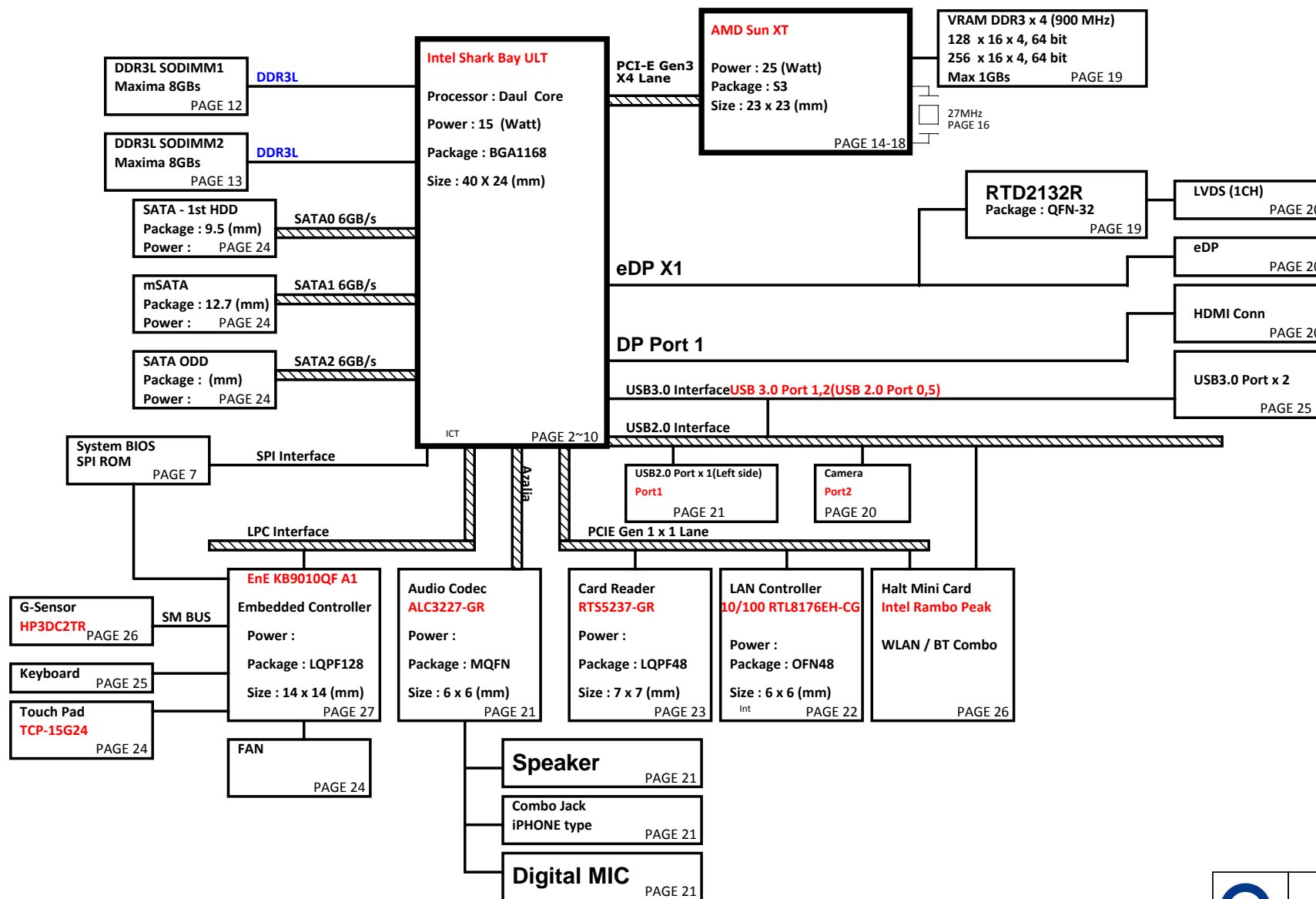


U83 DIS (14"/15.6") Ultra/Slim Intel Shark Bay ULT Platform Block Diagram

PCB 6L STACK UP

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





The schematic diagram illustrates the power supply network for the XDP-100. A +V1.05S_VCCST supply is connected to a network of resistors and capacitors. The network is connected to various CPU pins: H_PROCHOT#, XDP_TDO_CPU, XDP_TMS_CPU, XDP_TDI_CPU, XDP_TRST#_CPU, and XDP_TCK0. A ground symbol is also present.

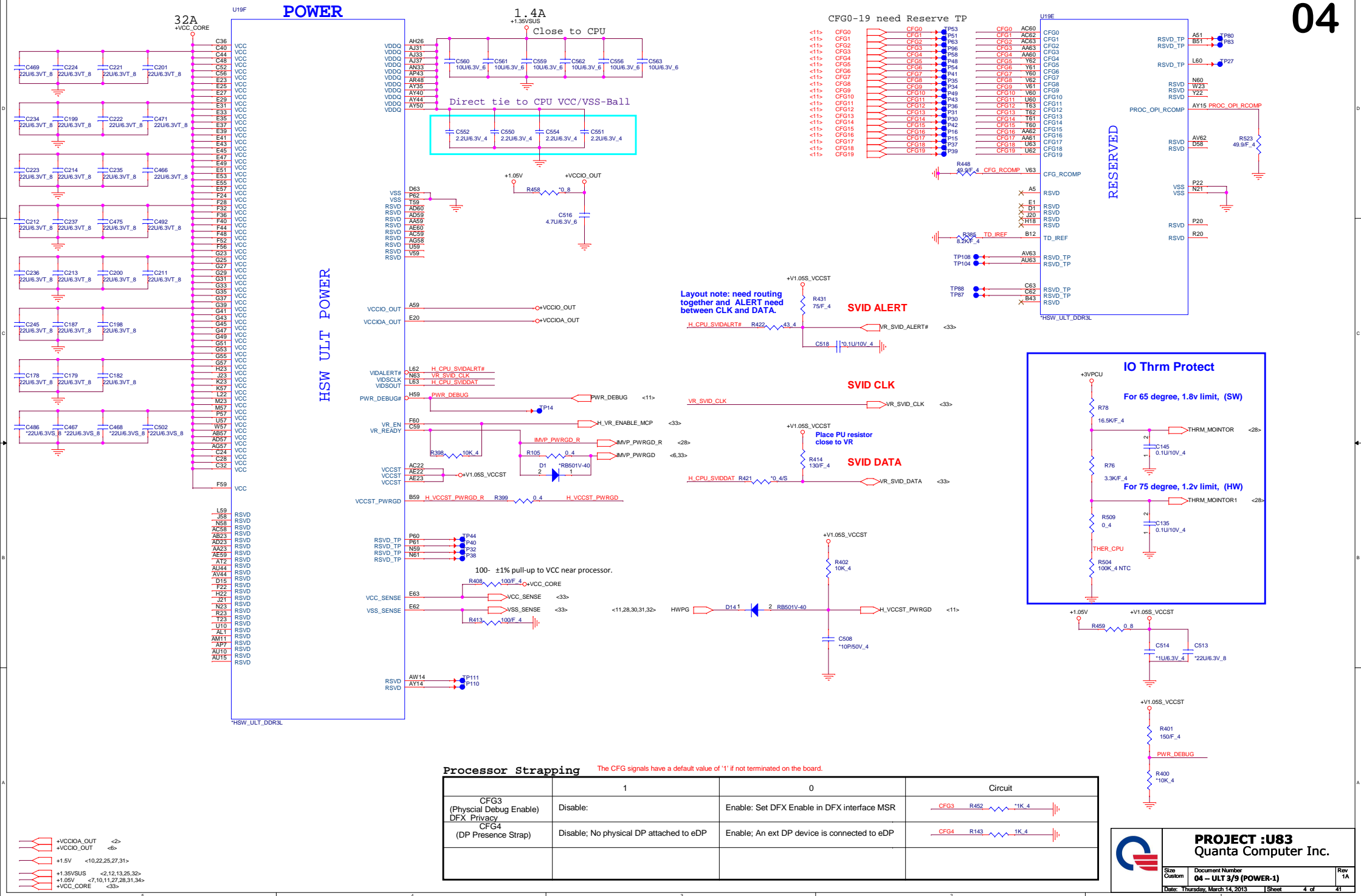
Pin	Resistor	Capacitor
H_PROCHOT#	R419	62.4
XDP_TDO_CPU	R411	51.4
XDP_TMS_CPU	R410	5.4
XDP_TDI_CPU	R412	5.4
XDP_TRST#_CPU	R539	51.4
XDP_TCK0	R101	51.4

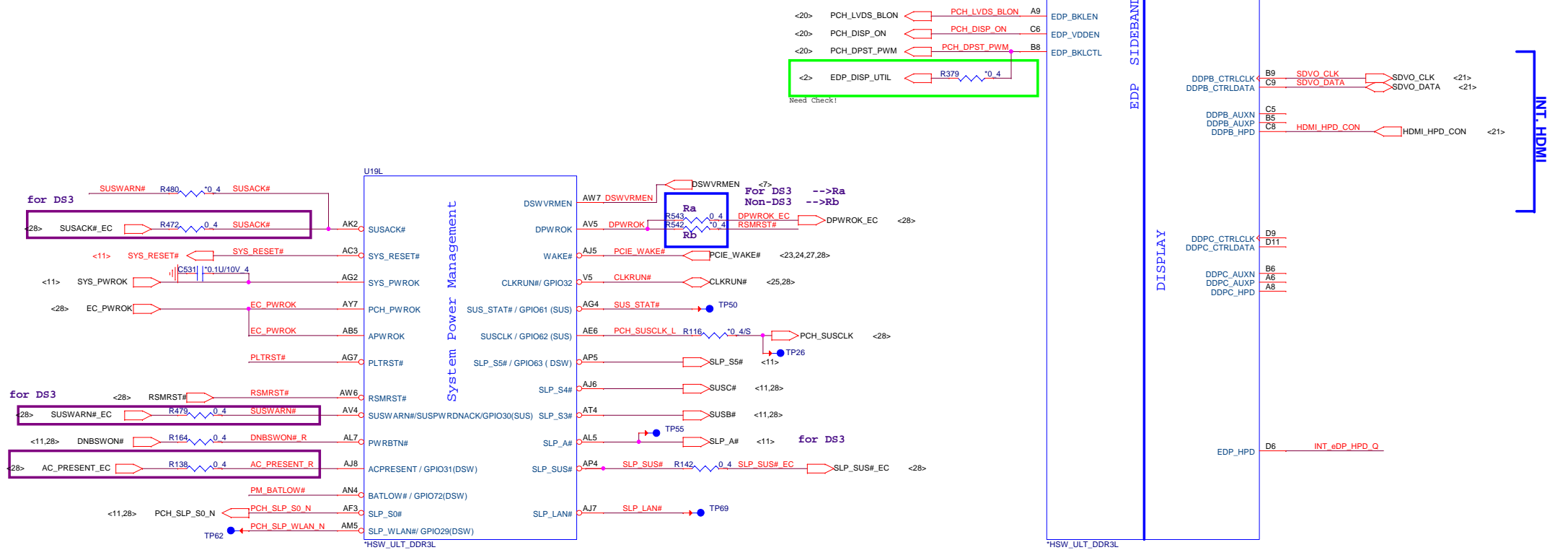
Timing diagram showing signals XDP_TMS_CPU, XDP_TDI_CPU, XDP_TRST#_CPU, and XDP_TCK0. The signals are connected to resistors R410, R412, R539, and R101, respectively, and are driven by a 5V supply.

The diagram illustrates the memory controller architecture for the U83 device, showing the connection between the U19C and U19D chips and the DDR SYSTEM MEMORY A and B. The U19C chip is connected to the DDR SYSTEM MEMORY A, while the U19D chip is connected to the DDR SYSTEM MEMORY B. The diagram includes address, data, and control signal lines, with a 20mils width specification for the memory array.

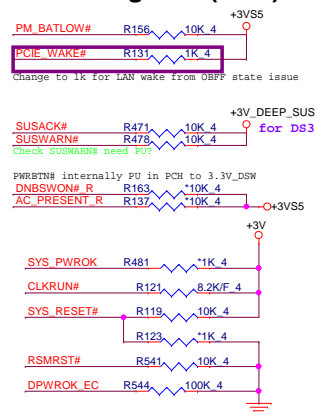
U19C Connections:

- Address:** SA_CLK0, SA_CLK#0, SA_CKE0, SA_CLK1, SA_CLK#1, SA_CKE1, SA_CKE2, SA_CKE3, SA_ODT0, SA_DQSN0, SA_DQSN1, SA_DQSN2, SA_DQSN3, SA_DQSN4, SA_DQSN5, SA_DQSN6, SA_DQSN7, SA_DOSP0, SA_DOSP1, SA_DOSP2, SA_DOSP3, SA_DOSP4, SA_DOSP5, SA_DOSP6, SA_DOSP7.
- Data:** M.A.DQ0, M.A.DQ1, M.A.DQ2, M.A.DQ3, M.A.DQ4, M.A.DQ5, M.A.DQ6, M.A.DQ7, M.A.DQ8, M.A.DQ9, M.A.DQ10, M.A.DQ11, M.A.DQ12, M.A.DQ13, M.A.DQ14, M.A.DQ15, M.B.DQ0, M.B.DQ1, M.B.DQ2, M.B.DQ3, M.B.DQ4, M.B.DQ5, M.B.DQ6, M.B.DQ7, M.B.DQ8, M.B.DQ9, M.B.DQ10, M.B.DQ11, M.B.DQ12, M.B.DQ13, M.B.DQ14, M.B.DQ15, M.A.DQ16, M.A.DQ17, M.A.DQ18, M.A.DQ19, M.A.DQ20, M.A.DQ21, M.A.DQ22, M.A.DQ23, M.A.DQ24, M.A.DQ25, M.A.DQ26, M.A.DQ27, M.A.DQ28, M.A.DQ29, M.A.DQ30, M.A.DQ31, M.A.DQ32, M.A.DQ33, M.A.DQ34, M.A.DQ35, M.A.DQ36, M.A.DQ37, M.A.DQ38, M.A.DQ39, M.A.DQ40, M.A.DQ41, M.A.DQ42, M.A.DQ43, M.A.DQ44, M.A.DQ45, M.A.DQ46, M.A.DQ47, M.A.DQ48, M.A.DQ49, M.A.DQ50, M.A.DQ51, M.A.DQ52, M.A.DQ53, M.A.DQ54, M.A.DQ55, M.A.DQ56, M.A.DQ57, M.A.DQ58, M.A.DQ59, M.A.DQ60, M.A.DQ61, M.A.DQ62, M.A.DQ63, M.A.DQ64, M.A.DQ65, M.A.DQ66, M.A.DQ67, M.A.DQ68, M.A.DQ69, M.A.DQ70, M.A.DQ71, M.A.DQ72, M.A.DQ73, M.A.DQ74, M.A.DQ75, M.A.DQ76, M.A.DQ77, M.A.DQ78, M.A.DQ79, M.A.DQ80, M.A.DQ81, M.A.DQ82, M.A.DQ83, M.A.DQ84, 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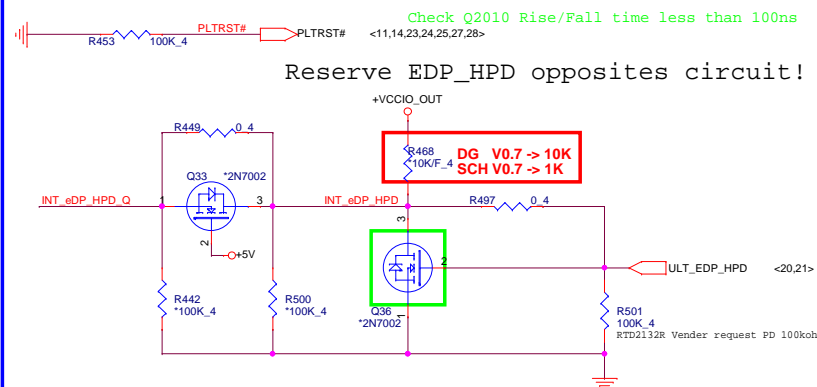




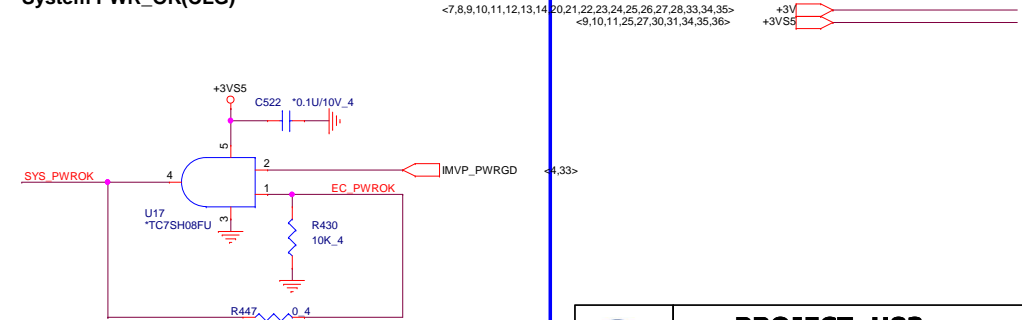
PCH Pull-high/low(CLG)



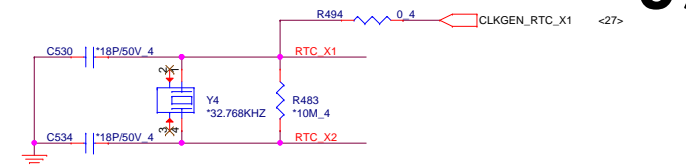
PLTRST#(CLG)



System PWR_OK(CLG)

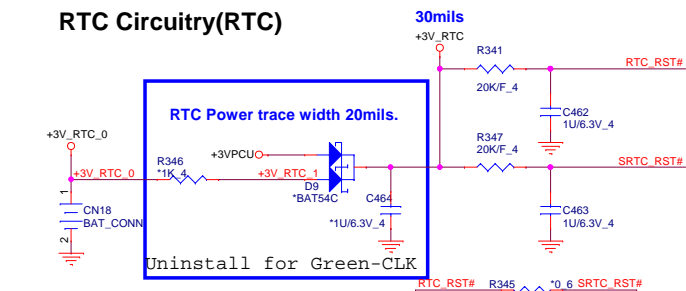


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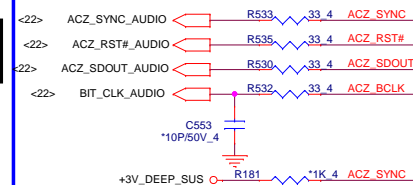


no stuff If use green Clock

RTC Circuitry(RTC)



HDA Bus(CLG)



GPIO Pull UP

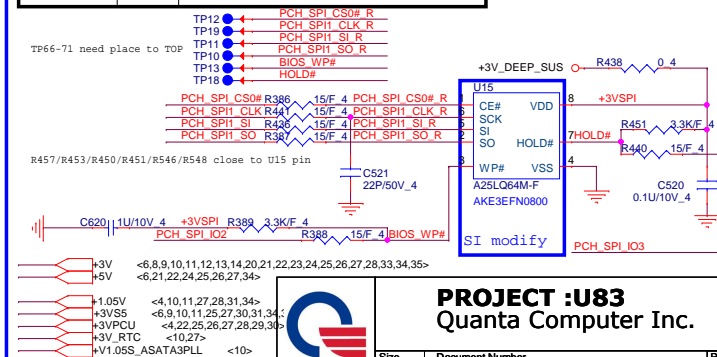


PCH Strap Table

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					
GPIO0_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 SPI(Default)</td></tr></tbody></table>	GNT0#	Boot Location	1	LPC SPI(Default)	
GNT0#	Boot Location							
1	LPC 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					
				<div><div><2B></div><div>PCH_SPI_CS0#_R</div><div><2B></div><div>PCH_SPI1_CLK_R</div><div><2B></div><div>PCH_SPI1_SI_R</div><div><2B></div><div>PCH_SPI1_SO_R</div></div> <div><div>PCH_SPI_CS0#_R</div><div>PCH_SPI1_CLK_R</div><div>PCH_SPI1_SI_R</div><div>PCH_SPI1_SO_R</div></div>				

☐ PCH SPI ROM(CLG)

Vender	Size	P/N
AMIC	8MB	AKE3EFN0800 (A25LQ64M-F)
Winbond	8MB	AKE3EFP0N07 (W25Q64FVSSIQ)
GigaDevice	8MB	AKE3EGN0Q01 (GD25B64BSIGR)
Socket		DFHS08FS023

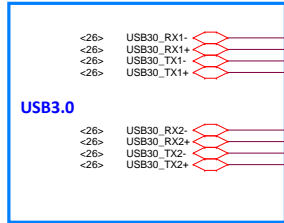
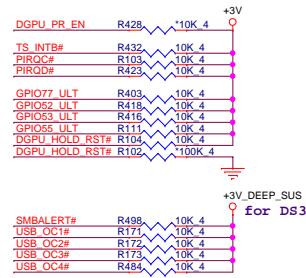


