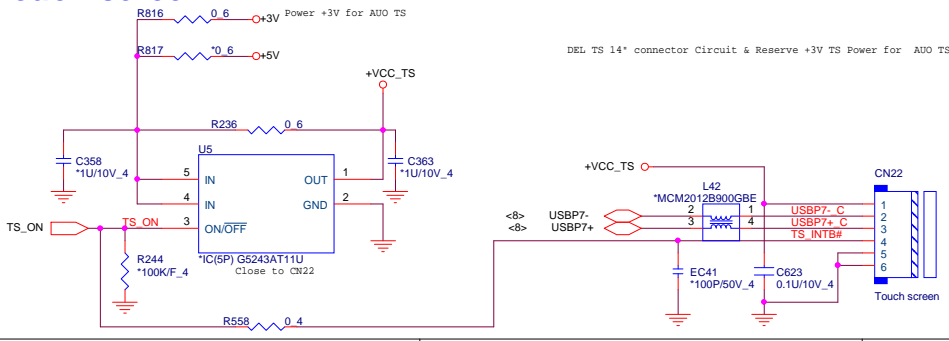




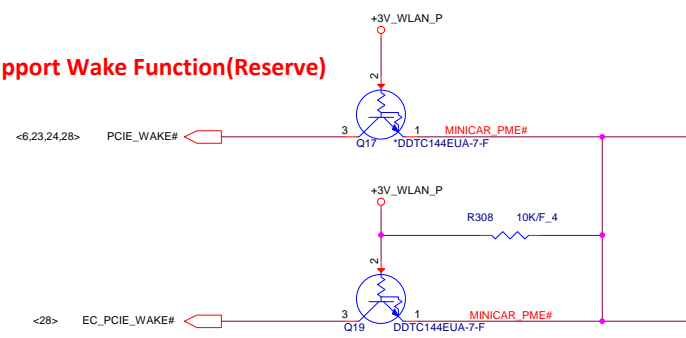
## Accelerometer Sensor



