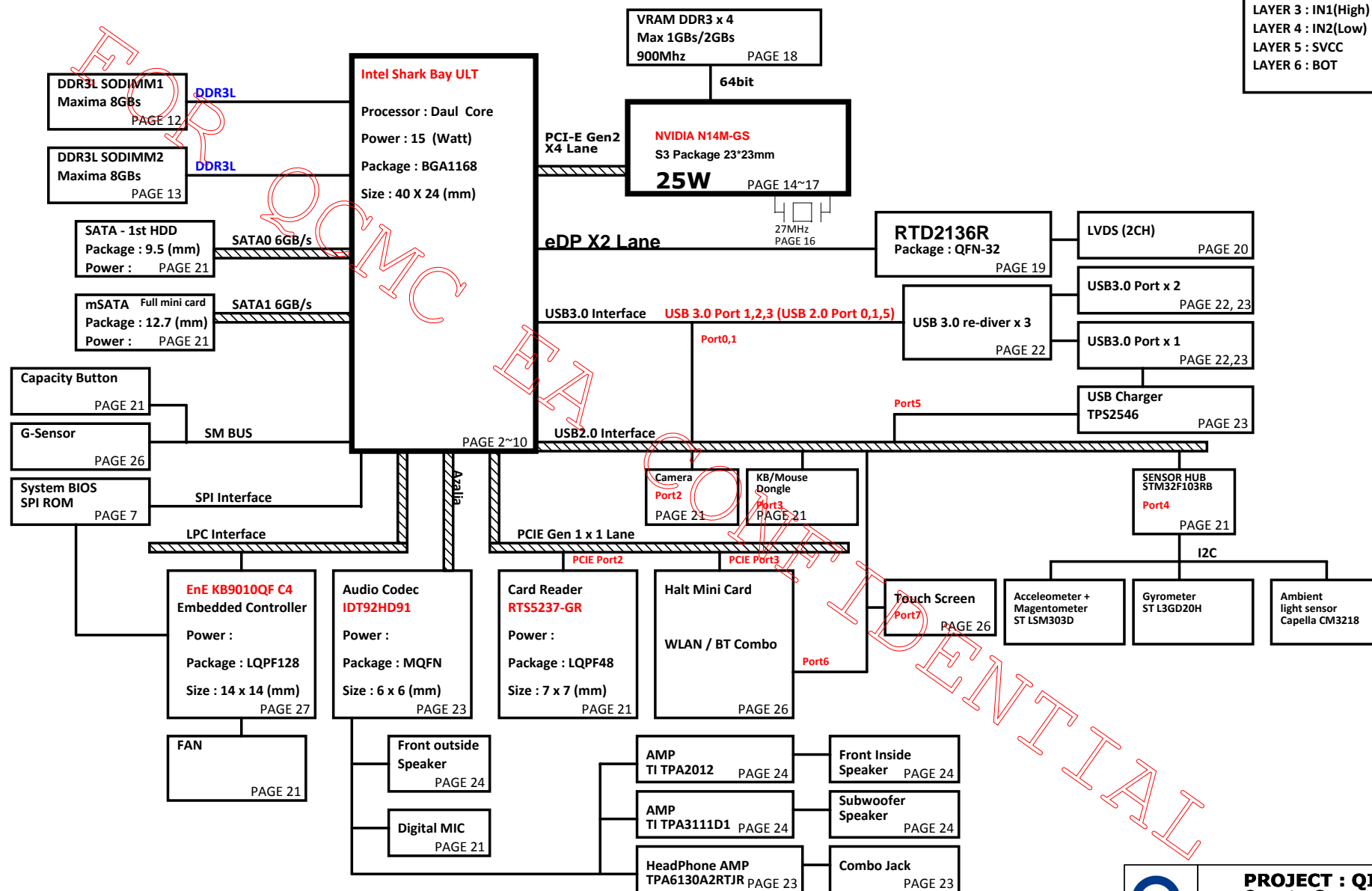


QI2 OPT (20") All-In-One Intel Shark Bay ULT Platform Block Diagram

PCB 6L STACK UP

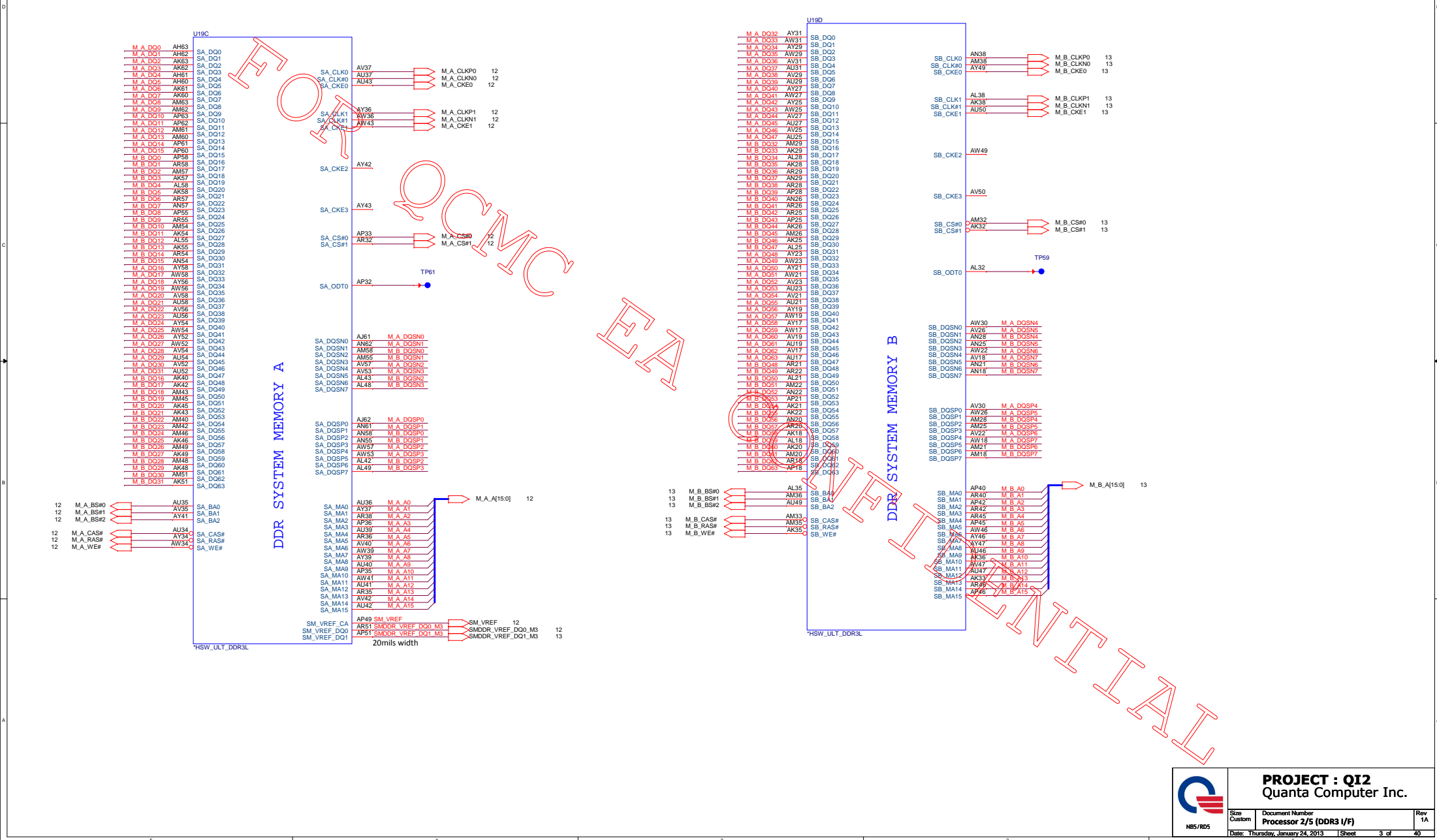
LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1(High)
LAYER 4 : IN2(Low)
LAYER 5 : SVCC
LAYER 6 : BOT

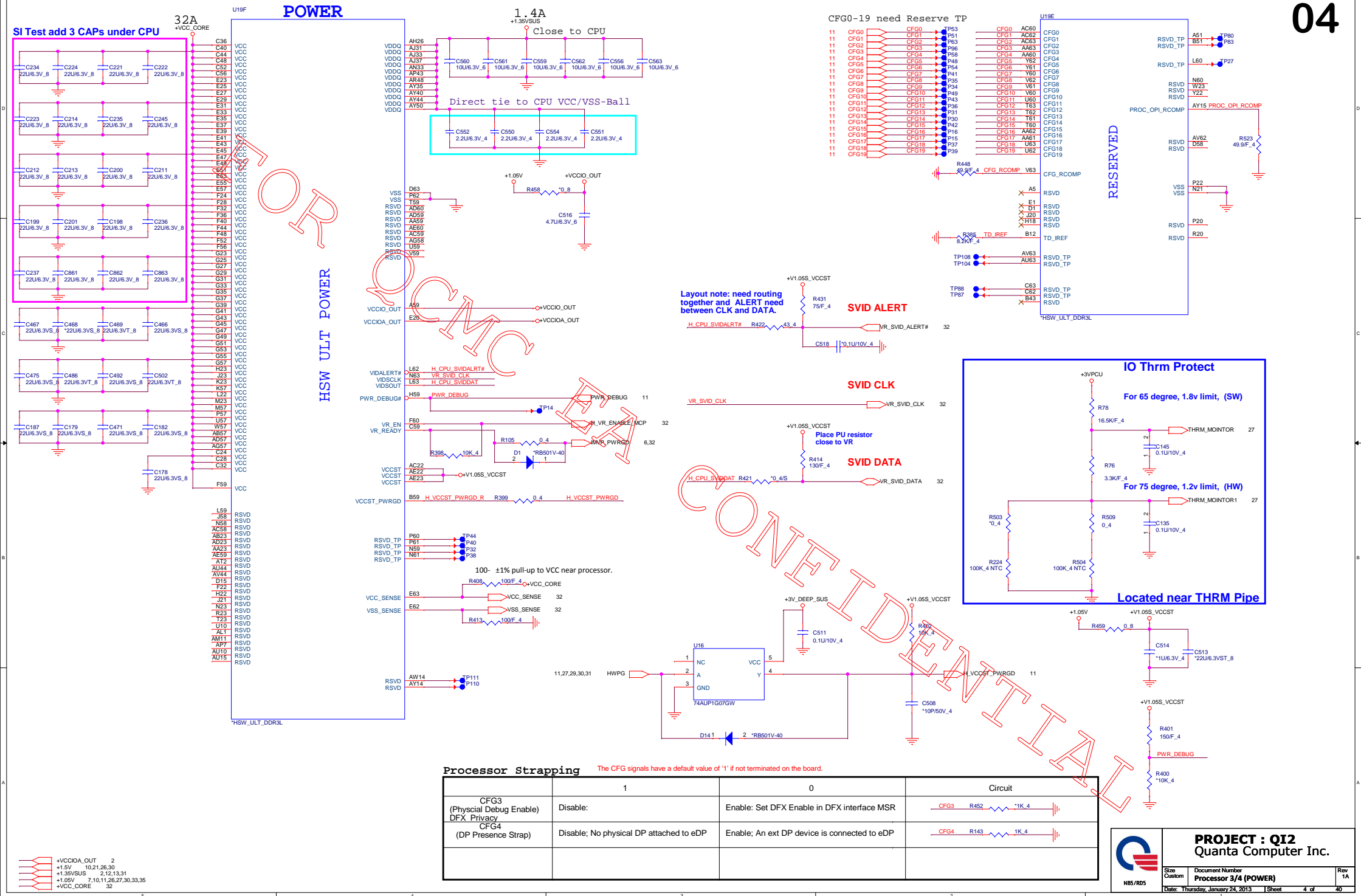


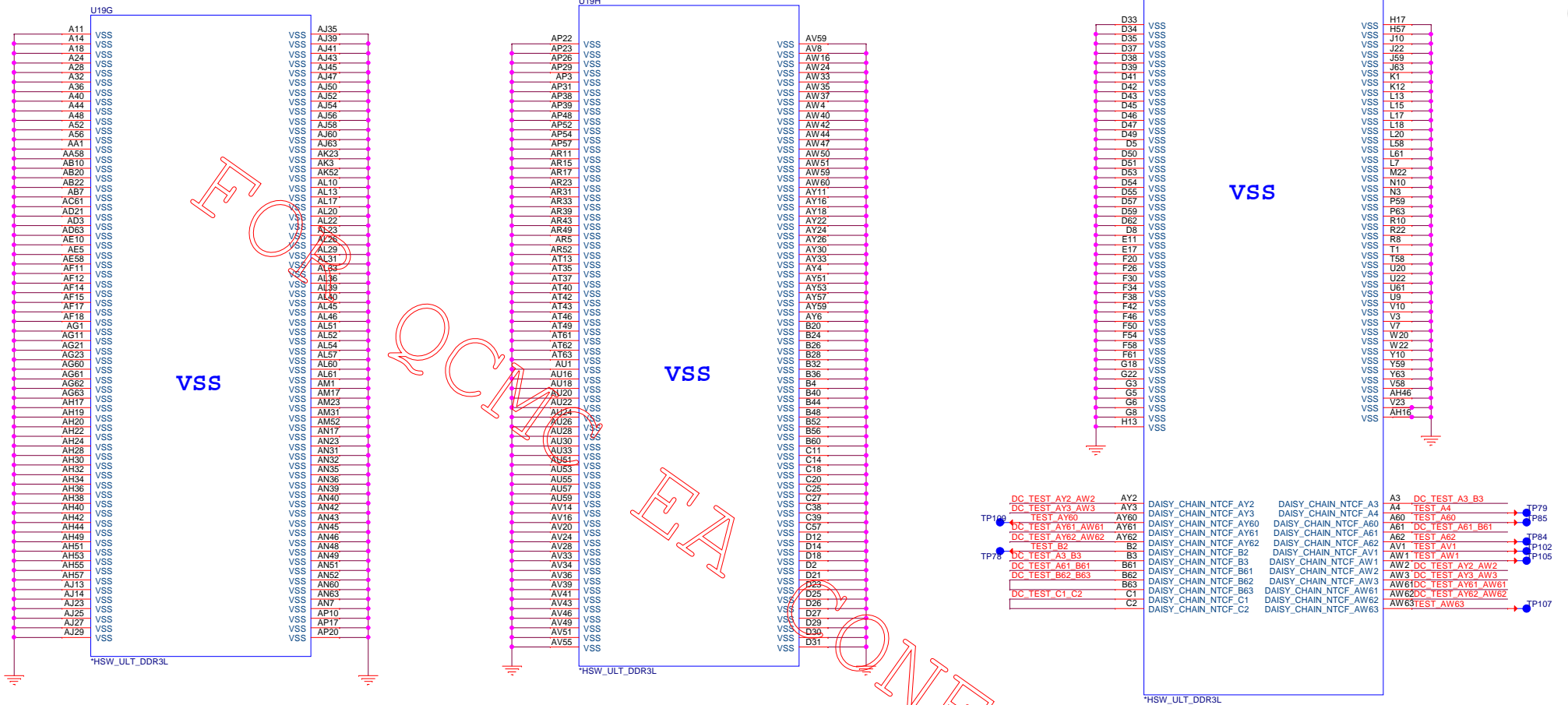
PROJECT : QI2
Quanta Computer Inc.

