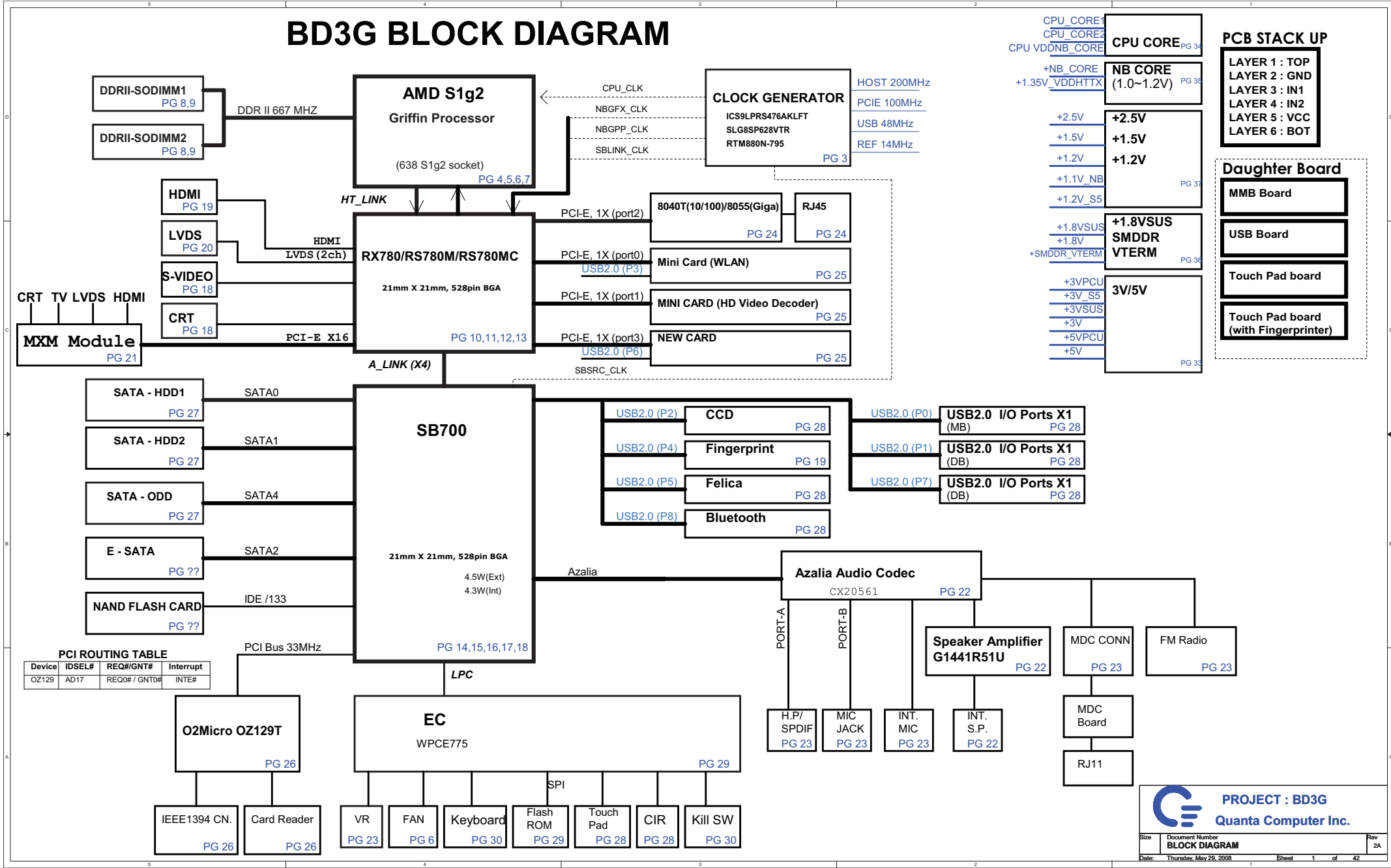


BD3G BLOCK DIAGRAM



From AC, Battery/VIN

SYS_HWPG (PCU)

NBSWON#

S5_ON

+3V S5

RSMRST#

DNBSWON#

SUSB#, SUSC#

+3VSUS +1.8VSUS

HWPG_1.8V (SUS)

+5V +3V +2.5V

From PWM HWPG_1.5V, HWPG_1.5V

From EC VRON_____

CPU_CORE0, CPU

From PWM VRM_PWRGD (CPU

HWPG

From EC ECPWROK

SB PWRGD

NB PWRGD

From SB CPU PWRGD

From SB PLTRST# PCIRST

From SB CPU LDT RST#

From SB CPU LDT STOP#

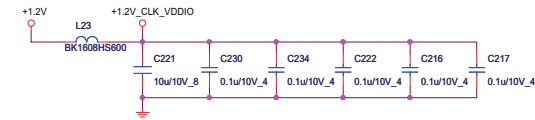
Items	Function	BTO	Name	Description
1	CIR	v	CIR@	
2	HDMI port	v	HDM@	
3	HDMI transmitter	v	SI@	Silicon image SiI 1392/193
4	HDMI-CEC	v	CEC@	Renesas R8C/1B
5	Discrete VGA		EV@	External VGA stuff
6	UMA		IV@	Internal VGA stuff
7	New Card		NEW@	
8	RJ11	v	MD@	Modem
9	RJ45-10/100		40@	Marvell 8040T(10/100)
10	RJ45-1000		55@	Marvell 8055(Giga)
11	Option for RJ45-10/100 and RJ45-1000		40@55@	Option for 8040/8055
12	TV	v	TV@	
13	Cardbus		CB@	
14	FM transmitter	v	FM@	
15	Mainstream ID LED		MID@	
16	Low cost ID LED		LID@	
17	CCD	v	CCD@	
18	INT MIC	v	I_MIC@	
19	AMD Hyper Flash		HF@	Only for AMD platform
20	North bridge(690MC/RS780MC)		MC@	Only for AMD platform
21	North bridge(RX780)		RX@	Only for AMD platform
22	PowerXpress		PX@	Only for AMD platform
23	PowerXpress with UMA SKU		PX@IV@	Only for AMD platform
24	PowerXpress with Discrete VGA SKU		PX@EV@	Only for AMD platform
25	Power player/Power Shift		PP@	Only for AMD platform

AMD SB700 SMBUS Table

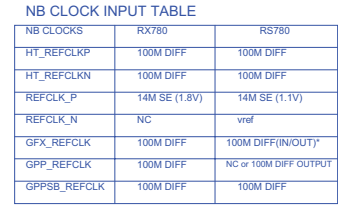
	CLK GEN	RAM	Mini Card (HD-Decoder)	Mini-card(WL)	New Card	HDMI
SB700 SDATA0/SCLK0 (+3V)	V	V	V	V	V	
SB700 SDATA1/SCLK1 (+3V_S5)						V
SB700 SDATA2/SCLK2 (+3V_S5)						
Power	+3V	+3V	+3V	+3V (Atheros)	+3V	+3V_S5
Reserve MOS ckt	V	V	V	V	V	V

	Battery	CPU thermal Sensor	EC EEPROM	VGA thermal Sensor	Touch Sensor	HDMI ChC
EC775 SDATA1/SCLK1 (+3VPCU)	V					
EC775 SDATA2/SCLK2 (+3VPCU)		V	V			
EC775 SDATA3/SCLK3 (+3VPCU)				V	V	V
EC775 SDATA4/SCLK4 (+3VPCU)						
Power	+3VPCU	+3V	+3VPCU	+3V	+3VPCU	+5VPCU
Reserve MOS ckt	X	V	X	V	X	V