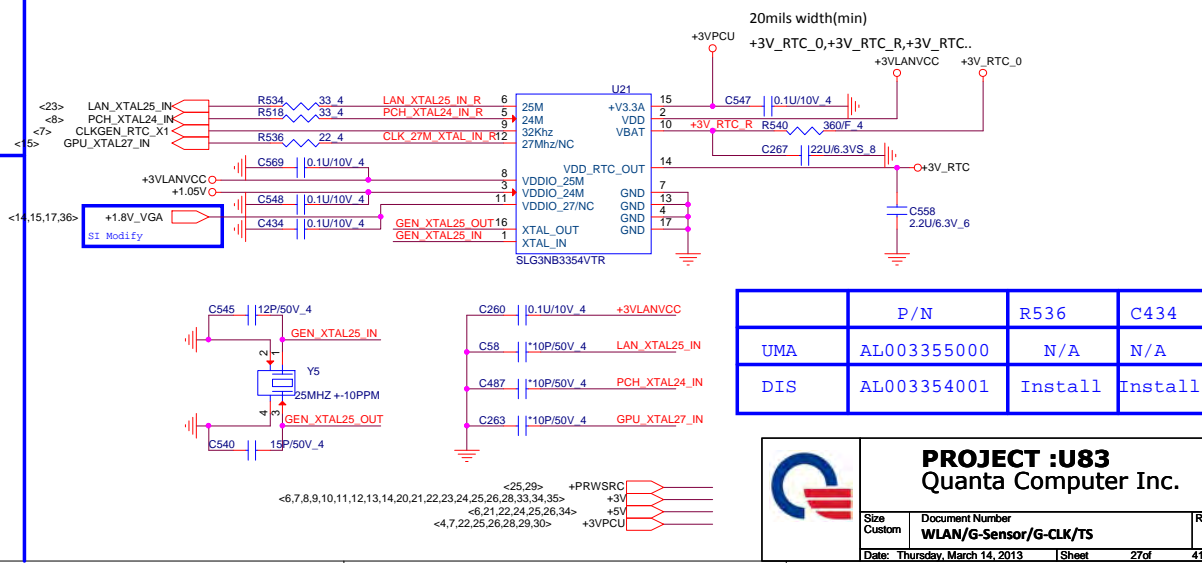
## Touch screen

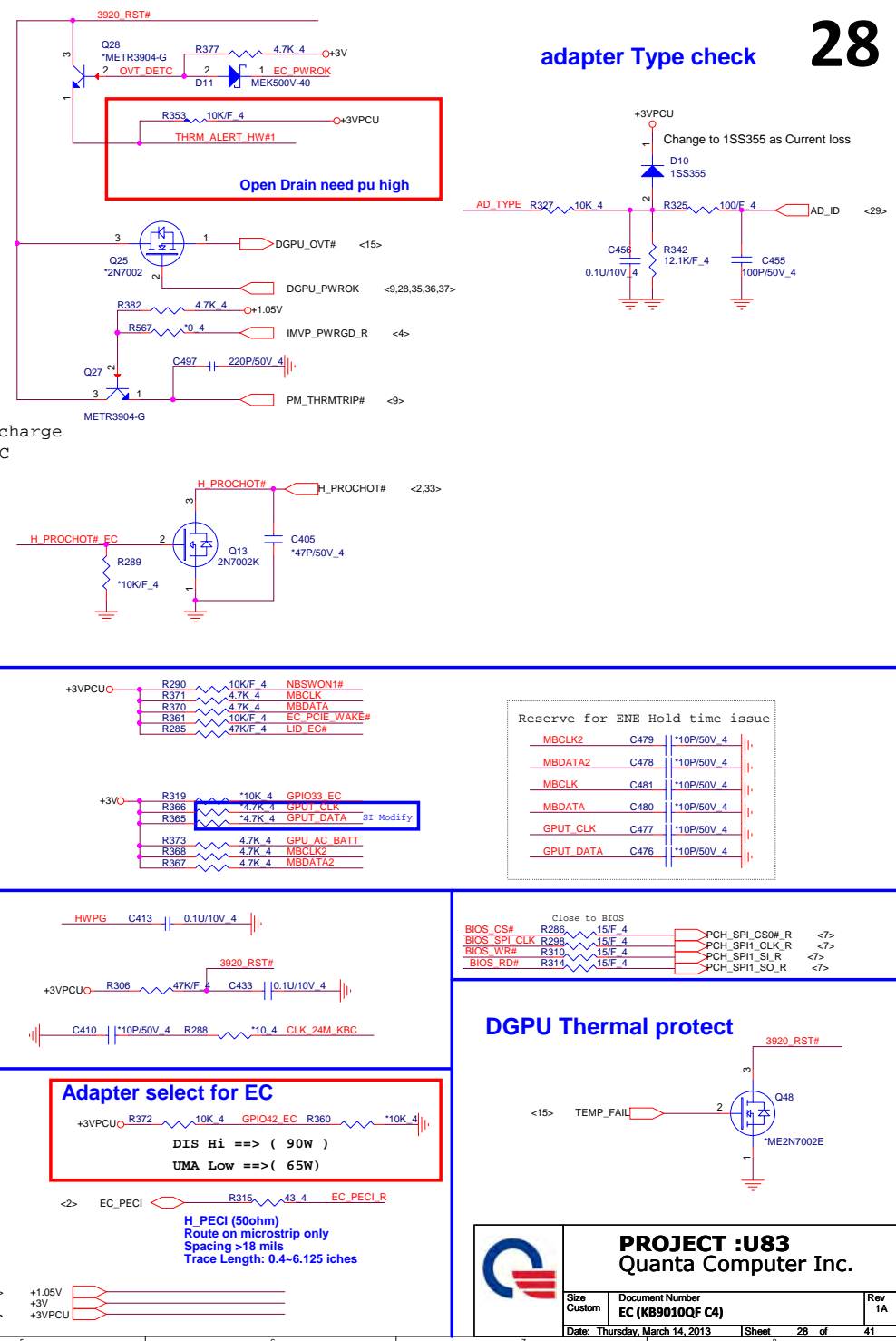
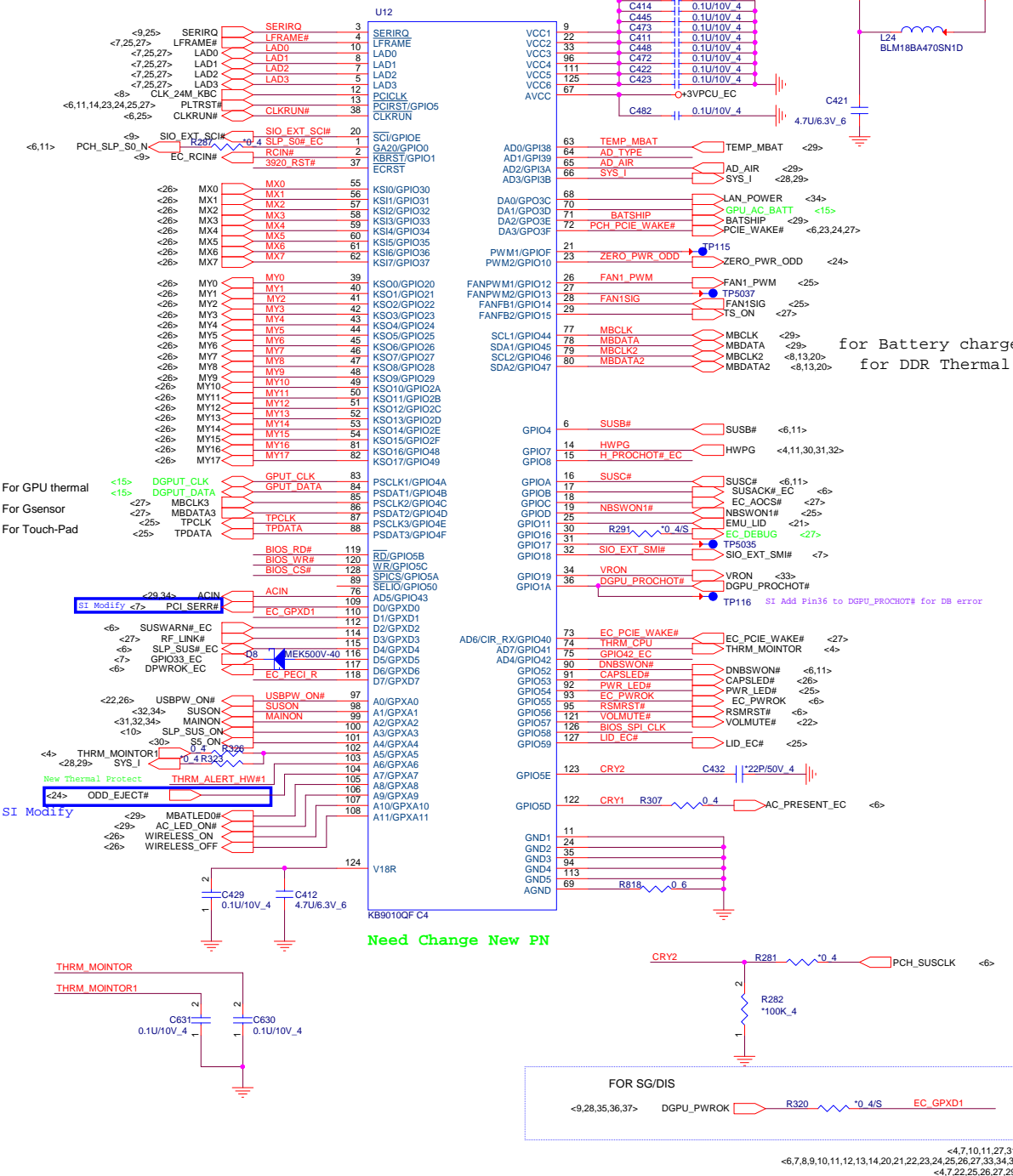