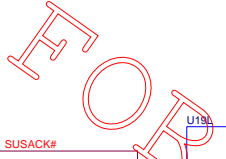
Size Custom	Document Number	Rev 1A
Block Diagram		
Date: Wednesday, January 23, 2013 Sheet 1 of 40		

Haswell ULT Processor (DDR3L)

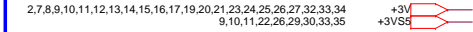








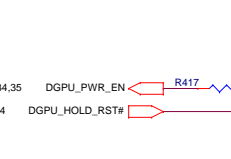
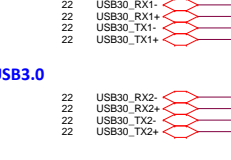
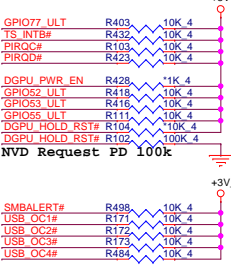
2,7,8,9,10,11,12,13,14,15,16,17,19,20,21,23,24,25,26,27,32,33,34
9,10,11,22,26,29,30,33,35



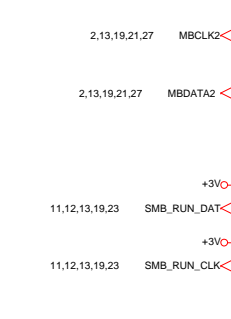
PCI/USBOC# Pull-up(CLG)

Cougar Point-M/Panther Point (PCI,USB,NVRAM)

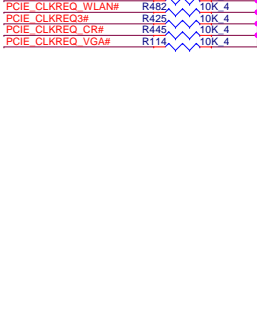
Cougar Point-M/Panther Point (PCI-E,SMBUS,CLK)



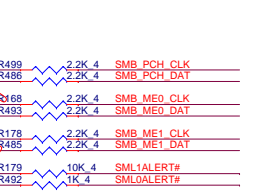
SMBus/Pull-up(CLG)



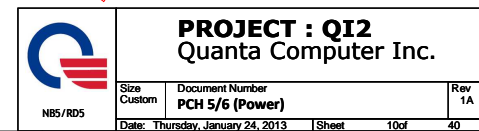
CLK_REQ/Strap Pin(CLG)

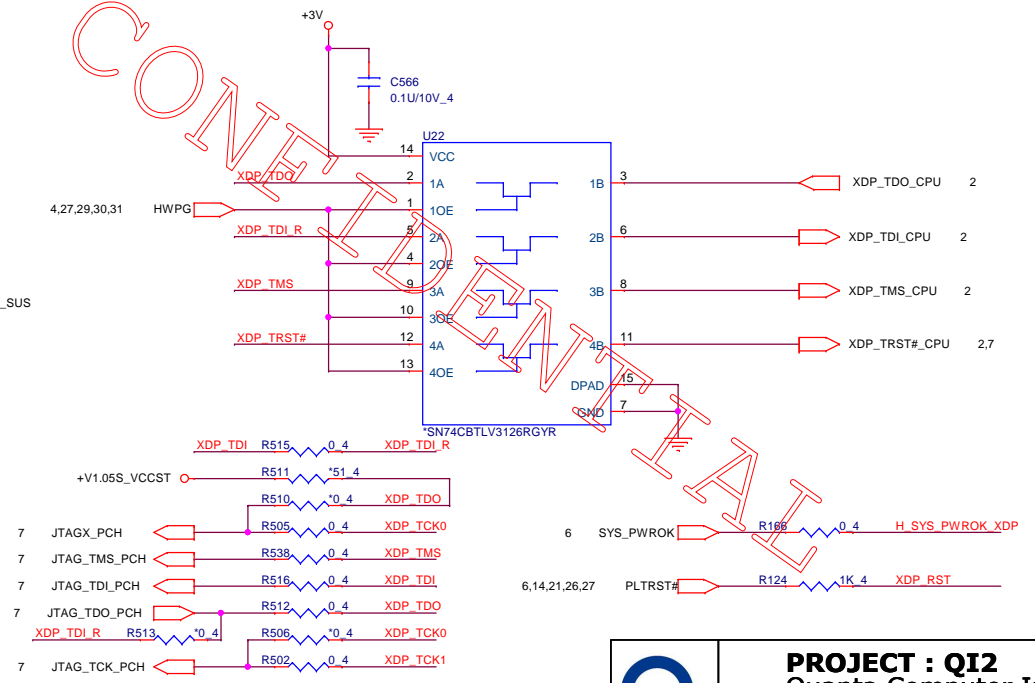
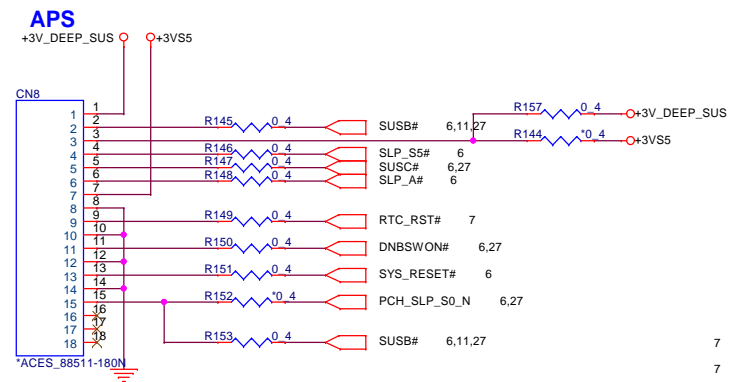
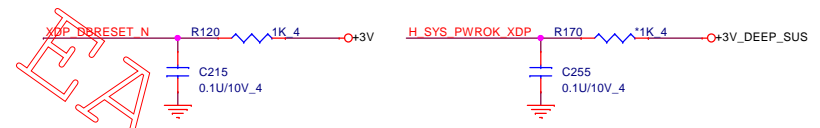
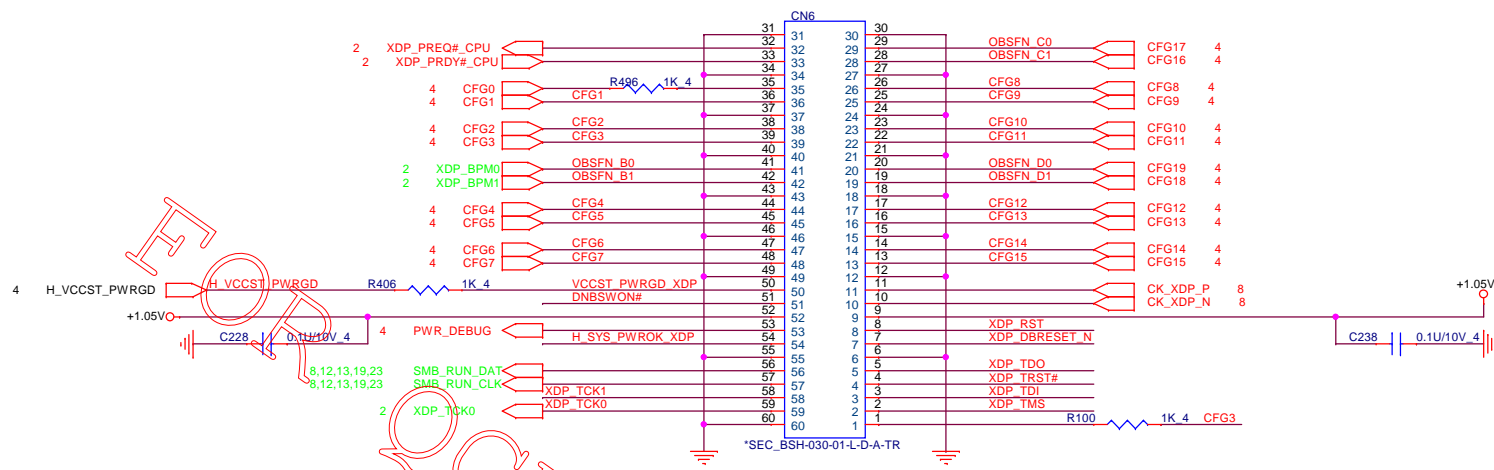


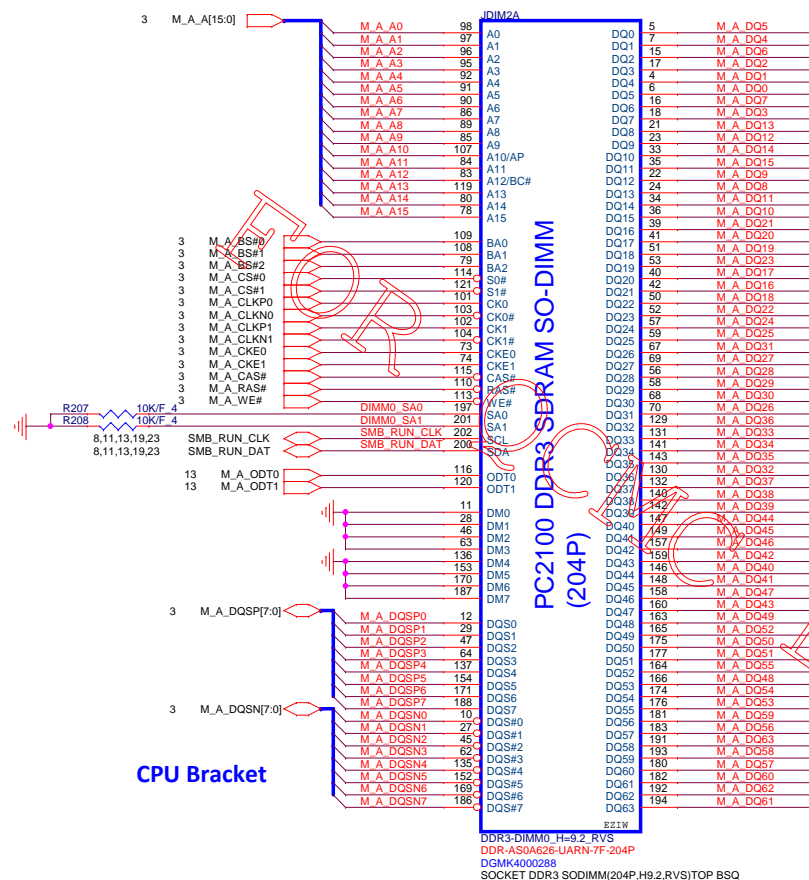
SMBus/Pull-up(CLG)



PROJECT : QI2
Quantas Computer Inc.