03

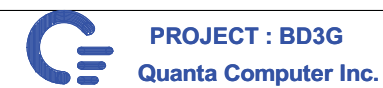


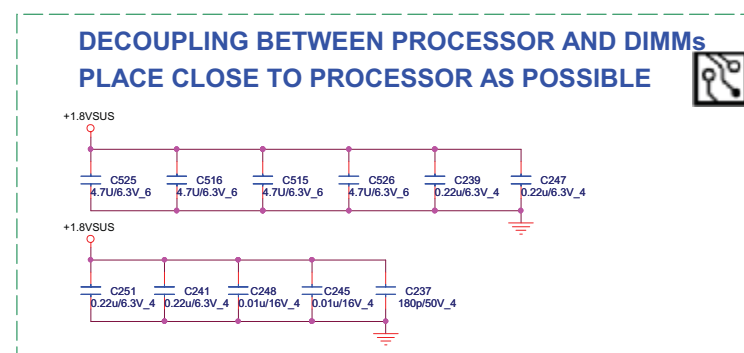
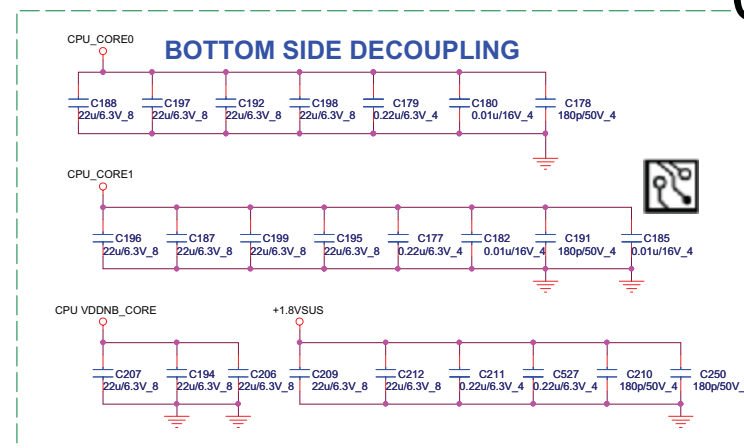
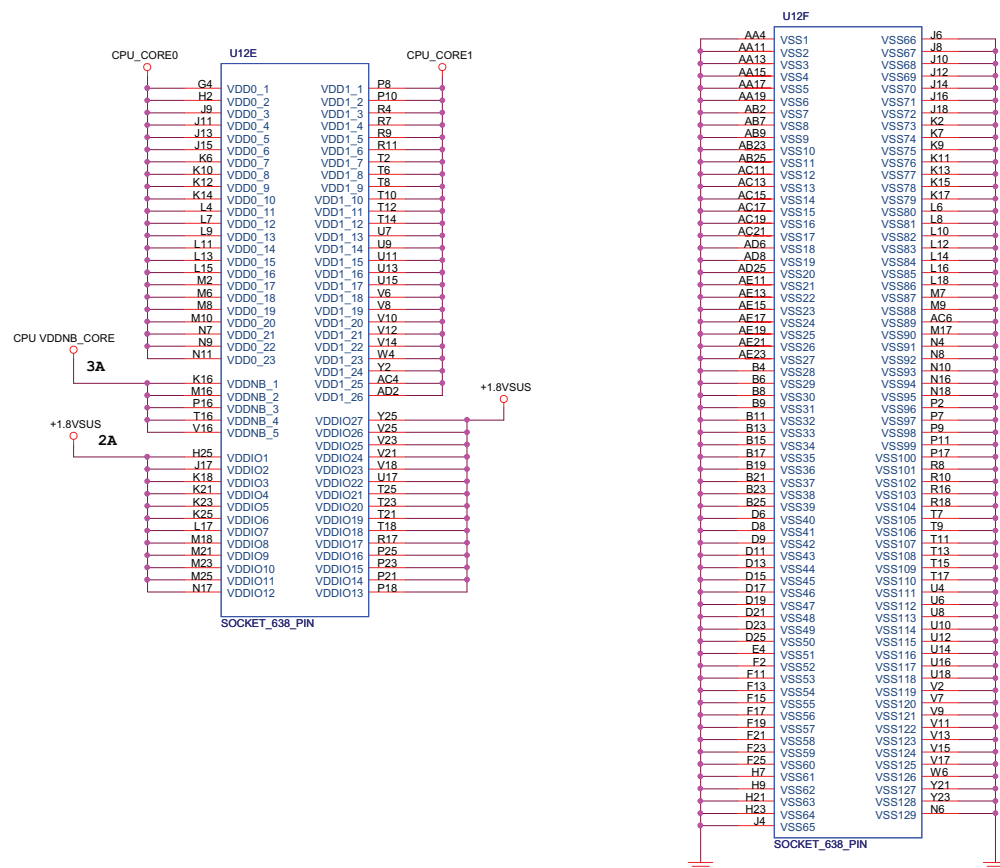
Clock chip has internal serial terminations for differential pairs, external resistors are reserved for debug purpose.



SEL_HTT66	1	66 MHz 3.3V single ended HTT clock
	0*	100 MHz differential HTT clock
SEL_SATA	1*	100 MHz non-spreading differential SRC clock
	0	100 MHz spreading differential SRC clock
SEL_27	1	27MHz and 27M SS outputs
	0*	100 MHz SRC clock

 PROJECT : BD3G Quanta Computer Inc.		
Size	Document Number CLOCK GENERATOR_SLG8SP628	Rev 1A
Date:	Thursday, May 29, 2008	Sheet 3 of 42



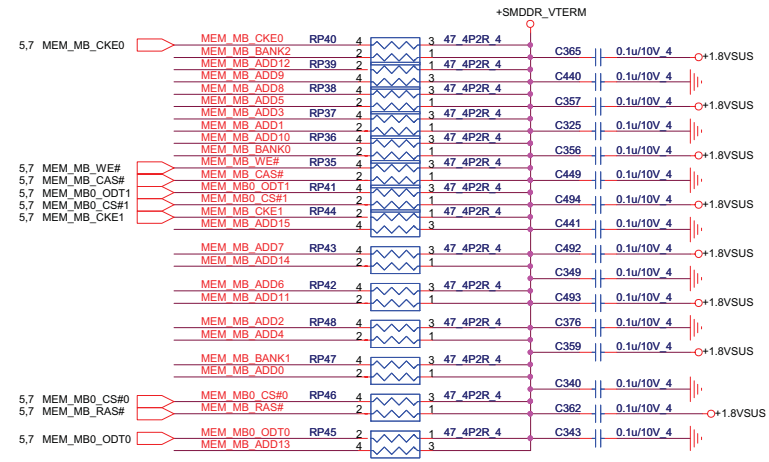


PROCESSOR POWER AND GROUND

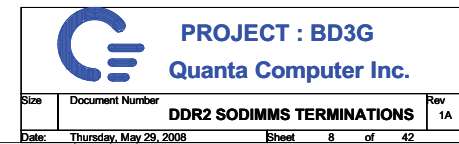
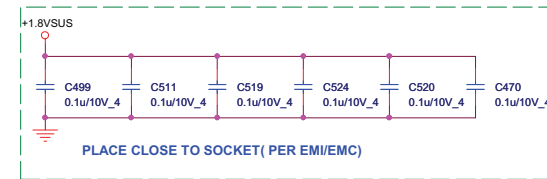


PROJECT : BD3G
Quanta Computer Inc.

Size	Document Number	Rev
	DDR2 SODIMMS: A/B CHANNEL	1A
Date:	Thursday, May 29, 2008	Sheet 7 of 42



PLACE CLOSE TO PROCESSOR
WITHIN 1.5 INCH



signals	RS780	RX780
HT_TXCALP		
HT_TXCALN	R641 300 ohm 1%	R641 1.21k ohm 1%
HT_RXCALP		
HT_RXCALN	R655 300 ohm 1%	R655 1.21k ohm 1%

RES CHIP 300 1/16W +-1%(0402)
P/N : CS13002FB00

This block is for UMA RS780 only , RX780 can remove all component

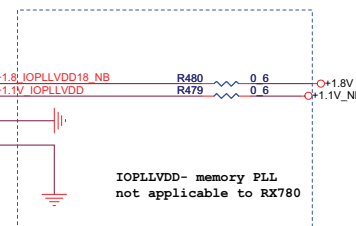
A12 version

```
RS780M AJ067400T05 100-CK2612(216-0674008-00)
RS780MC AJ067400T06 100-CK2613(216-0674010-00)
RX781 AJ067400T10 100-CK2642(215-0674024)
SB700 AJA12FG0T18 100-CK2614(218S7EALA12FG)
```

```
A13 version
RS780M AJ067400T18 100-CK2699(216-0674022)
RS780MC AJ067400T20 100-CK2704(216-0674024)
RX781 AJ067400T21 100-CK2706(215-0674034)
A12 version
SB700 AJA12FG0T18
```

U14D		PAR 4 OF 6		
2	MEM_A0(NC)	MEM_D0Q/DVO_VSYNC(NC)	A418	
3	MEM_A1(NC)	MEM_D1Q/DVO_VSYNC(NC)	A420	
4	MEM_A2(NC)	MEM_D2Q/DVO_DEINC	A419	
5	MEM_A3(NC)	MEM_D0Q3/DVO_DINC	V17	
6	MEM_A4(NC)	MEM_D0Q4(NC)	A415	
7	MEM_A5(NC)	MEM_D0Q5/DVO_D1(NC)	A417	
8	MEM_A6(NC)	MEM_D0Q6/DVO_D2(NC)	A418	
9	MEM_A7(NC)	MEM_D07/DVO_D4(NC)	A415	
10	MEM_A8(NC)	MEM_D0Q8/DVO_D3(NC)	AC18	
11	MEM_A9(NC)	MEM_D0Q9/DVO_D5(NC)	AE22	
12	MEM_A10(NC)	MEM_D1Q/DVO_D2(NC)	AE22	
13	MEM_A11(NC)	MEM_D1Q1/DVO_D7(NC)	AE22	
14	MEM_A12(NC)	MEM_D0Q12(NC)	AE20	
15	MEM_A13(NC)	MEM_D0Q13/DVO_D9(NC)	AE20	
16		MEM_D0Q14/DVO_D10(NC)	AE20	
17		MEM_D0Q15/DVO_D11(NC)	AE21	
18	MEM_B0(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	Y17	
19	MEM_B1(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	W18	
20	MEM_B2(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	D10	
21	MEM_RAS(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE21	
22	MEM_CAS(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE17	
23	MEM_WEB(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE19	
24	MEM_CSB(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE24	
25	MEM_CKE(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE23	
26	MEM_ODT(NC)	MEM_D0Q5Q9/DVO_IDCKP(NC)	AE23	
27	MEM_CKP(NC)	IOPLLDV018(NC)	AD23	
28	MEM_CKN(NC)	IOPLLDV018(NC)	AE18	
29		IOPLLDVSS(NC)		
30	MEM_COMP(NC)			
31	MEM_COMP(NC)	MEM_VREF(NC)		