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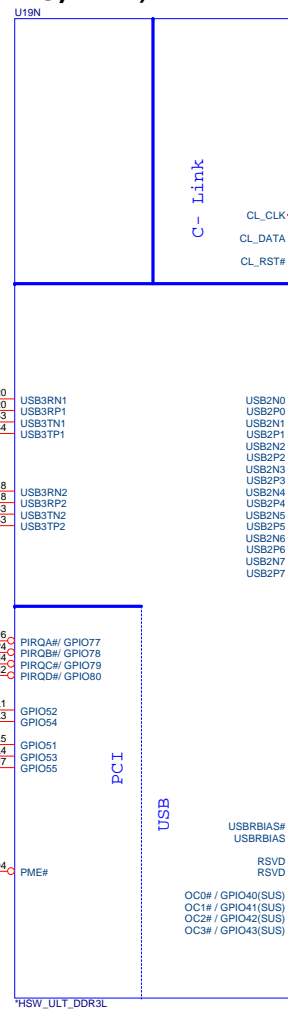
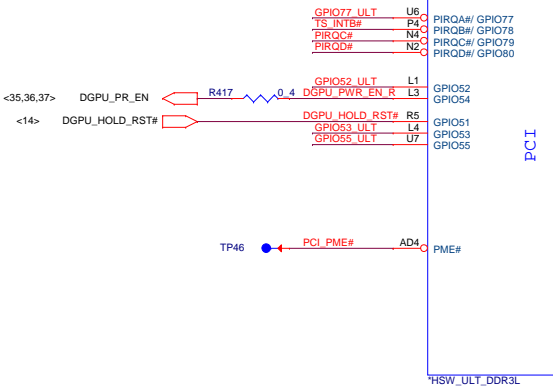
Size Custom	Document Number ULT 6/9(SATA/HDA)	Rev 1
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Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA)

PCI/USB OC# Pull-up (CLG)