## Support Wake Function(Reserve)

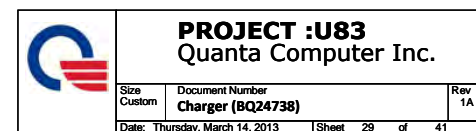


## Green CLK Circuitry

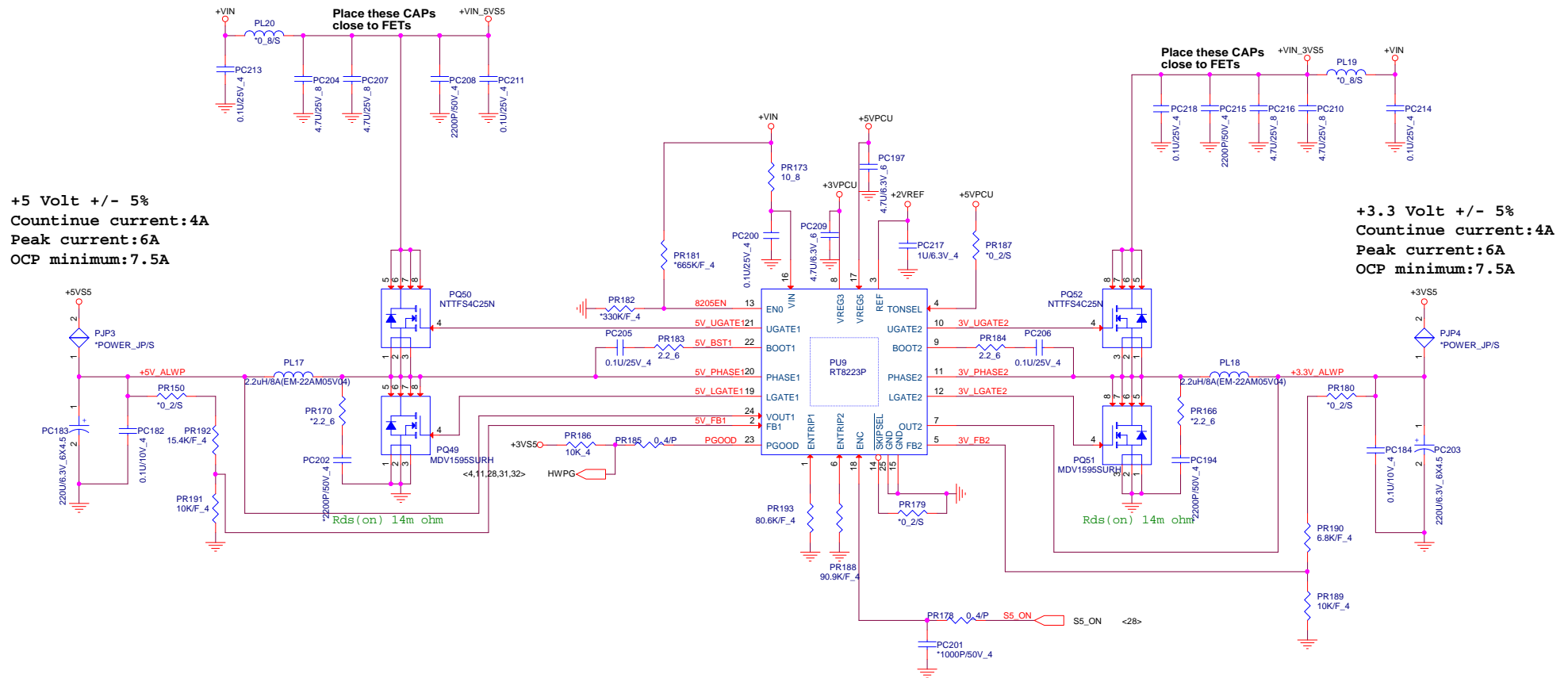


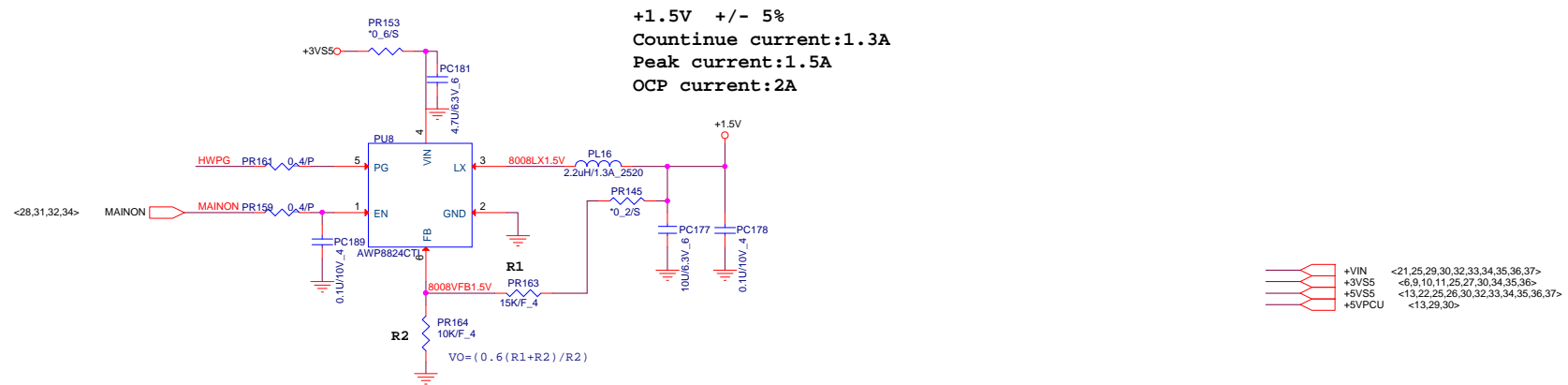
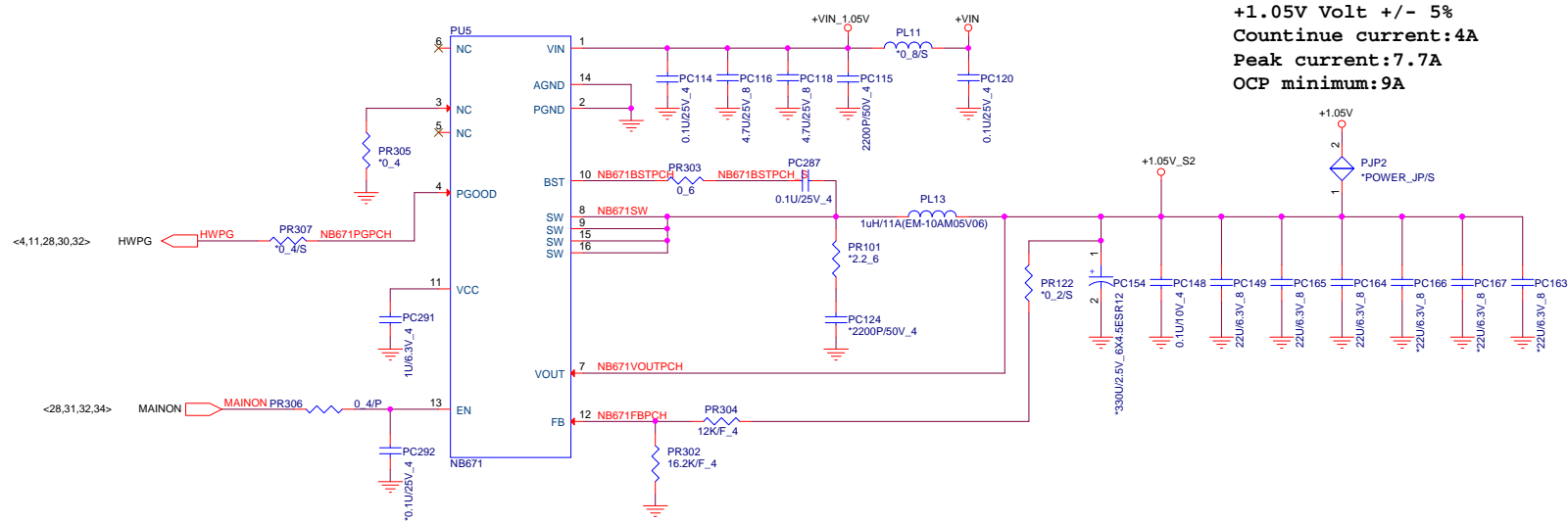






