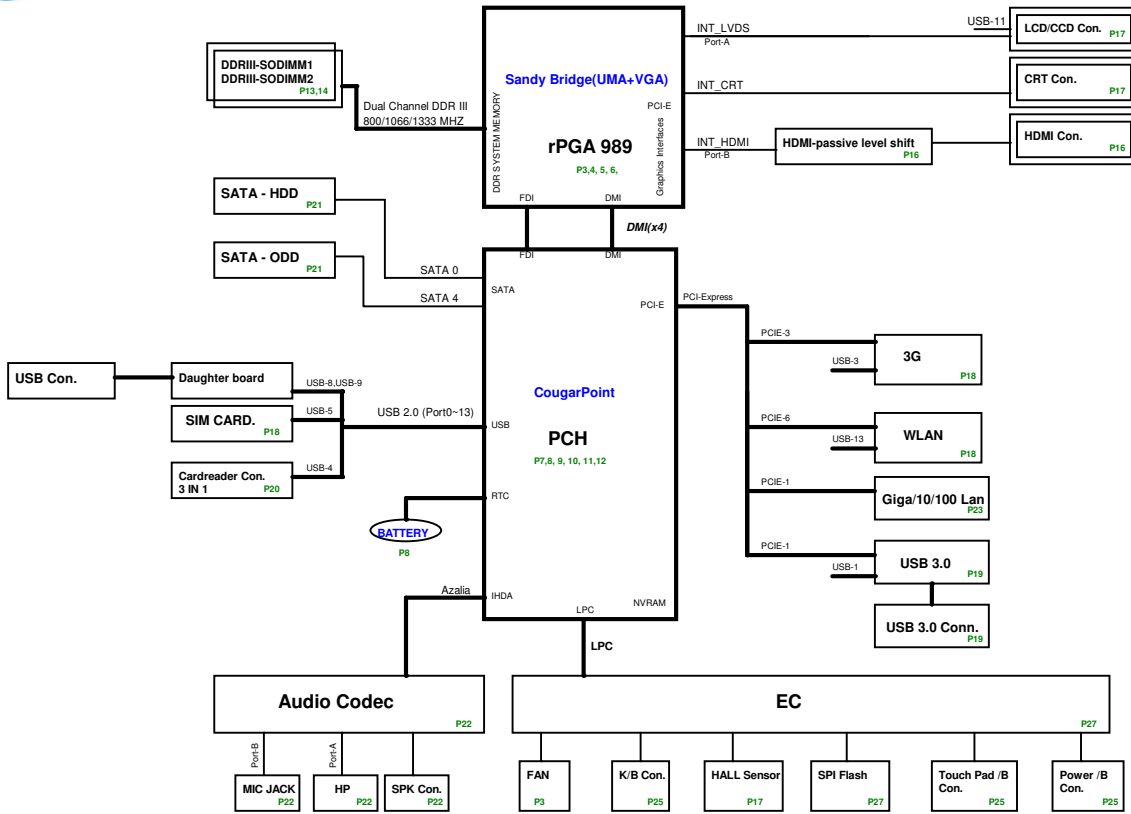


LAYER 1 : TOP
LAYER 2 : GND
LAYER 3 : IN1
LAYER 4 : SVCC
LAYER 5 : IN2
LAYER 6 : IN3
LAYER 7 : GND
LAYER 8 : BOT







POWER SYSTEM
ISL88731C P28
PM6686 P29
UP6163 P30
RT8240 P31
TPS51461 P32
ISL9583HRTZ P33
G966A P34

+VCC_CORE
+1.5V
+1.5VSUS
+VTT
+1.05V
+1.8V
+1.5V_S5
+3VPCU
+3V_S5
+3V
+5VPCU
+5V_S5
+5V
+SMDDR_VTERM
+SMDDR_VREF
+VCCSA

Table of Contents

PAGE	DESCRIPTION	BOI-FUNCTIONS
1	Schematic Block Diagram	
2	Front Page	
3-6	Processor	CPU
7-12	PCH	CLG
8	RTC	RTC
13-14	DDRIII SO-DIMM	DDR
17	VGA Connector	VGA
16	LCD Panel	LDS
	CRT & CRT BUS SWITCH	CRT
	CCD	CCD
	HALL SENSOR&BACK LIGHT SWITCH	HSR
19	Display Port	DPP
20	HDMI comm part	HDM
	HDMI for GM	HMG
21	SATA ODD	ODD
	Main SATA HDD & 2nd SATA HDD	HDD
	G-Sensor	H3D
22	5 IN 1 Card reader	MMC
	IEEE1394	FW
23	MINI Card (Wi-Fi & WIMAX)	WLN
	MINI Card 2nd	MNC
	MINI Card 3rd	MNC
	TMA Connector	TMA
24	INT KeyBoard & K/B LED Power	KBC
	LED Board	LED
	TP&FP board	TPD,FPD
	Bluetooth Connector	BTM
	Felica Connector	FEC
	MMB Connector	MMB
	Power SW	PSW
	B-CAS Connector	BCS
25	New Card (Express Card)	EXC
	E-SATA comb USB	ESA
	USB Connector	USB
	Audio & USB Board	USB,ADO
	Light Sensor	LSN
	Satellite LED	LED
	RF LED / WIMAX LED / Kill SW	KSW
26	EC WP8763LDG/WPC8769L(O)	KBC
	CIR	CIR
27	Codec (CX20583)	ADO
28	FM Tunner	FMM
	Modem Connector	MDM
	HOLE	
29	Atheros LAN	LAN
30	NVRAM Connecytor	NVR
31	Charger (ISL6251A)	PWM
32	System 5V/3V (ISL6237)	PWM
33	CPU CORE (ISL62882)	PWM