20111130 Modify USB3.0 for HM70



Cardreader

WLAN

LAN

```
USB2.0(M/B-1) (USBP0) <
USB2.0/USB3.0 COMBO 1st <
USB2.0 Small board (USBP1) <
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Camera (USBP2)

<27> WLAN

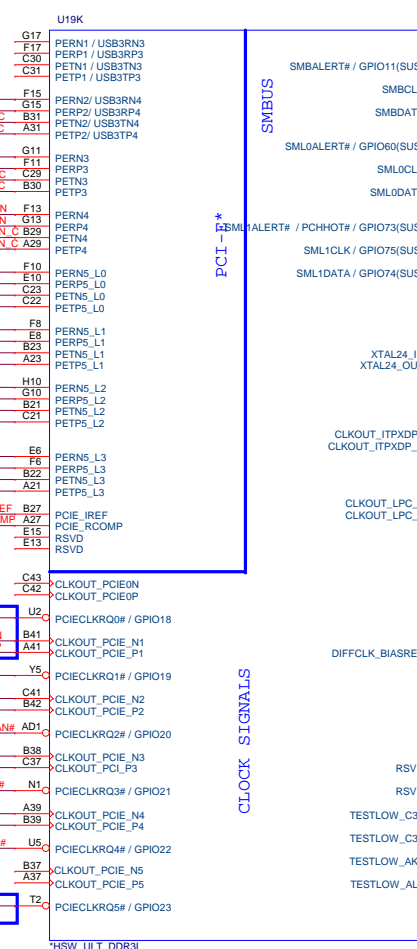
Cardreader

100

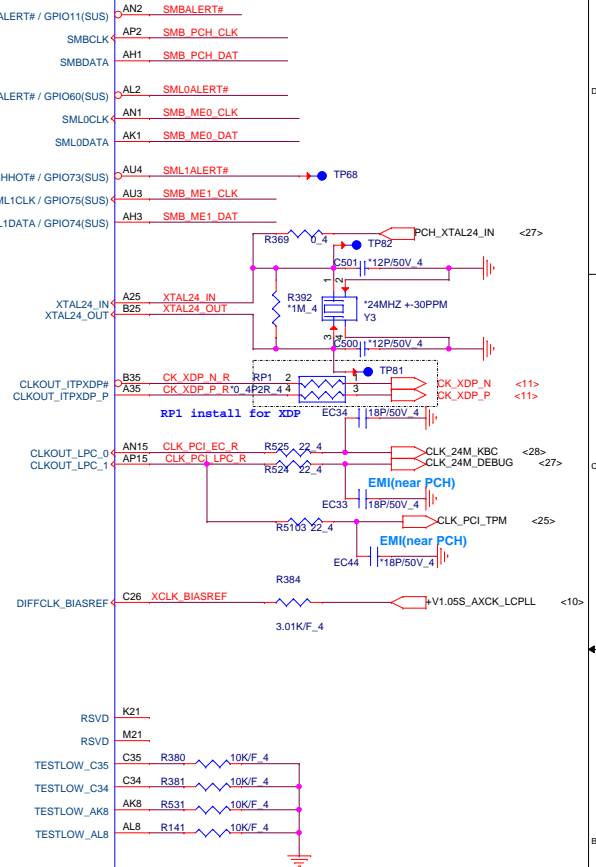
LA

VGA

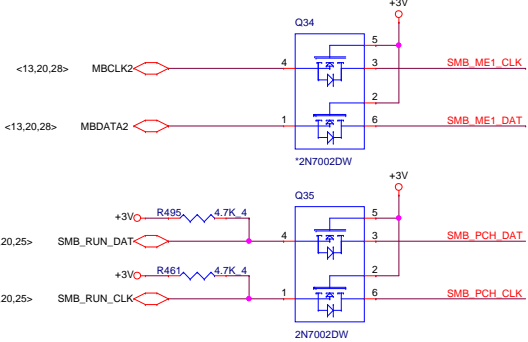
SI modify PCIE_CLKREQ0#



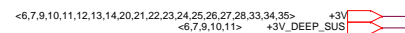
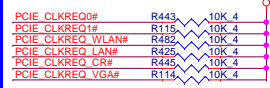
CLOCK SIGNALS



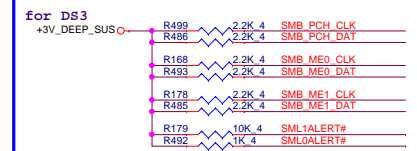
SMBus/Pull-up(CLG)



CLK_REQ/Strap Pin(CLG)



SMBus/Pull-up(CLG)

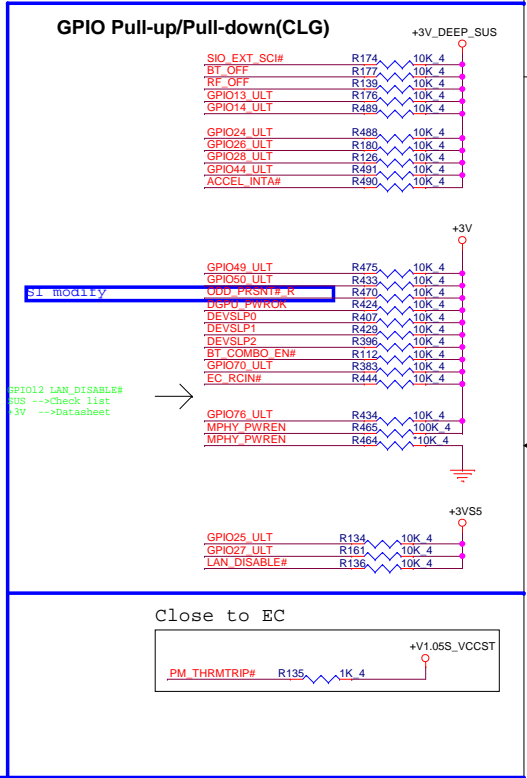
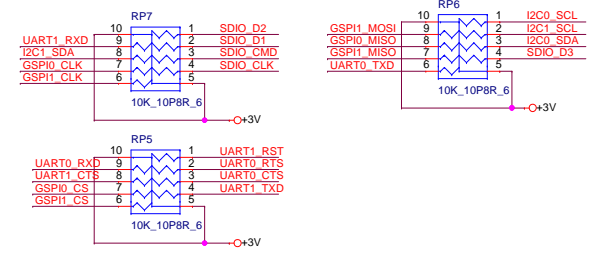
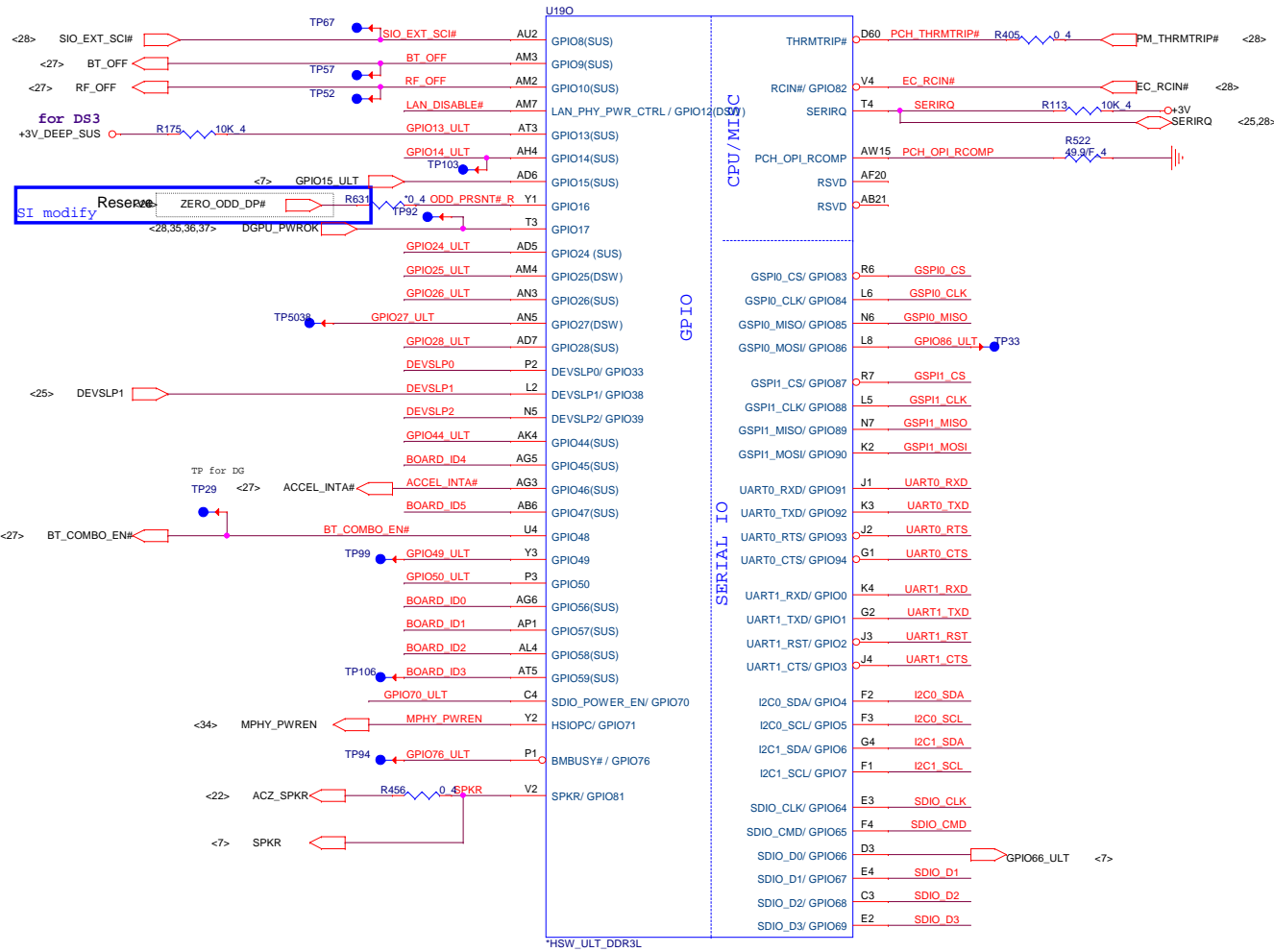


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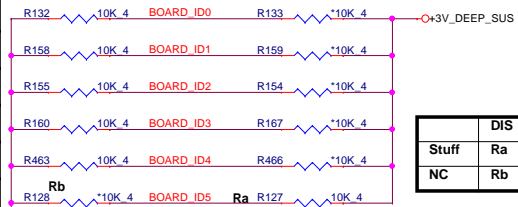
Size Custom	Document Number ULT 7/9 (PCIE/USB/CLK)	Rev 1A
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Lynx Point-LP Platform Controller Hub
(HDA,JTAG,SATA) Haswell (GPIO)


09



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
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	0	0	0	0	0	0
	0	0	0	0	0	0

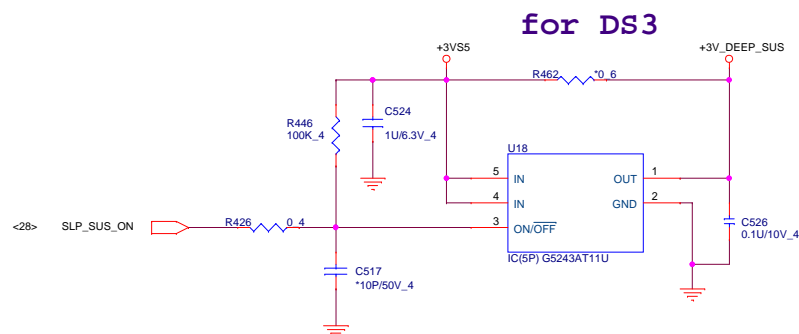
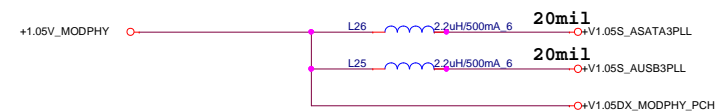


Stuff	DIS	UMA
	Ra	Rb
NC	Rb	Ra



PROJECT :U83
Quanta Computer Inc.

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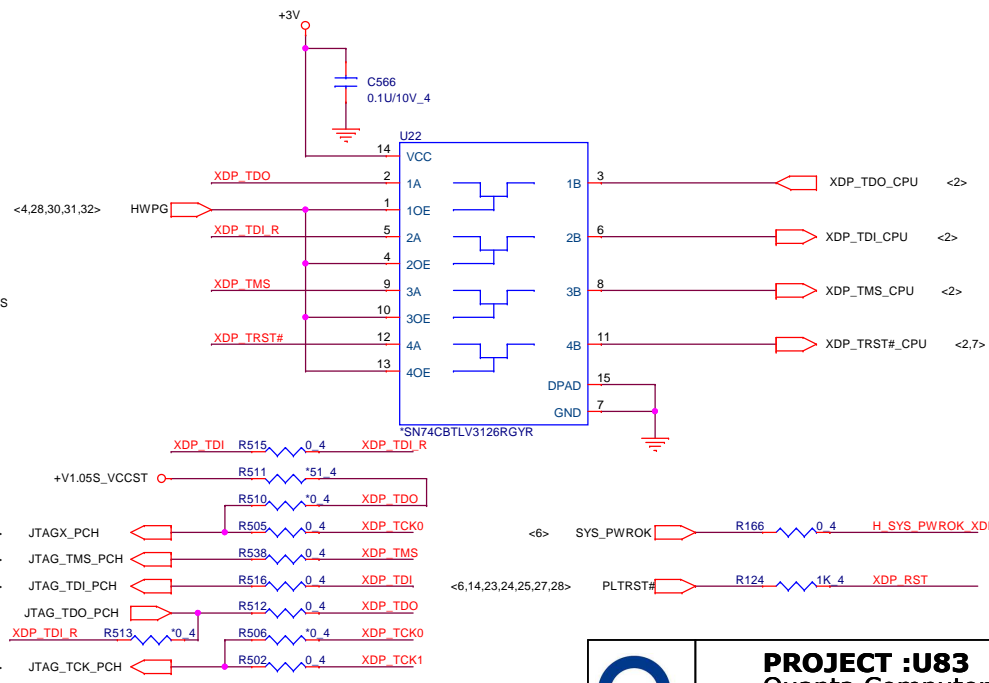
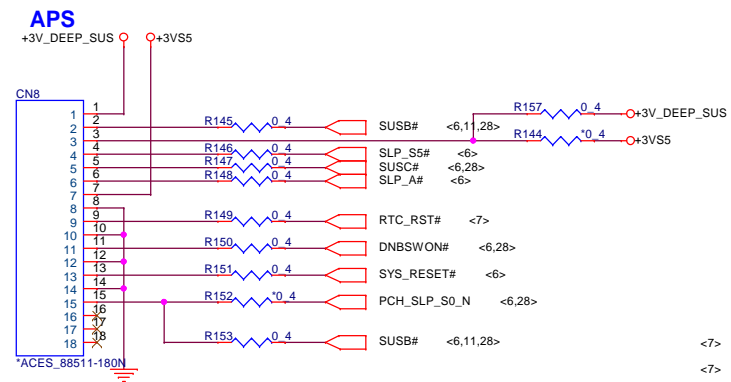
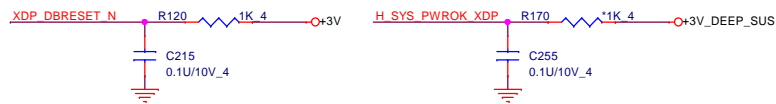
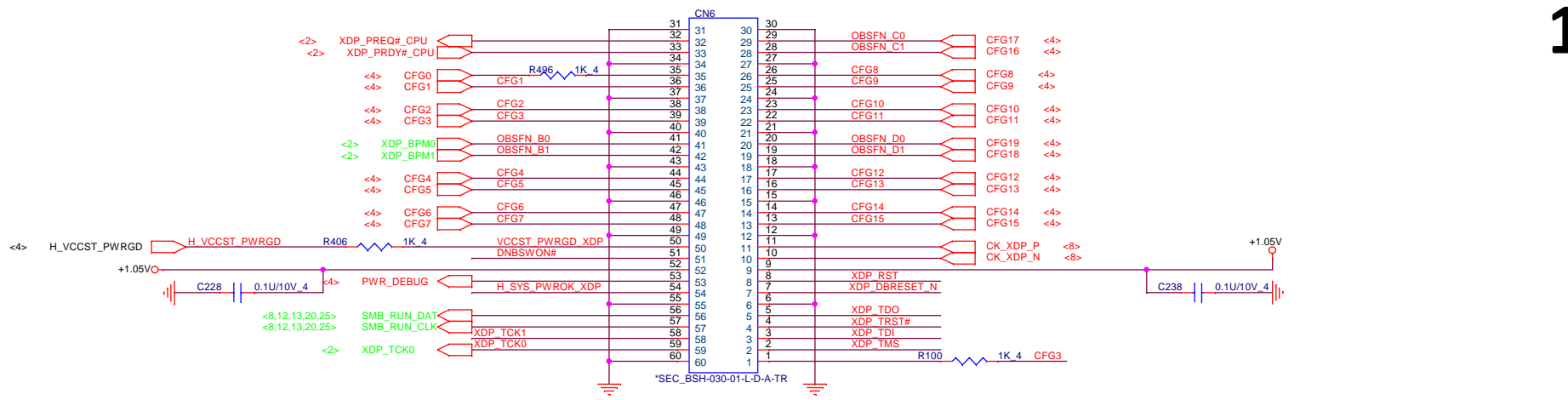


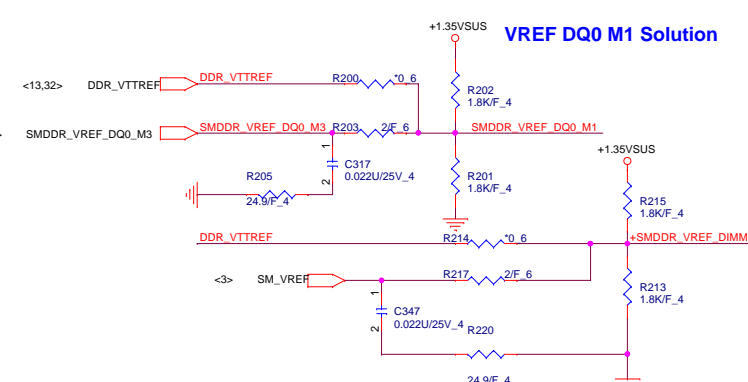
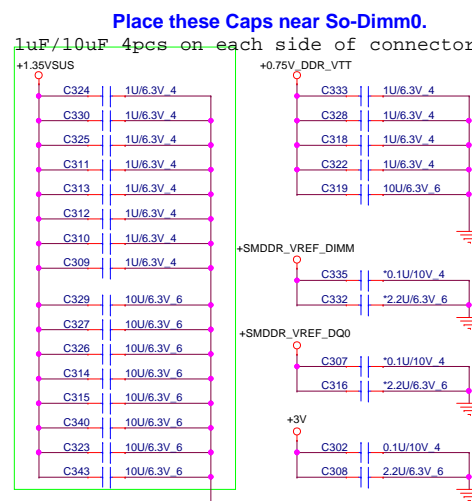
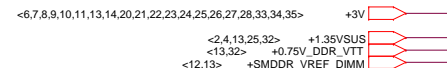
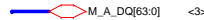
<6,7,8,9,11,12,13,14,20,21,22,23,24,25,26,27,28,33,34,35>	+3V	
<6,21,22,24,25,26,27,34>	+5V	<8> +V1.05S_AUSB3PLL <7> +V1.05S_ASATA3PLL <8> +V1.05S_AXCK_LCPLL
<4,7,11,27,28,31,34>	+1.05V	<27> +3V_RTC
<6,9,11,25,27,30,31,34,35,36>	+3V5S	+1.35VSUS
<13,22,25,26,30,32,33,34,35,36,37>	+5V5S	

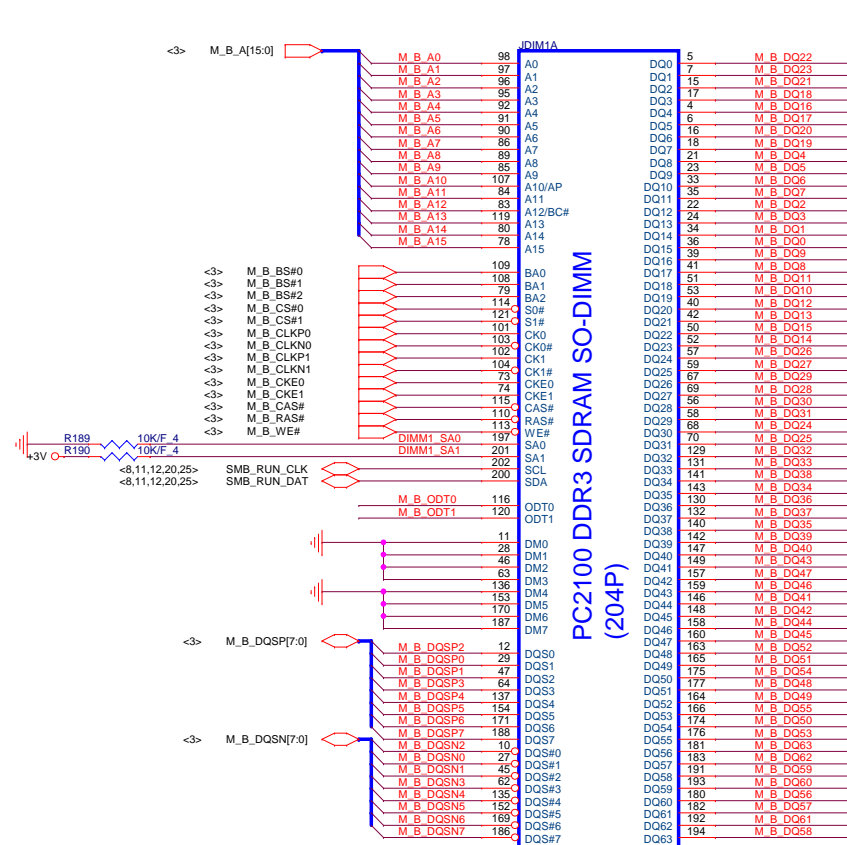


PROJECT :U83
Quanta Computer Inc.

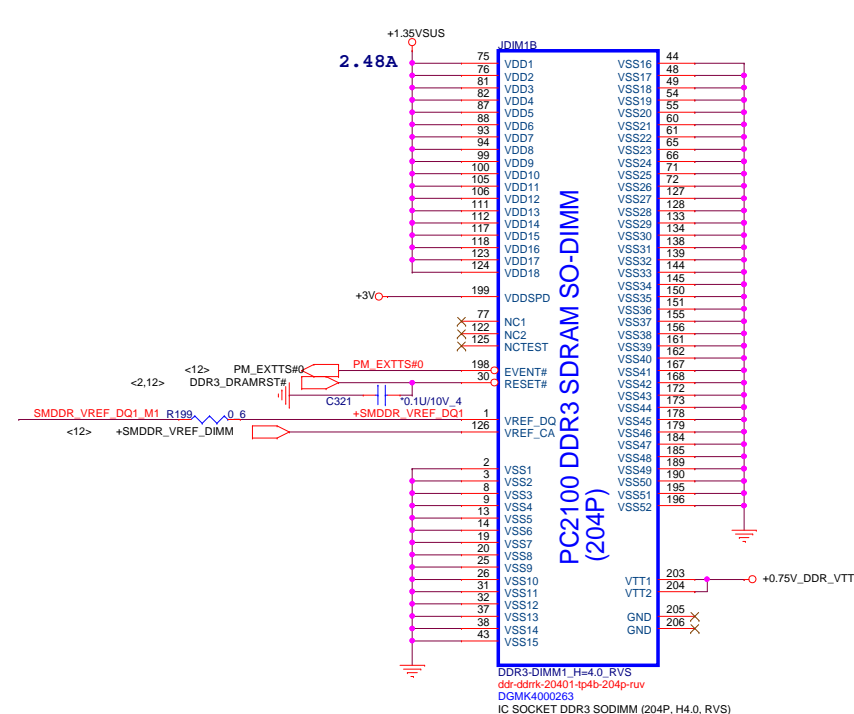
Size Custom	Document Number ULT 9/9(Power-2)	Rev 1A
Date: Monday, March 18, 2013	Sheet 10 of	41



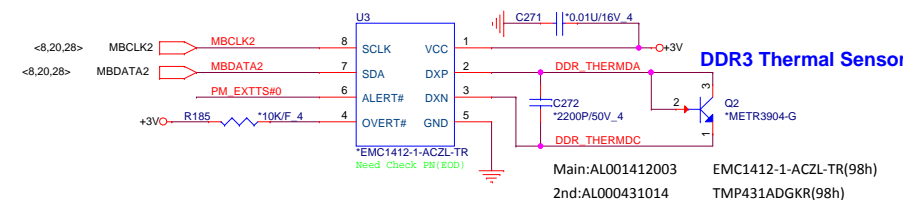




DDR3-DIMM1_H=4.0_RVS
ddr-ddr3k-20401-tp4b-204p-ruv
DGMK4000263
IC SOCKET DDR3 SODIMM (204P, H4.0, RVS)

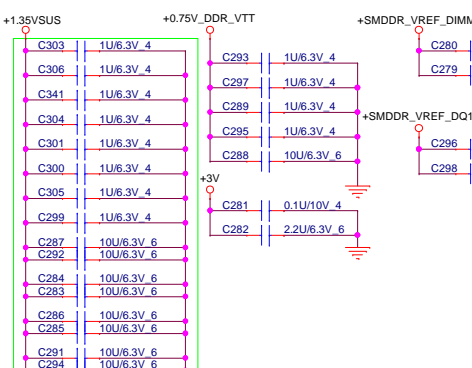


Local Thermal Sensor

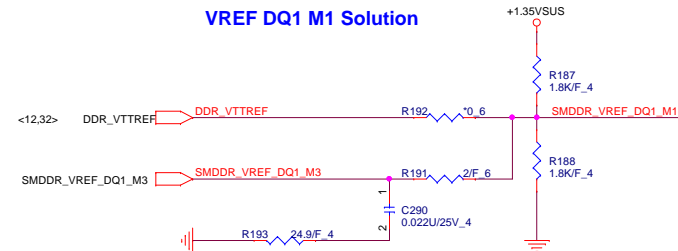