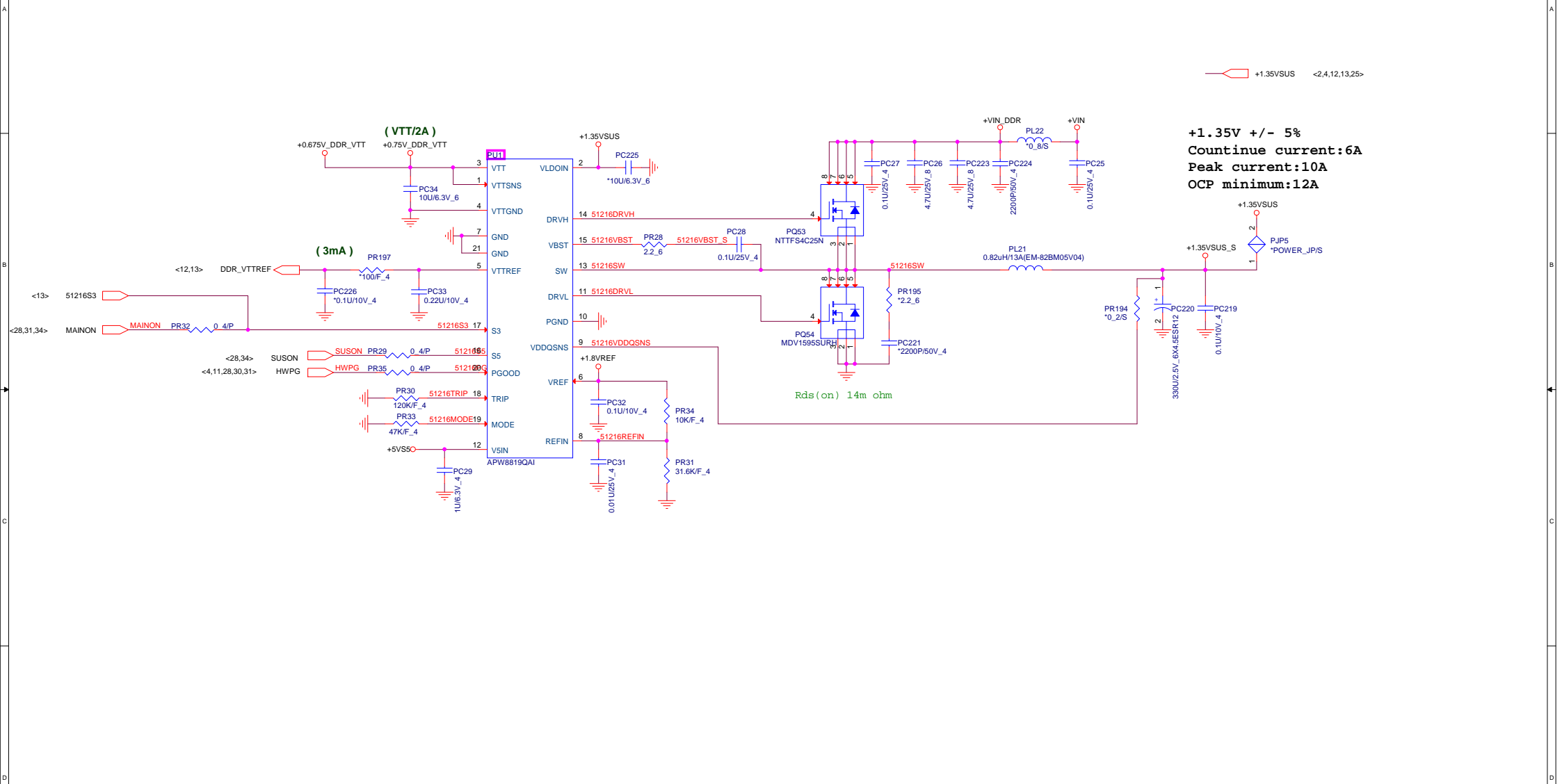





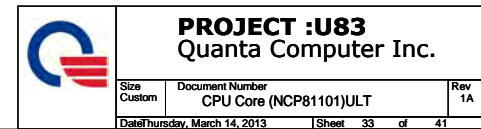


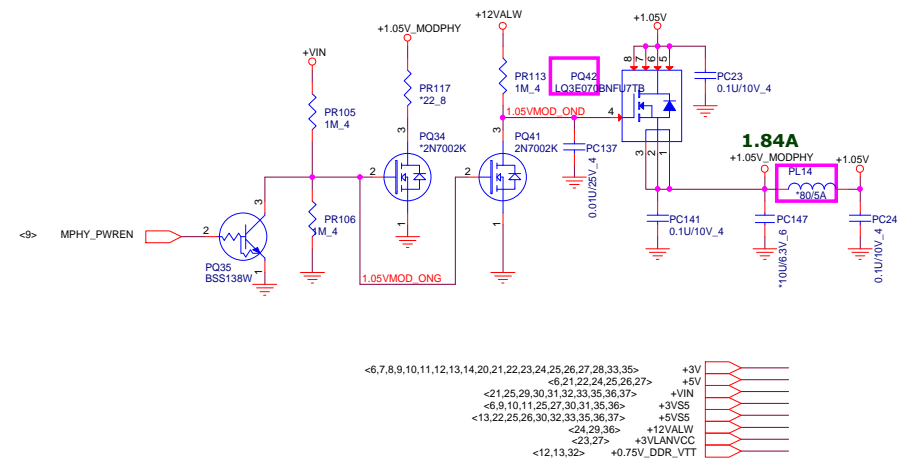
+VIN <21,25,29,30,32,33,34,35,36,37>  
 +3VSS <6,9,10,11,25,27,30,34,35,36>  
 +5VSS <13,22,25,26,30,32,33,34,35,36,37>  
 +5VPCU <13,29,30>


	<b>PROJECT :U83</b>		
	Quanta Computer Inc.		
	Size Custom	Document Number <b>+1.05V (NB671)1.5V</b>	Rev 1A
	Date: Thursday, March 14, 2013	Sheet 31	of 41



	<b>PROJECT :U83</b> Quanta Computer Inc.		
	Size Custom	Document Number <b>DDR3 (APW8819)</b>	Rev 1A
	Date: Thursday, March 14, 2013   Sheet 32 of 41		

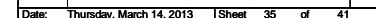




	<b>PROJECT :U83</b> <b>Quanta Computer Inc.</b>		
	Size Custom	Document Number <b>Dis-charge IC (SLG55448)</b>	Rev 1A
	Date: Thursday, March 14, 2013	Sheet 34 of 41	