RS780(RX780)



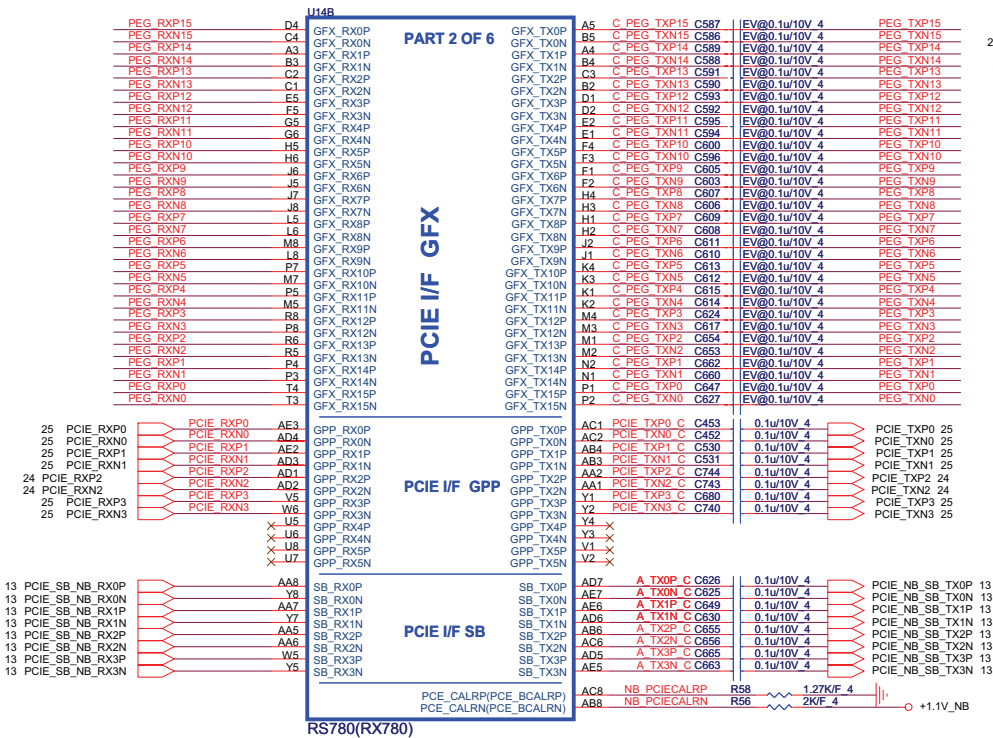
2/1 R480,R479 no stuff when RS780M without
side port / RX781

4/24 stuff R480.R479



PROJECT : BD3G
Quanta Computer Inc.

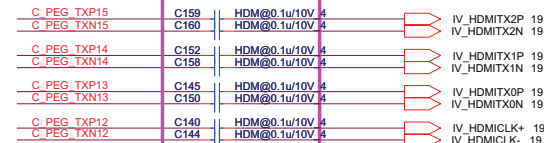
Size	Document Number	Rev
	RS740/RS780-HT LINK I/F 1/5	1/
Date:	Thursday, May 29, 2008	Sheet 9 of 42



Close to North Bridge

BTO

Close to North Bridge

**To HDMI CONN**

TO WLAN

TO MINI CARD

TO PCIE-LAN

TO EPRESS CARD



NOTE :
RS780MC no support Graphic / HDMI

11/4 modify RX780/RS740/RS780 difference table (PCIE LINK)

	RS740	RX780/RS780
NB_PCIECALRP	362R (GND)	1.27K (GND)
GPP4	NC	GPP4
GPP5	NC	GPP5

RS780 Display Port Support (muxed on GFX)

DP0	GFX_TX0,TX1,TX2 and TX3 AUX0 and HPD0
DP1	GFX_TX4,TX5,TX6 and TX7 AUX1 and HPD1



PROJECT : BD3G
Quanta Computer Inc.

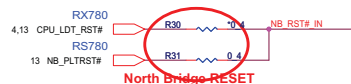
Size	Document Number	Rev
	RS740/RS780-PCIE I/F 2/5	1A
Date:	Thursday, May 29, 2008	Sheet 10 of 42

RX780: Powered from the 1.8-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.

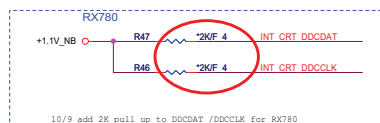
RS780: Powered from the 3.3-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.

10/26 change to 4 pin S-video conn , no need TV_comp

2/1 follow A13 request change R103 from 150 to 140 CS11402FB19

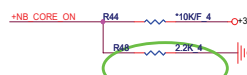


11/4 stuff R5160 for RS780M/MC/RX781



11/4 no stuff for RS780M/MC/RX781

12/22 stuff R48 2.2K for power play



selects Loading of straps from EPROM

1 : use default vaule , default

0 : I2C Master can load strap values from EEPROM

if connected, or use default values if not connected

RX780 --RS780_AUX_CAL

RS780 -- SUS_STAT

RX780



RX780

Enables Debug Bus access through memory T/O pads and GPIO.

1 : Enable RX780 , Default

0 : Disable RX780

Reserved only

12/22 stuff R65

RS780

Enables Debug Bus access through memory T/O pads and GPIO.

1 : Enable RS780 , Default

0 : Disable RS780

(RS780 use VSYNC#)



RS780

Indicates if memory Side port is available or not

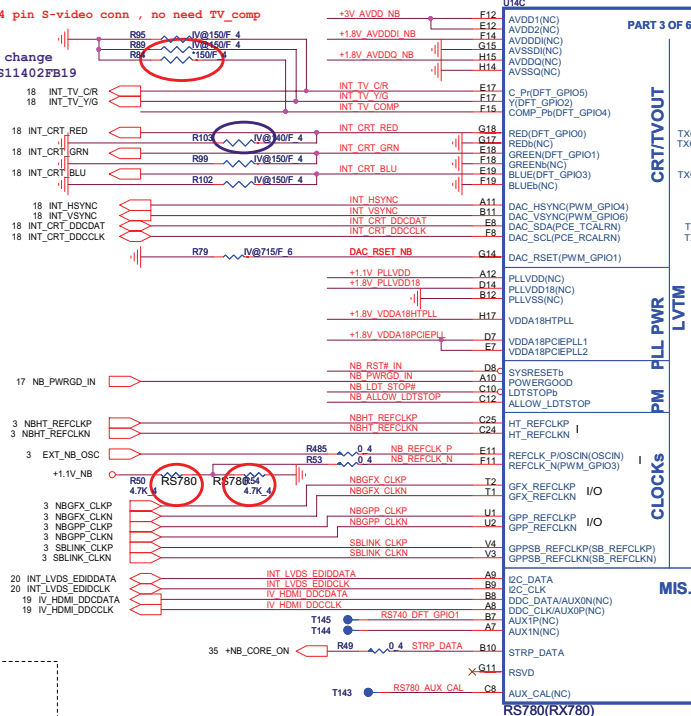
0 : available RS780 , Default

1 : Not available RS780

(RS780 use HSYNC#)



10/19 RS780M Databook rev 1.01 define High disable

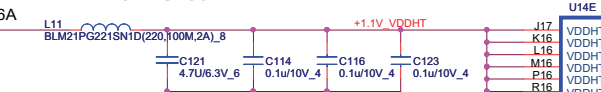


RX780/RS780 POWER DIFFERENCE TABLE

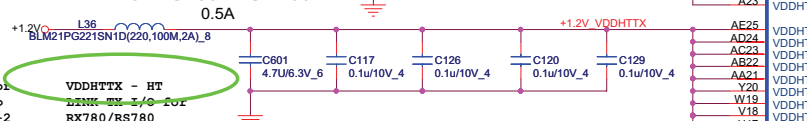
PIN NAME	RX780	RS780	PIN NAME	RX780	RS780
VDDHT	+1.1V	+1.1V	IOPLLVD	NC	+1.1V
VDDHTRX	+1.1V	+1.1V	AVDD	NC	+3.3V
VDDHTTX	+1.2V	+1.2V	AVDDDI	NC	+1.8V
VDDA18PCIE	+1.8V	+1.8V	AVDDQ	NC	+1.8V
VDDG18	+1.8V	+1.8V	PLLVD	NC	+1.1V
VDD18_MEM	NC	+1.8V	PLLVD18	NC	+1.8V
VDDPCIE	+1.1V	+1.1V	VDDA18PCIEPLL	+1.8V	+1.8V
VDDC	+1.1V	+1.1V	VDDA18HTPLL	+1.8V	+1.8V
VDD_MEM	NC	+1.8V/1.5V	VDDLTP18	NC	+1.8V
VDDG33	NC	+3.3V	VDDL18	NC	+1.8V
IOPLLVD18	NC	+1.8V	VDDL33	NC	NC