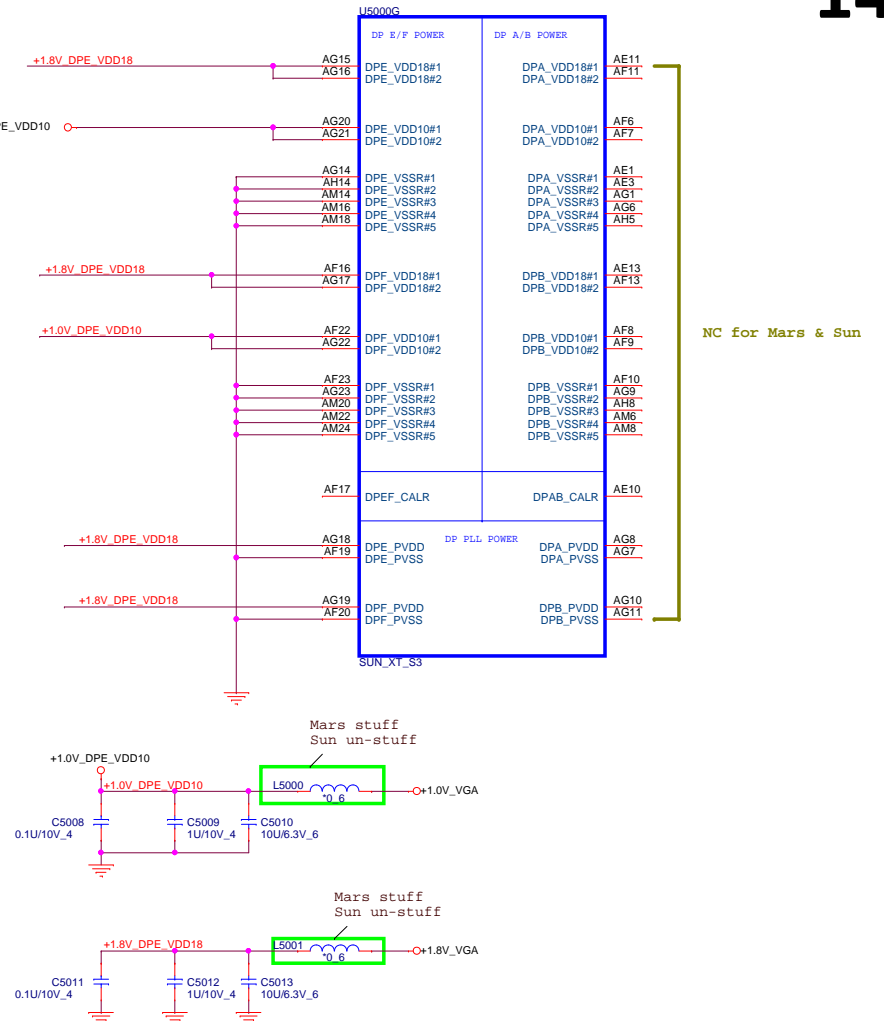
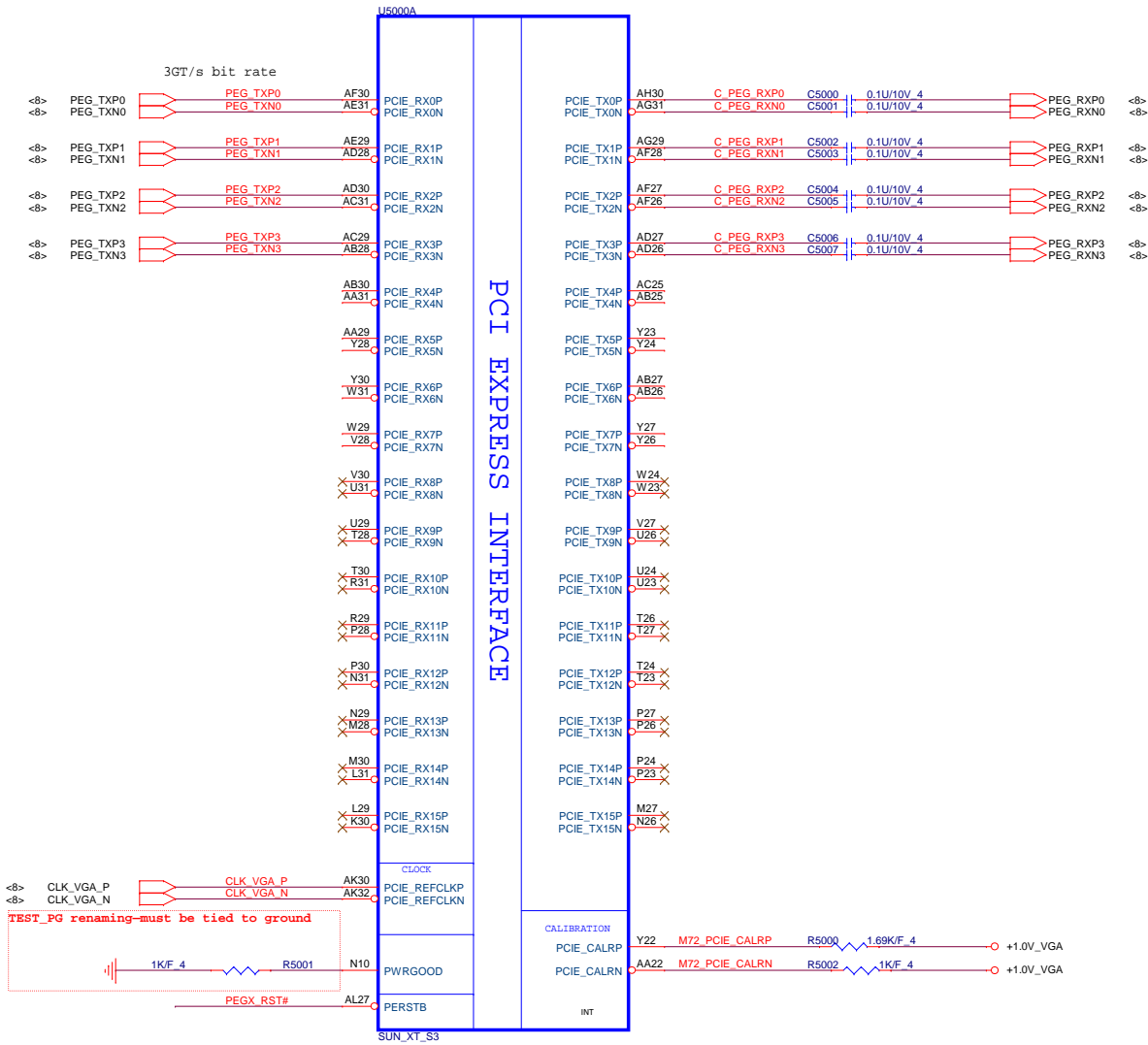
Place these Caps near So-Dimm1.

1uF/10uF 4pcs on each side of connector



VREF DQ1 M1 Solution





3V_DELAY

R5019 100K Ω GPU_AC_BATT R5020 100K Ω

R5021 100K Ω DGPU_TDI

R5022 100K Ω DGPU_TMS

R5024 100K Ω DGPU_TDO

R5025 100K Ω DGPU_TRSTB

R5026 100K Ω PCIe_CLKREQ_VGA μ

R5027 100K Ω DGPU_PROCHOT μ

R5028 100K Ω VGA_ALERT

R5030 100K Ω TEMP_FAL

<16.35> GFX_CORE_CNTL#4

3V_DELAY

R5034 100K Ω

TESTEN

R5040 100K Ω

For Mars/ Chelsea
Change L_a, L_b
Bead to 0 ohm

For Them: L_a, L_b
CKSPQ471000/BLM18PG47

+1.8V_VGA

+1.0V_VGA

HCB1608KF-1211

+1.8V_VGA

Reserve for Power Play

GFX_CORE_CNTL#1 R5049 3.010K Ω

GFX_CORE_CNTL#2 R5050 3.010K Ω

GFX_CORE_CNTL#3 R5051 100K Ω

GFX_CORE_CNTL#4 R5052 3.010K Ω

GFX_CORE_CNTL#5 R5053 3.010K Ω

GFX_CORE_CNTL#6 R5055 100K Ω

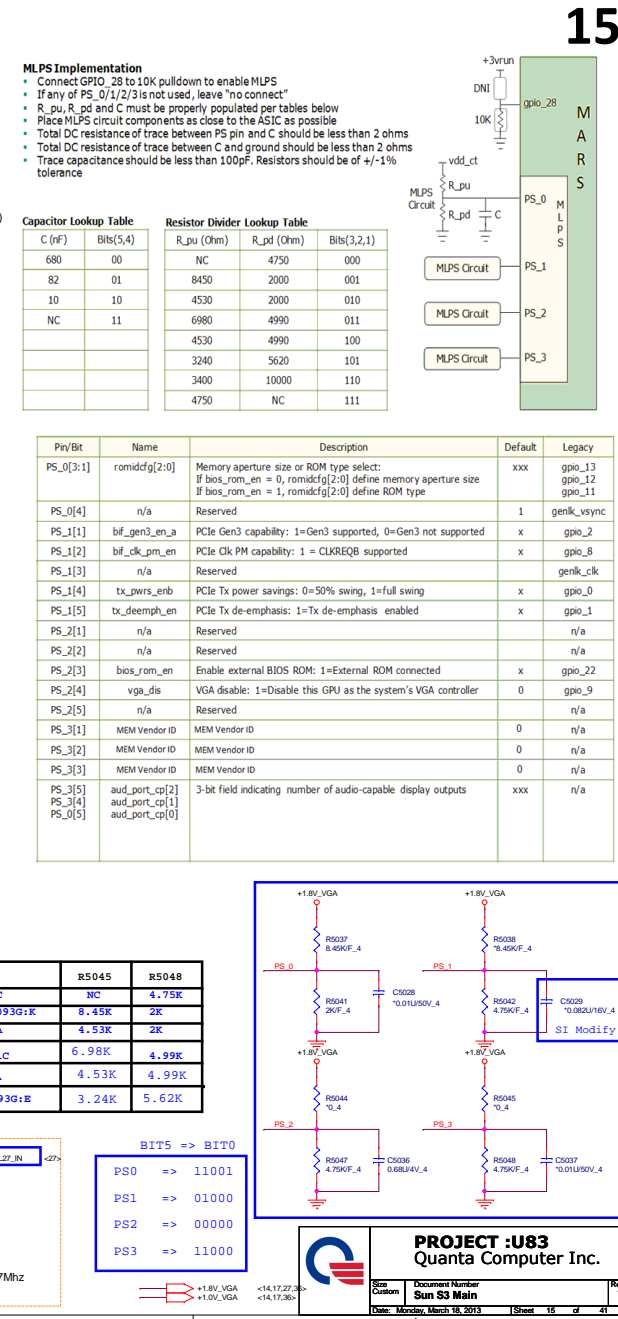
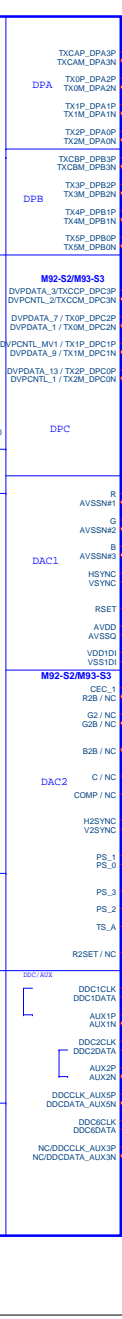
GFX_CORE_CNTL#8 R5056 100K Ω

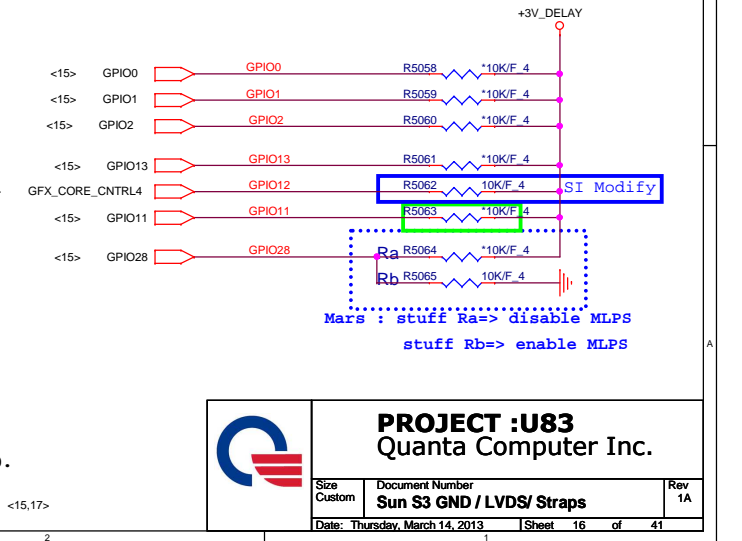
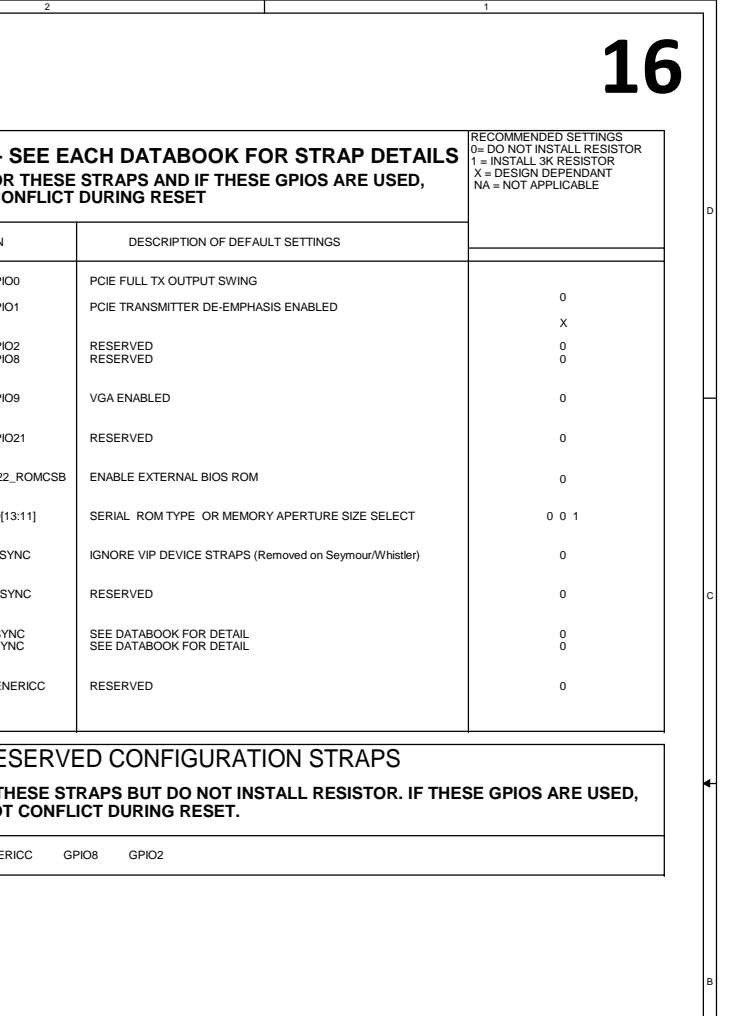
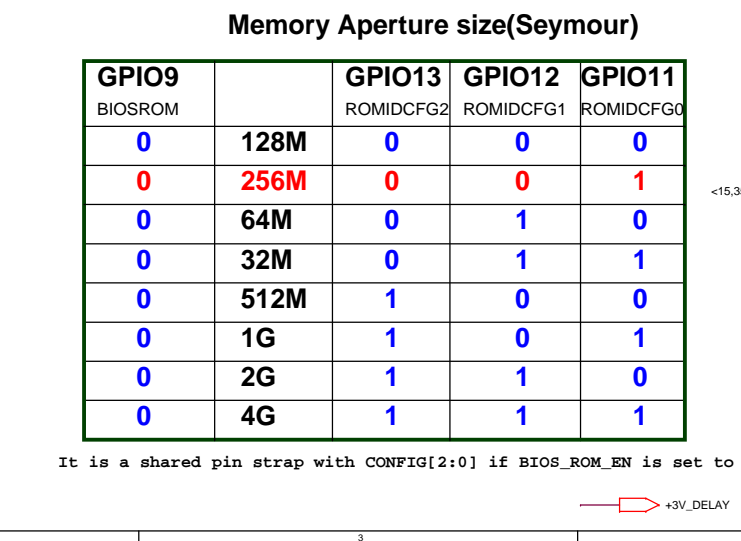
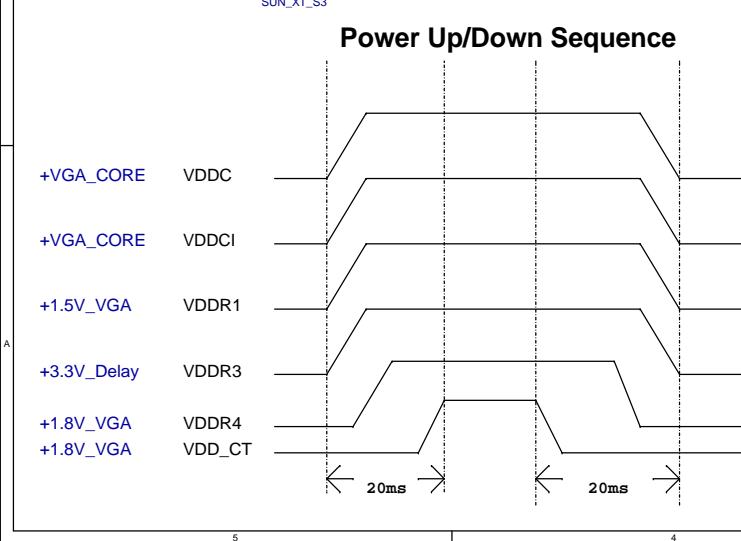
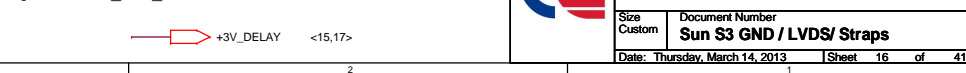
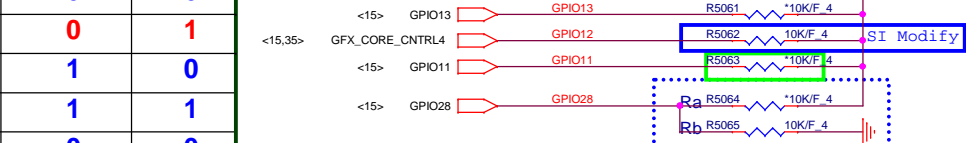
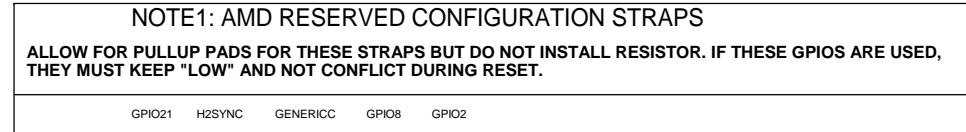
VDDIO_GPU00 R5057 3.010K Ω

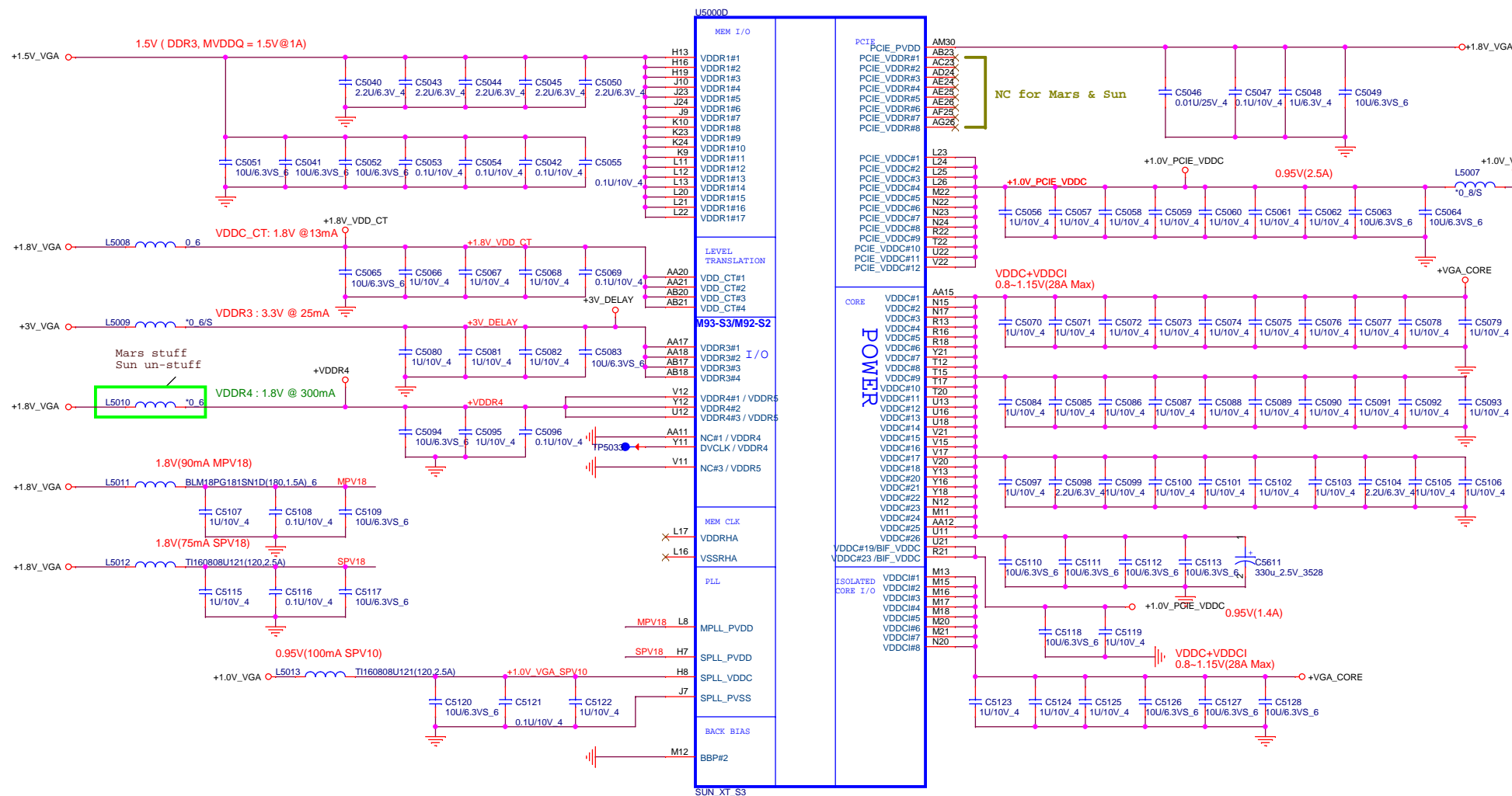
SI Modify

3V_DELAY

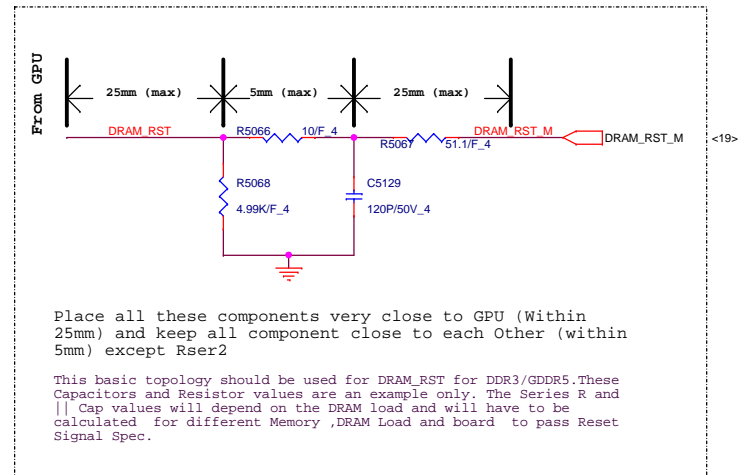
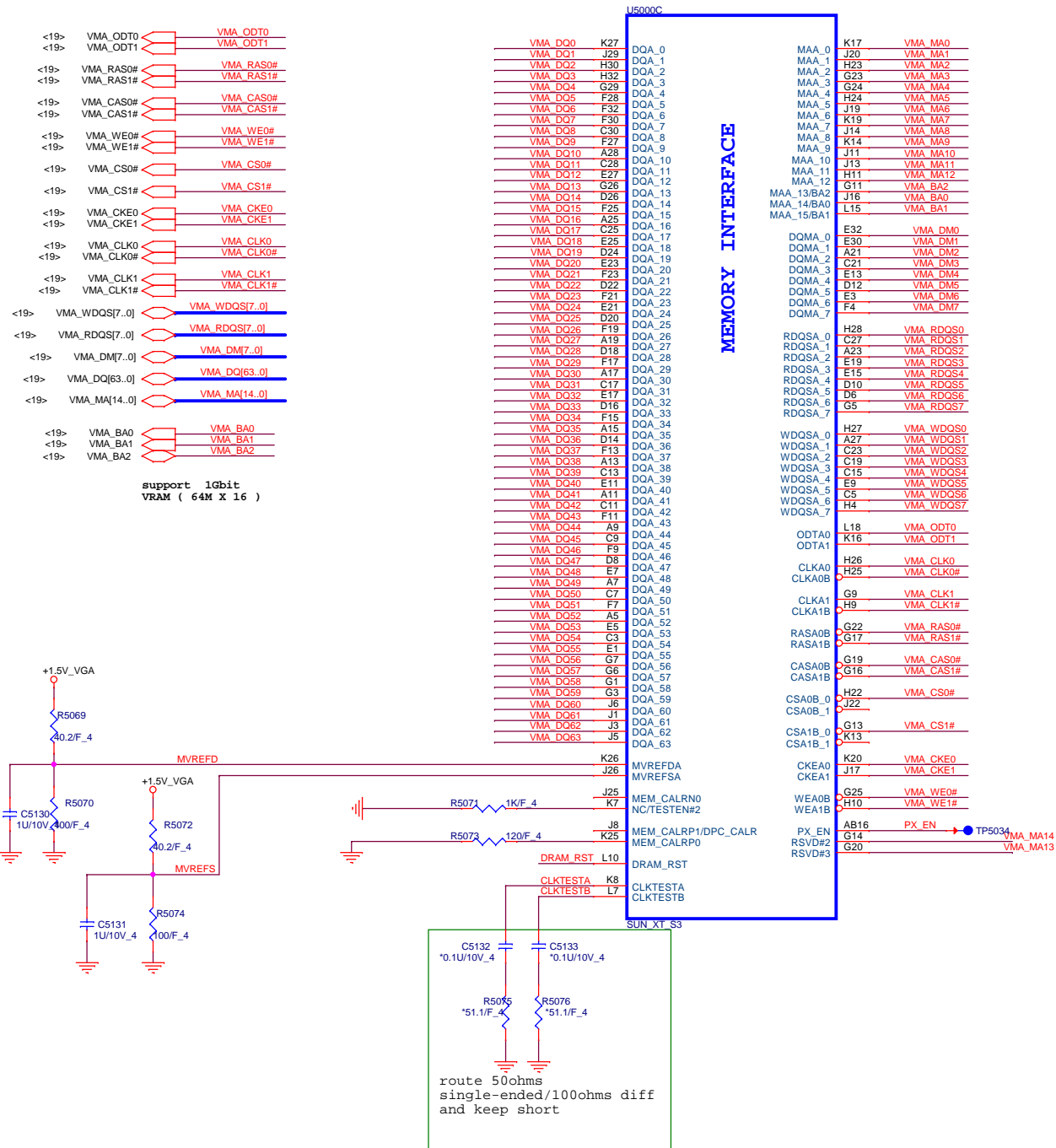
For Mars:
For Them:







+1.5V_VGA	<18,19,37>
+1.8V_VGA	<14,15,27,36>
+1.0V_VGA	<14,15,36>
+VGA_CORE	<35,36>
+3V	<6,7,8,9,10,11,12,13,14,20,21,22,23,24,25,26,27,28,33,34,35>
+5V	<6,21,22,24,25,26,27,34>

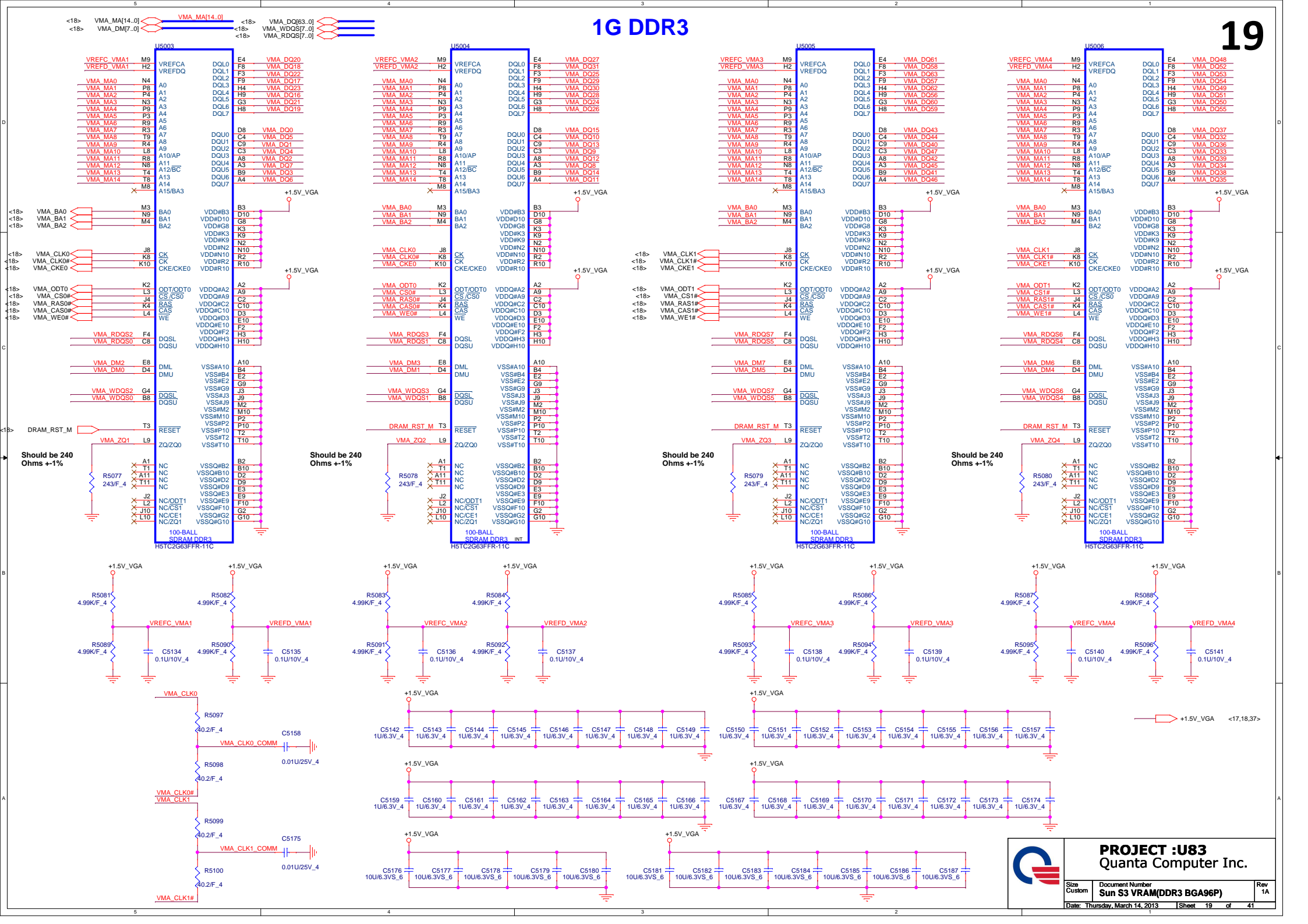


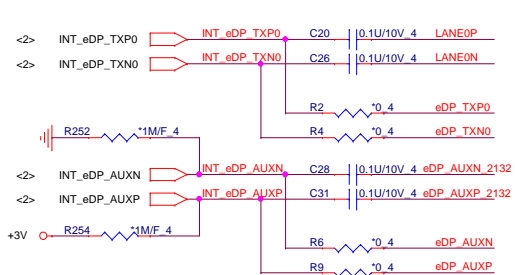
PROJECT :U83
Quanta Computer Inc.

Size Custom	Document Number Sun S3 MEM_Interface	Rev 1A
Date: Thursday, March 14, 2013	Sheet 18 of 41	

1G DDR3

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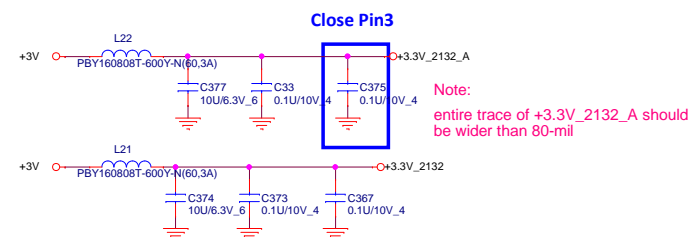
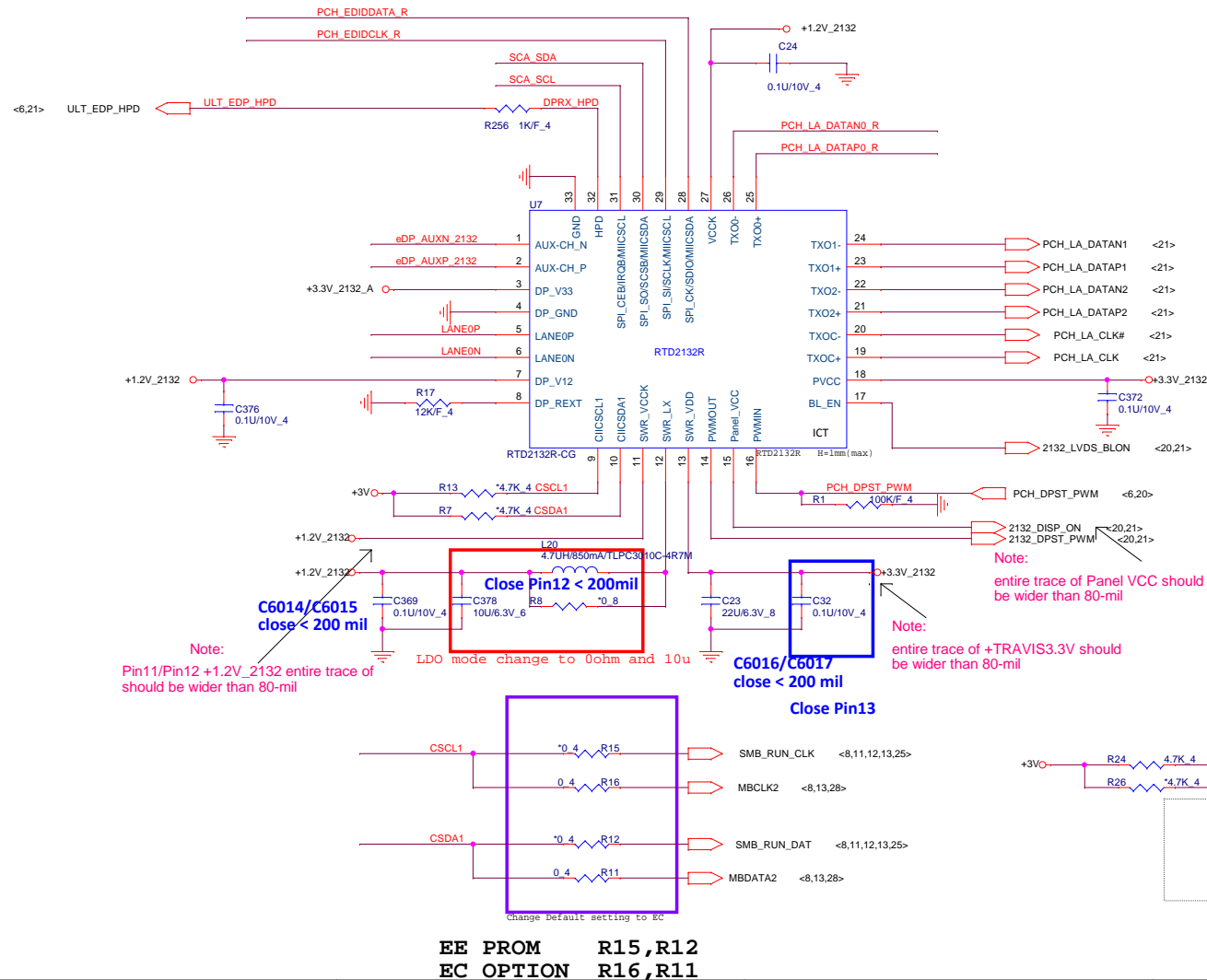
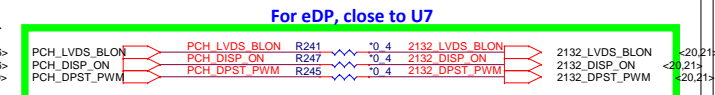
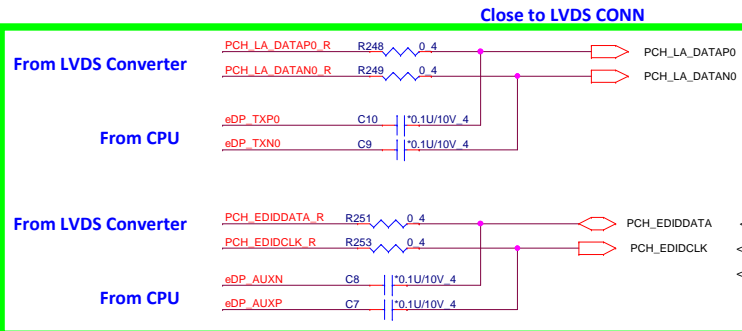
To LVDS Converter

To eDP

To LVDS Converter

To eDP

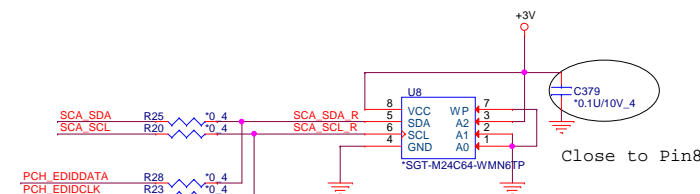
For eDP Only: stuff Resistor
 For LVDS only stuff Cap



Note:
 entire trace of +3.3V_2132_A should be wider than 80-mil

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

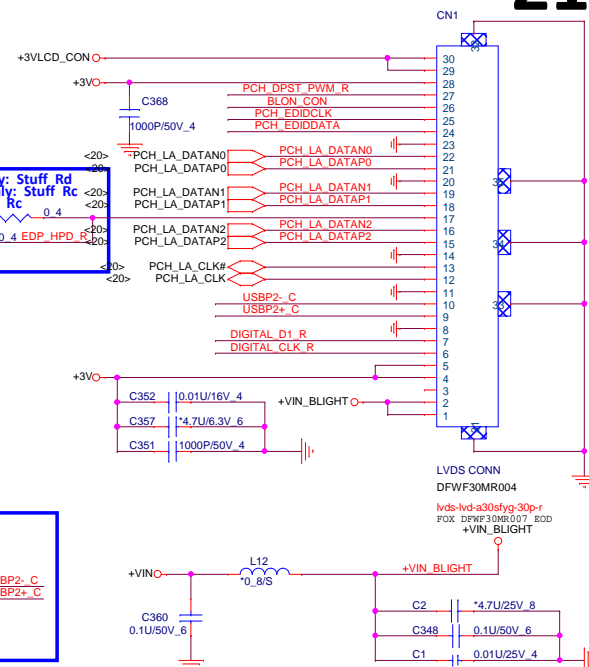