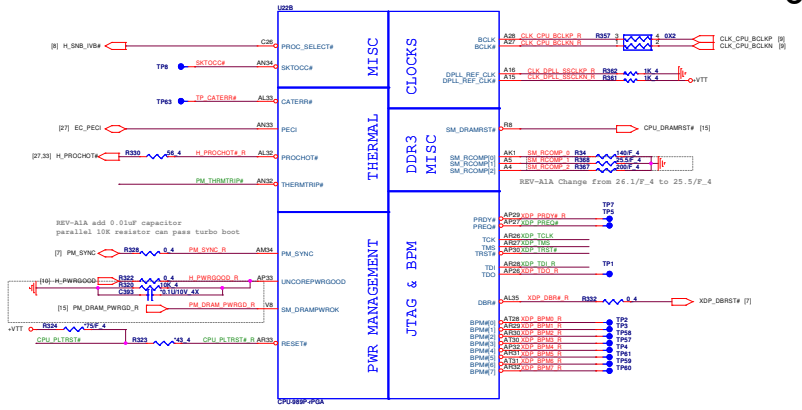
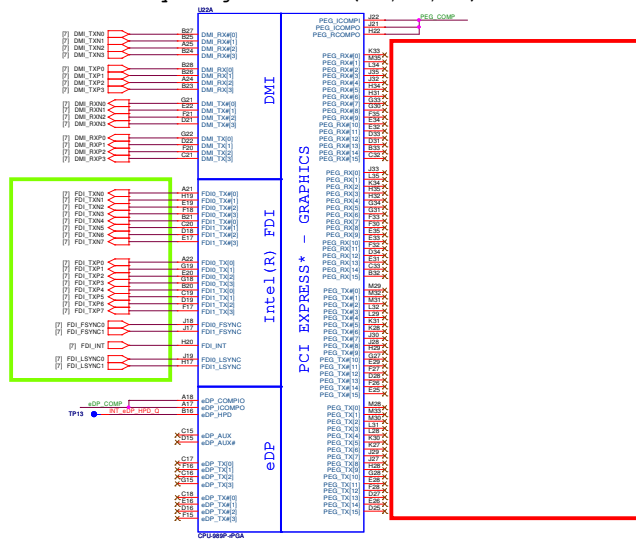
POWER PLANE	VOLTAGE	CONTROL SIGNAL	Power States ACTIVE IN
VIN	10V~+19V		S0-S5
+VCCRTC	+3.0V~+3.3V		S0-S5
+3V	+3.3V	MAIN_ON	S0
+3V_S5	+3.3V	S5_ON	S0-S5
+3V_HDP	+3.3V	MAIN_ON	S0
+3VPCU	+3.3V	AC/DC Insert enable	S0
+5V	+5V	MAIN_ON	S0
+5V_S5	+5V	S5_ON	S0-S5
+5VPCU	+5V	AC/DC Insert enable	S0-S5
+5V_TMA	+5V	MAIN_ON	S0
WIMAX_P	+3.3V	WMAX_P for EC	
+1.8V	+1.8V	MAIN_ON	S0
+1.5V	+1.5V	MAIN_ON	S0
+1.5V_S5	+1.5V	S5_ON	S0-S5
+1.5V_SUS	+1.5V	SUSON	S0-S3
+VCC_CORE		VRON	S0
+VTT	+1.05V~+1.1V	MAIN_ON	S0
+1.05V	+1.05V	MAIN_ON	S0
+VAXG		GFXVR_EN	S0

GND PLANE	PAGE
 GND_SIGNAL	32
 CARD_GND	21
 AGND_DC/DC	31
 GND	ALL

ITEM	Value Code	FUNCTIONS
1	EV@	DISCRETE
2	IV@	UMA
3	U3@	USB 3.0
4	U2@	USB 2.0 (colay W USB 3.0)
5	HM@	HDMI
6	IHM@	Internal HDMI
7	EHM@	External HDMI
8	3G@	3G
9	C@	Cost issue
10	MDC@	Modem
11	S3@	S3 Power Reduction
12	NS3@	No S3 Power Reduction
13	E@	EMI
14	51@	1G LAN
15	52@	10/100 LAN
16	GS@	G-SENSOR
17	NGS@	No G-SENSOR

PAGE	DESCRIPTION	BOI-FUNCTIONS
34	VAXG (ISL62881)	PWM
35	+VTT (UP6111A)	PWM
36	+1.05V (UP6111AQDD)	PWM
37	DDR 1.5V (TPS51116)	PWM
38	Discharge (1.5V_S5/1.8V)	PWM
39	Power Tree Table	
40	PCH Power Plane	
41	Power Management	
42	Change List	

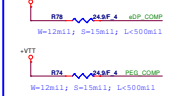
Sandy Bridge Processor (DMI,PEG,FDI)



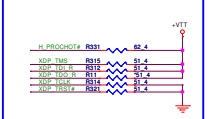
FDI Disabling (Discrete Only)
<CPU>



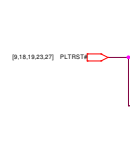
DP & PEG Compensation



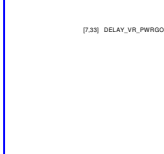
Processor pull-up <CPU>



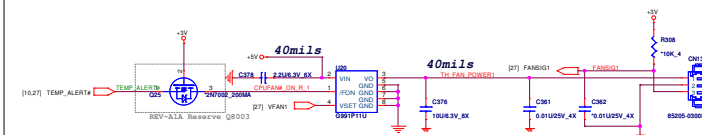
Level Shift <CPU>



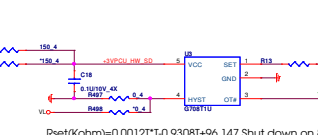
Thermal Trip<CPU>



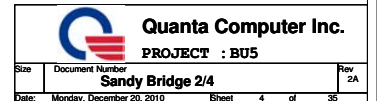
FAN Control-->For one FAN solution <THC>