GROUND

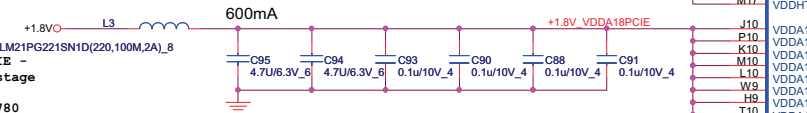
+1.1V 2A for RS780M



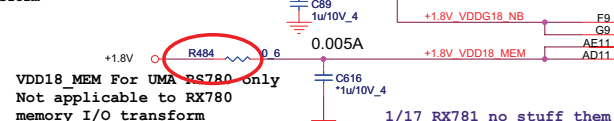
+1.2V 2A for RS780M+SB700



+1.8V 1A for RS780M+SB700



VDD18 - RS780 I/O transform



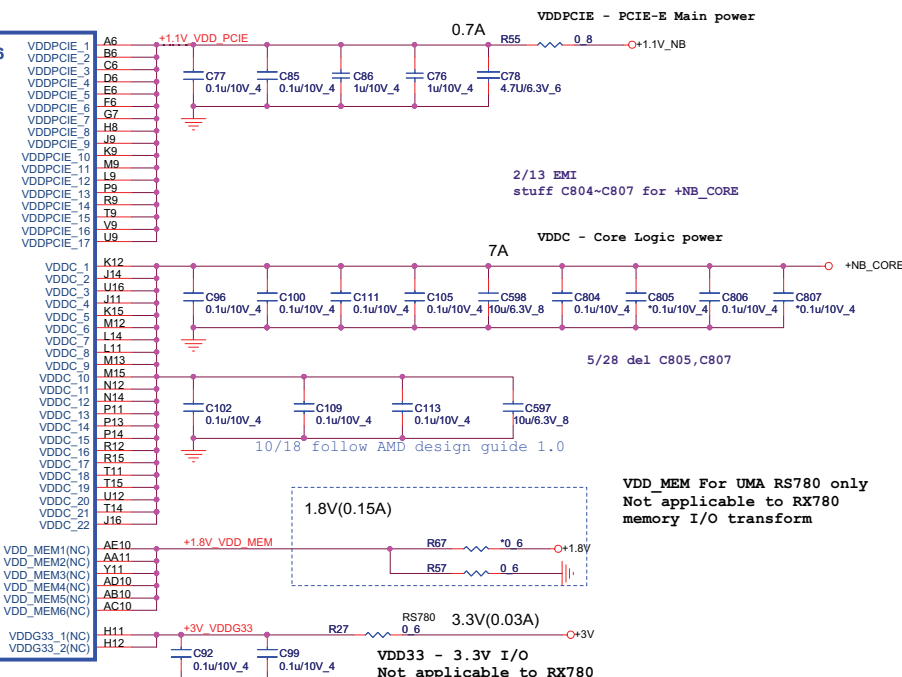
VDD18_MEM For UMA RS780 only
Not applicable to RX780
memory I/O transform

1/17 RX781 no stuff them
R484

1/17 RX781 connect to GND
C616 change to CS00002JB38

PART 5/6

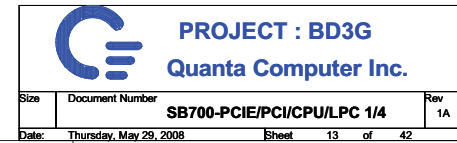
POWER



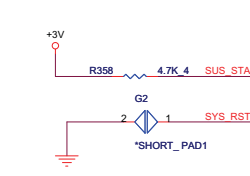
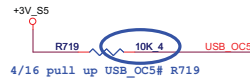
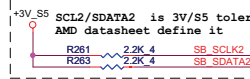
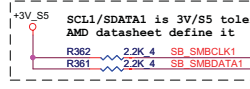
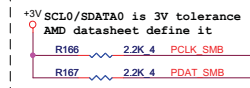
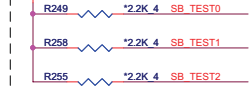
VDD_MEM For UMA RS780 only
Not applicable to RX780
memory I/O transform



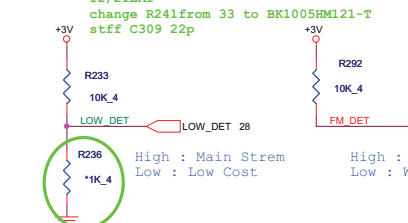
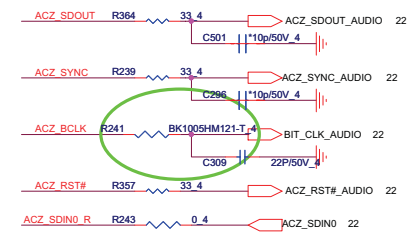
PROJECT : BD3G
Quanta Computer Inc.



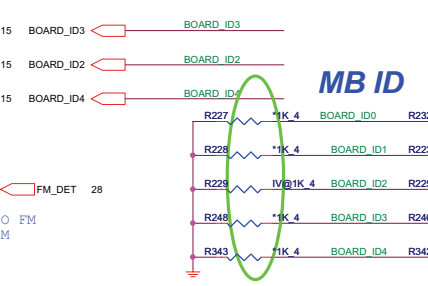
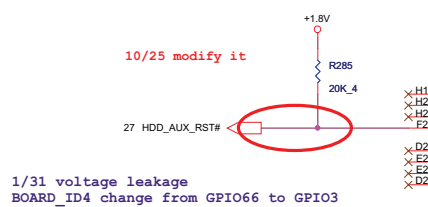
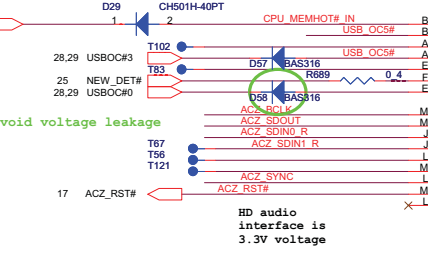
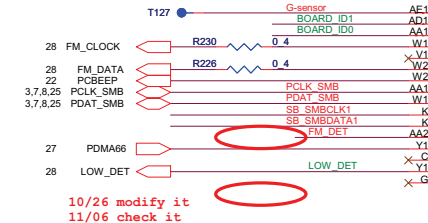
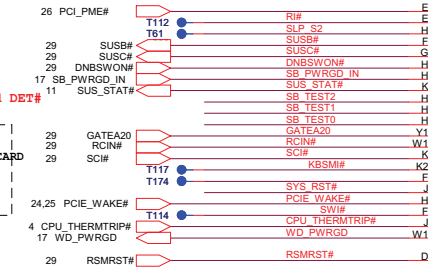
11/01 chagne +3VSUS to +3V_S5



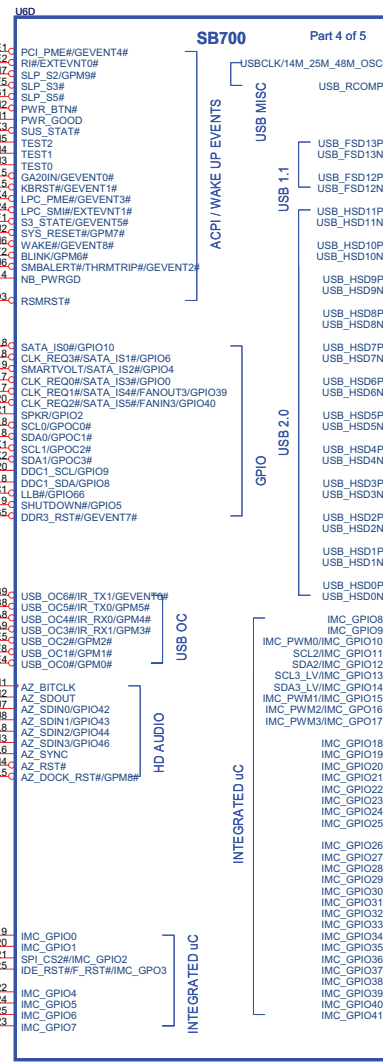
To Azalia



11/01 chagne +3VSUS to +3V_S5

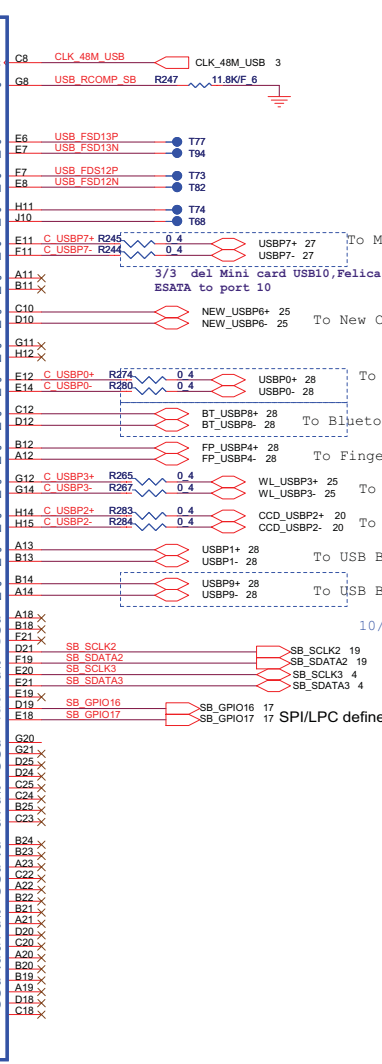
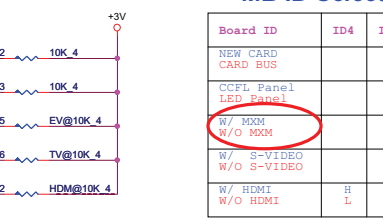