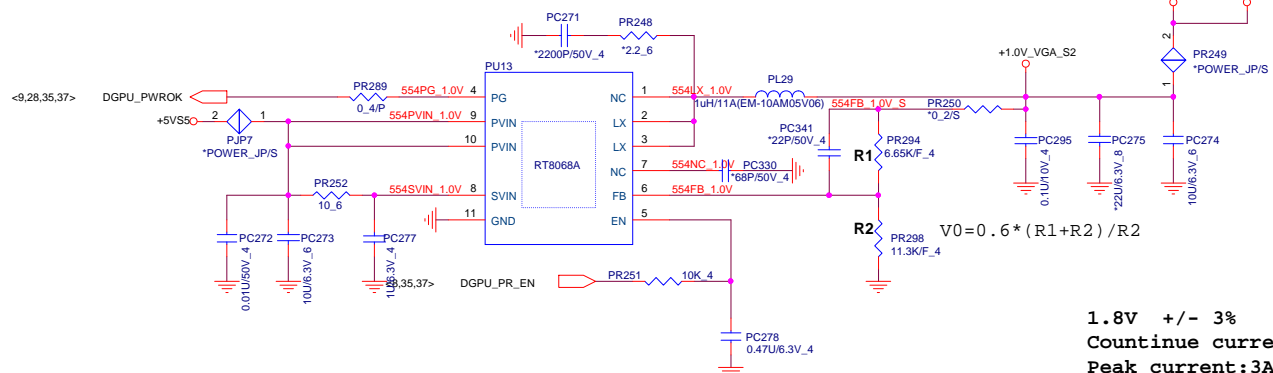


Default

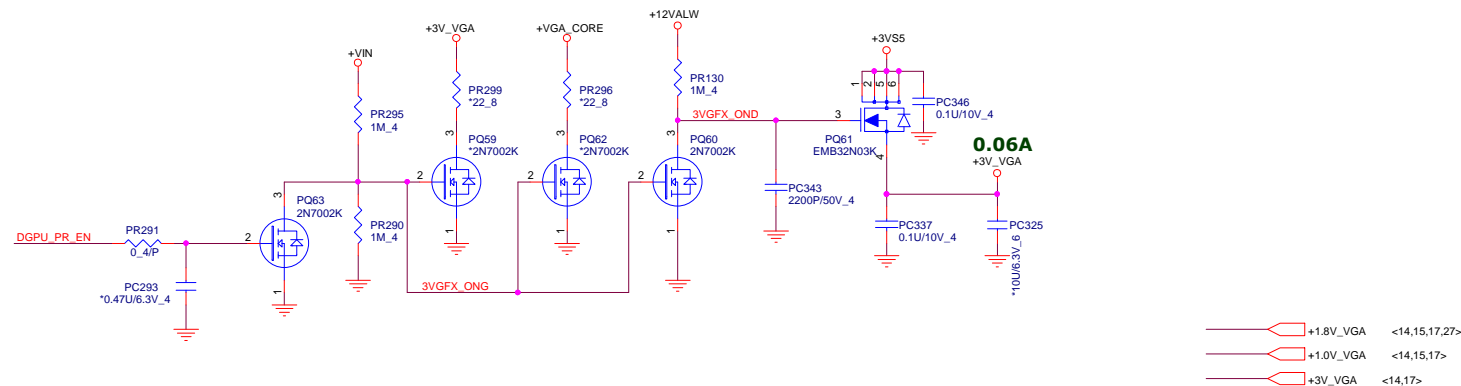
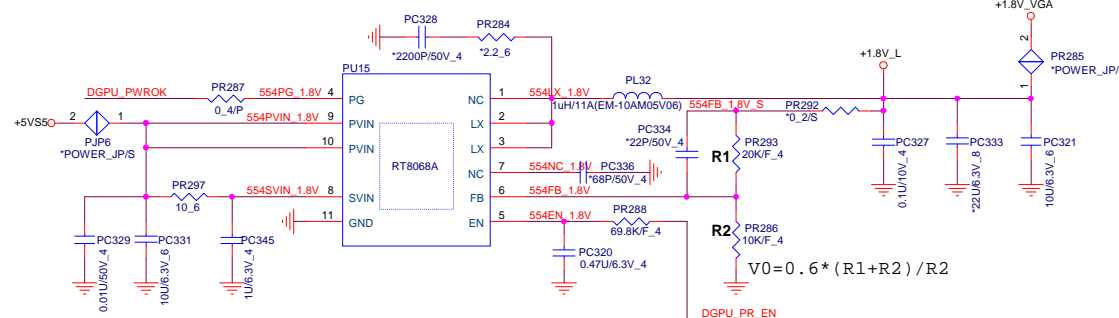


VGA TYPE	R2 Value	P/N	1.0V_VGA
Thems	10K	CS31002FB26	1.0V
MARS	11.3K	CS31132FB07	0.95V