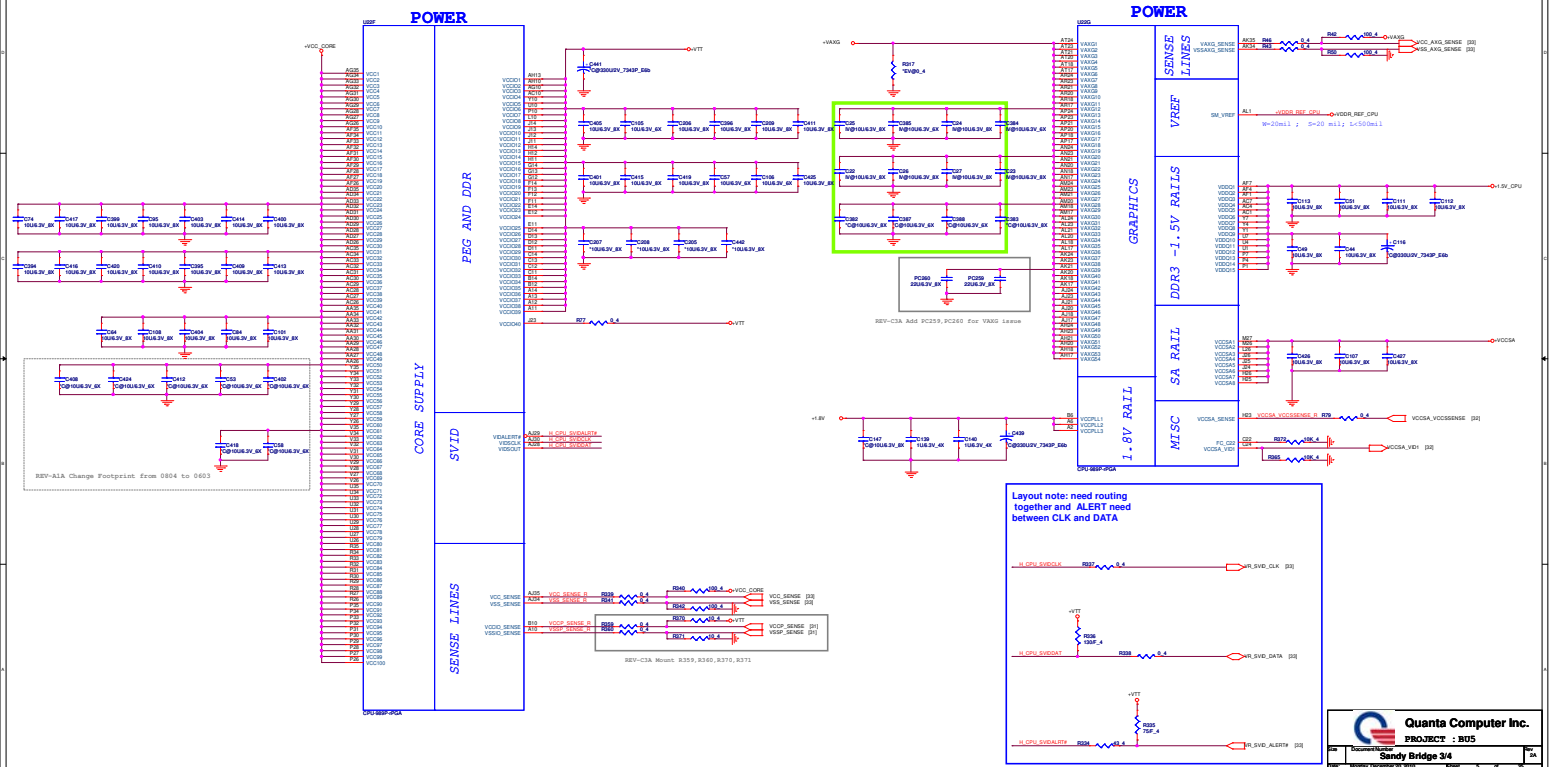


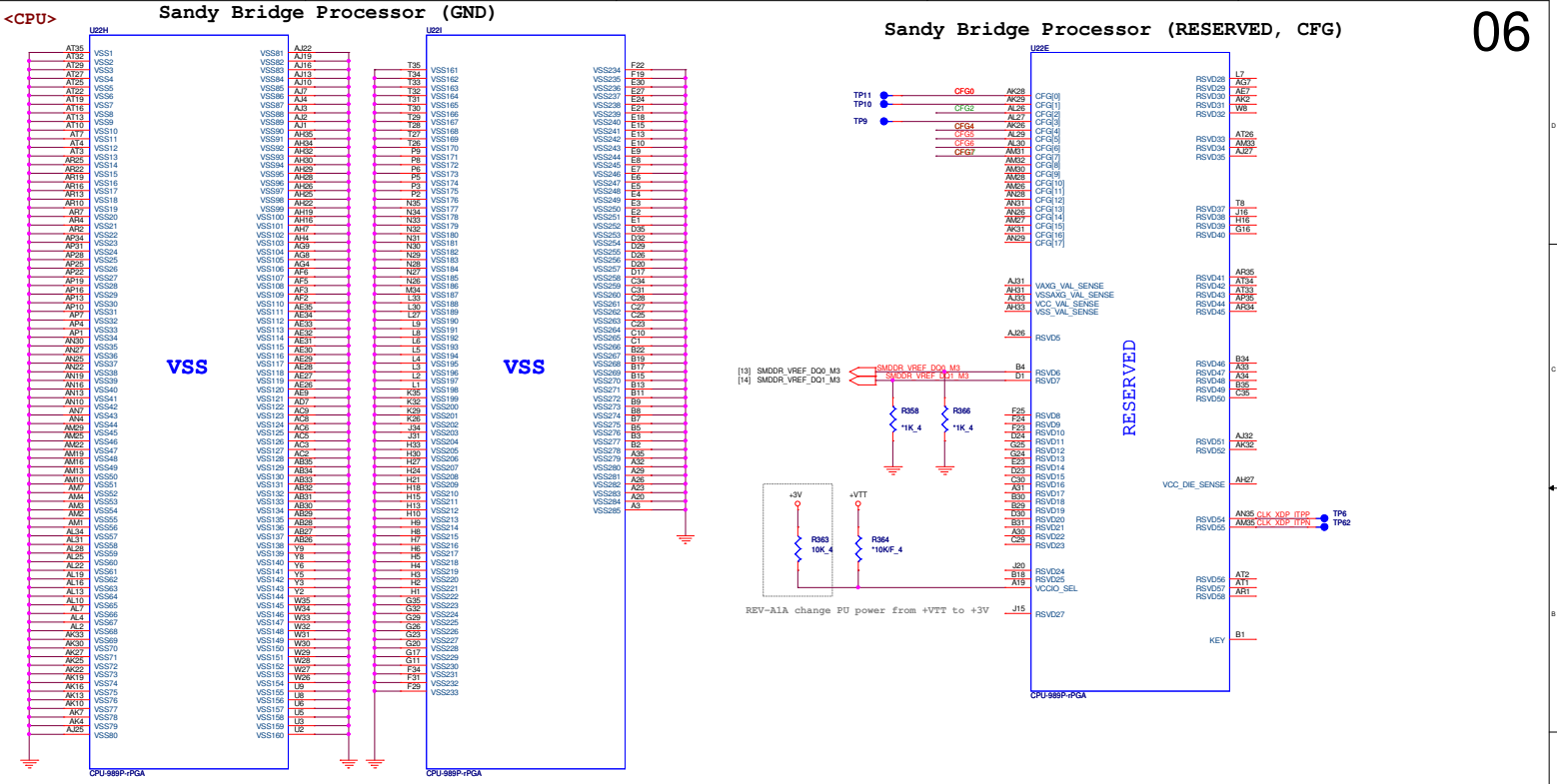
CPU Thermal sensor / MB Local TEMP <THC>



REV-C3A Change VCC PIN5 of U3 from +3VPCU to VL
Add R496,R497,R499
Reverse R14,R498,R31,R24,Q3







Processor Strapping

The CFG signals have a default value of "1" if not terminated on the board.