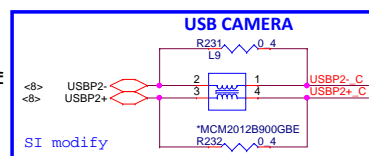
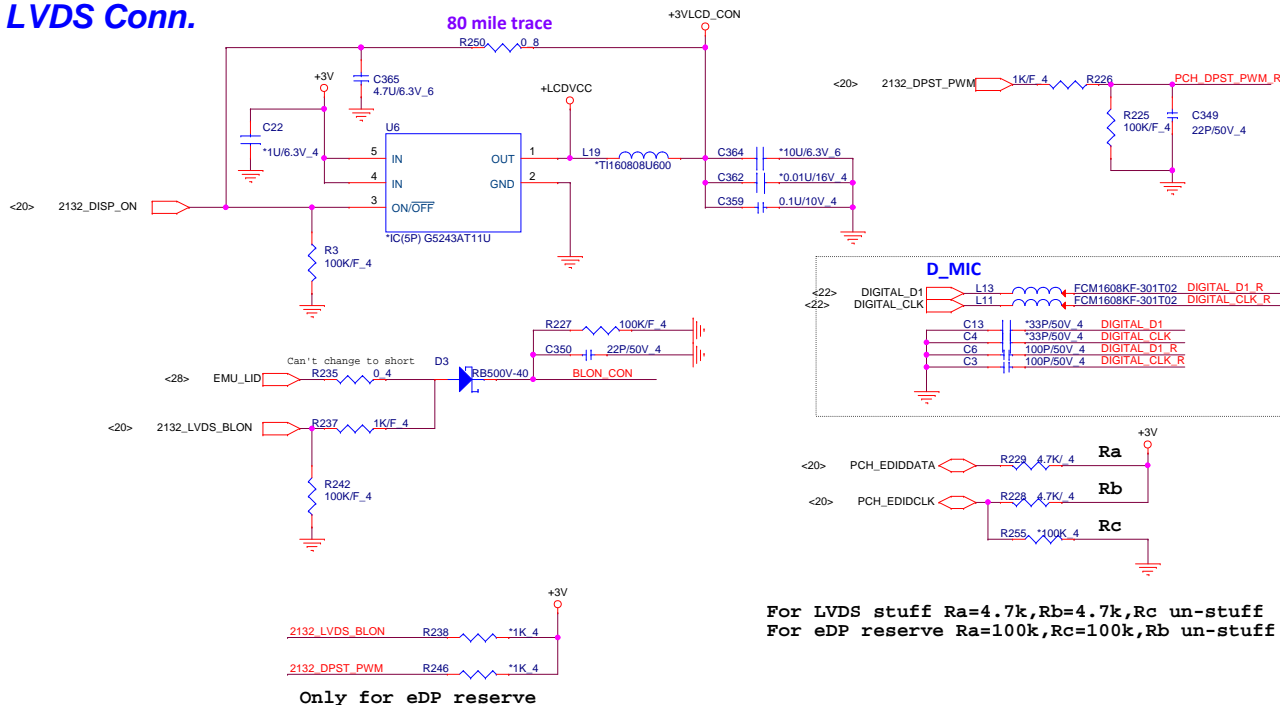
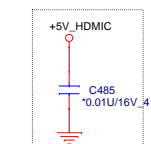
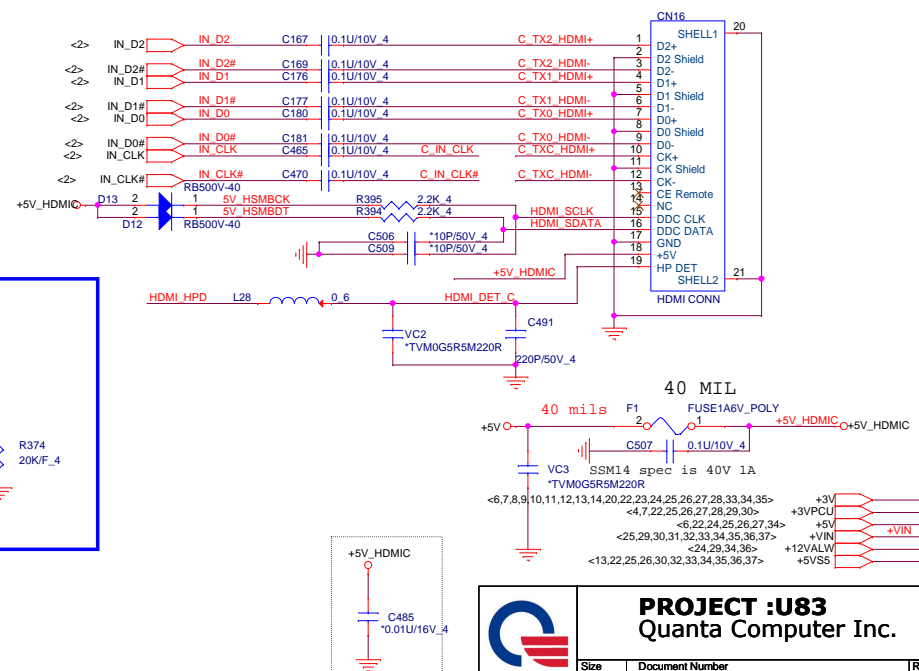
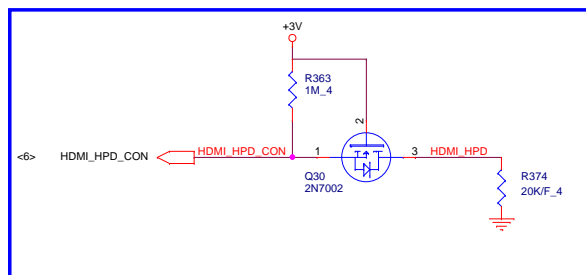
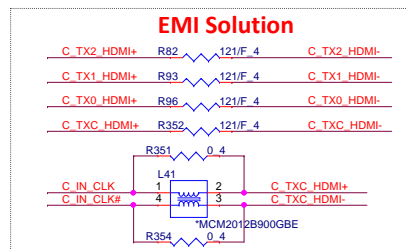
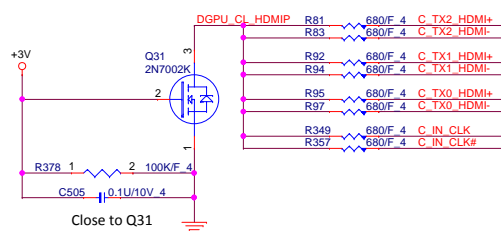
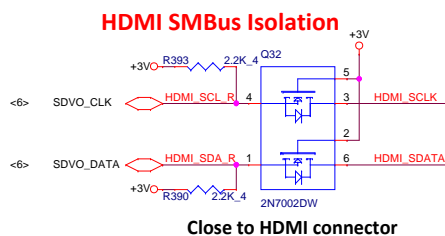


PROJECT :U83
 Quanta Computer Inc.

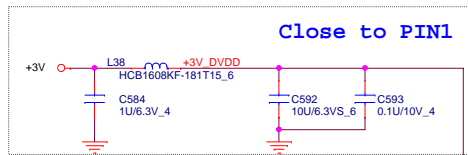
Size	Document Number	Rev
Custom	LVDS converter RTD2132R	1A
Date:	Monday, March 18, 2013	Sheet 20 of 41

EE PROM R15,R12
 EC OPTION R16,R11

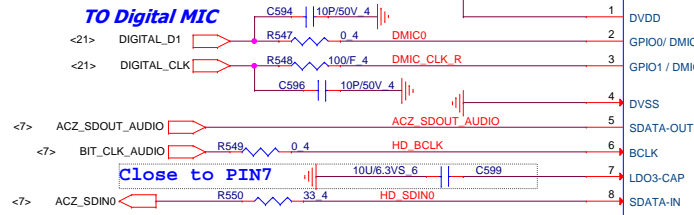
LVDS Conn.

**HDMI Conn.**

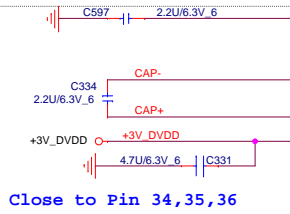
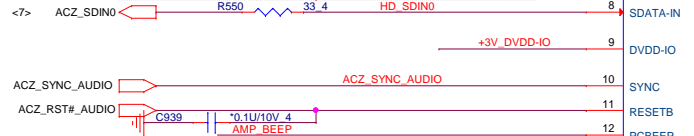
Close to PIN1



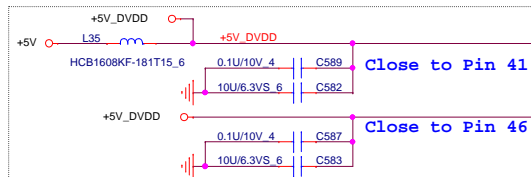
TO Digital MIC



Close to PIN7

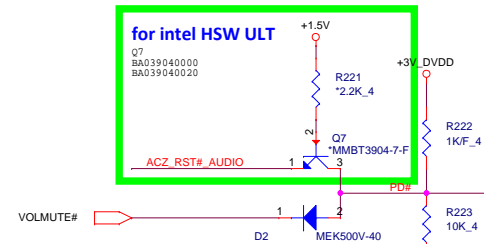


TO Internal Speakers

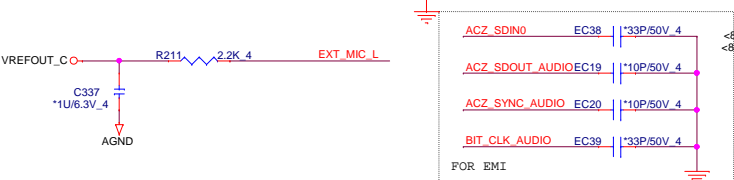


PD#

for intel HSW ULT



USB 2.0 AND AUDIO COMBO JACK



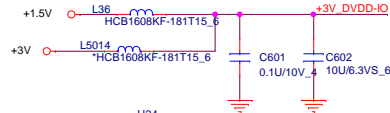
FOR EMI

Analog

Digital

SPDIF-OUT/GPIO2

>40mils trace



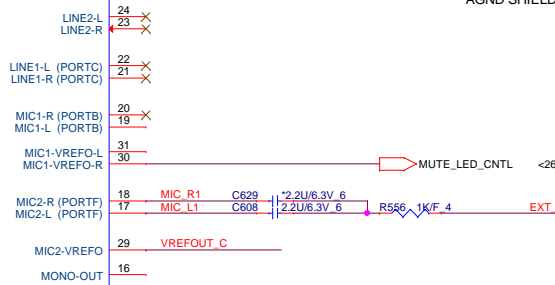
Close to PIN26



Close to PIN40



Close to PIN28



Close to codec

SENSE A

EXT_MIC_L

COMBO GPI

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

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EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

EXT_MIC_L

Check layout
mount location

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

<6,7,8,9,10,11,12,13,14,20,21,23,24,25,26,27,28,33,34,35>

<6,21,24,25,26,27,34>

<10,25,27,31>

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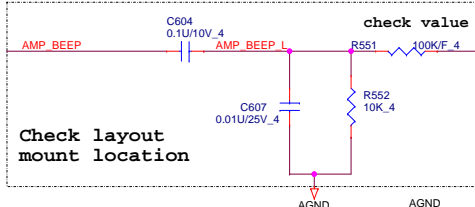
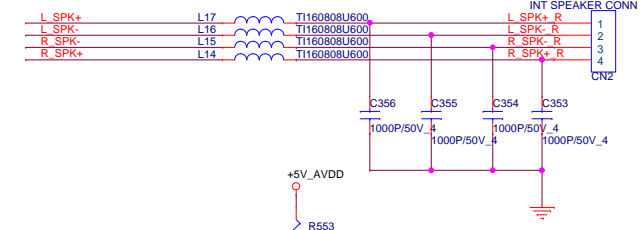
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<10,25,27,31>

<10,25,27,31>

<10,25,27,31>

<10,25,27,31>

Close to Speaker
Speaker 4 ohm: 40mils

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

AMP_BEEP

Close to CODEC

place to near U24 or under U24

R206

R206

R206

R206

R206

R206

R206

R206

R206

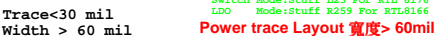
R206

R206

R206

R206

R206



Place Cc,Cd,Ce,Cf
close to each VDD10 pin-- 3, 8, 22, 30

Place Cg & C621 close to each VDD10 pin22

*RTL8166EH Cg & C621 close pin30



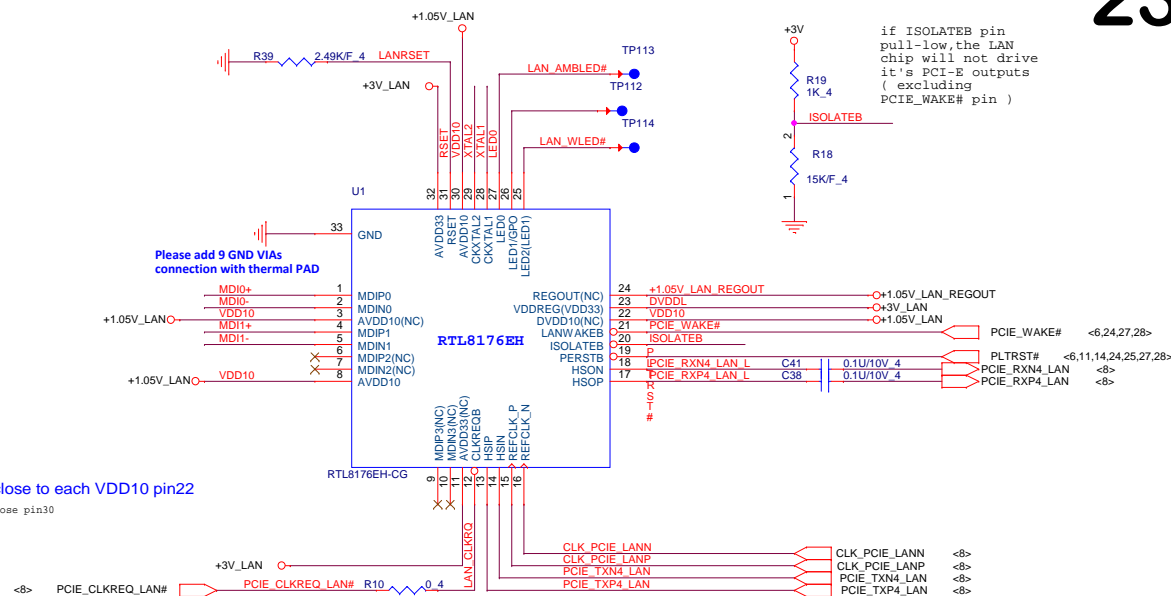
Stuff Ca and Cb only, close to each VDD33 pin-- 11, 32



Remove For Not Using SWR mode

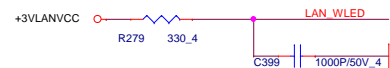
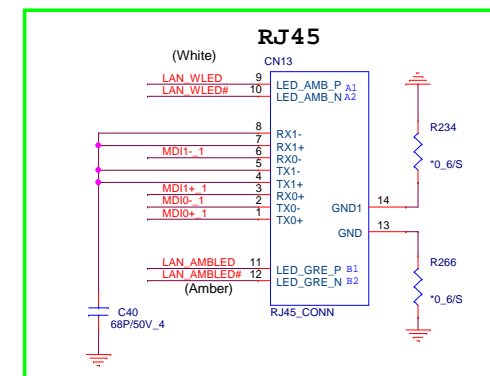


+3V