12/4 change PD from 10K to 1K



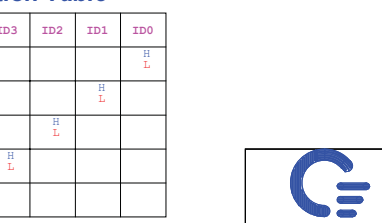
SB700

10/25 Board ID define MXM



SB700

10/25 Board ID define MXM

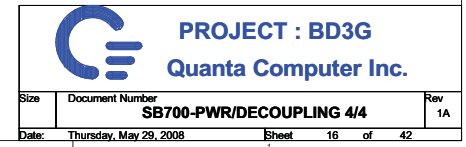


MB ID Selection Table

Board ID	ID4	ID3	ID2	ID1	ID0
NEW CARD					H
CARD BUS					L
CCFL Panel					
LED Panel					
W/ MXM					
W/O MXM					
W/ S-VIDEO					
W/O S-VIDEO					
W/ HDMI					
W/O HDMI					



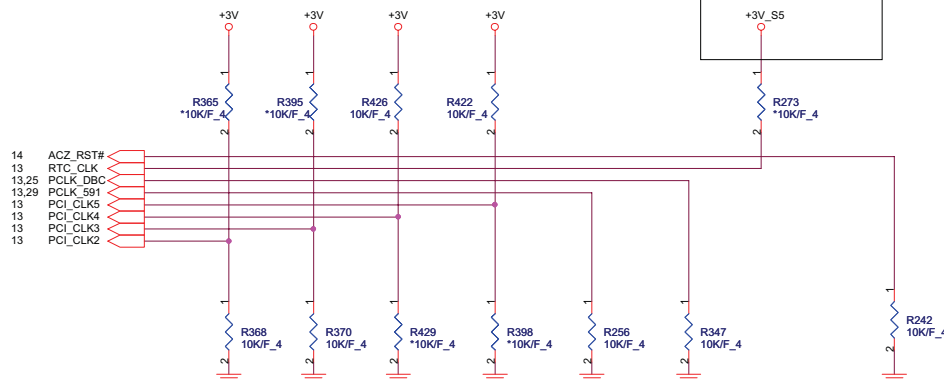






OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

It must ready
before RSMRST#



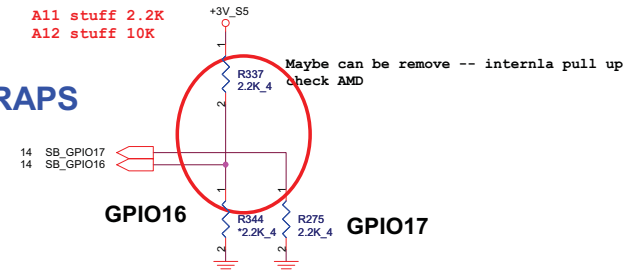
	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	AZ_RST#
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	ENABLE PCI MEM BOOT	CLKGEN ENABLED	INTERNAL RTC DEFAULT	EC ENABLED
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT			DISABLE PCI MEM BOOT DEFAULT	CLKGEN DISABLED DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	EC DISABLED DEFAULT

EC
ENABLED

ENABLE PCI
MEM BOOT

REQUIRED STRAPS

All stuff 2.2K
All stuff 10K



GPIO16

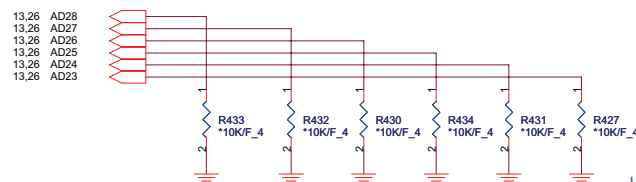
GPIO17

TYPE	GPIO16	GPIO17
FWH	L : 2.2K pull down	L : 2.2K pull down
LPC	NC	L : 2.2K pull down
SPI	L : 2.2K pull down	NC
RSVD	NC	NC

NB_PWRGD_IN:
RS780/RX780 = 1.8V; RS740 = 3.3V
Do NOT share it with SB_PWRGD when use Internal Clk Gen
(Need SB PLL initialize firstly)

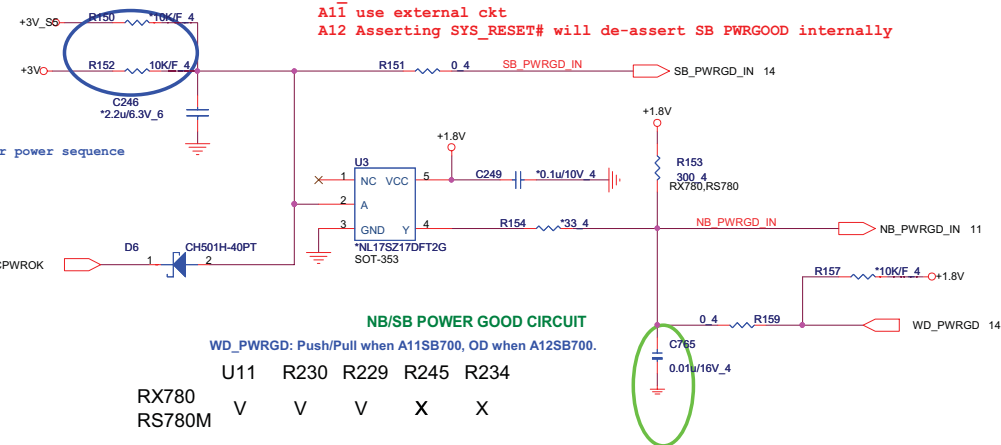
DEBUG STRAPS

SB700 HAS 15K INTERNAL PU FOR PCI_AD[28:23]



Use 2.2K PD.

	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	RESERVED
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	



SB PWRGD

All use external ckt
All Asserting SYS_RESET# will de-assert SB PWRGOOD internally

NB/SB POWER GOOD CIRCUIT

WD_PWRGD: Push/Pull when A11SB700, OD when A12SB700.

U11 R230 R229 R245 R234

RX780 V V V X X
RS780M

AL17SZ17000 IC(5P) NL17SZ17DFT2G(SOT-353)

ALUC1G17000 IC OTHER(5P) SN74AUC1G17DBVR(SOT23-5)

SOT-353

SOT23-5

4/24 stuff C765 10nf to meet power sequence



PROJECT : BD3G
Quanta Computer Inc.

Size	Document Number	Rev
	SB700-STRAPS	1A
Date:	Thursday, May 29, 2008	Sheet 17 of 42

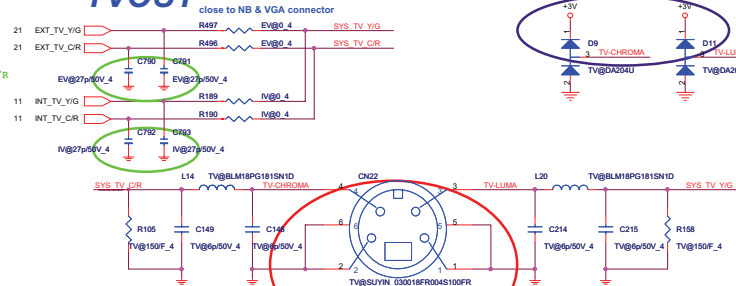
TVOUT

BTO

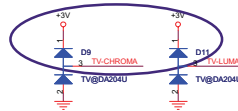
5/8 stuff D9,D11 for S-VIDEO

TVOUT

12/21 EMI
add 27p for TV_X/G , TV_C/R



BTO



10/24 modify it to 4 pin BOI request
10/30 modify footprint to SV-030018FR004S100FR-RVS-4P-H
12/12 update p/n to DPM04FR006
4/16 update footprint to sv-030018fr004s100fr-4p-h-b15m

CRT PORT

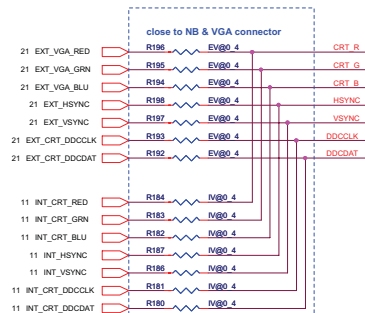
2/1
RS780M A13 R8 ---> 140 CS11402FB19
MOM R8 ---> 150 CS11502FB21