	1	0
CFG2 (PEG Static Lane Reversal)	Normal Operation	Lane Reversed
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP
CFG7 (PEG Defer Training)	PEG train immediately following xxRESETB deassertion	PEG wait for BIOS training

REV-A1A change PU power from +VTT to +3V

CFG2 R9
CFG4 R93
CFG7 R92

CFG6 (PCIe Port Bifurcation Straps)

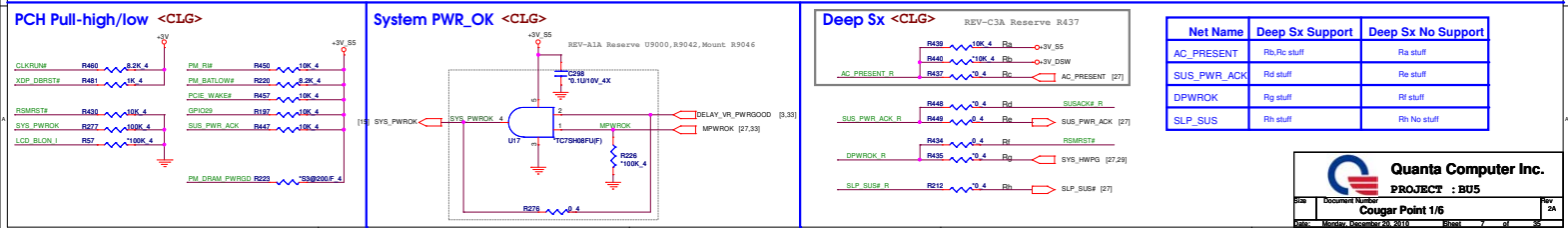
11: (Default) x16 - Device 1 functions 1 and 2 disabled
10: x8, x8 - Device 1 function 1 enabled; function 2 disabled
01: Reserved - (Device 1 function 1 disabled; function 2 enabled)
00: x8, x4, x4 - Device 1 functions 1 and 2 enabled

REV-A1A change to 5% tolerance

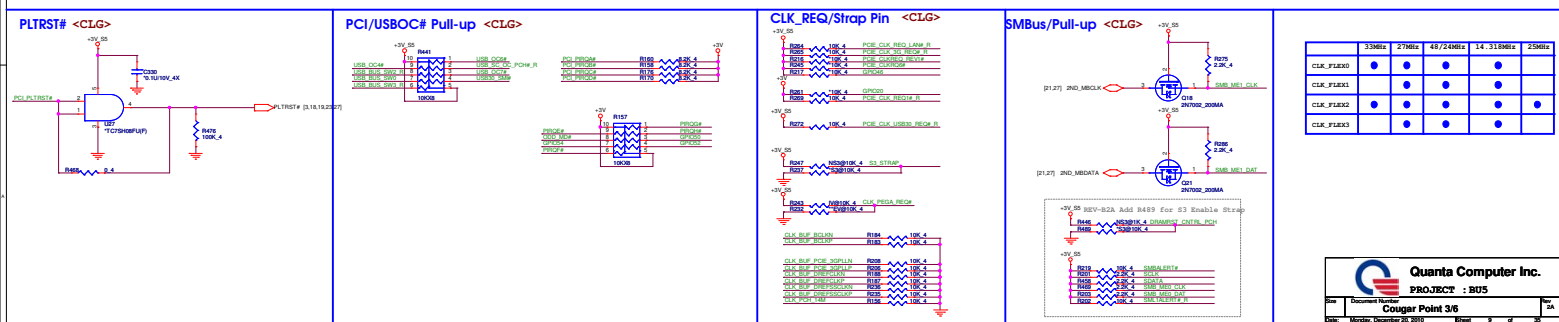
Quanta Computer Inc.
PROJECT :BU5
Sandy Bridge 4/4

Size Document Number
Monday, December 25, 2010 1:00 PM 6 of 35

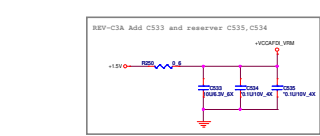
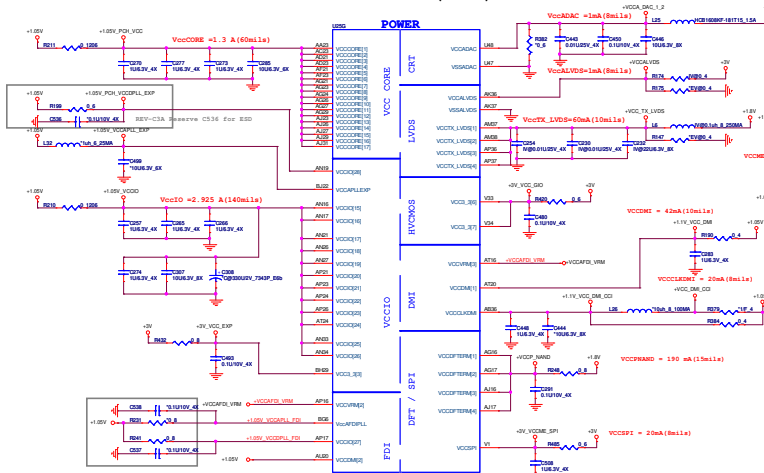
Cougar Point (LVDS, DDI)



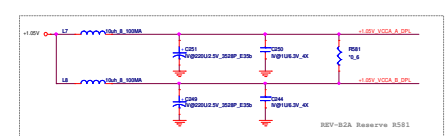
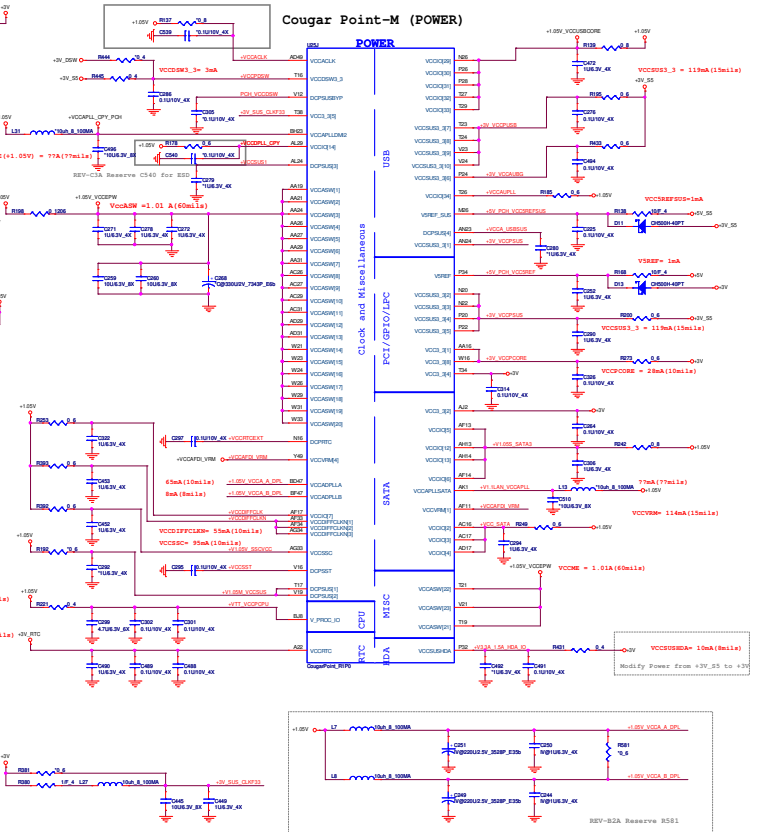
Cougar Point-M (PCI-E, SMBUS, CLK)