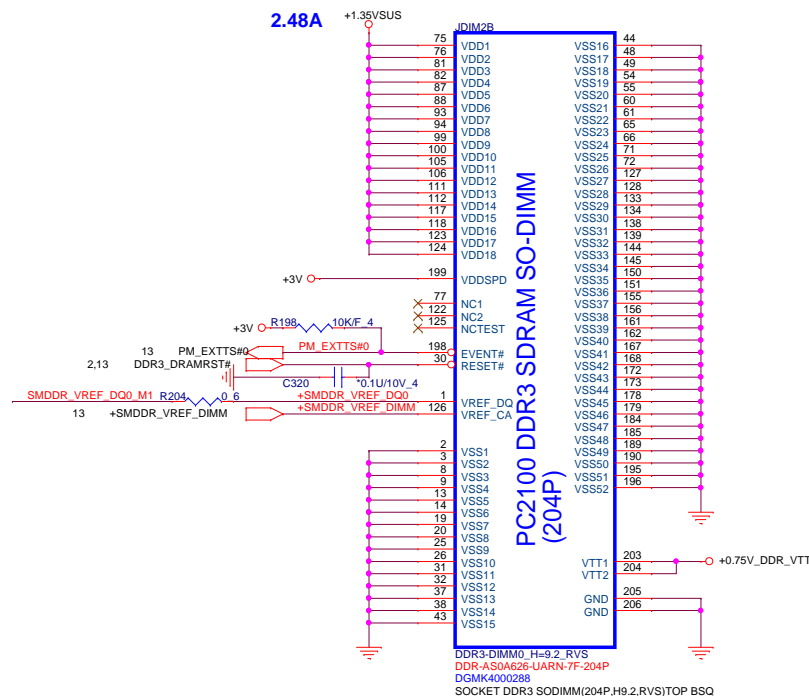






CPU Bracket

M_A_DQ[63:0]

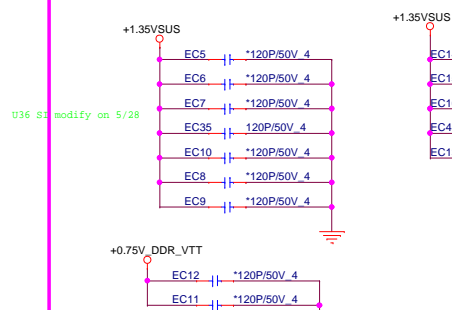


2,6,7,8,9,10,11,13,14,15,16,17,19,20,21,23,24,25,26,27,32,33,34

2,4,13,31
13,31,33

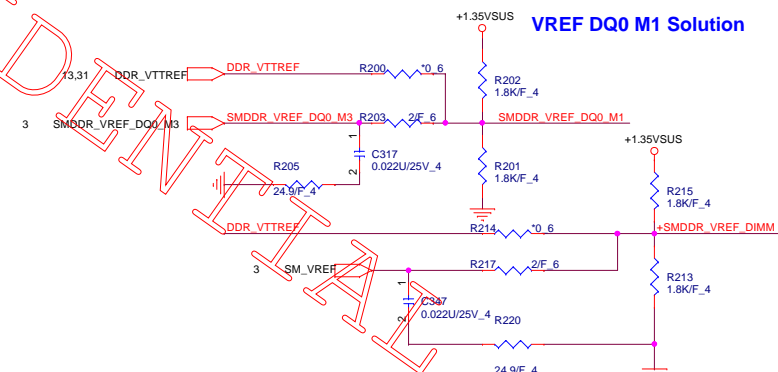
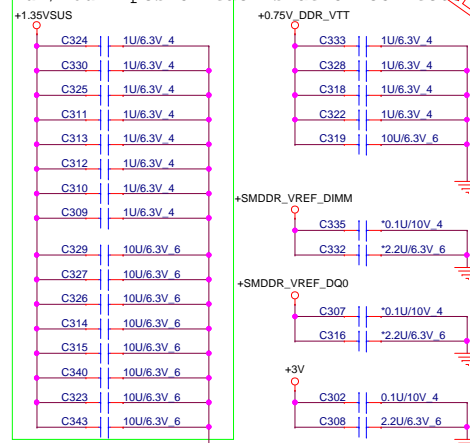
+3V
+1.35VSUS
+0.75V_DDR_VTT

For EMI RESERVE



Place these Caps near So-Dimm0.

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

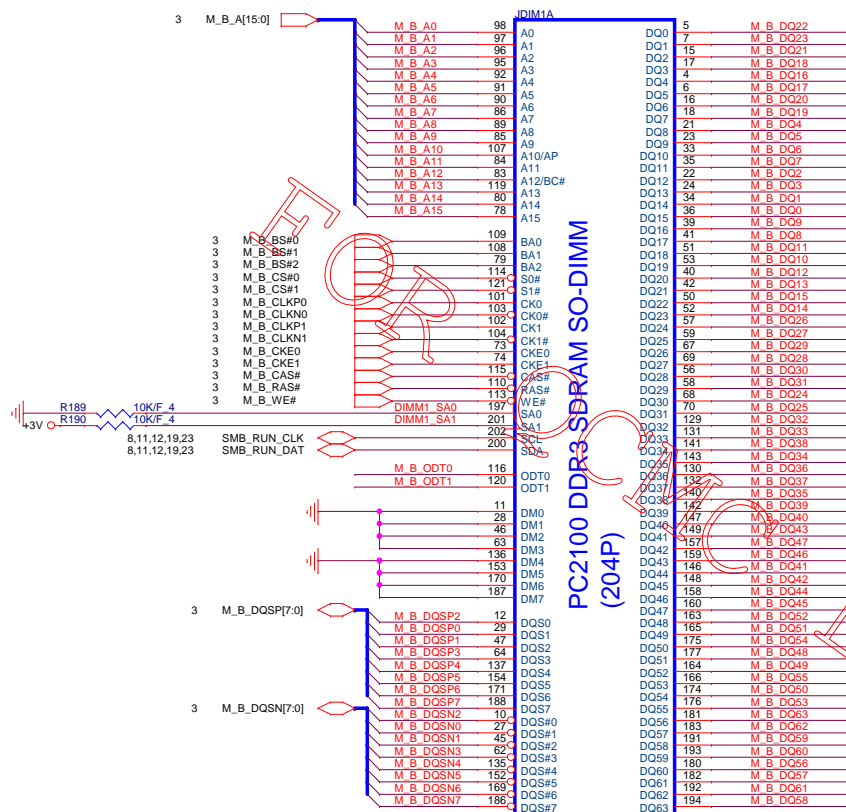


PROJECT : Q12
Quanta Computer Inc.

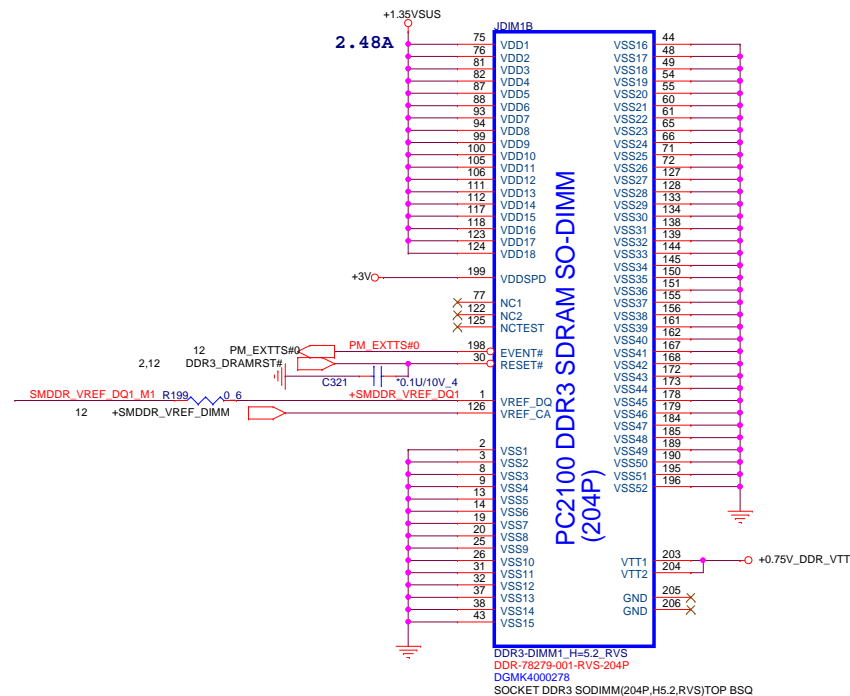
Size Custom	Document Number System Memory 1/2 (5.2H)	Rev 1A
Date: Thursday, January 24, 2013	Sheet 12 of 40	

NBS/RD5

M_B_DQ[63:0] 3

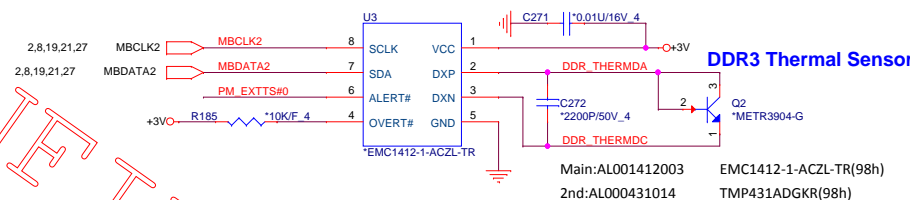


DDR3-DIMM1_H=5.2_RVS
DDR-78279-001-RVS-204P
DGMK4000278
SOCKET DDR3 SODIMM(204P,H5.2,RVS)TOP BSQ



DDR3-DIMM1_H=5.2_RVS
DDR-78279-001-RVS-204P
DGMK4000278
SOCKET DDR3 SODIMM(204P,H5.2,RVS)TOP BSQ

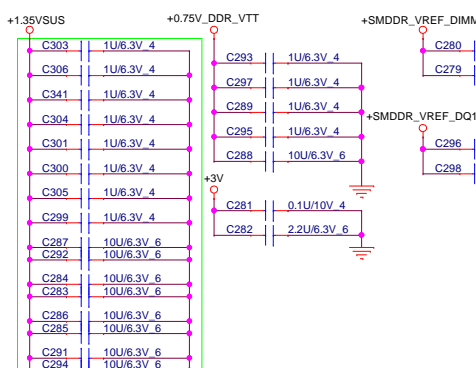
Local Thermal Sensor



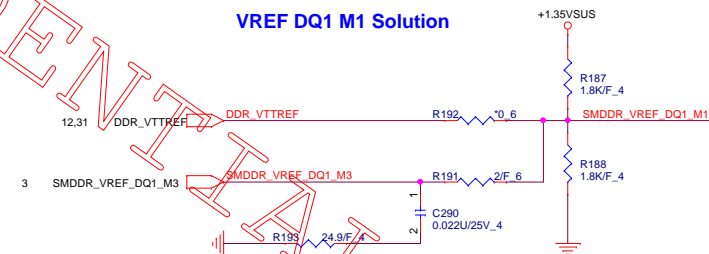
Main:AL001412003 EMC1412-1-ACZL-TR(98h)
2nd:AL000431014 TMP431ADGKR(98h)

Place these Caps near So-Dimm1.

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



VREF DQ1 M1 Solution



PROJECT : Q12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	System Memory 2/2 (9.2H)	1A
Date: Thursday, January 24, 2013	Sheet	40

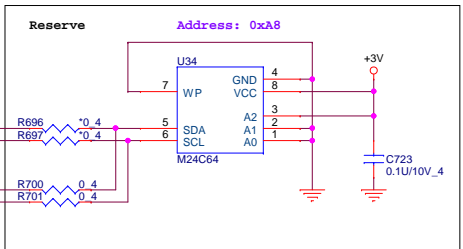
EDDID EEPROM

VCC

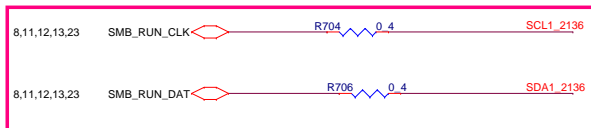
DP2LVDS VCC

HPD

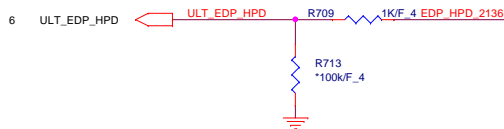
<=100ms



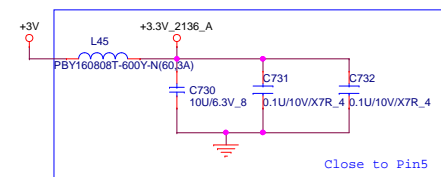
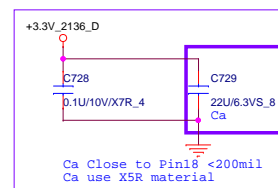
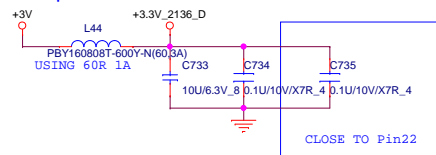
SMBUS



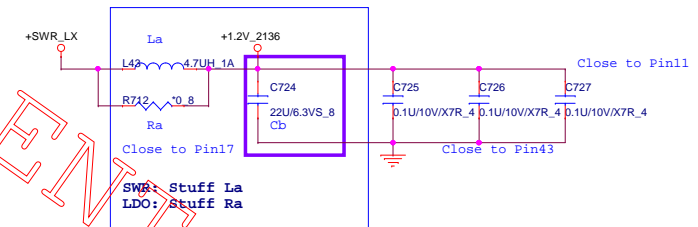
Use 1% Res on Rb
To improve anti-noise,
Surround Rb by GND plane.



keep 80 Mile Trace



L69: need use CV-4709MN00 for Vendor suggestion



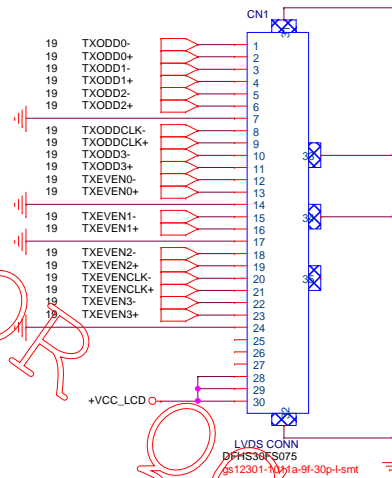
1. Cb use X5R material
2. SWR_LX and +1.2V_2136 trace must >20mil.
3. SWR_LX and Pin17 <400mil