```
if ISOLATED pin
pull-low, the LAN
chip will not drive
it's PCI-E outputs
( excluding
PCIE_WAKE# pin )
```

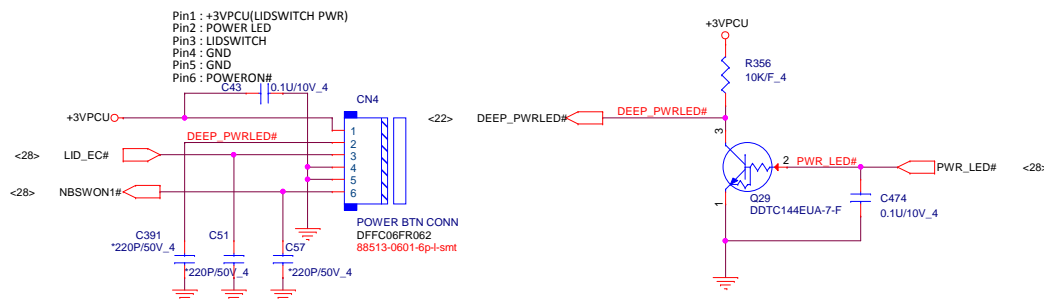
TWD Type



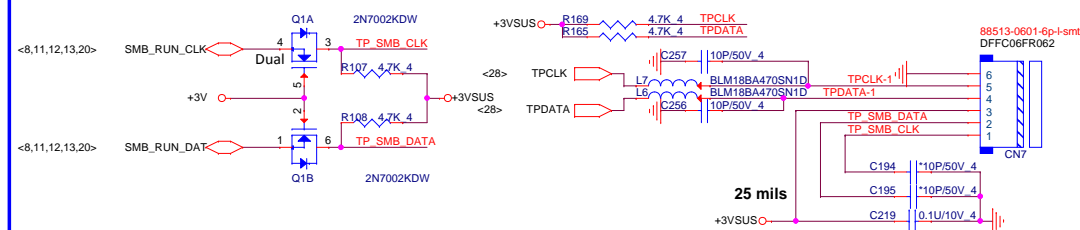
PROJECT :U83
Quanta Computer Inc.

Size Custom	Document Number LAN RTL8176EH/RJ45	Rev 1
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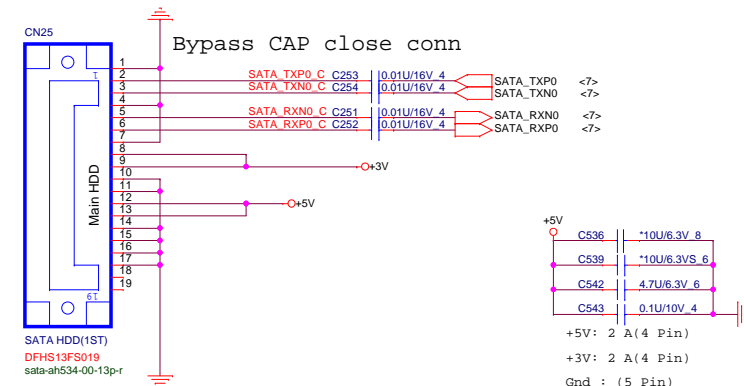
Power Botton Connector



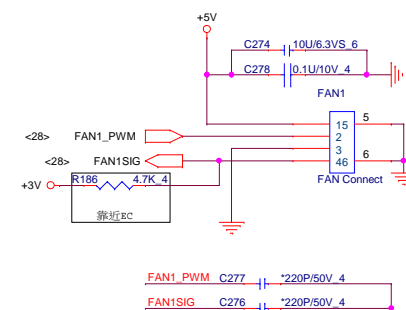
Touch Pad Connector



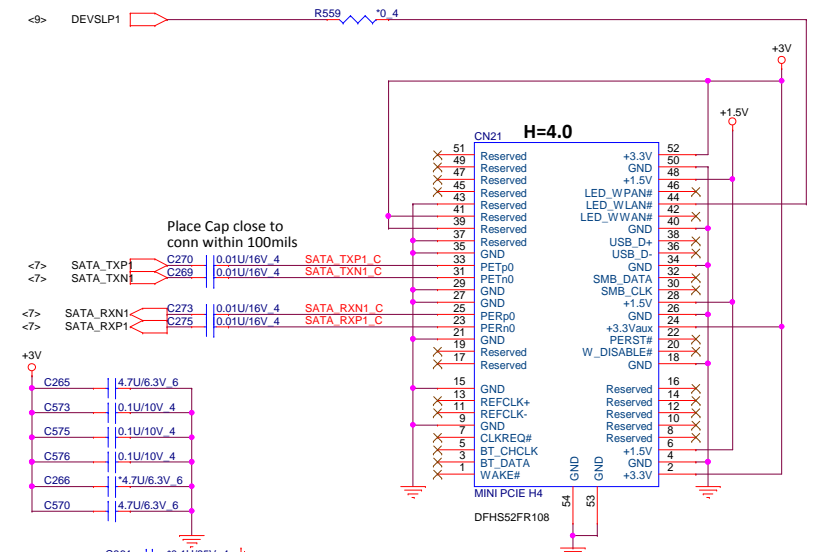
SATA HDD Connector(Cable type)



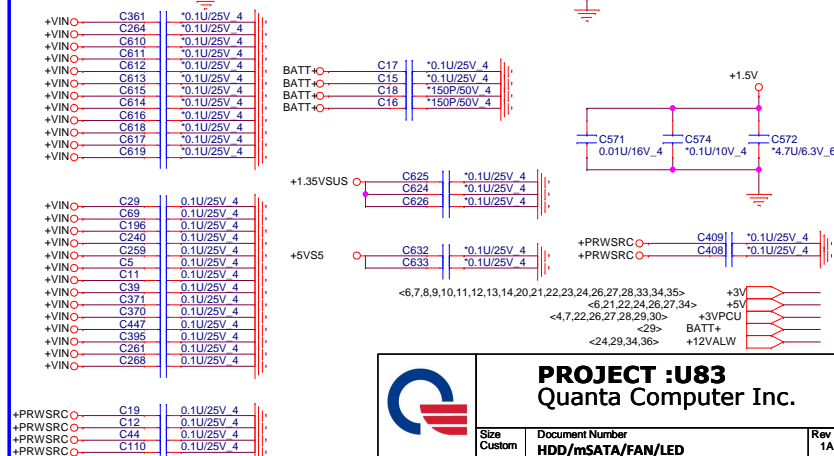
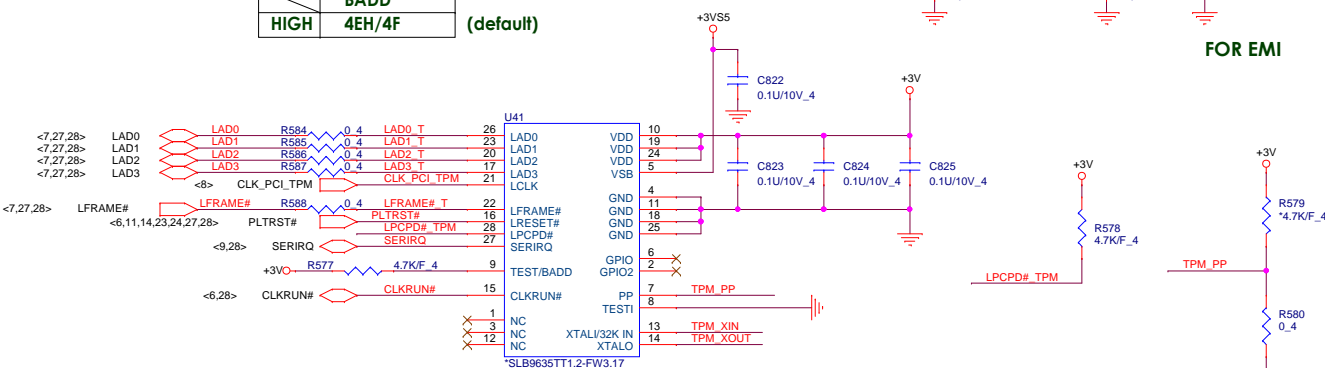
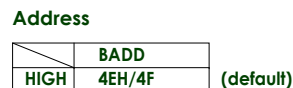
FAN



Mini PCI-E Card 2- Full size mSATA

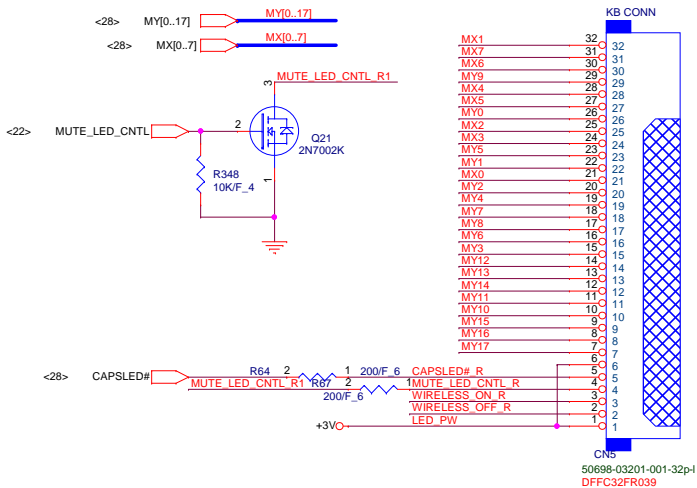


TPM (1.2)

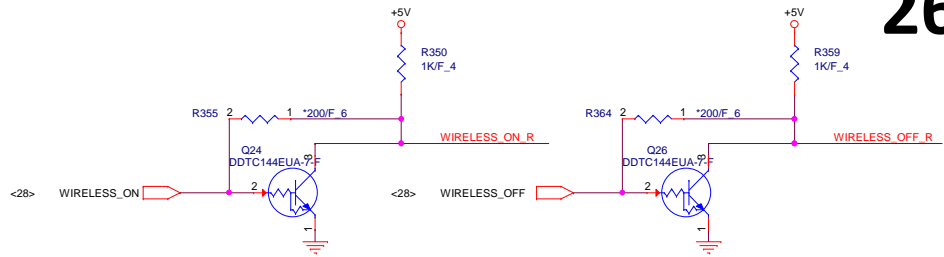
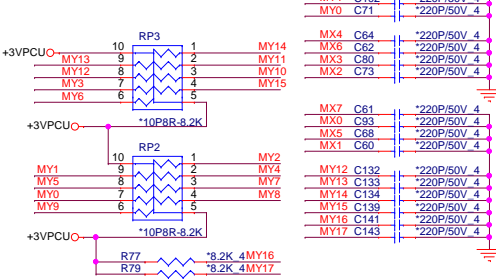


KEYBOARD Con.

26

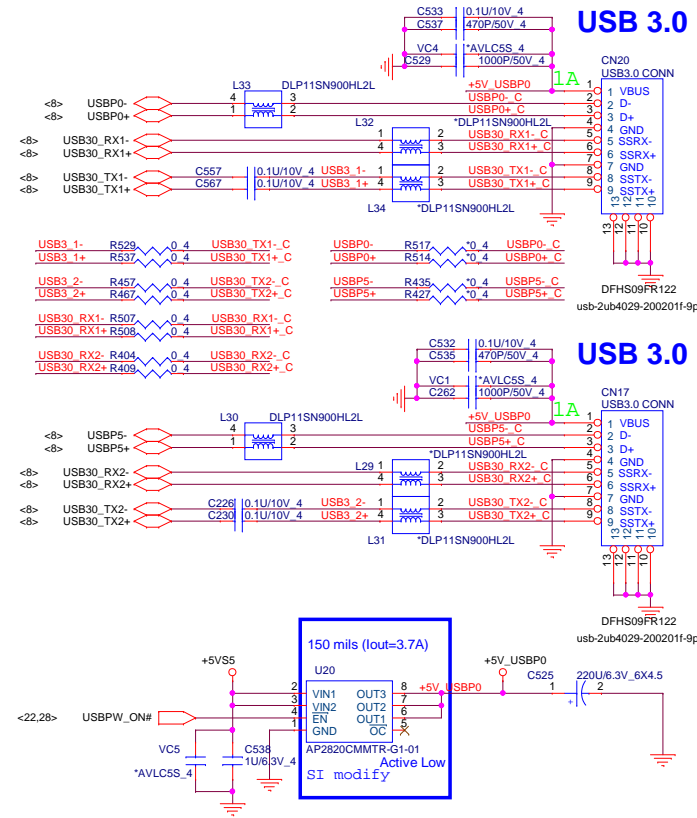
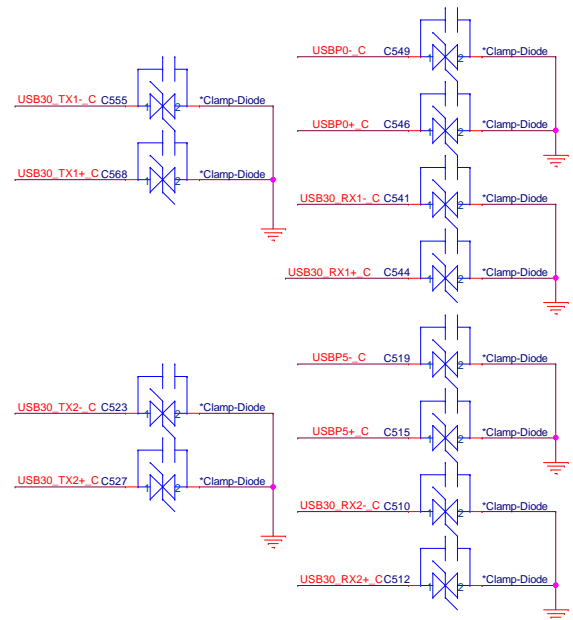


KEYBOARD PULL-UP

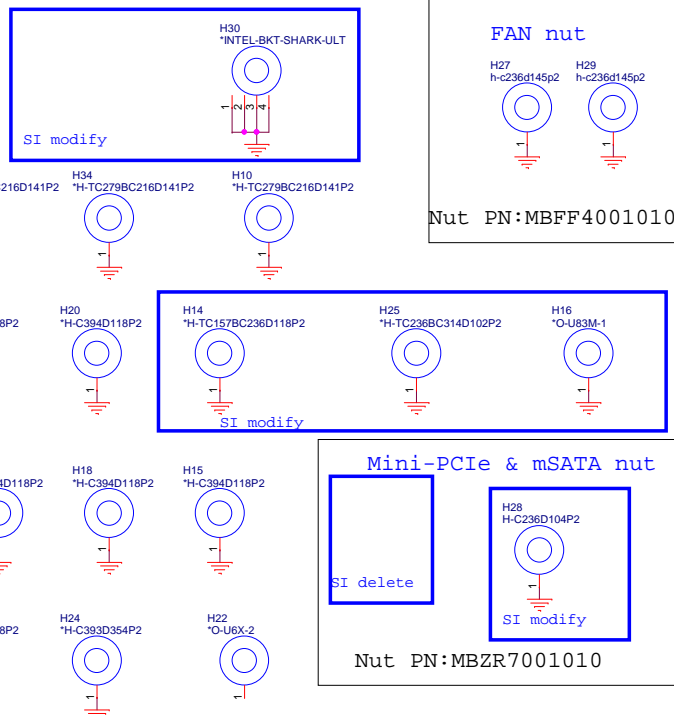