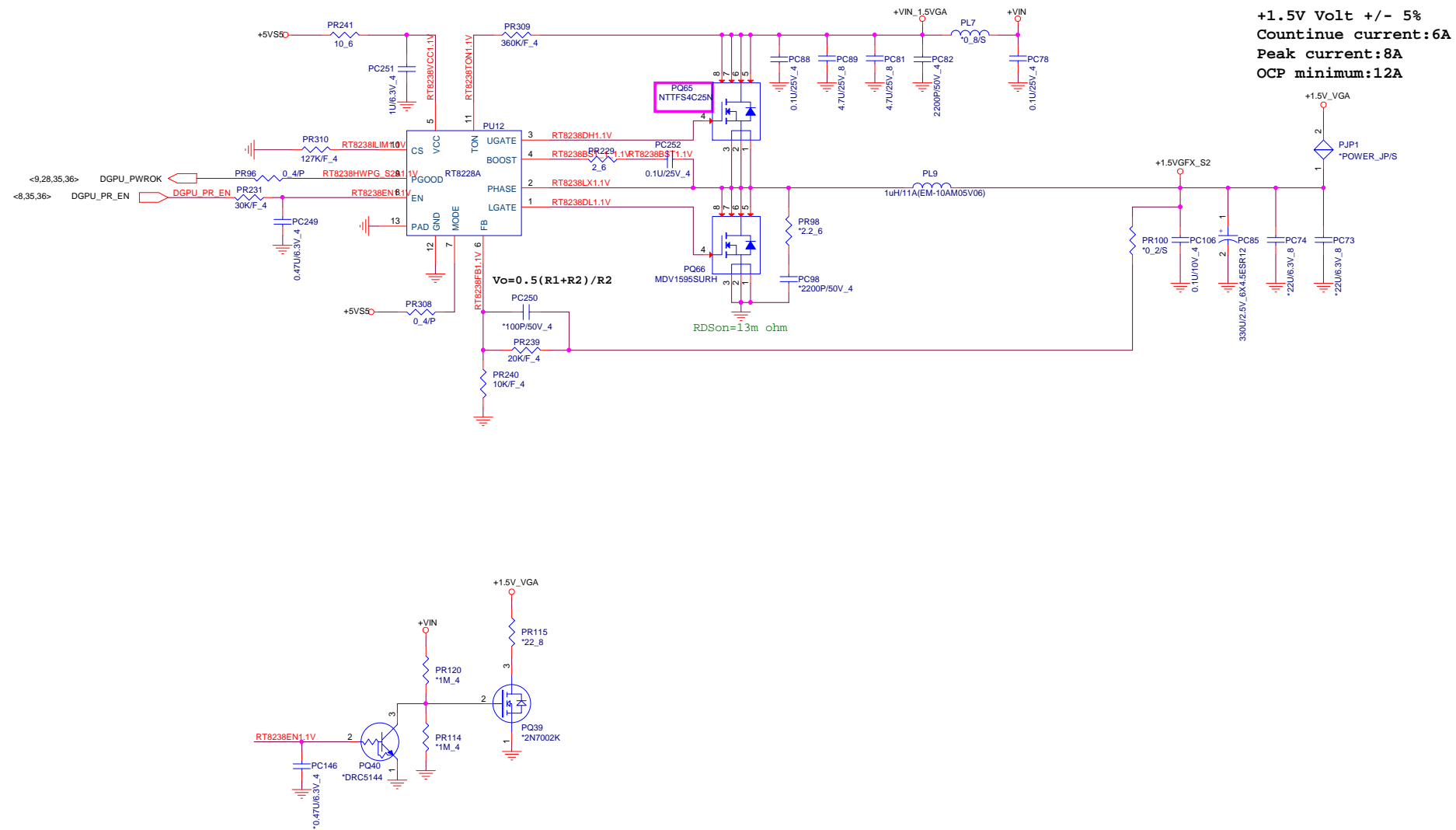
+0.95V +/- 3%  
Countinue current:2A  
Peak current:3A  
OCP minimum:4A




1.8V +/- 3%  
Countinue current:2A  
Peak current:3A  
OCP minimum:4A







	<b>PROJECT :U83</b> <b>Quanta Computer Inc.</b>		
	Size Custom	Document Number <b>+1.5V_VGA(RT8228)</b>	Rev 1A
	Date: Thursday, March 14, 2013	Sheet 37 of 41	

USB3.0	Port Assignment	Power control pin
PORT1	USB2.0/USB3.0 COMBO 1st	USBPW_ON#(from EC)
PORT2	USB2.0/USB3.0 COMBO 2nd	USBPW_ON#(from EC)
PORT3	NC	N/A
PORT4	NC	N/A

USB2.0	Port Assignment	Power control pin
PORT0	USB2.0/USB3.0 COMBO 1st	USBPW_ON#(from EC)
PORT1	USB2.0/USB3.0 COMBO 2nd	USBPW_ON#(from EC)
PORT2	Camera	N/A
PORT3	NC	N/A
PORT4	NC	N/A
PORT5	Left side USB daughter B	USBPW_ON#(from EC)
PORT6	WLAN	N/A
PORT7	Touch Screen 15" used	TS_ON(from EC)