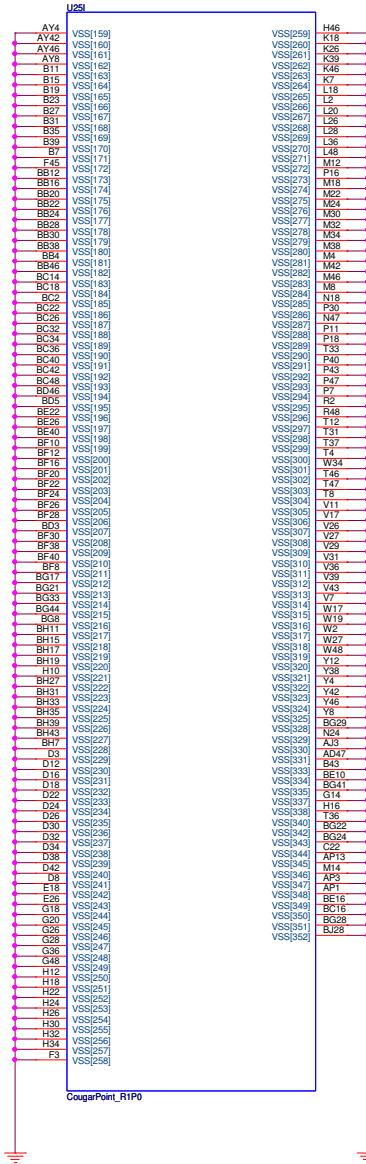
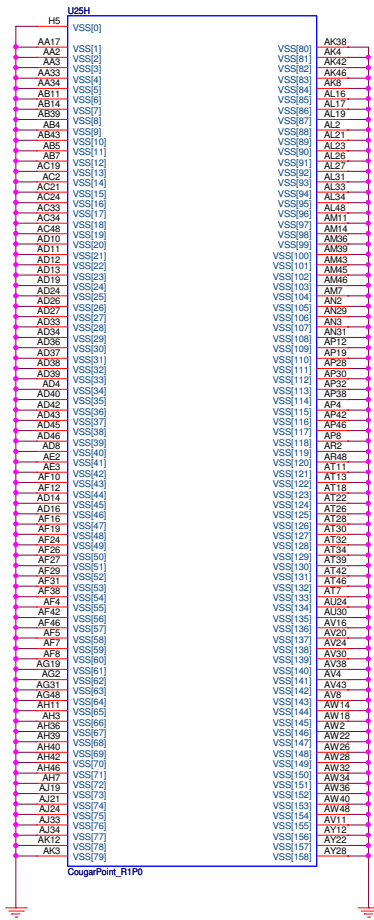
COUGAR POINT (POWER)




REV-C3A Reserve C539 For ESD



IBEX PEAK-M (GND)



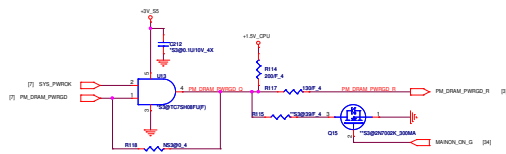
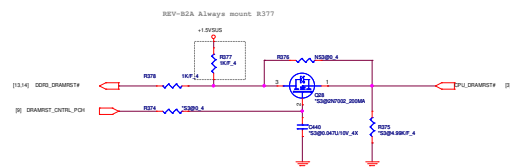