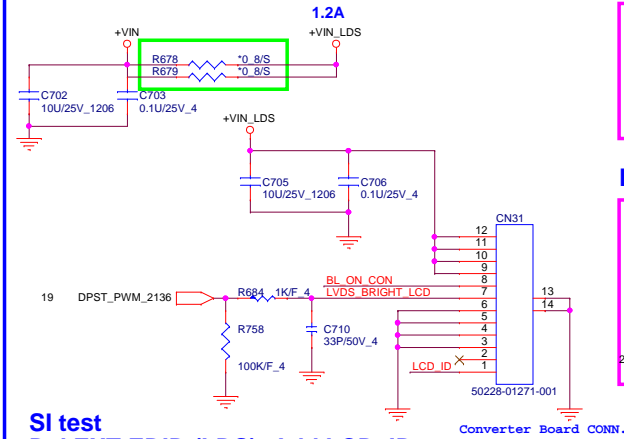
PROJECT : Q12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	LVDS converter RTD2136	?
Date: Thursday, January 24, 2013	Sheet 19 of 40	

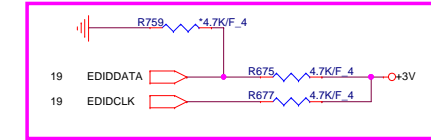
LVDS



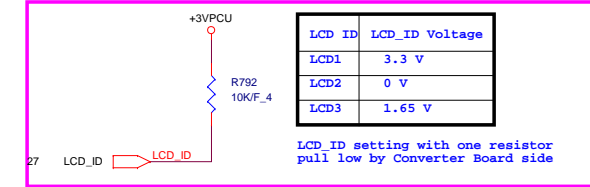
Converter Board (LDS)



EDID SMBUS

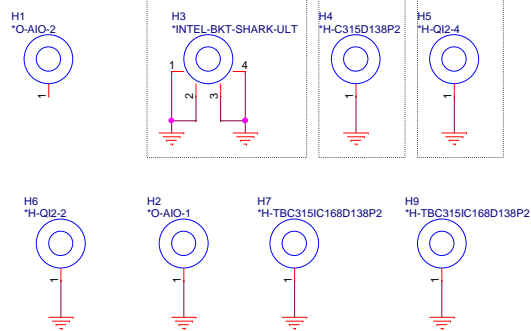


LCD_ID

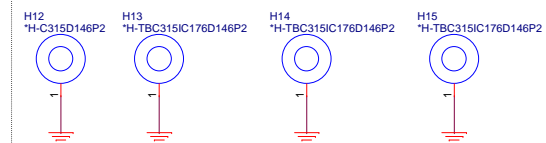


Screw Hole

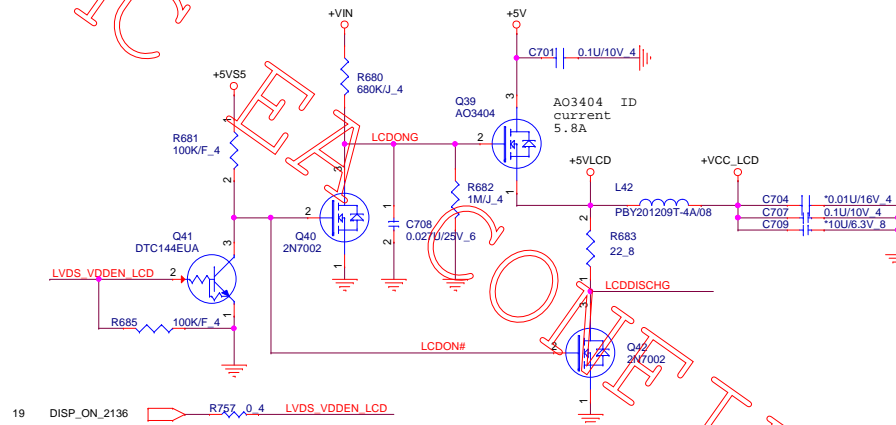
CPU BRK HOLE



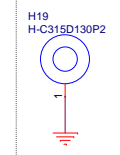
GPU BRK HOLE



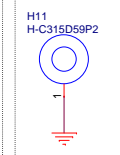
LCD Power(LDS)



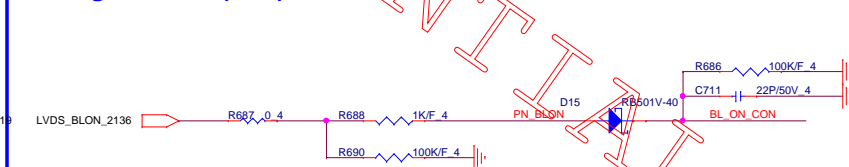
mSATA



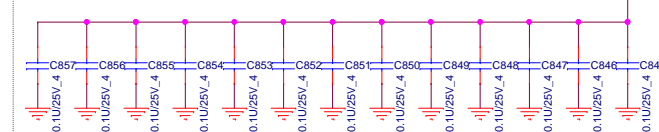
WLAN



Backlight Control(LDS)

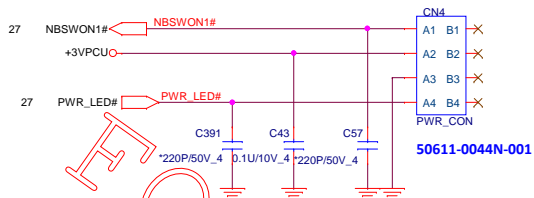


+VIN CAPS

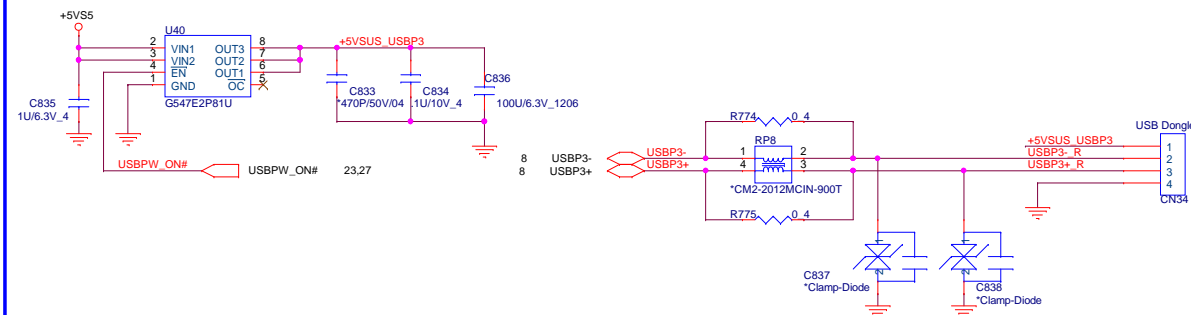


Power Button Connector

Pin1 : NBSWON1#
Pin2 : +3VPCU(LIDSWITCH PWR)
Pin3 : GND
Pin4 : POWERON#

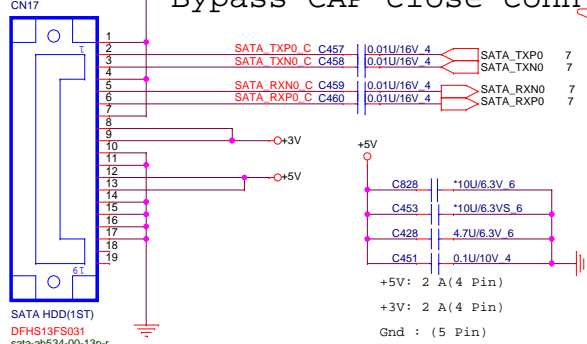


KB / Mouse Dongle

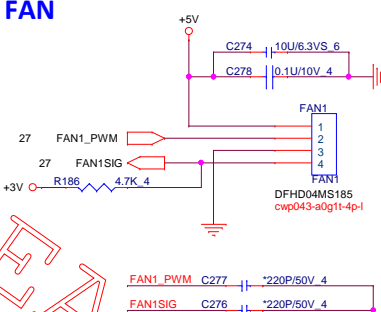


SATA HDD Connector(Socket type)

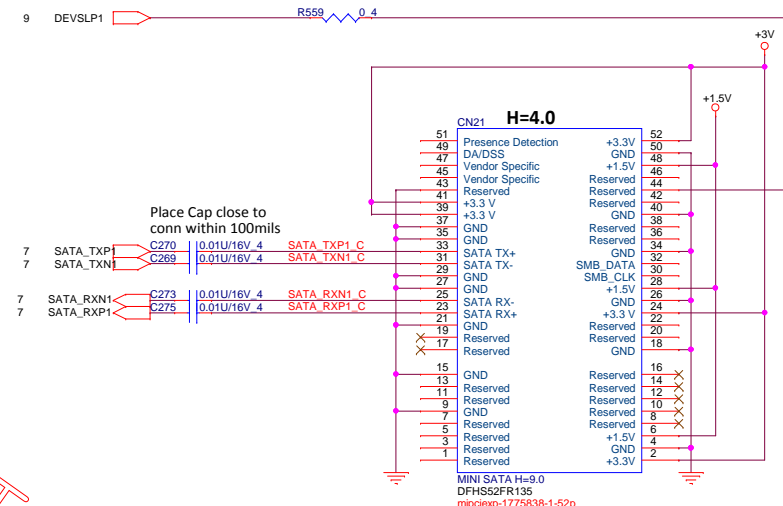
Bypass CAP close conn



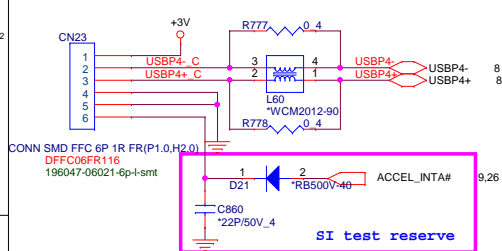
FAN



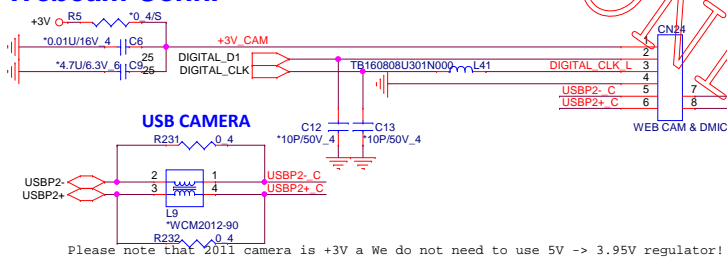
Mini PCI-E Card 2- Full size mSATA



Sensor Board Conn.



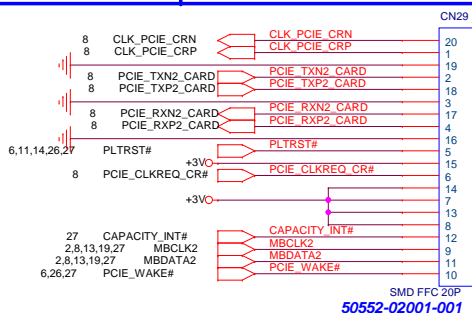
Webcam Conn.



Card reader Conn. Capacity Button

Card Reader
PCIE

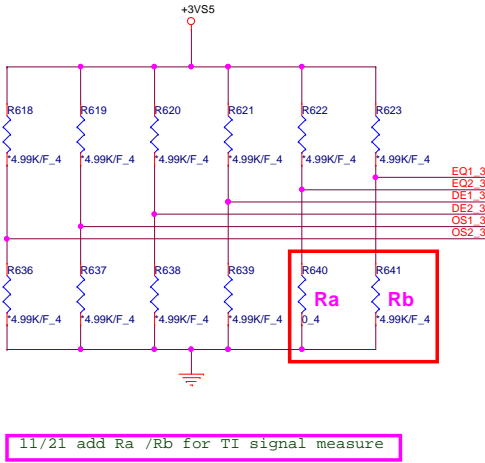
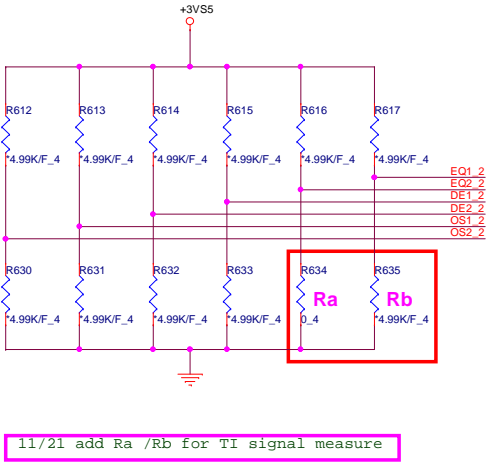
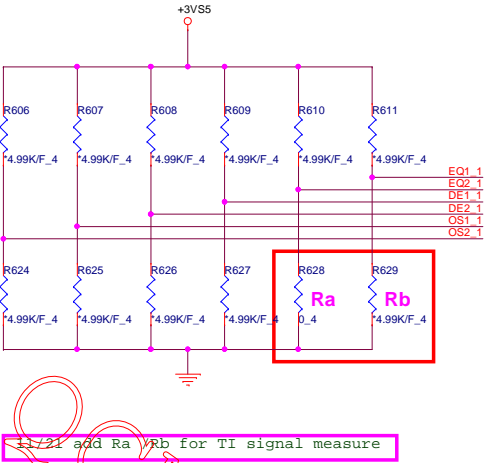
Capacity Button



PROJECT : Q12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SATA HDD/ODD/MSATA CONN	1A
Date: Thursday, January 24, 2013	Sheet	21 of 40