1/31 EMI Change L4,L5,L6 from CX0HM121008 to CX8BA470003

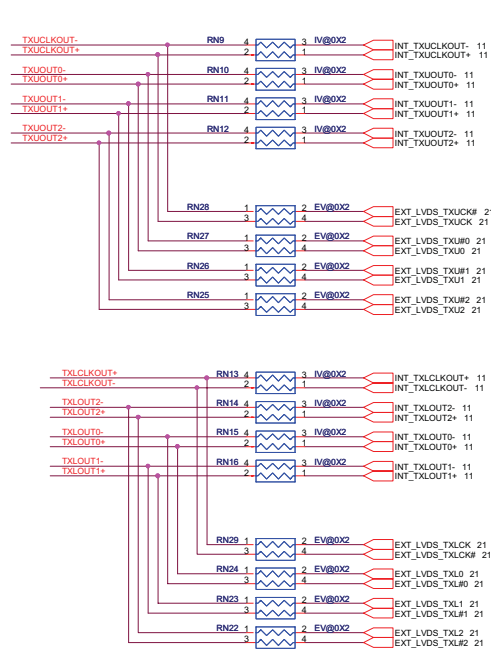
10/12 fix CRT connect error

2/10 DEL D4,D5 footprint and DEL
CRT_SENSE# net

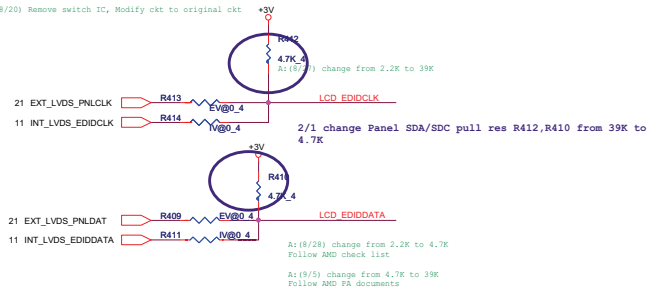
10/25 no use sense



HALL SENSOR

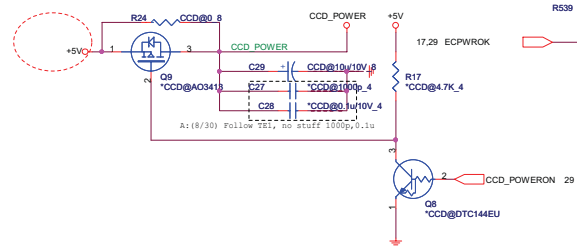


A:(8/20) Remove switch IC, Modify ckt to original ckt +3V

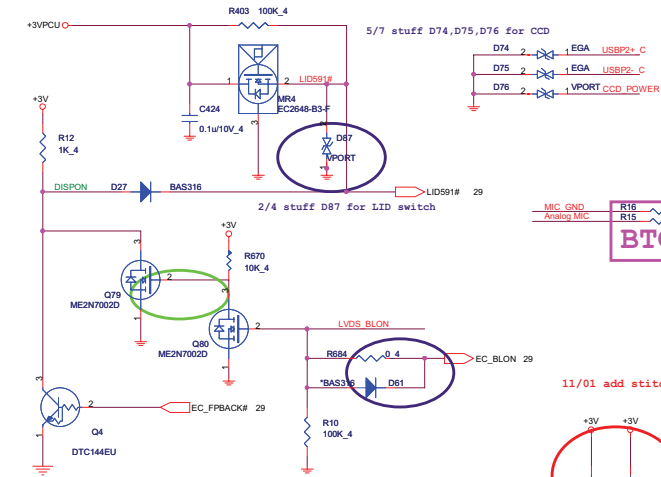


BTO

CAMERA MODULE

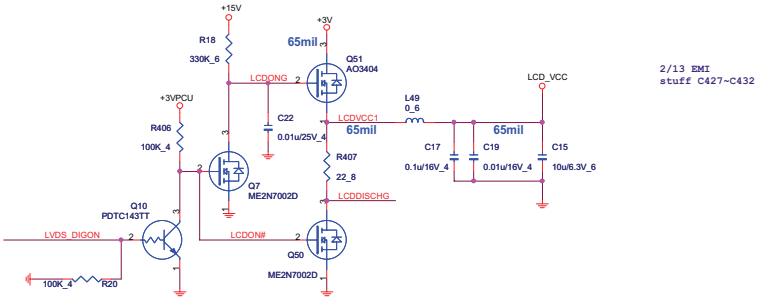


A: (8/27) Camera module power +5V or +3V?

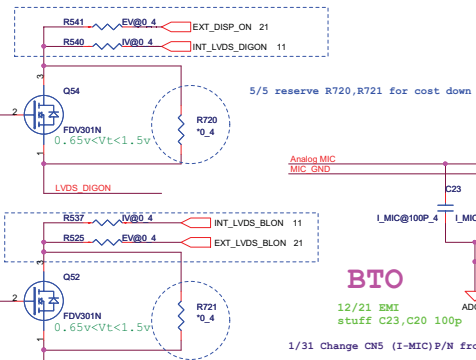
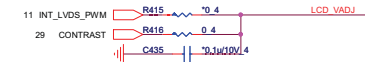
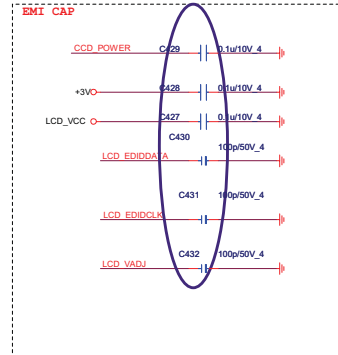


12/4 modify display on ckt to avoid flash when into S3/S4/S5

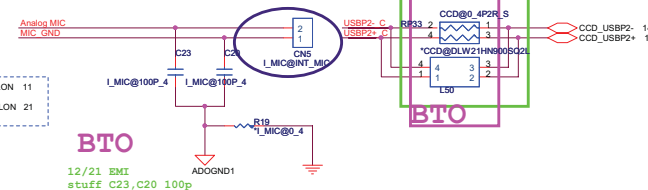
```
1/17 EnergyStar 4.0 Idle power issue
  When BLON= High, Turn ON LCD then turn ON MMB
  When BLON= Low, Turn OFF LCD then turn OFF MMB
```