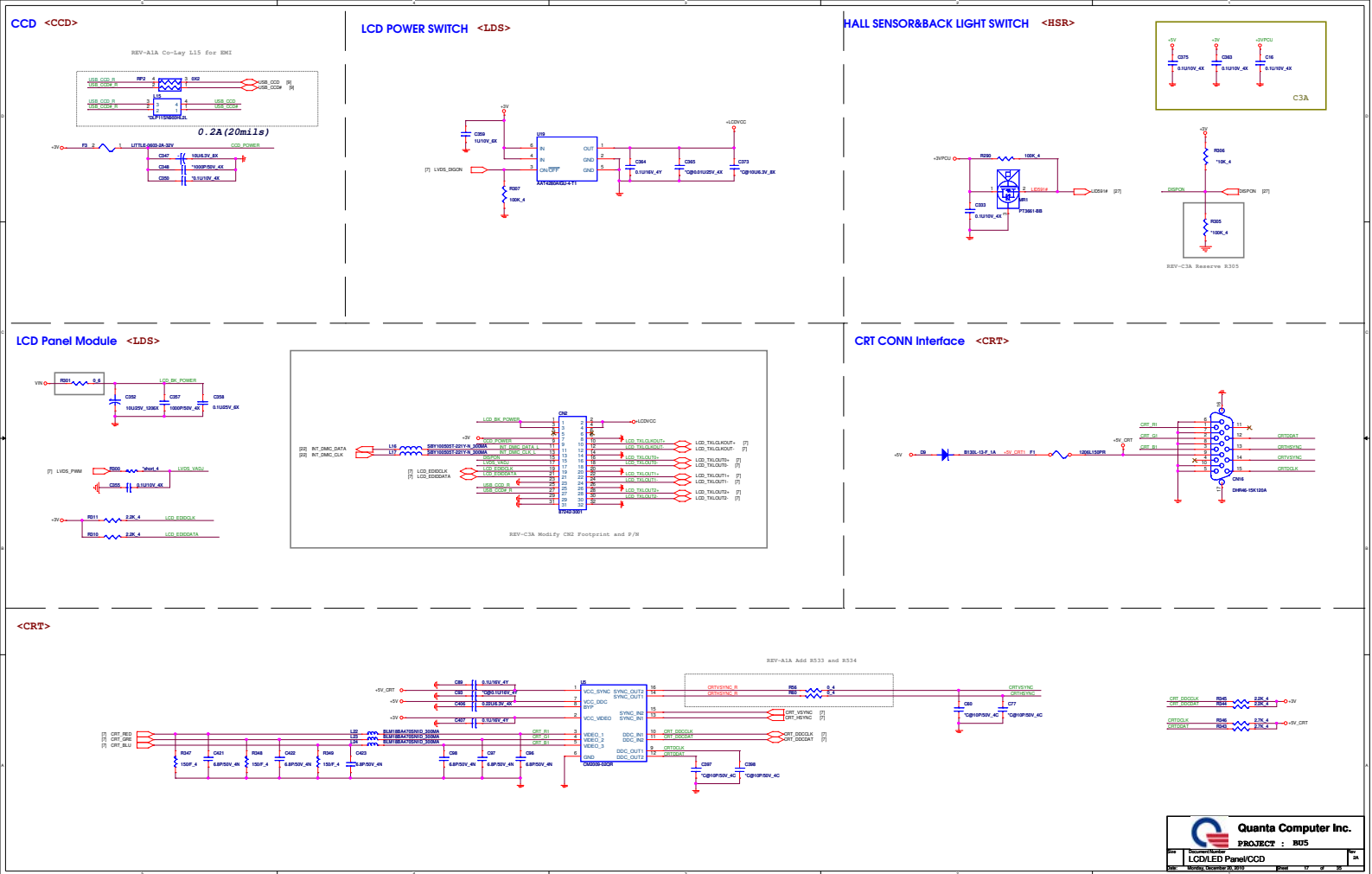
Quanta Computer Inc.
PROJECT : BU5

Size	Document Number	Rev
	Cougar Point 6/6	2A
Date:	Tuesday, December 14, 2010	Sheet 12 of 35

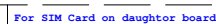
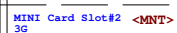


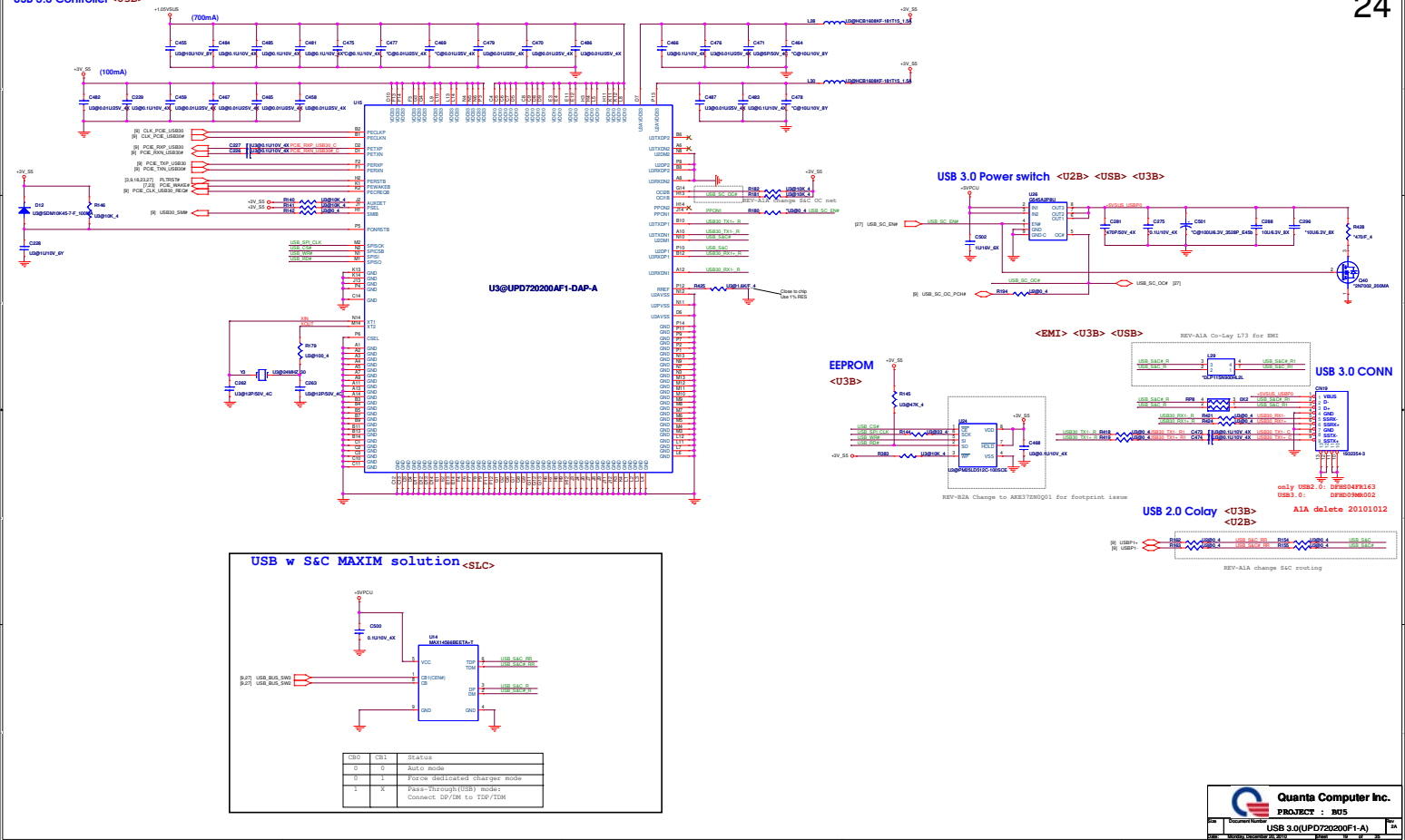


[illegible][illegible]

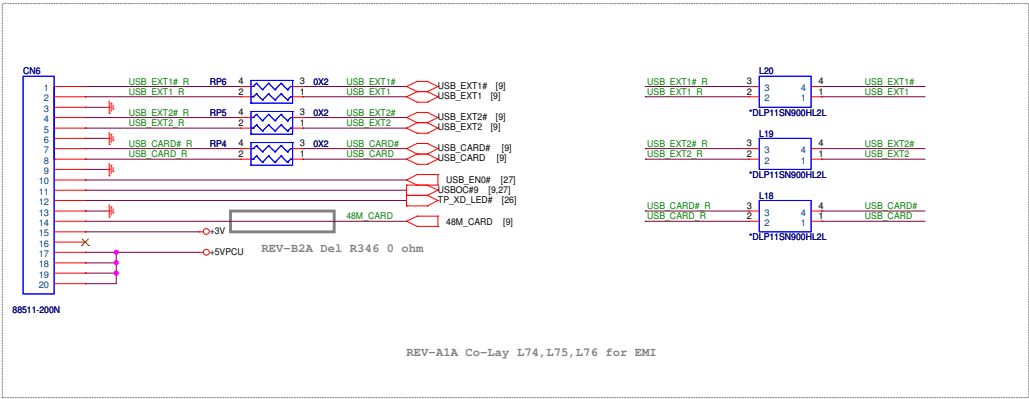



Before RAMP must to remove
debug card component





USB2.0 Left 1
USB2.0 Left 2 <U2B> <MMC> <USB> <EMI>





Quanta Computer Inc.
PROJECT : BU5

Size	Document Number	Rev
	HDMI CONN	2A
Date:	Monday, December 20, 2010	Sheet 20 of 35