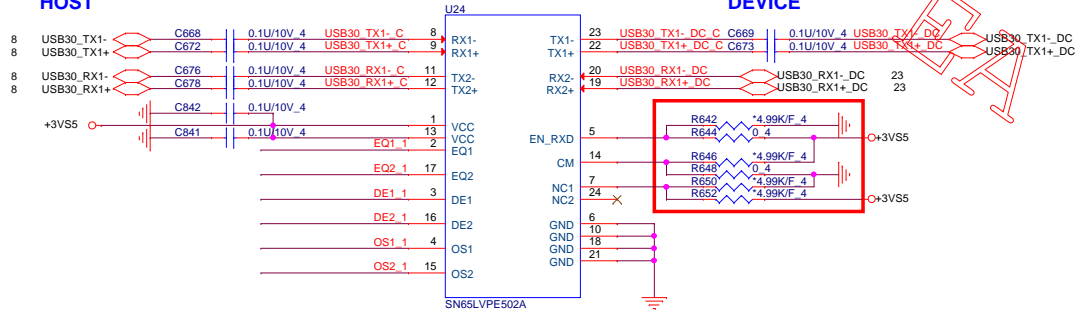
OSx		Transition Bit Amplitude	
NC(default)		1000	
0		870	
1		1085	
EQx		Equalization dB	
NC(default)		0	
0		7	
1		15	
DEx	OSx=NC	OSx=0	OSx=1
NC	-3.5dB	-2.2dB	-4.4dB
0	-6.0dB	-5.2dB	-6.0dB
1	-8.5dB	-8.9dB	-7.6dB
EN_RXD			
1(default)			
Normal operating mode			
0			
Sleep mode			
CM			
0(default)			
Normal operating mode			
1			
Compliance mode			



HOST

USB3.0 re-driver IC

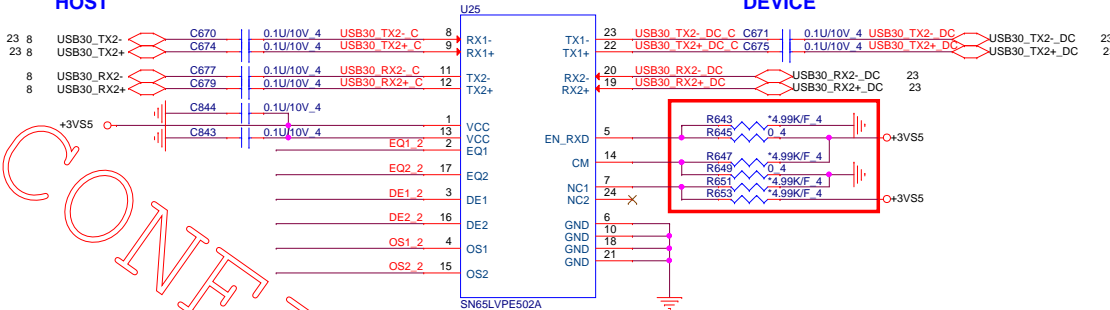
DEVICE



HOST

USB3.0 re-driver IC

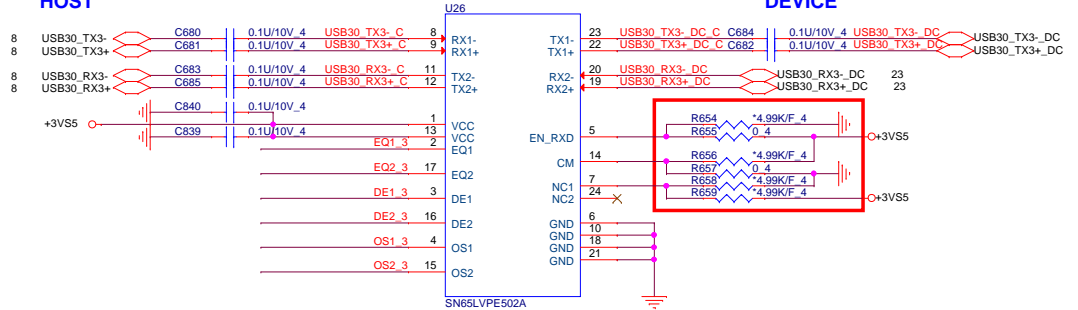
DEVICE



HOST

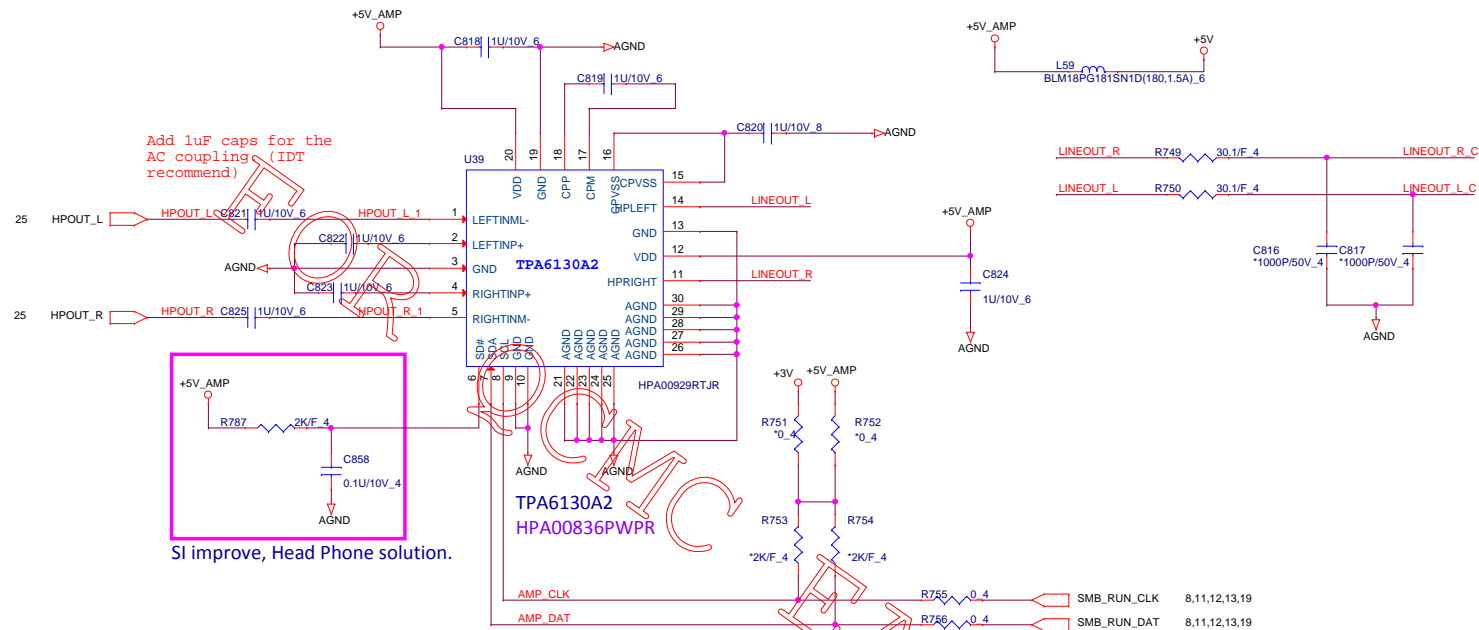
USB3.0 re-driver IC

DEVICE

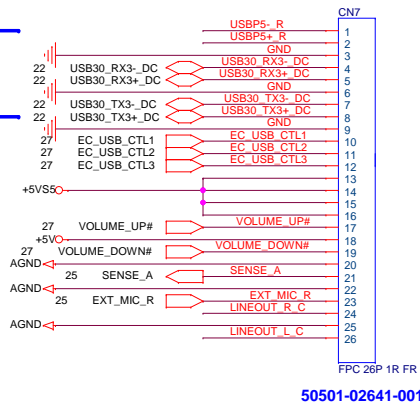


PROJECT : Q12
Quanta Computer Inc.

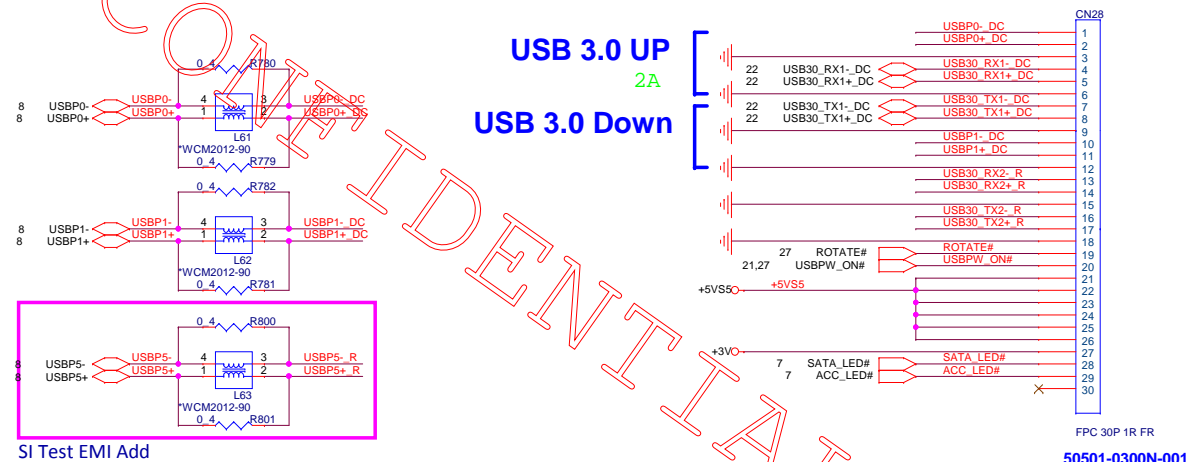
Size Custom	Document Number USB 3.0/KB/Green CLK	Rev 1A
Date: Wednesday, January 23, 2013	Sheet 22of	40



Audio Board Connector

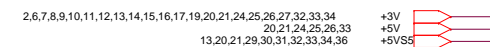
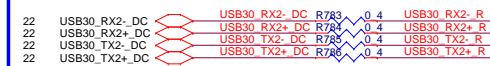
USB 3.0 ADO
2A

USB 2.0/3.0 Combo

USB 3.0 UP
2A
USB 3.0 Down

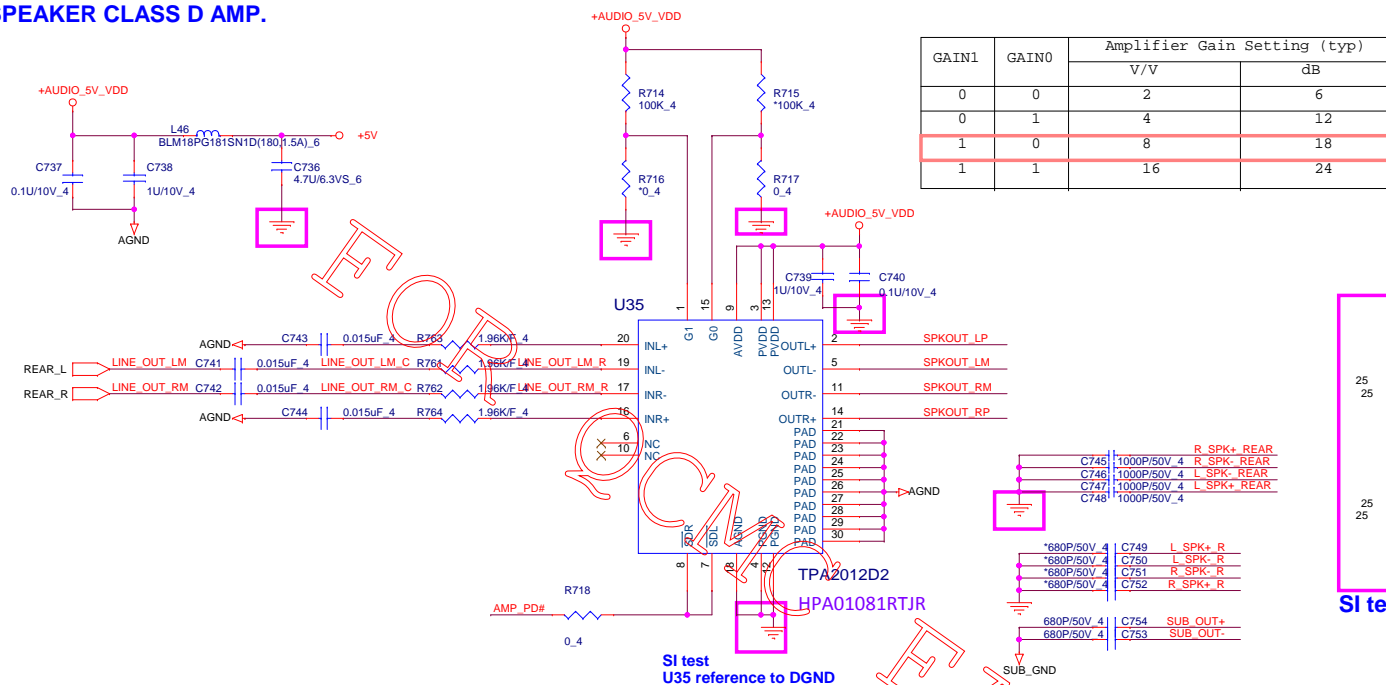
SI Test EMI Add

Reserve for debug

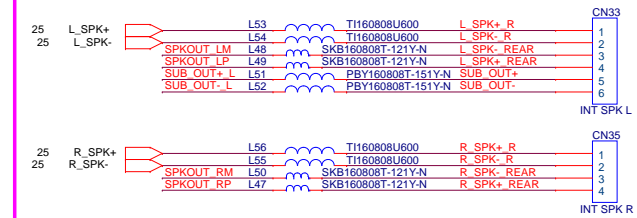
PROJECT : Q12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Audio/AMP TPA6130A2	1A
Date: Thursday, January 24, 2013	Sheet 23	of 40

SPEAKER CLASS D AMP.