2/13 EMI
stuff C427~C432



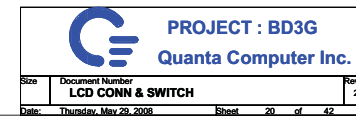
5/5 reserve R720,R721 for cost down

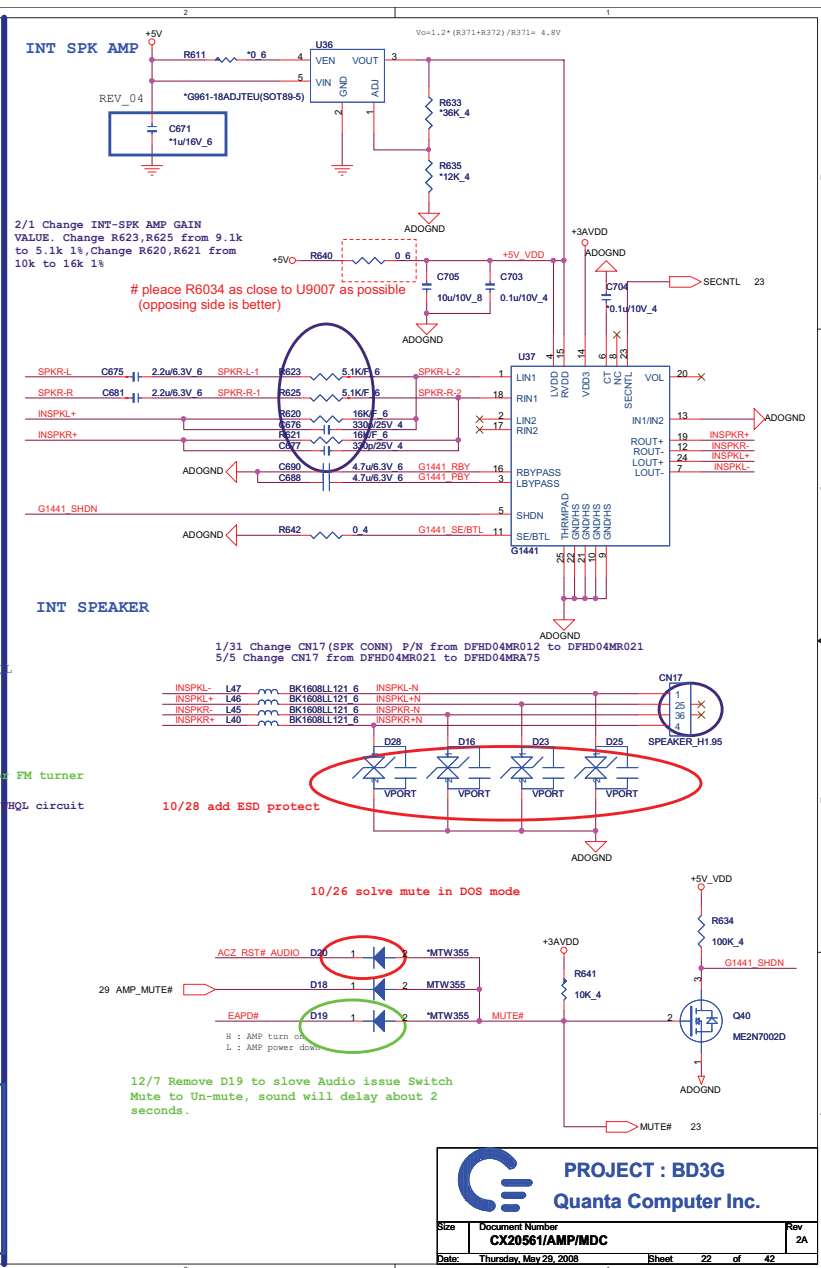
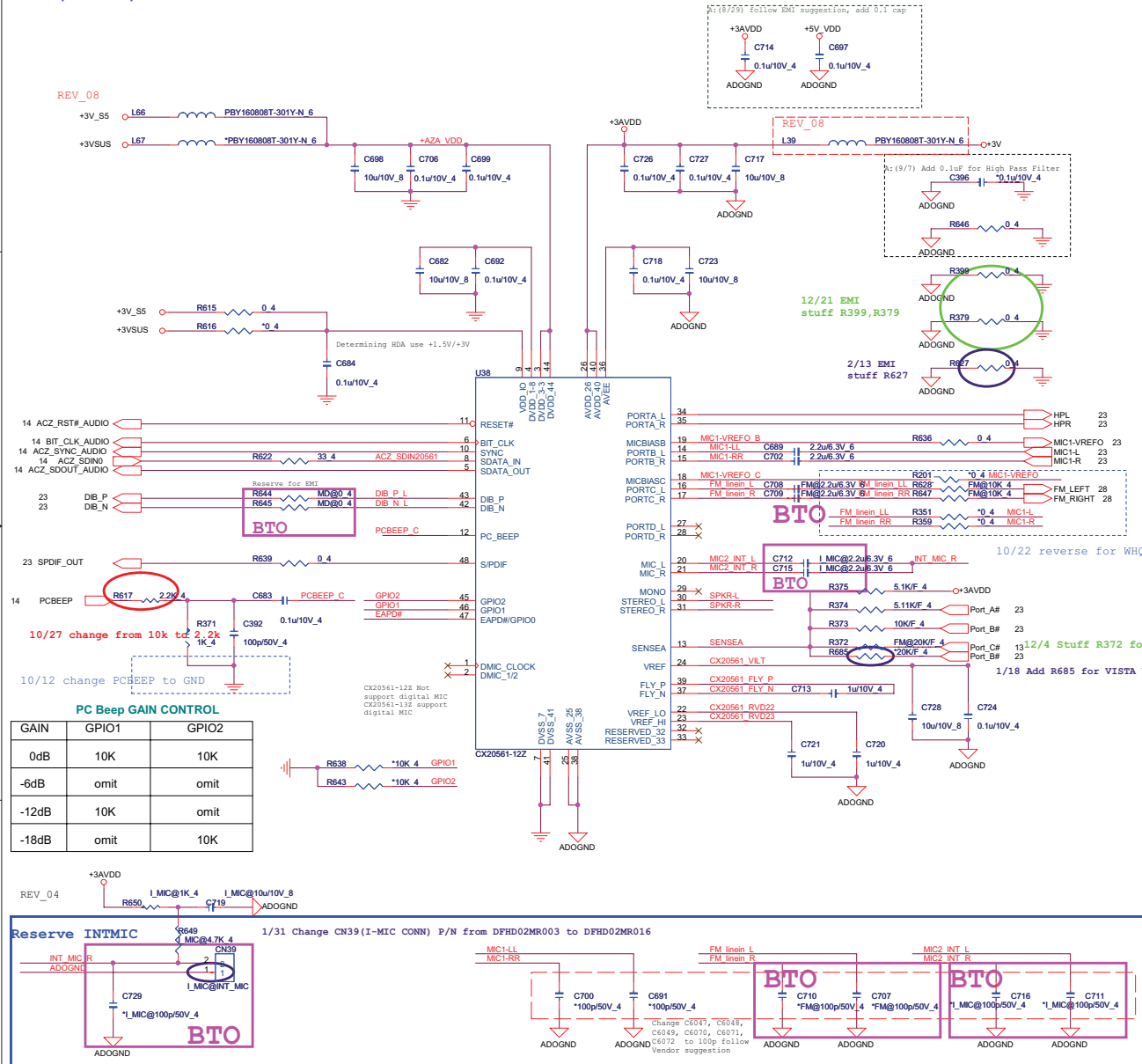


BTO

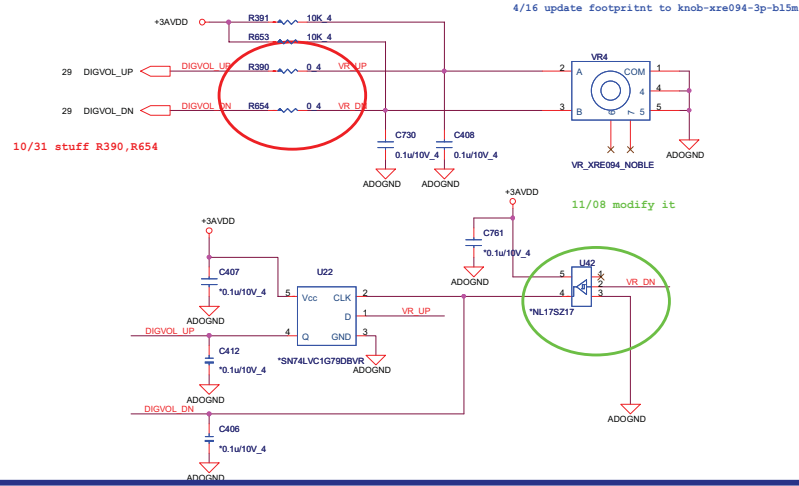
12/21 EMI
stuff C23,C20 100p

1/31 Change CN5 (I-MIC) P/N from DFHD02MR003 to DFHD02MR016





VR

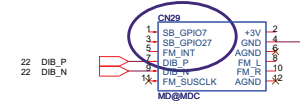


MDC

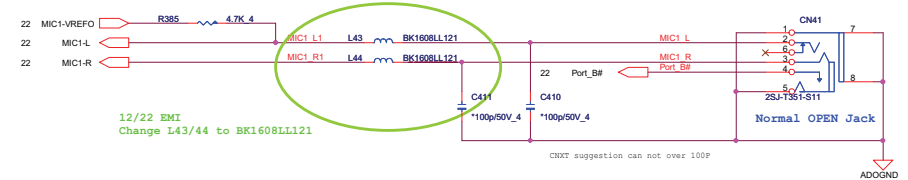
REV_04

1/18 Change CN43 footprint from MDC-1-179373-2-12P-RUV to MDC-1-179373-2-12P-RUV-BD3A (SMT open issue)