HDD Interface <H1D>



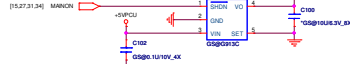
ODD Interface <ODD>



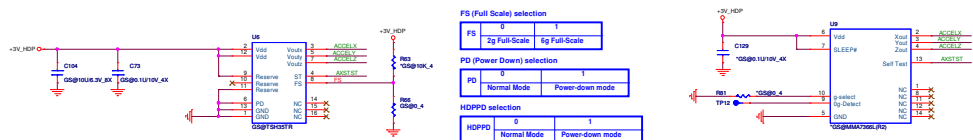
ODD Zero power . (Only for Intel) <OZP>



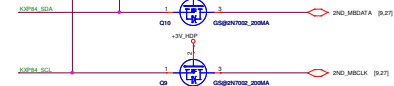
3D-LDO Power <GSR>



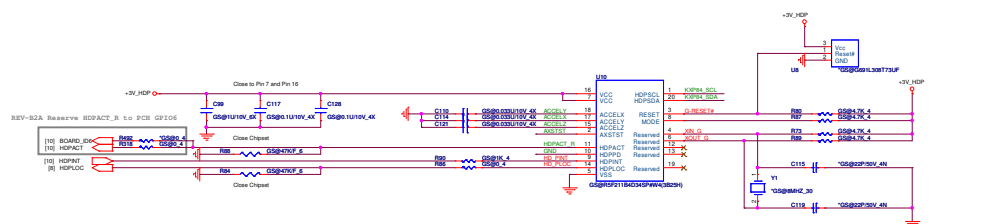
3D-Sensor IC <GSR>



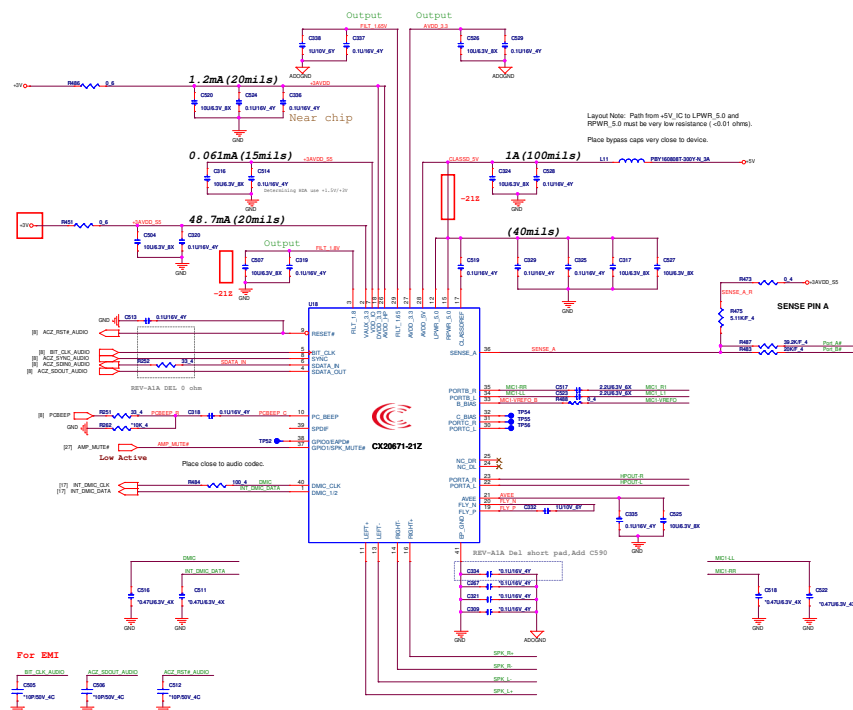
3D-SMBus <GSR>



3D-u-micro P <GSR>

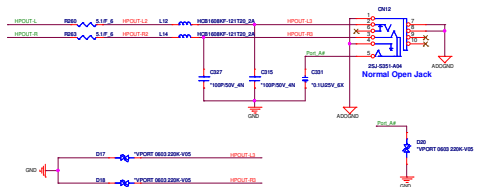


Codec (CX20671-21Z) <ADO> <EMI>

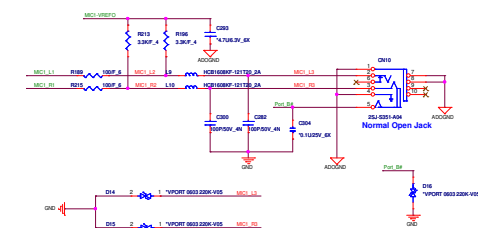


Need to change 20671-21Z footprint

HP <ADO> <EMC>

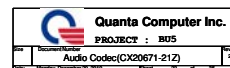
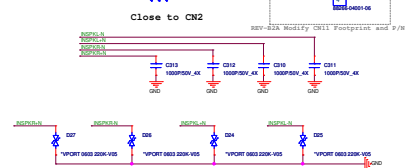


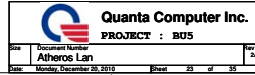
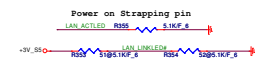
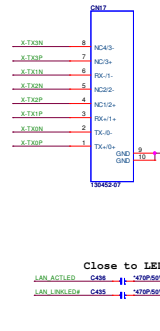
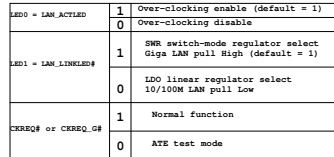
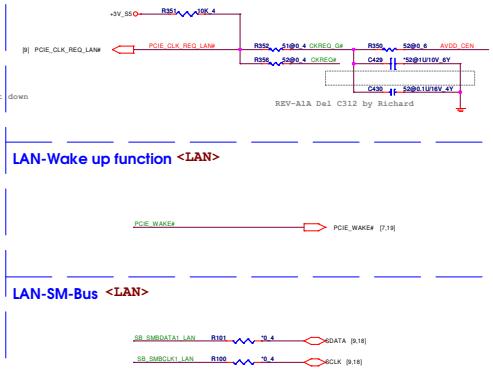
External MIC <ADO> <EMC>




Internal Speaker

<ADO> <EMC>









Quanta Computer Inc.

PROJECT : BUS

Card Reader (RTSS138)

Doc	Document Number	Rev	Rev
		1.0	1.0
Date: Wednesday, November 17, 2010		Rev	1.0

LED <LED>

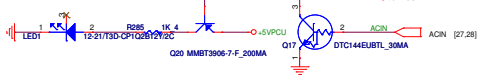
BATTERY

D3A : LED luminance to light,15-ohm change 2.2K-ohm.