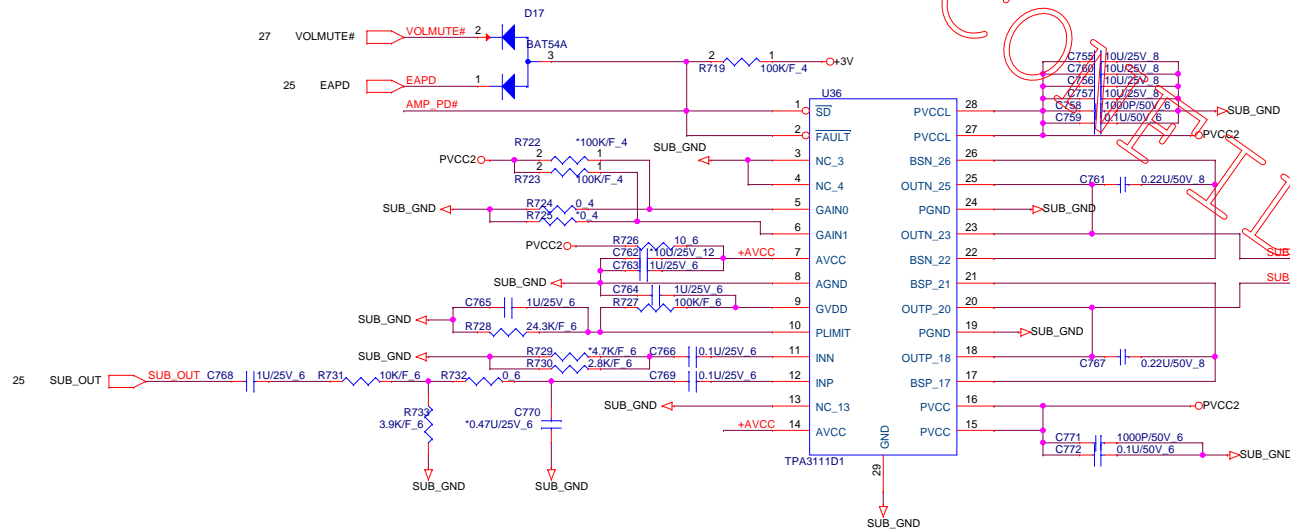


Speaker Conn



SI test Separate

Subwoofer



TPA3111D1
HPA00836PWPR
ANC: APA2613RI-TRG, AL002613K00
TIC: TPA3111D1PWPR, AL003111K00

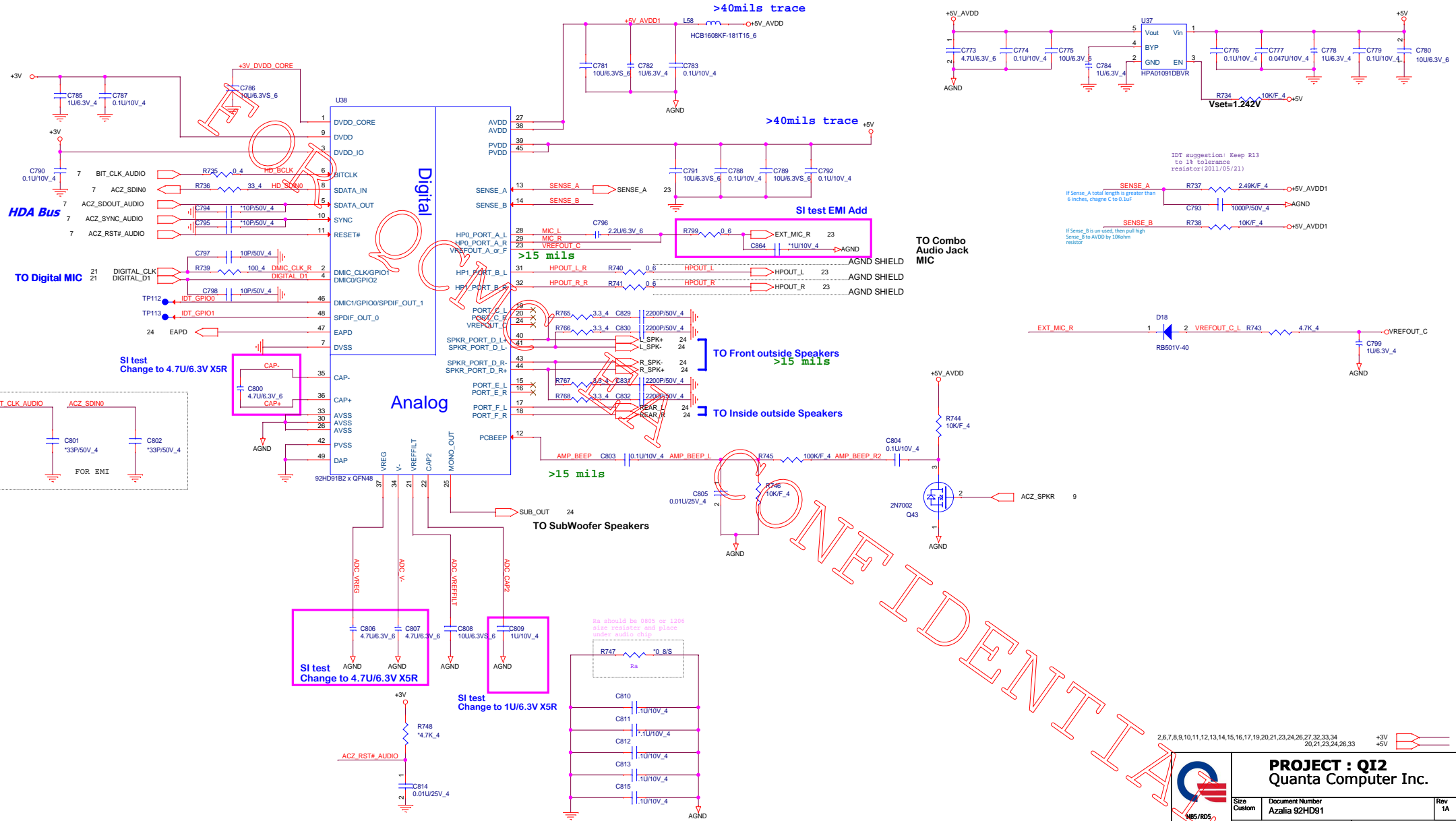
GAIN1	GAIN0	dB
0	0	20
0	1	26
1	0	32
1	1	36



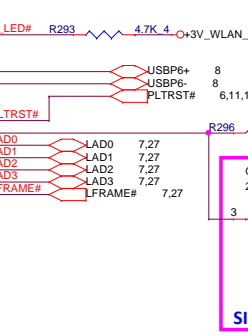
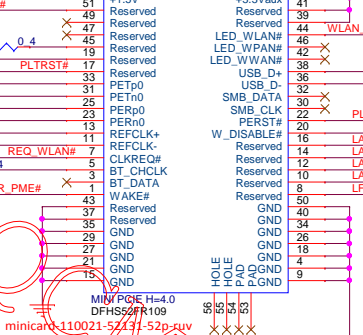
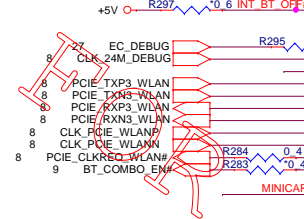
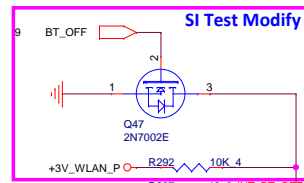
PROJECT : Q12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Card Reader	1A
Date: Thursday, January 24, 2013	Sheet 24 of 40	

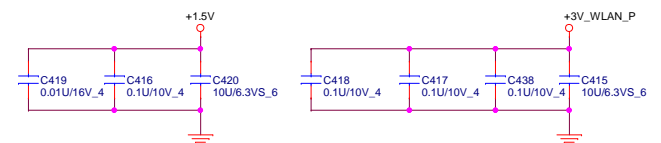
Headphone signal routing:
A minimum of 15 mils separation should be used between L/R signals to audio jacks and docks.



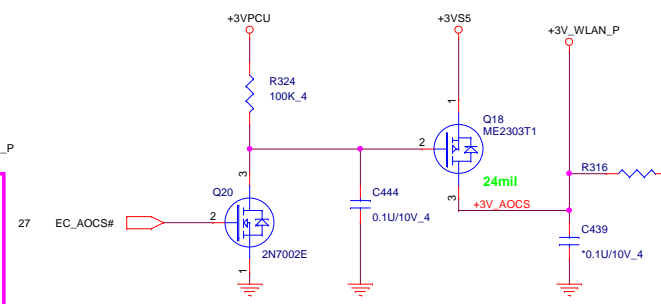
Mini Card WLAN/BT(Optional)



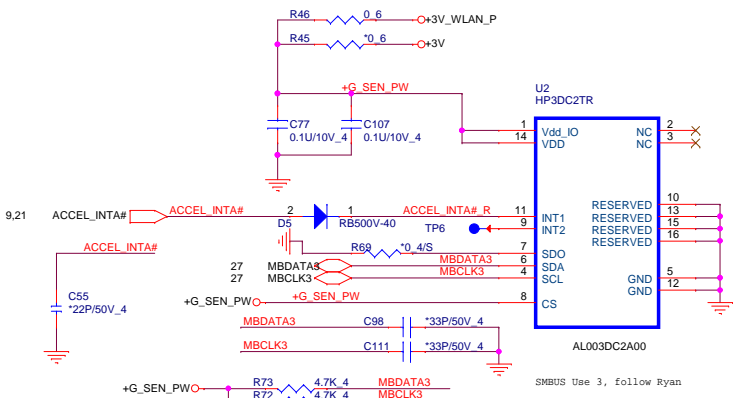
Mini Card Reset



Support Wake Function (Reserve)



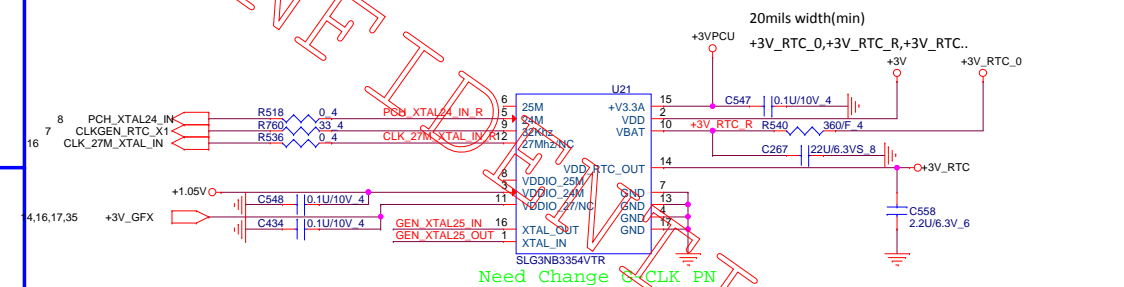
Accelerometer Sensor



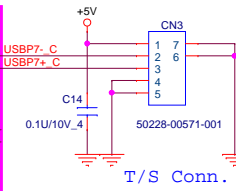
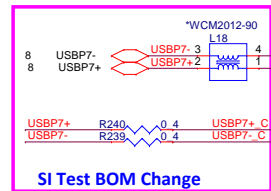
For EMI Suggestion