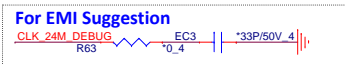
R6X Type

USB 2.0/3.0 Combo

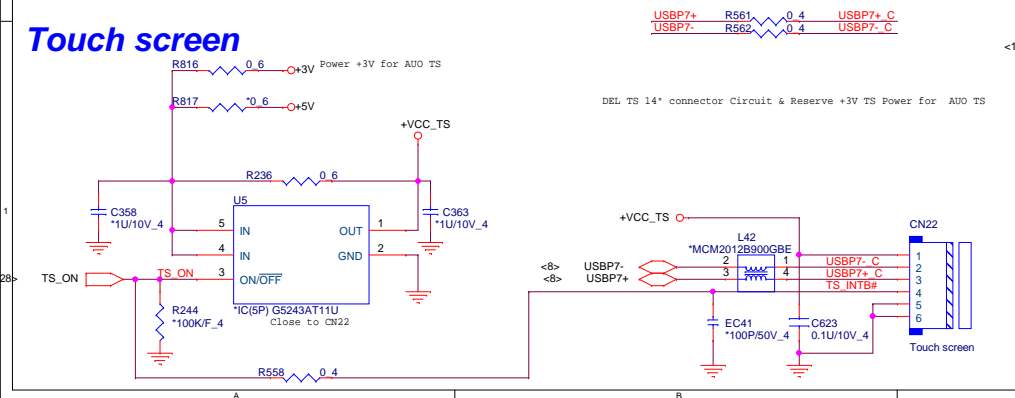


Hole

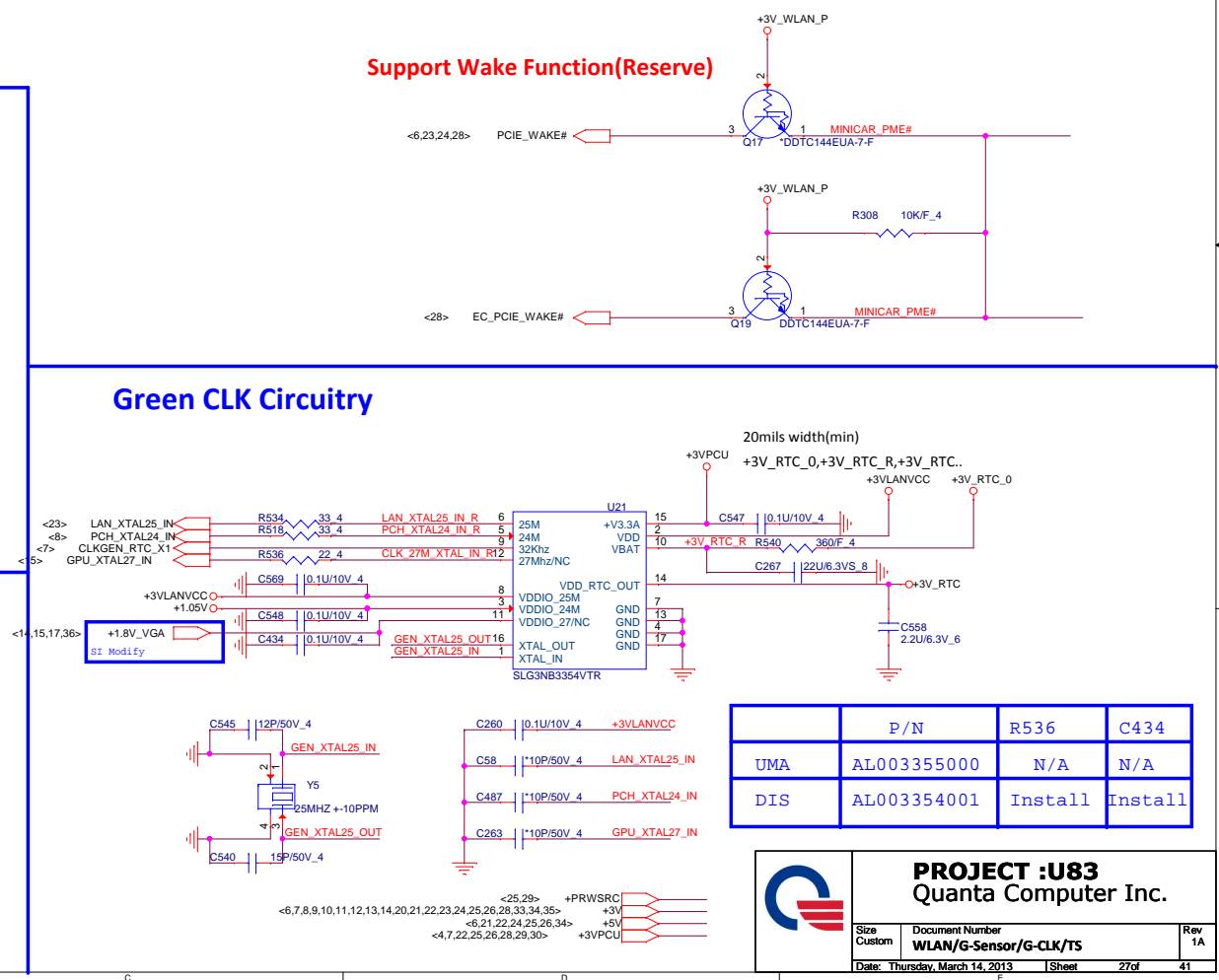




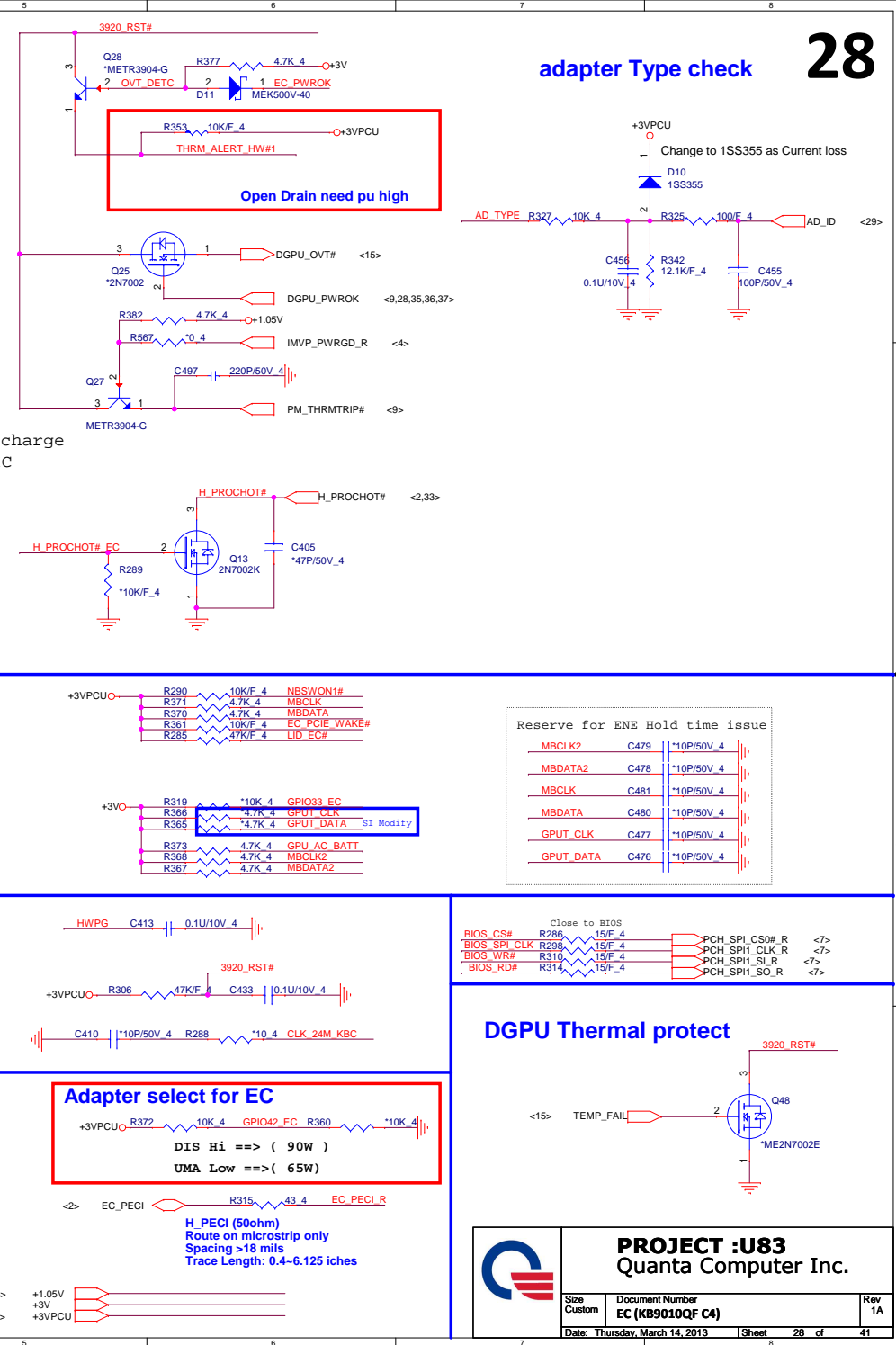
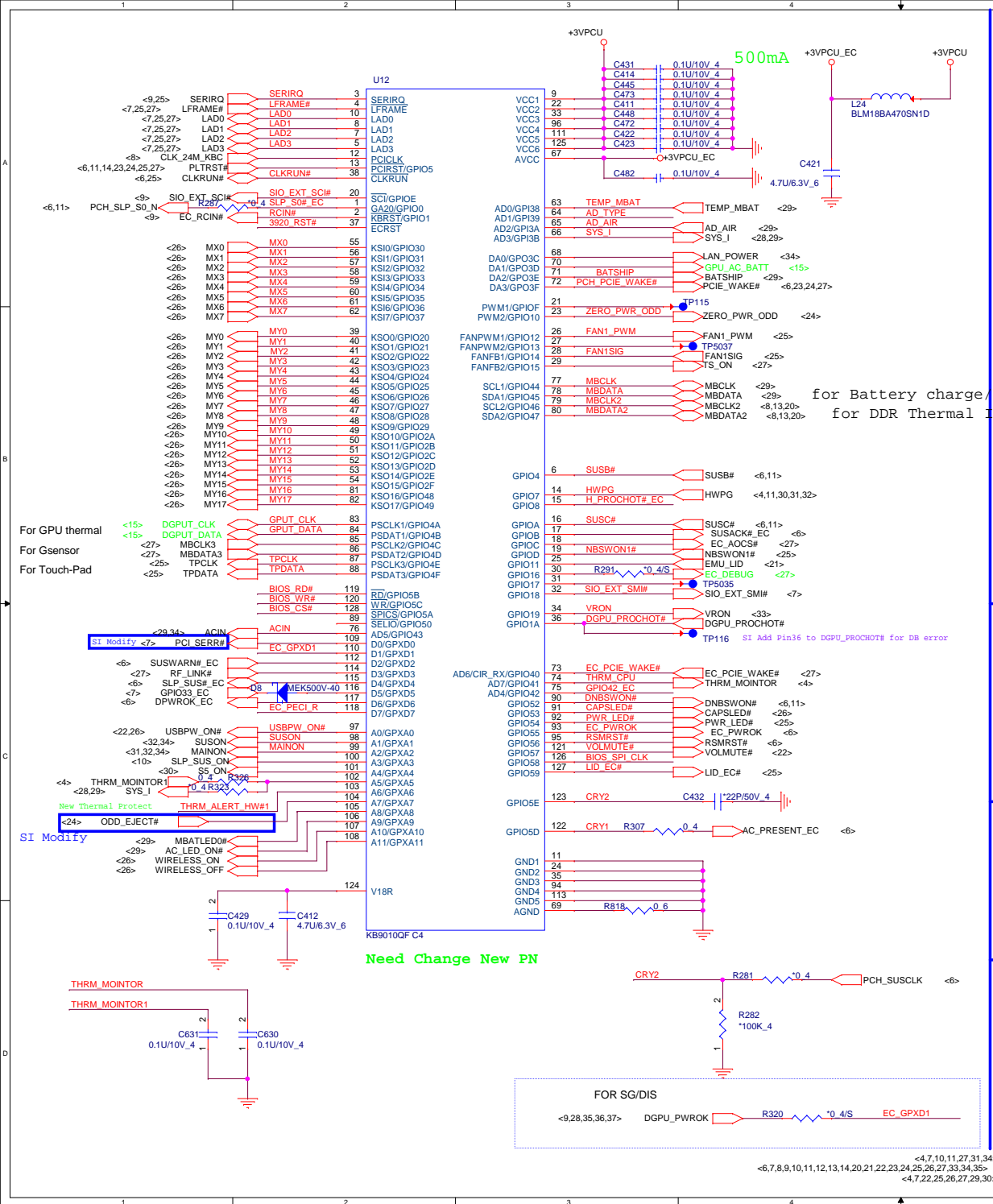
Touch screen

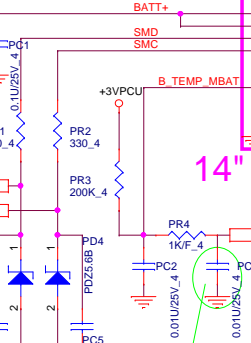


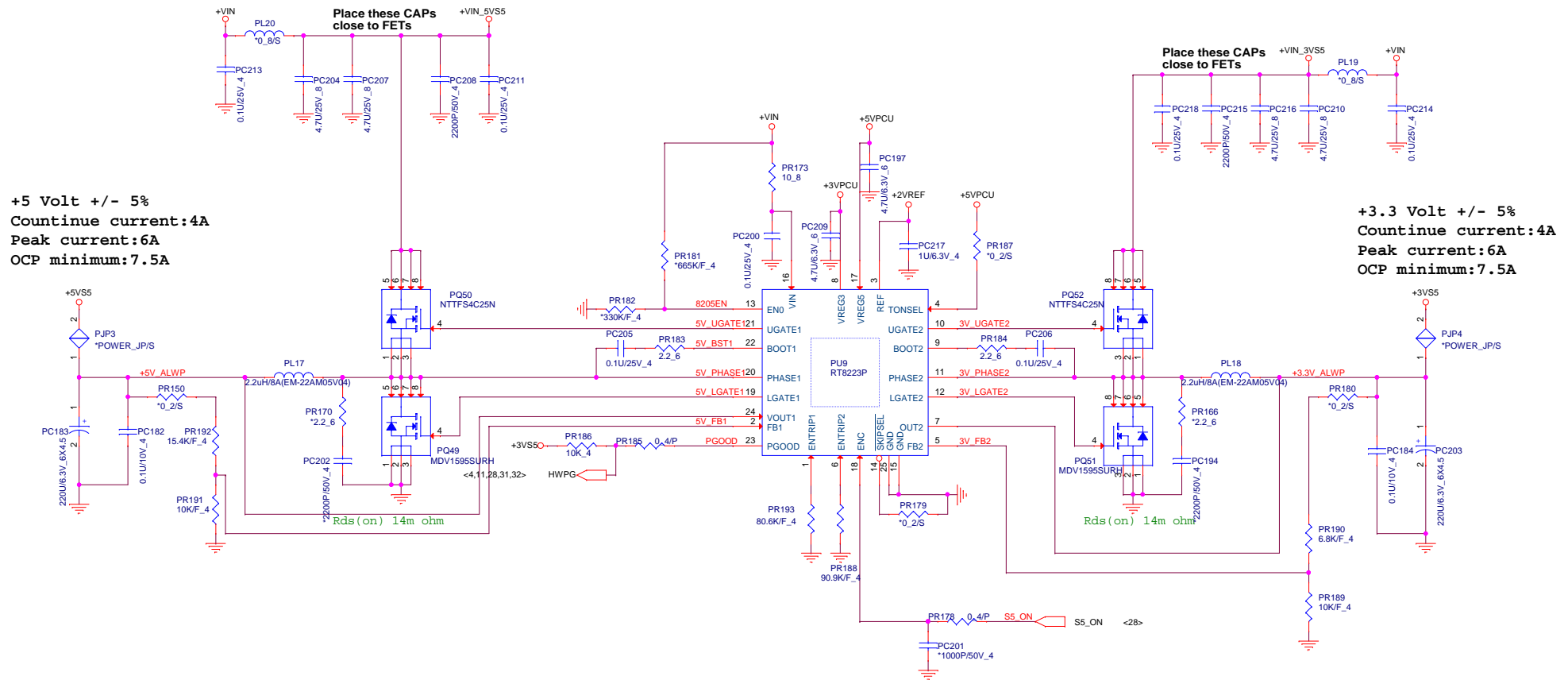
<6,7,8,9,10,11,12,13

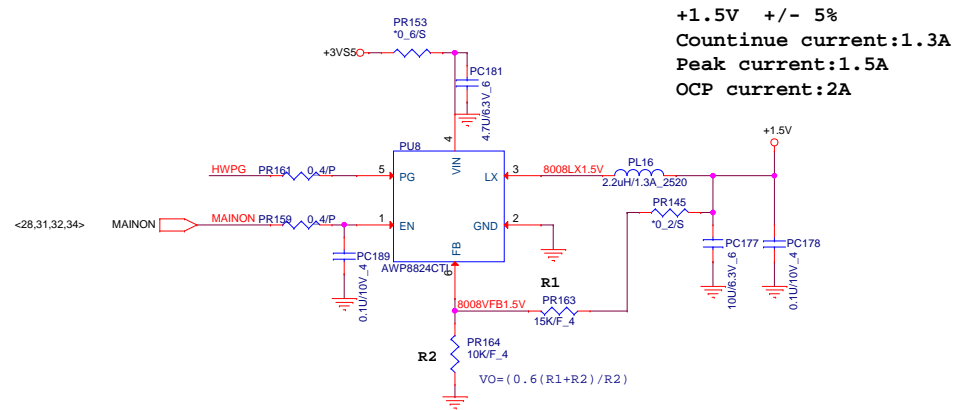
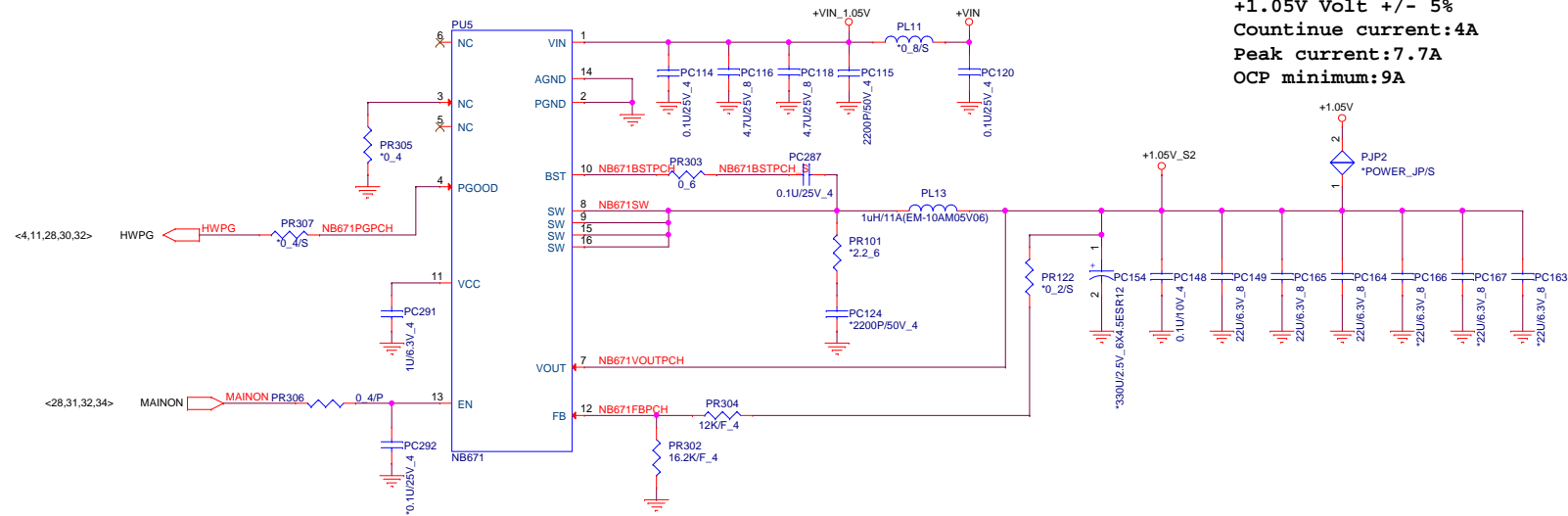


	P/N	R536	C434
UMA	AL003355000	N/A	N/A
DIS	AL003354001	Install	Install



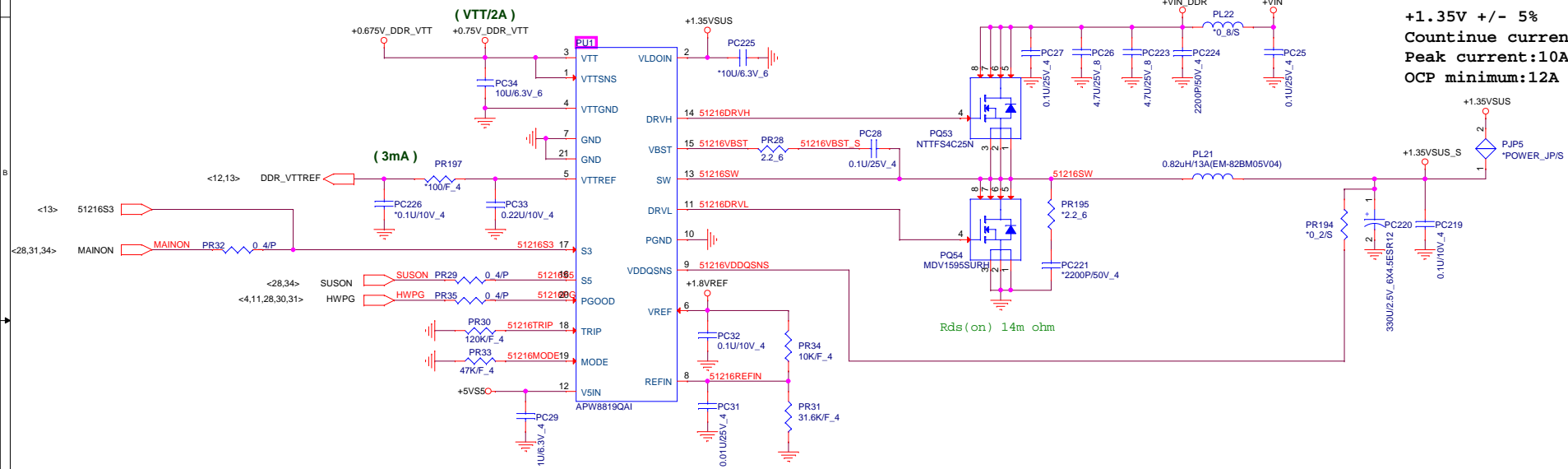


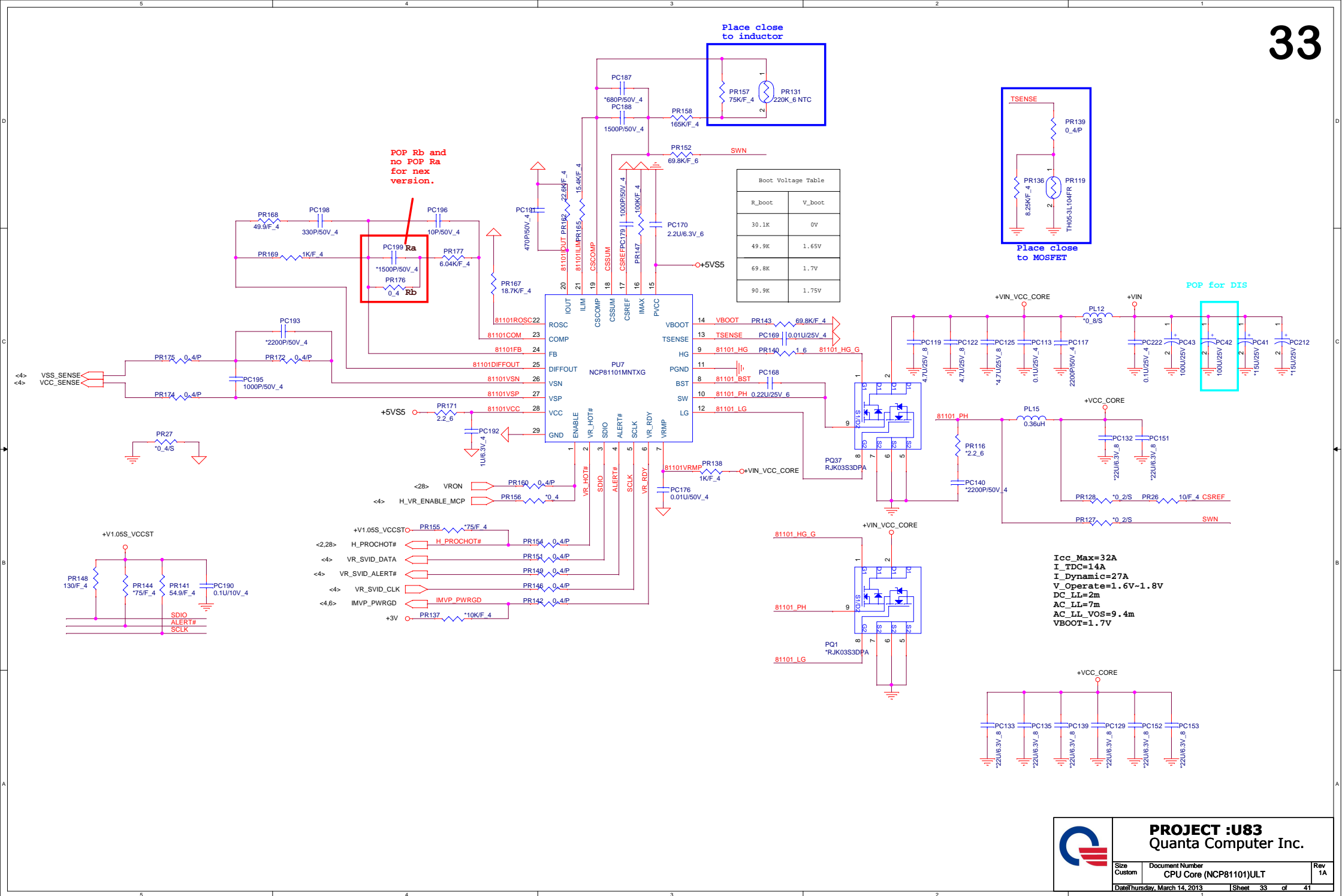


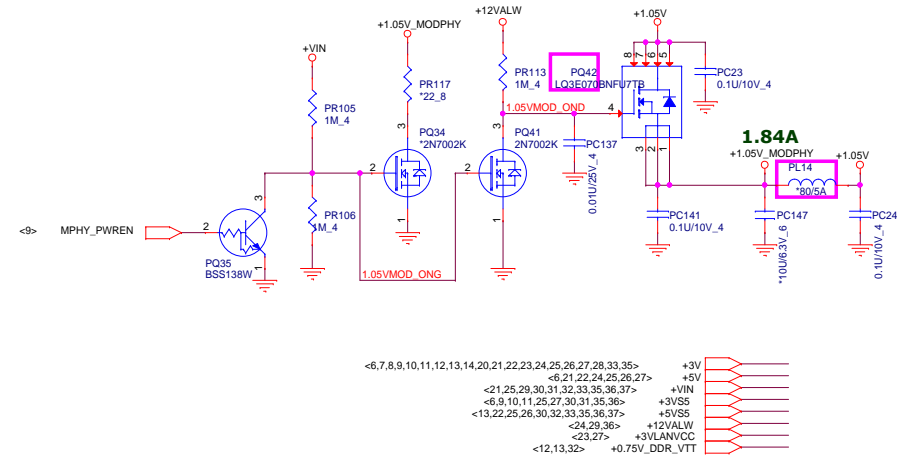
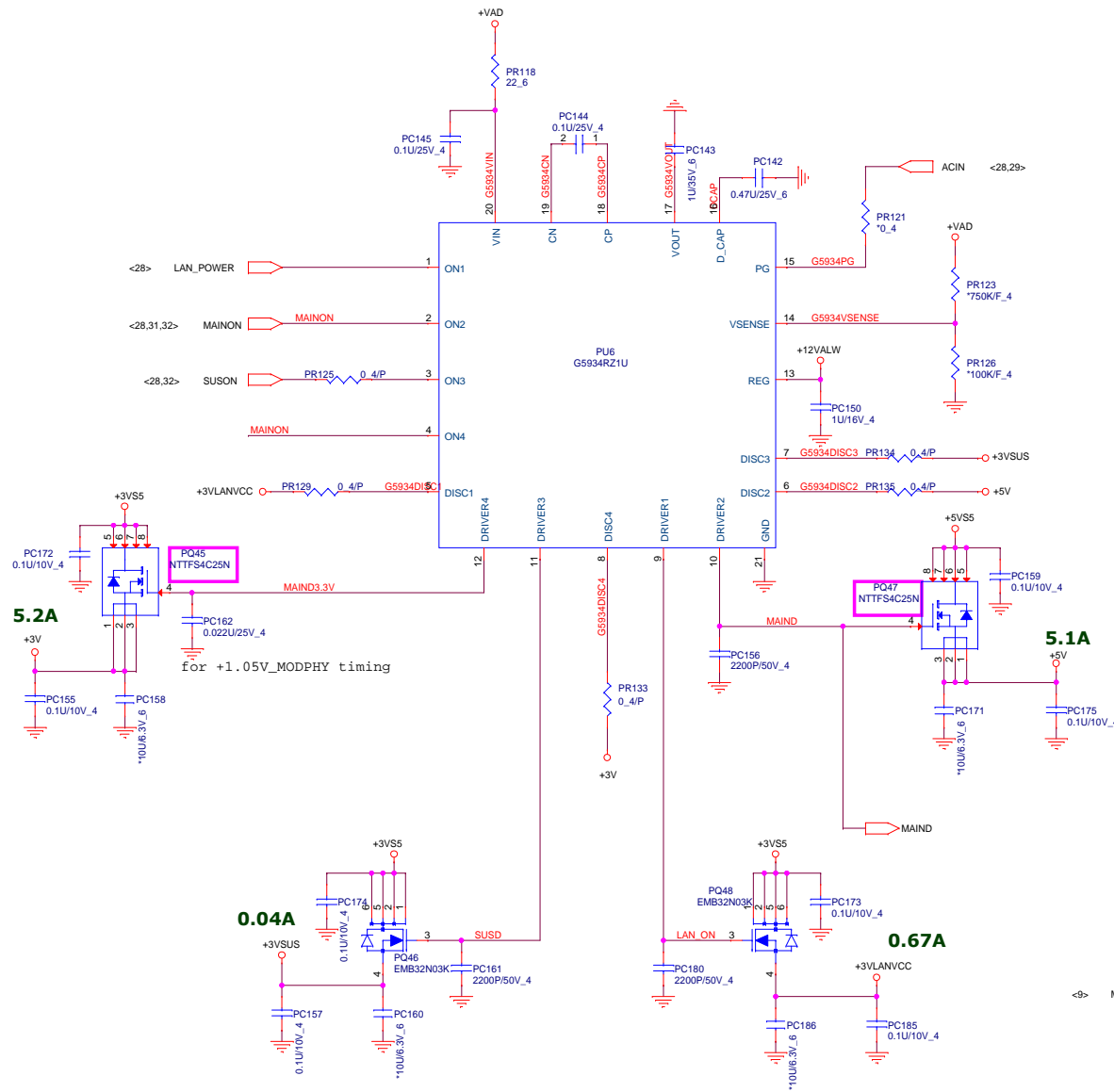


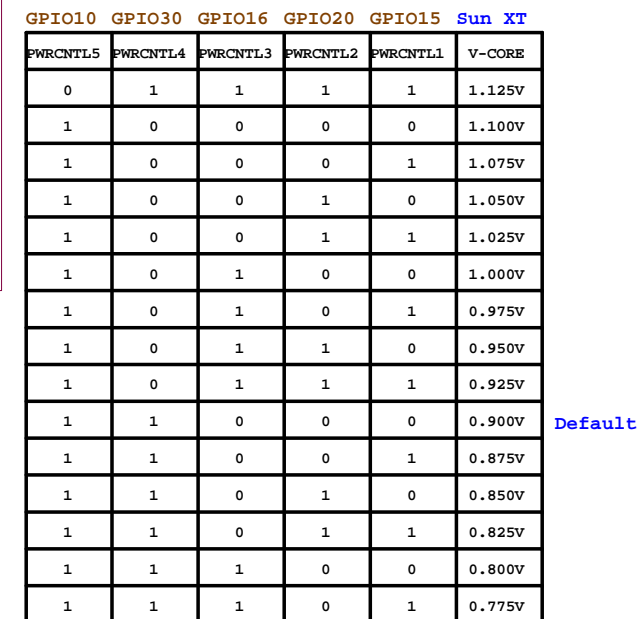
+VIN <21,25,29,30,32,33,34,35,36,37>
+3VSS <6,9,10,11,25,27,30,34,35,36>
+5VSS <13,22,25,26,30,32,33,34,35,36,37>
+5VPCU <13,29,30>

+1.35V +/- 5%
Continue current:6A
Peak current:10A
OCP minimum:12A





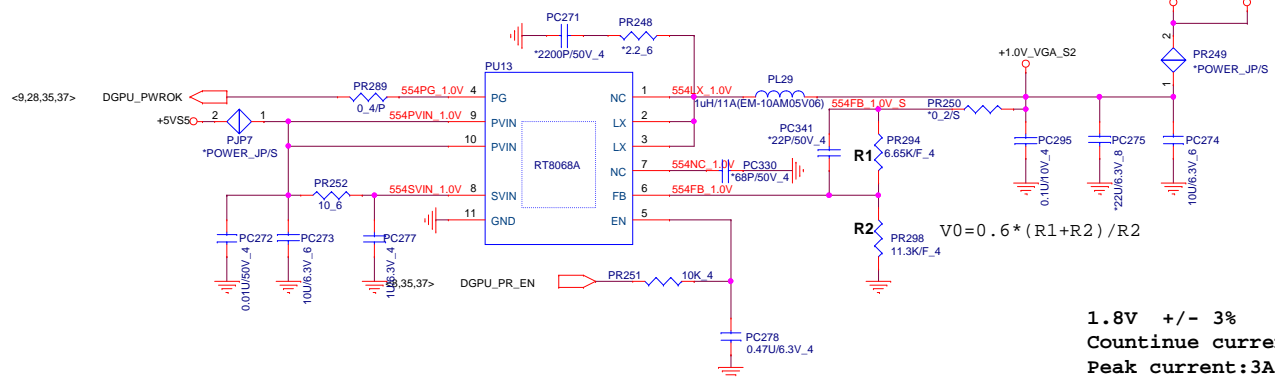




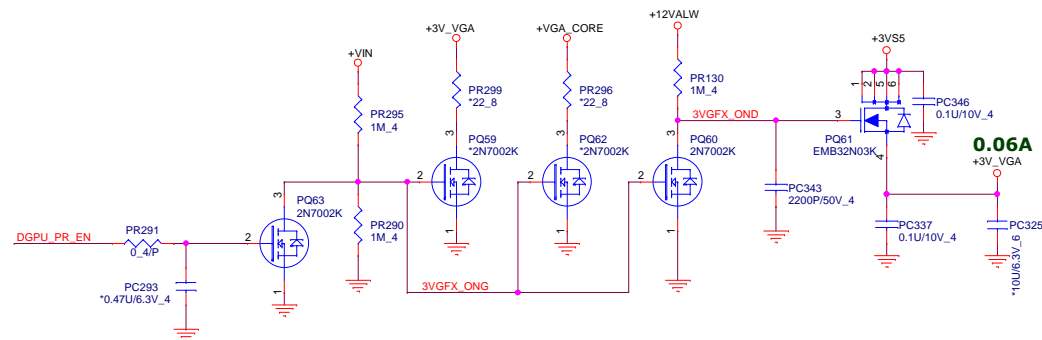