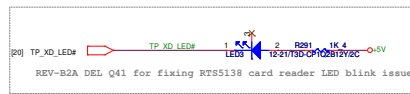
RF LED



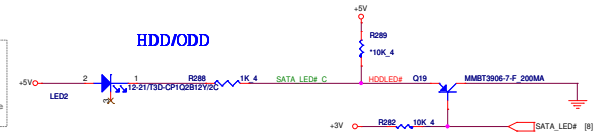
AC-IN



CARDREADER

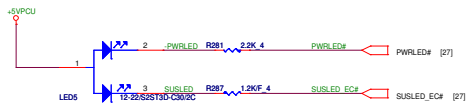


HDD/ODD



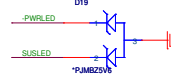
POWER

D3A : LED luminance to light,15-ohm change 2.2K-ohm.

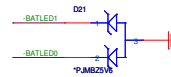


ESD Protect <EMC>

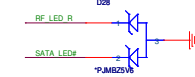
FOR POWER LED



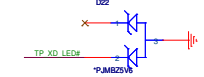
FOR BATTERY LED



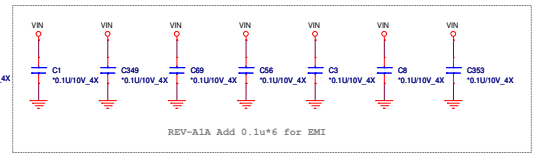
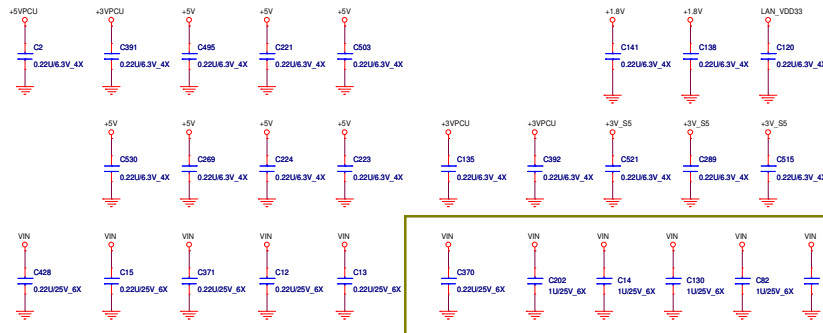
FOR HDD/W-LAN LED



FOR 3G/CARDREADER LED

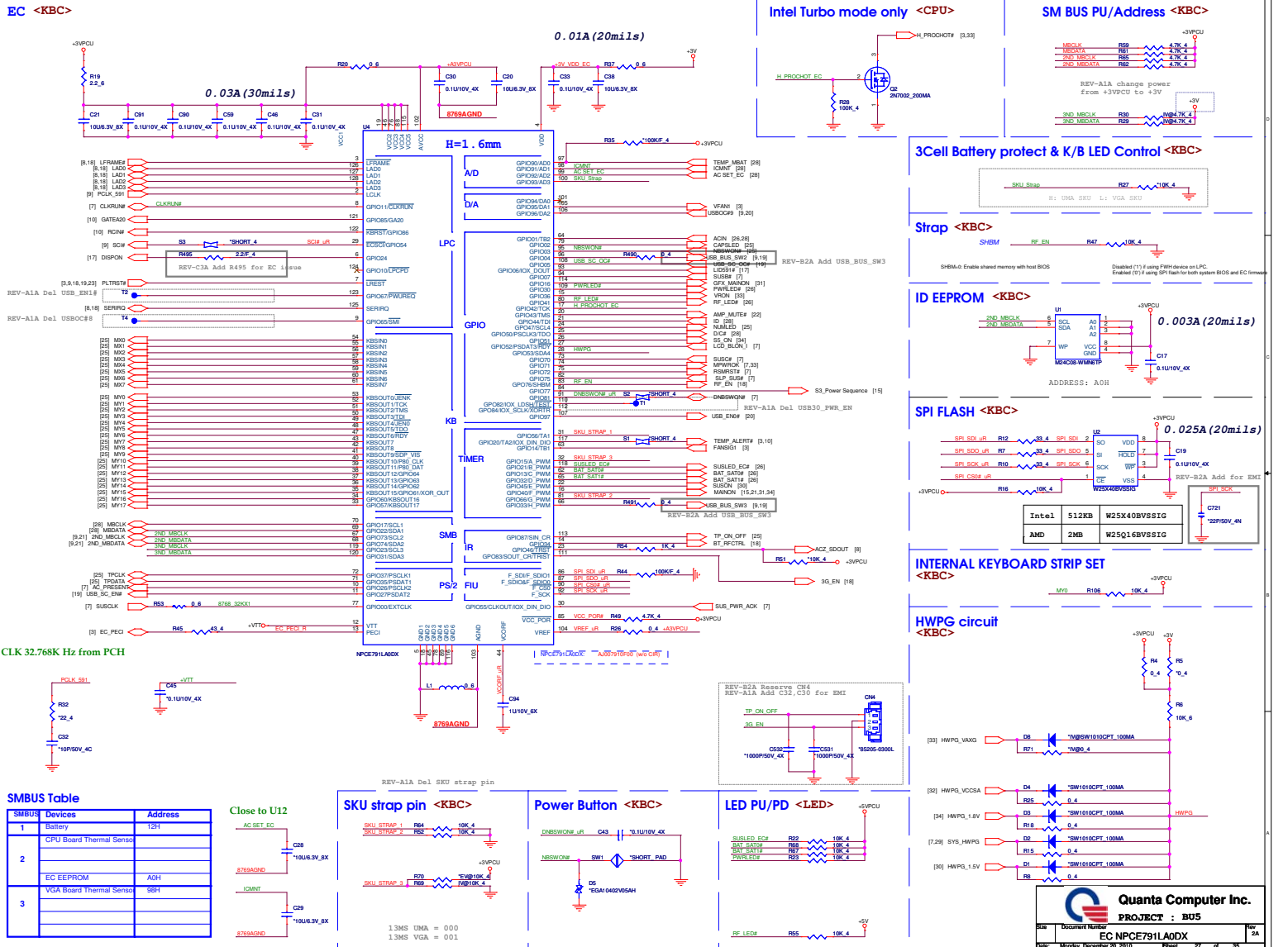


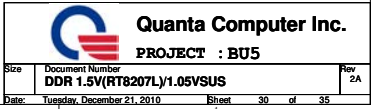
<EMI>



Quanta Computer Inc.
PROJECT : BU5

Size	Document Number	Rev
LED/HOLE		2A
Date:	Monday, December 20, 2010	Sheet 25 of 35





Total capacitor : 660uF
F= 320k Hz
(Peak 18.098A , AVG 12.669A)
OCP:19.107A