Green CLK Circuitry

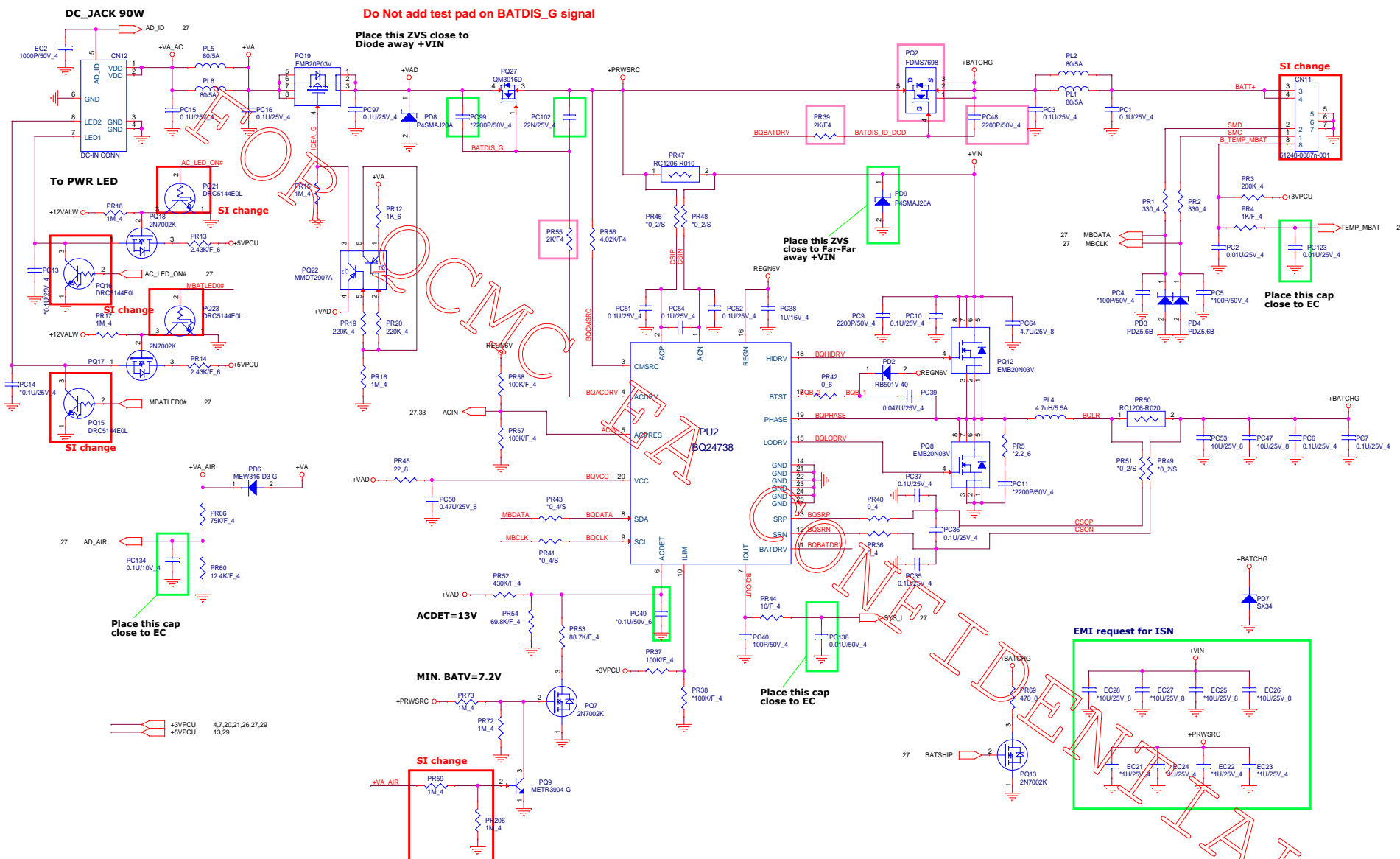


Touch screen

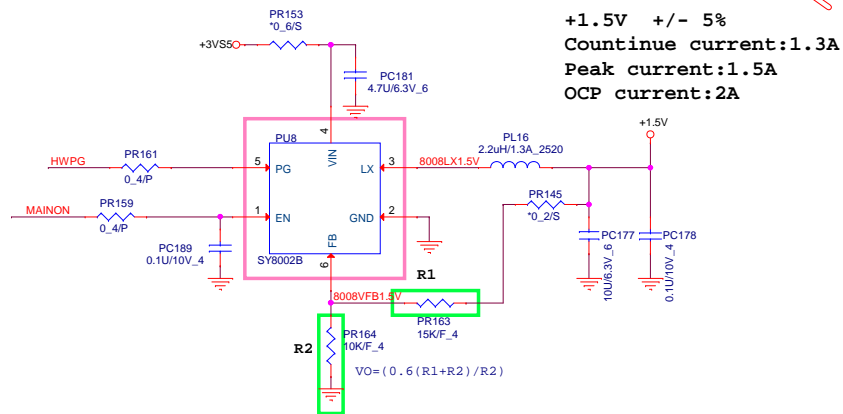
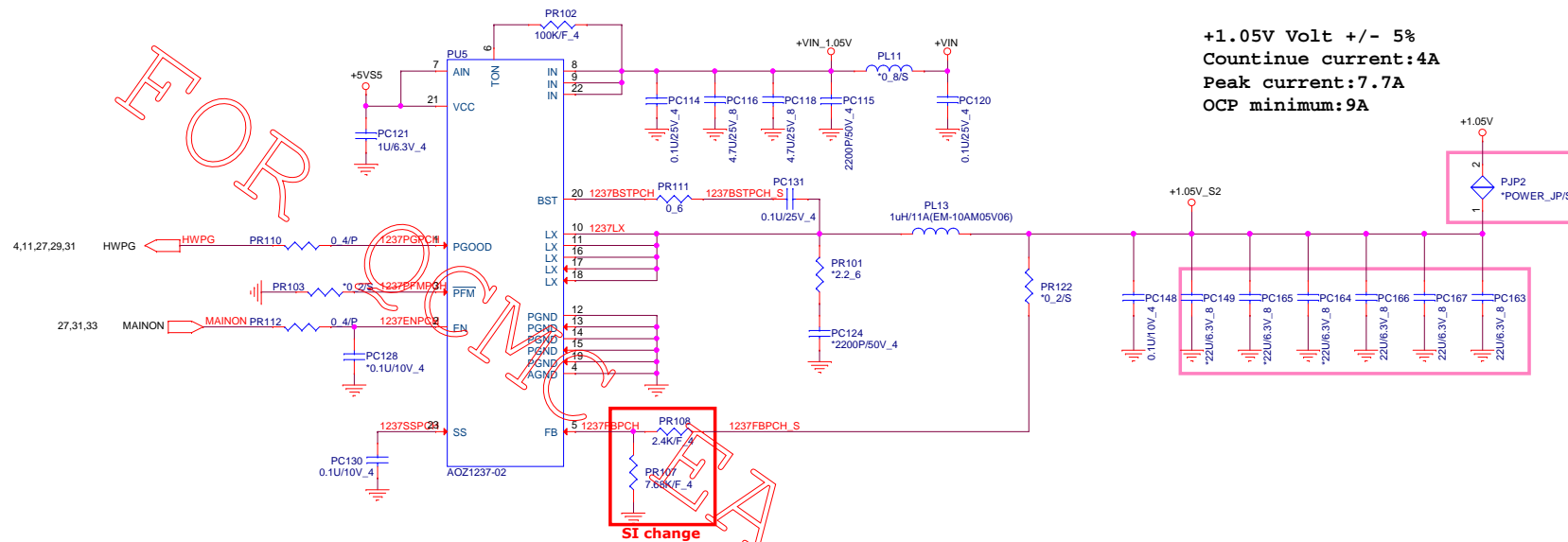


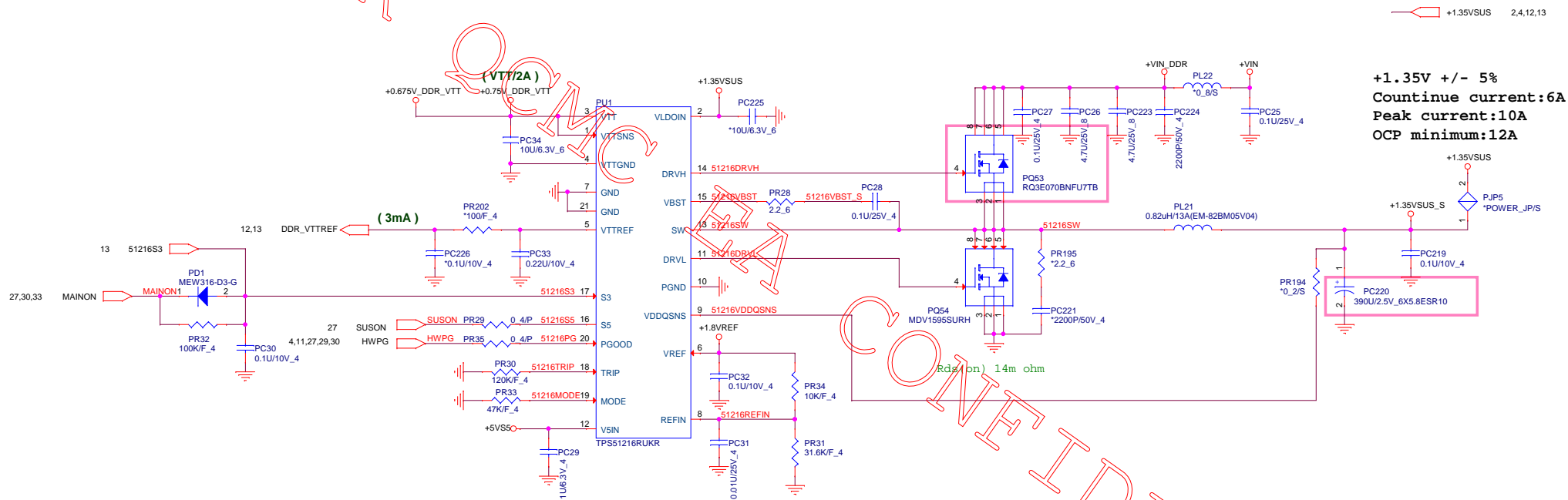
PROJECT : Q12
Quanta Computer Inc.

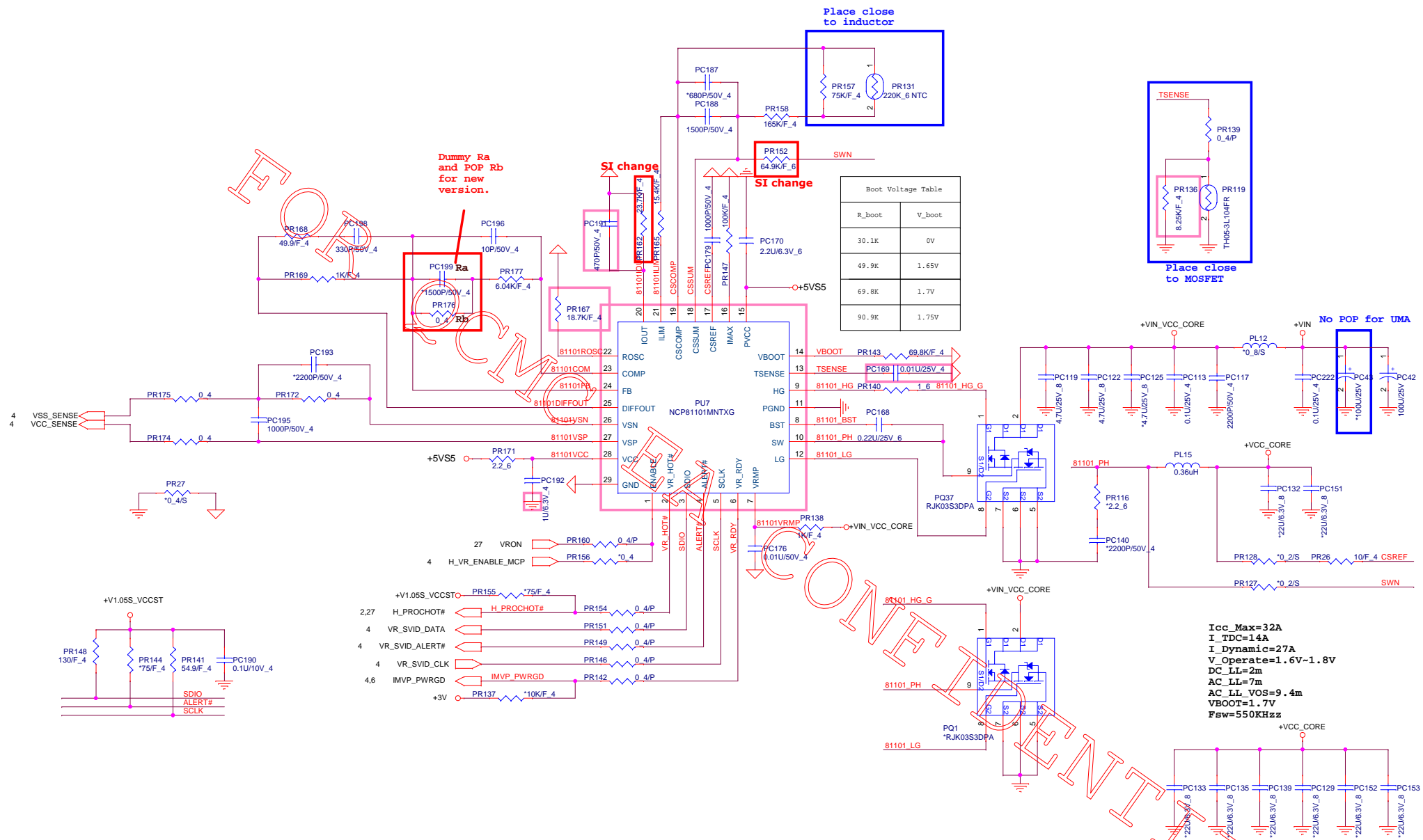
Size	Document Number	Rev
Custom	MINI-PCIE/LED	1A
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20,24,28,29,31,32,34,35,36
S5 6,9,10,11,22,26,29,33,35
S5 13,20,21,23,29,31,32,33,34,36
PCU 13,28,29