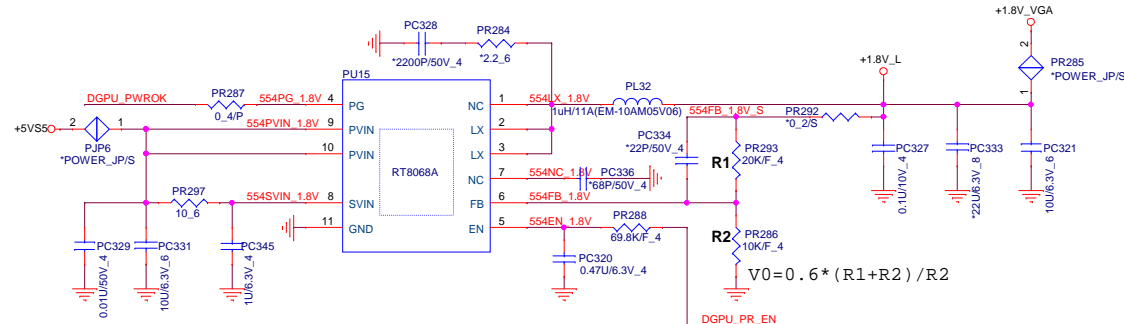
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VGA TYPE	R2 Value	P/N	1.0V_VGA
Thems	10K	CS31002FB26	1.0V
MARS	11.3K	CS31132FB07	0.95V

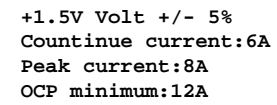
+0.95V +/- 3%
Countinue current:2A
Peak current:3A
OCP minimum:4A



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



1.8V_VGA <14,15,17,27>
 1.0V_VGA <14,15,17>
 3V_VGA <14,17>



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)

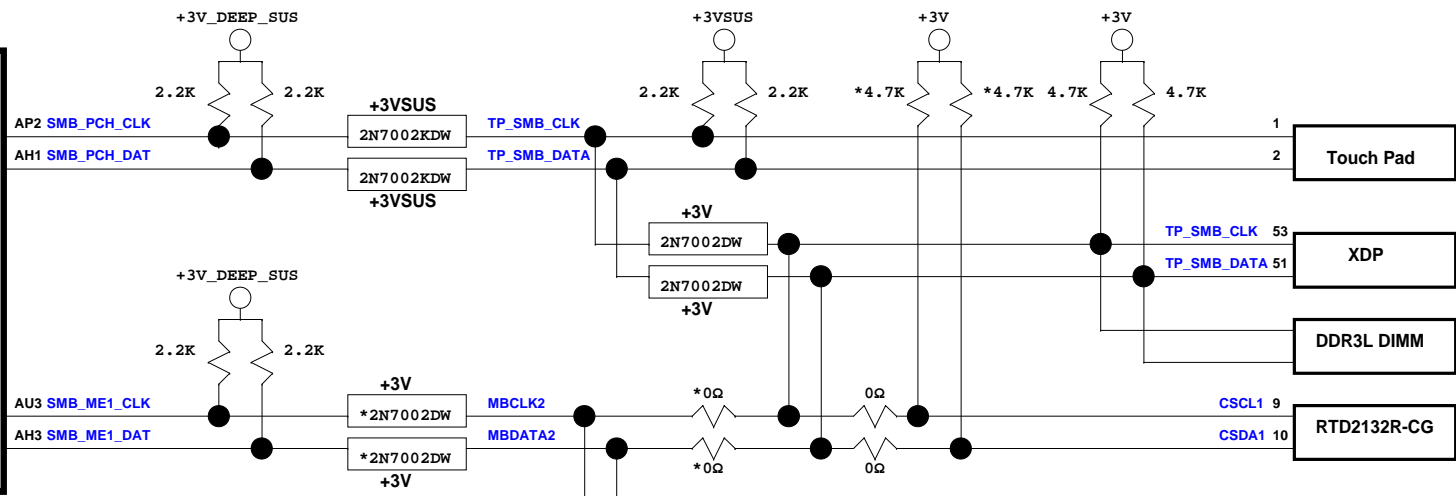
SATA Master	Port Assignment	Power control pin
SATA0	HDD	N/A
SATA1	mSATA	N/A
SATA2	NC	N/A
SATA3/PCIE	Card reader	N/A

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	

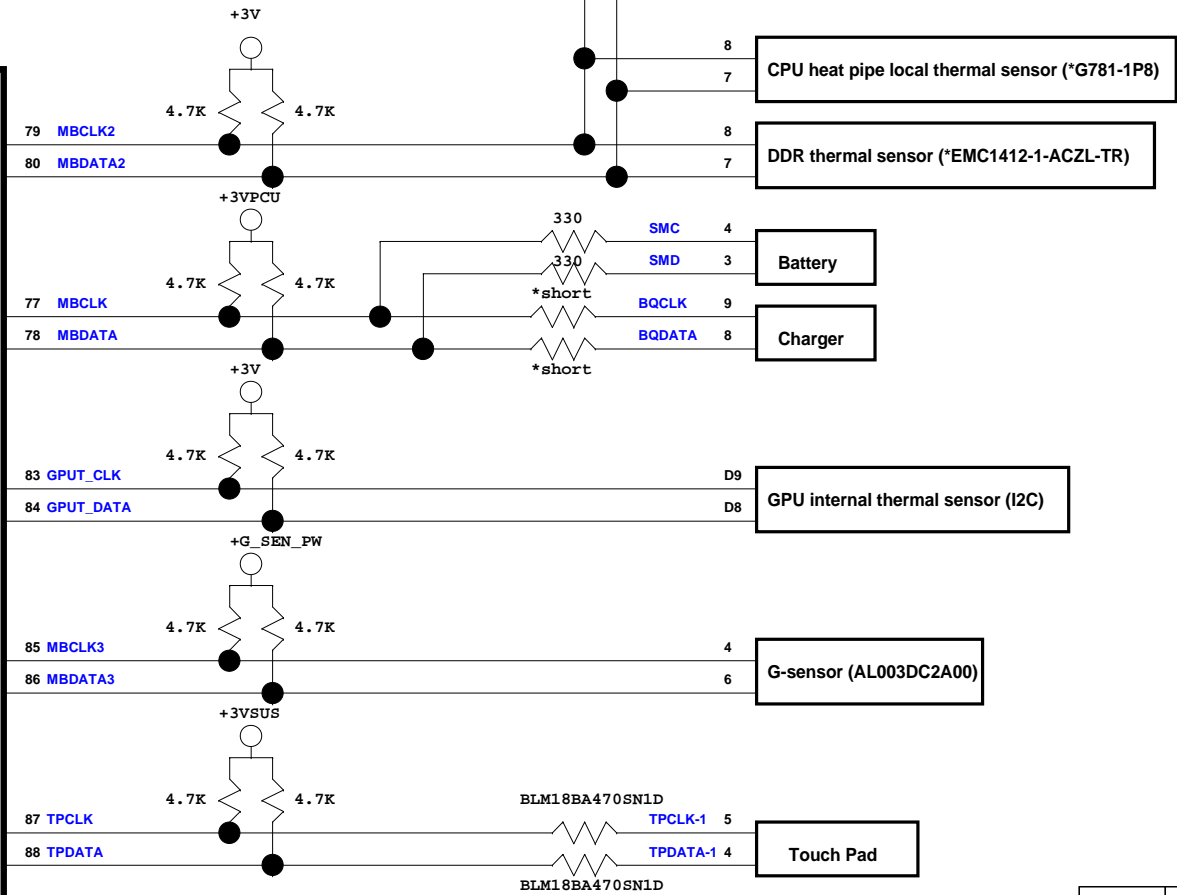


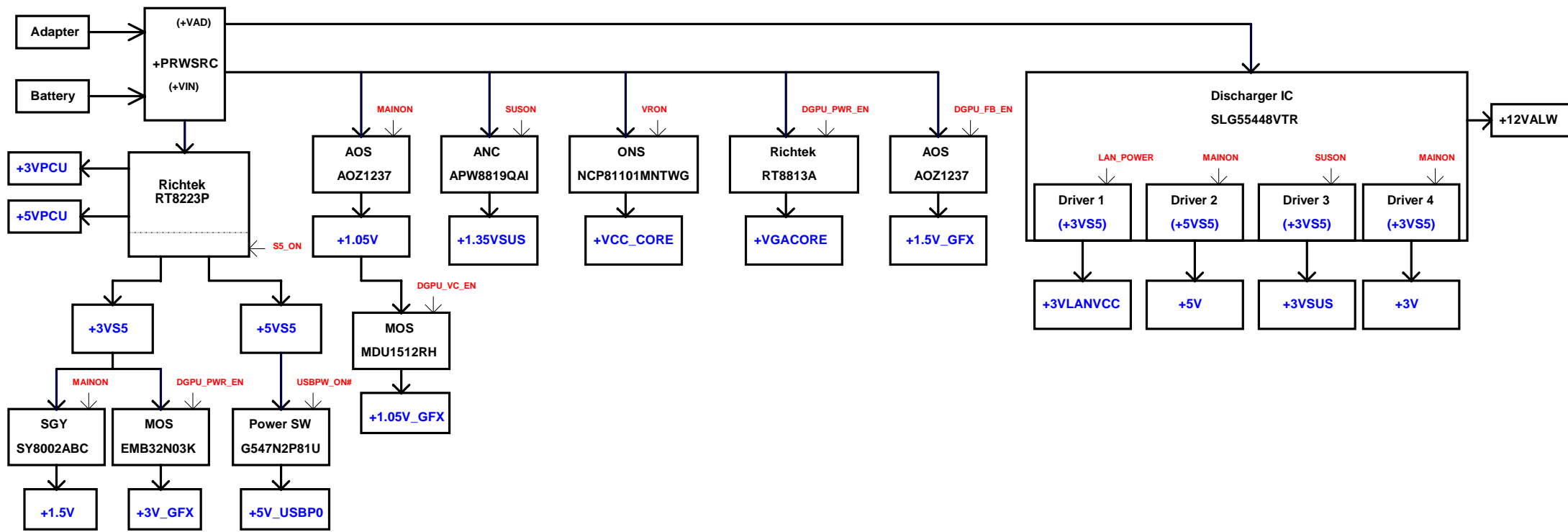
PROJECT :U83
Quanta Computer Inc.

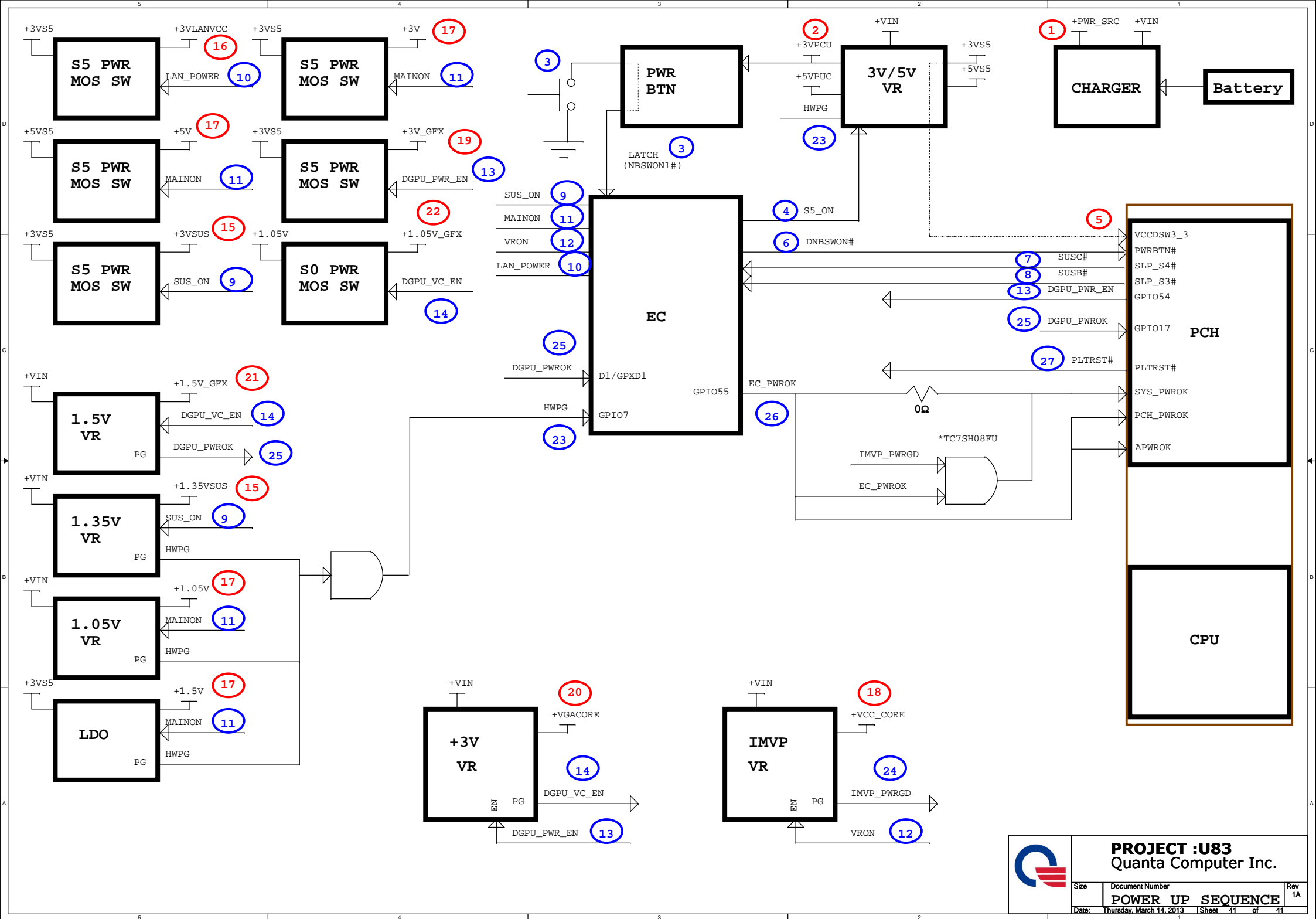
Haswell
ULT



EC
KB9010QF







PROJECT :U83
Quanta Computer Inc.

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POWER UP SEQUENCE		
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