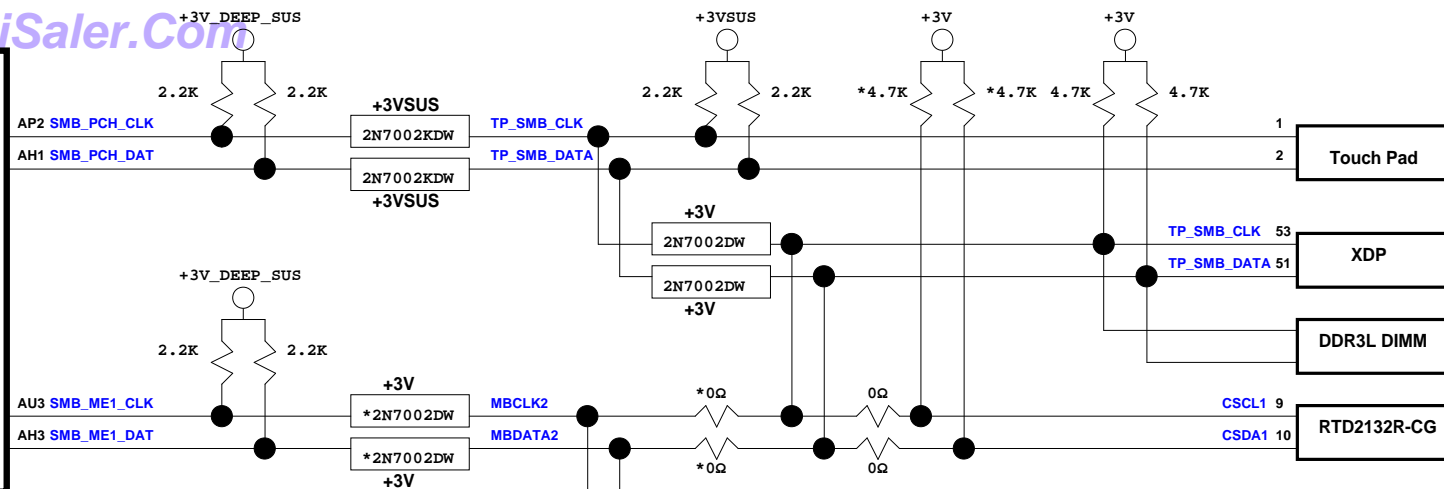
SATA Master	Port Assignment	Power control pin
SATA0	HDD	N/A
SATA1	mSATA	N/A
SATA2	NC	N/A
SATA3/PCIE	Card reader	N/A

PCIE	Port Assignment	Control pin
PCIE 5_L0	PEG0	
PCIE 5_L1	PEG1	
PCIE 5_L2	PEG2	
PCIE 5_L3	PEG3	
PCIE 1	NC	
PCIE 2	NC	
PCIE 3	WLAN	
PCIE 4	LAN	

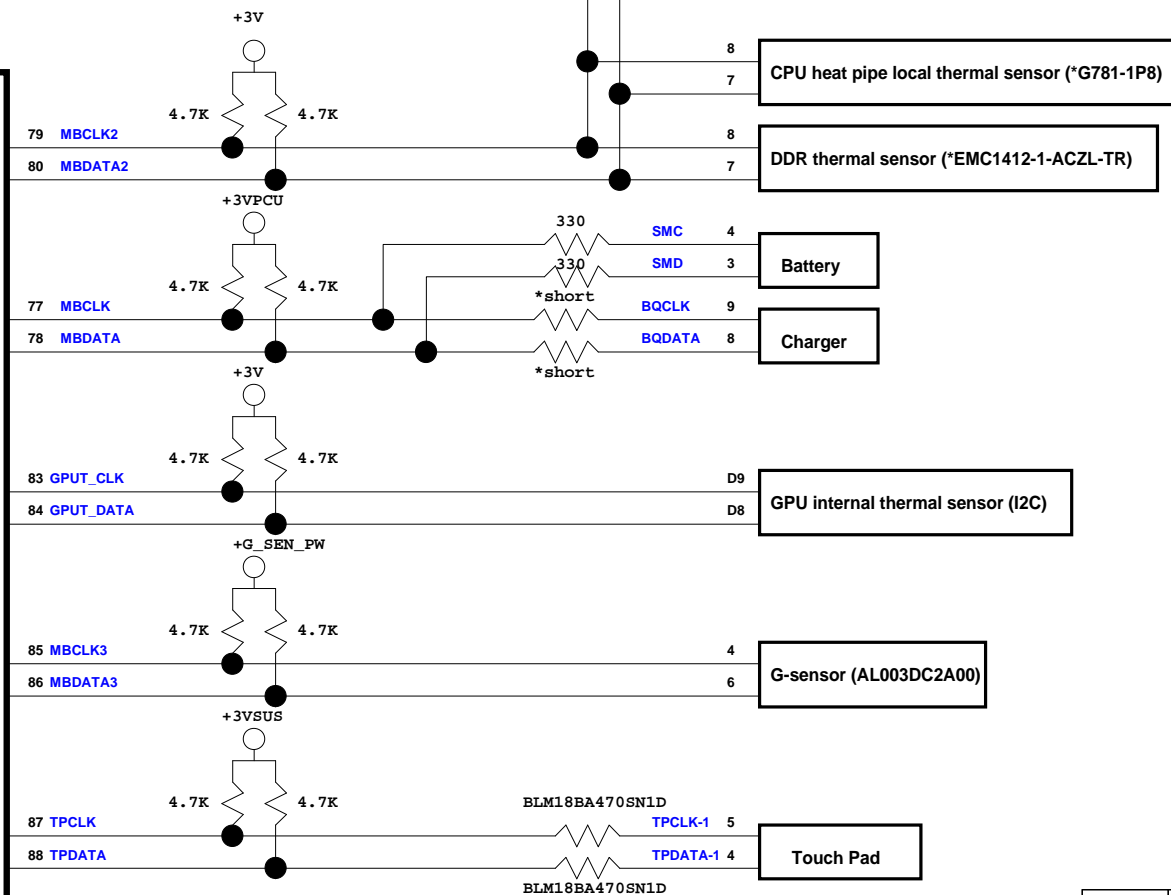


**PROJECT :U83**  
Quanta Computer Inc.

Haswell  
ULT



EC  
KB9010QF



PROJECT :U83  
Quanta Computer Inc.

Document Number  
SMBUS

Rev  
1A