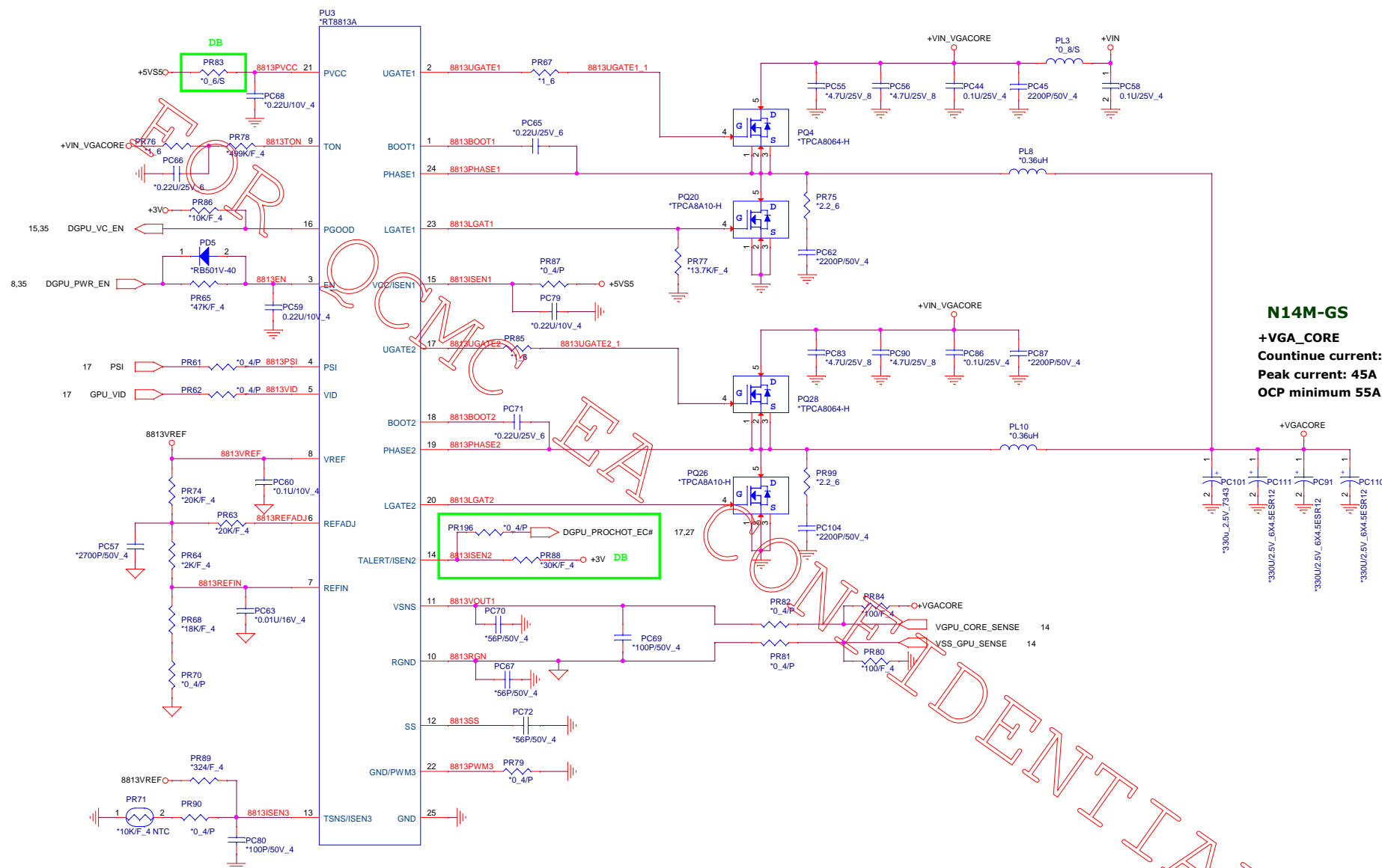


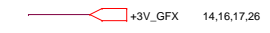




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Quanta Computer Inc.

Size Custom	Document Number Dis-charge IC (G5934)	Rev 1A
Date: Thursday, January 24, 2013		Sheet 32 of 40



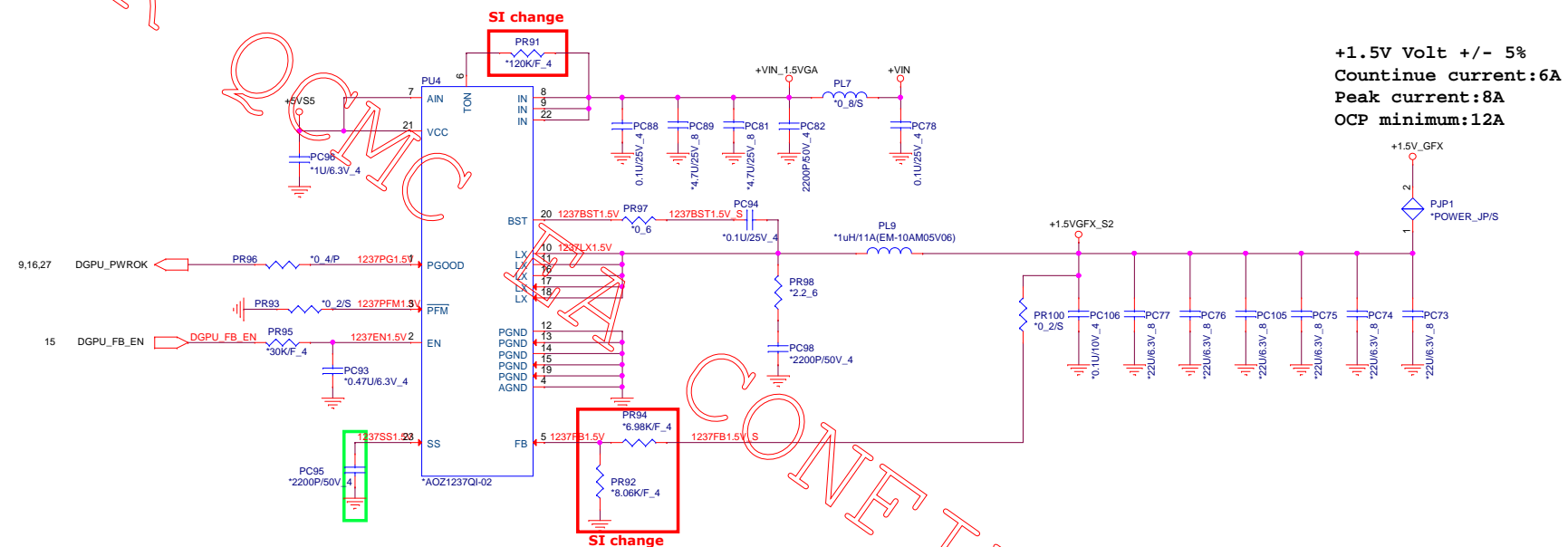


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Quanta Computer Inc.

Size Custom	Document Number +VGACORE (RT8208/1.8V)	Rev 1A
Date	Wednesday, January 23, 2013	Sheet 35 of 40

FOR

Q12



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	USB2.0/USB3.0 COMBO 3rd	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)

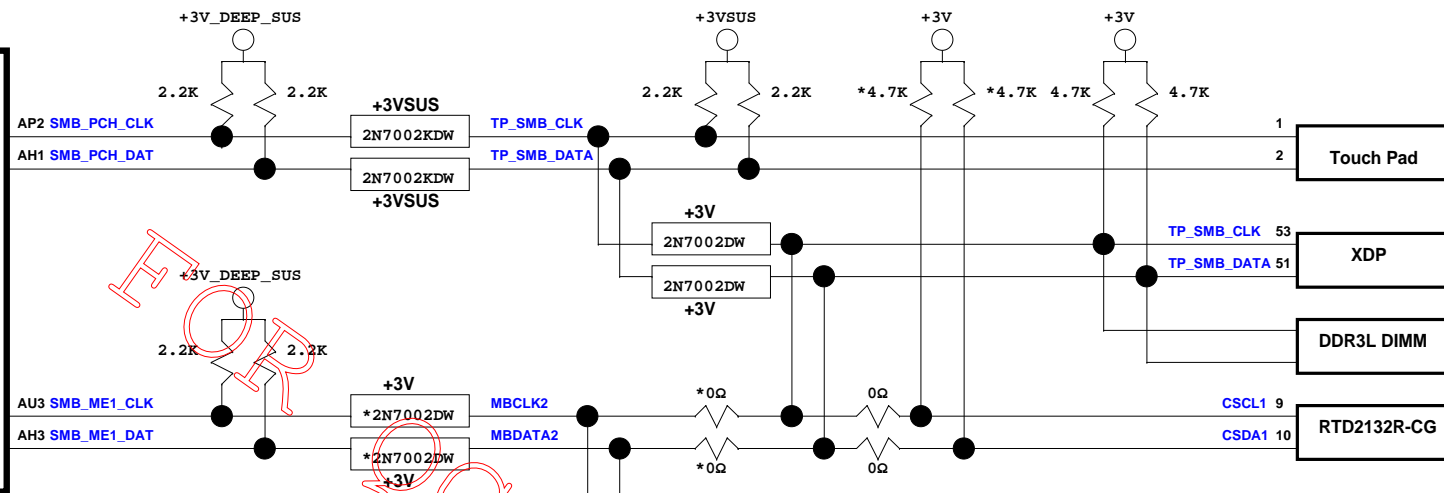
SATA Master	Port Assignment	Power control pin
SATA0	HDD	N/A
SATA1	mSATA	N/A
SATA2	NC	N/A
SATA3/PCIE	Card reader	N/A

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	

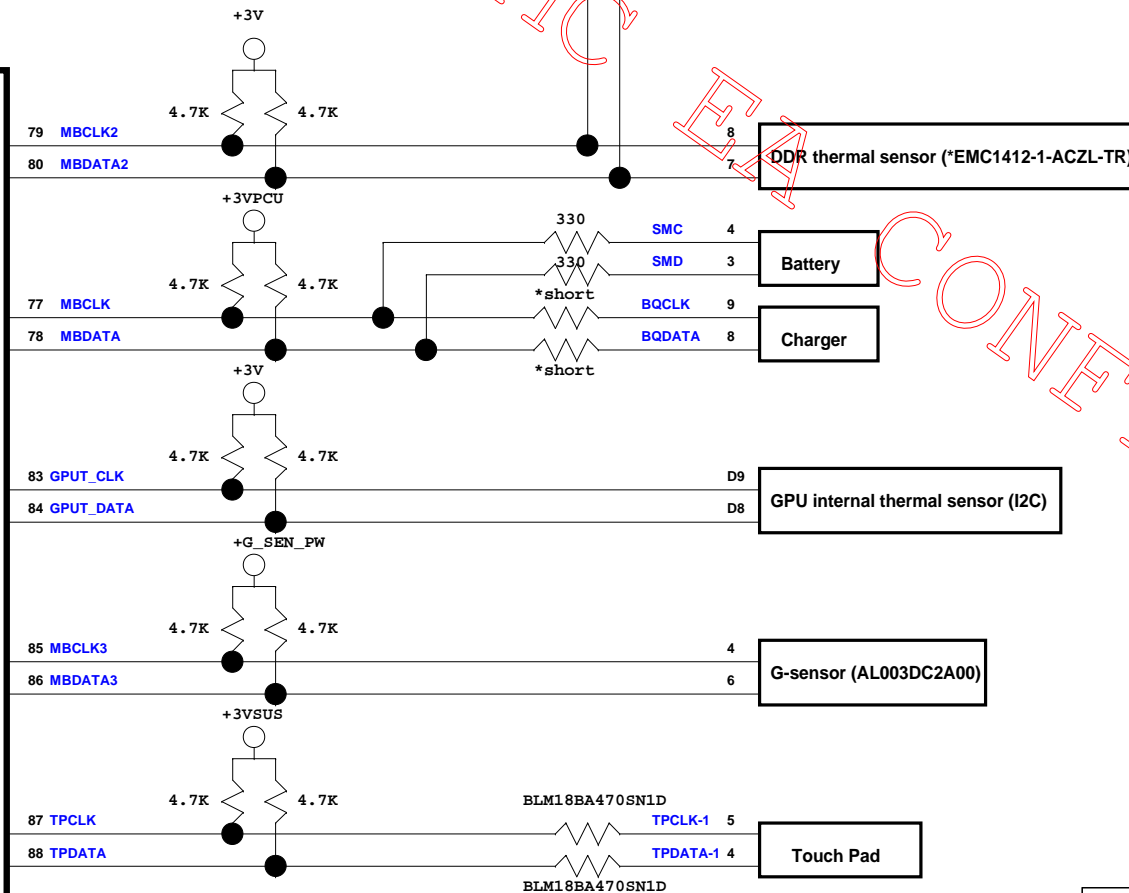


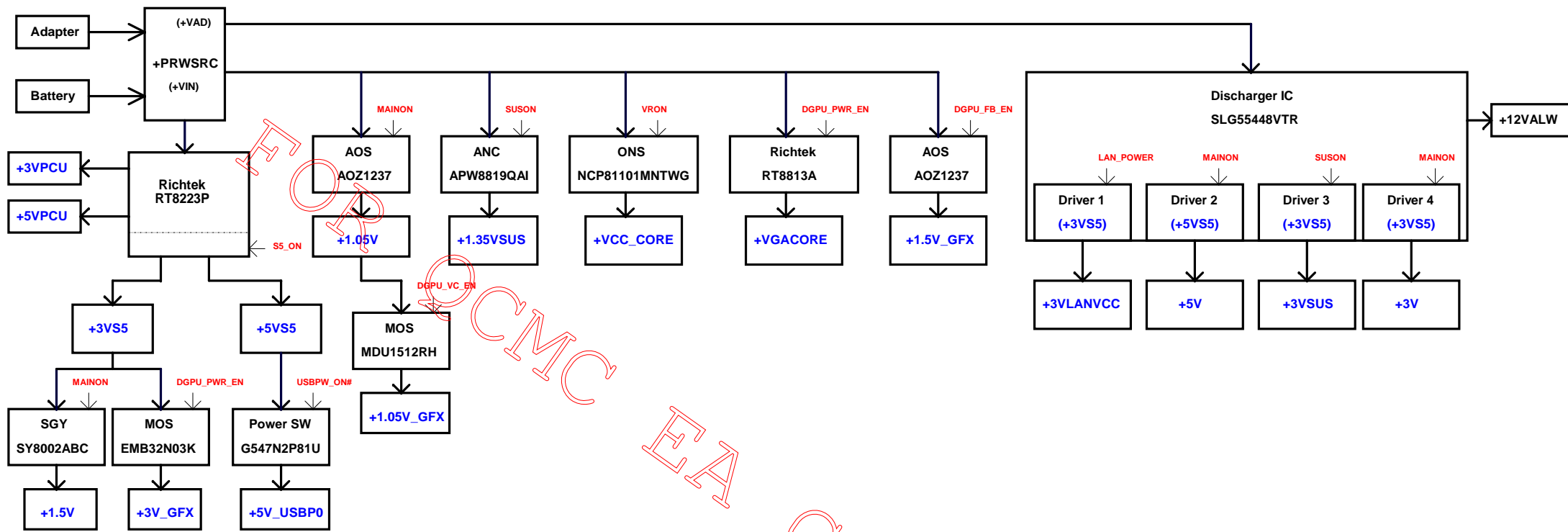
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