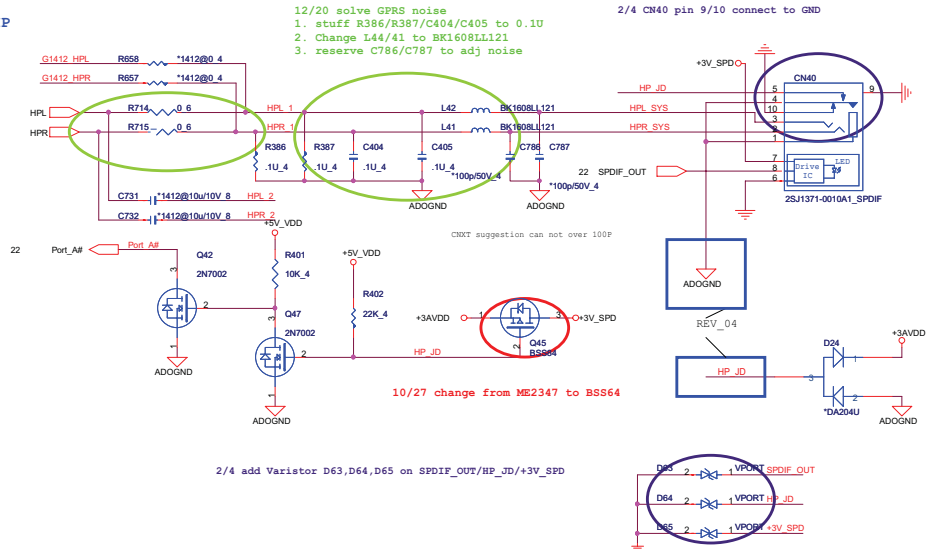
BTO



SYSTEM MIC

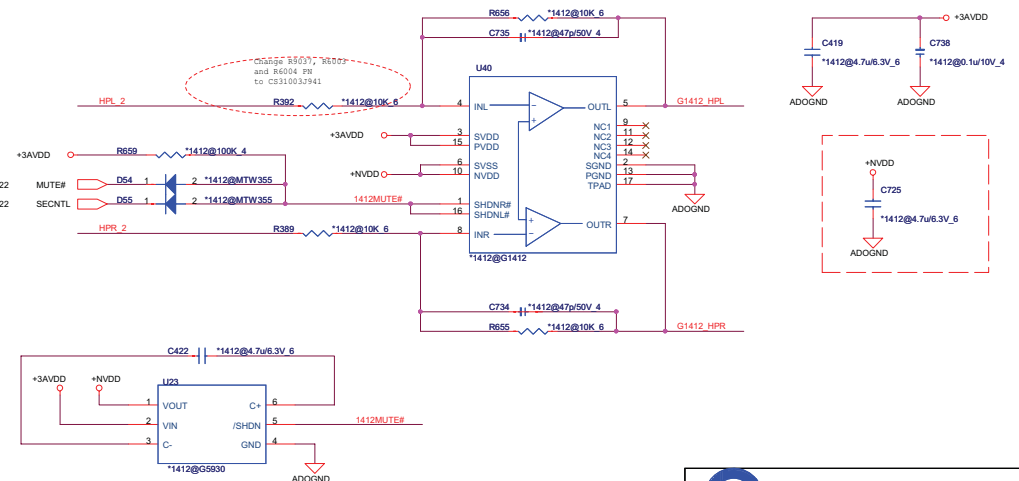


HP

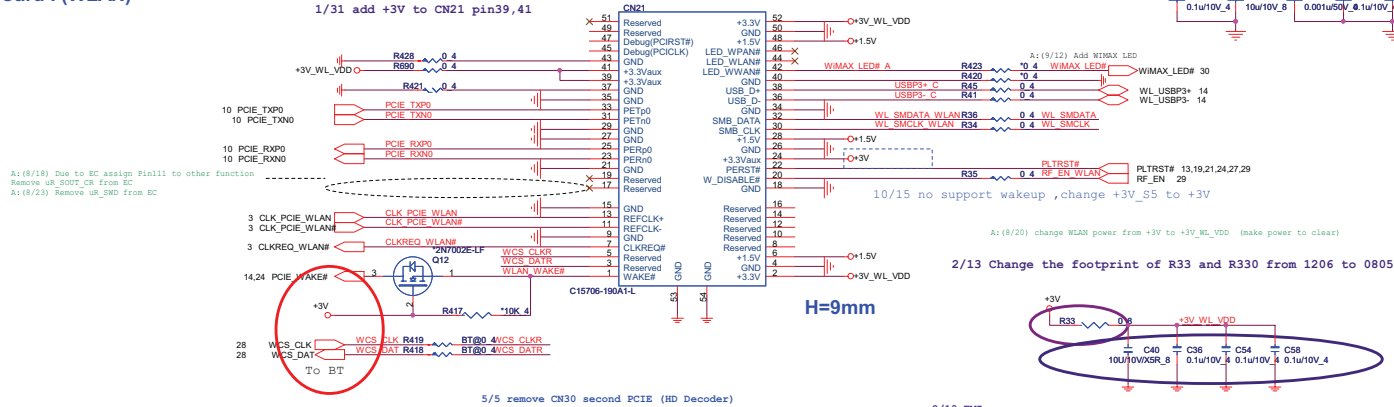


HP Amplifier

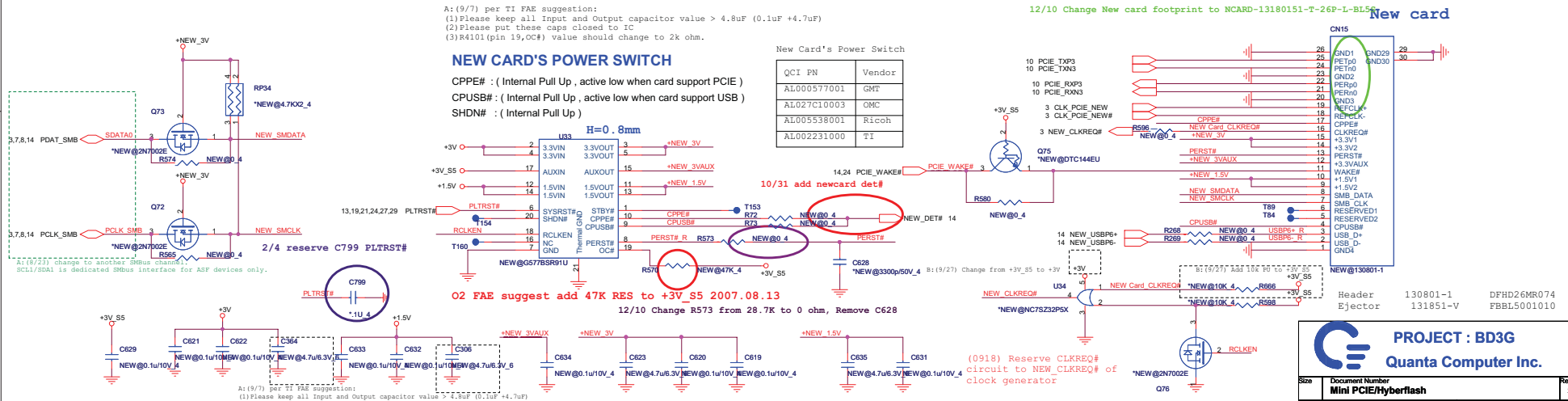
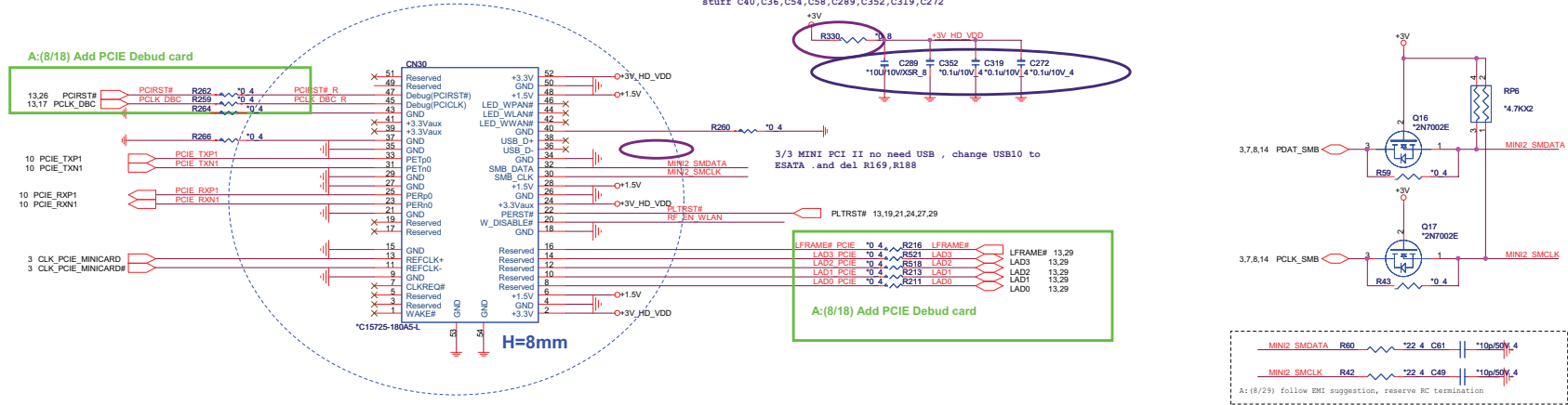
REV_05



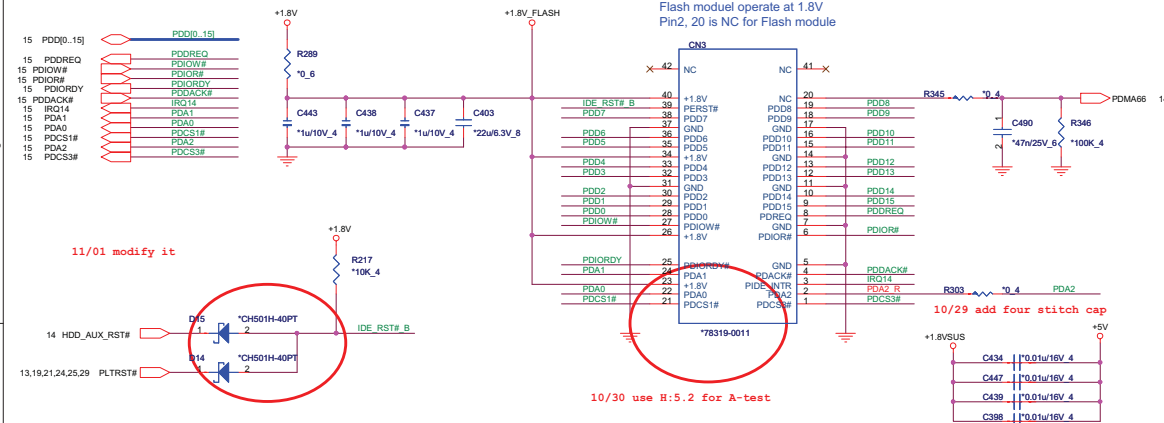
MINI-Card I (WLAN)



MINI-Card II (HD Decoder)



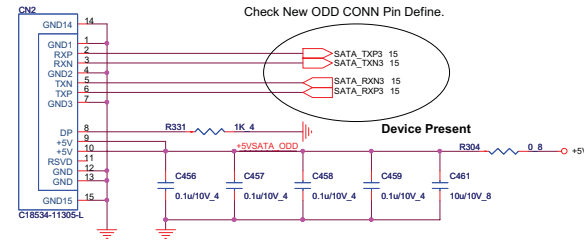
FLASH



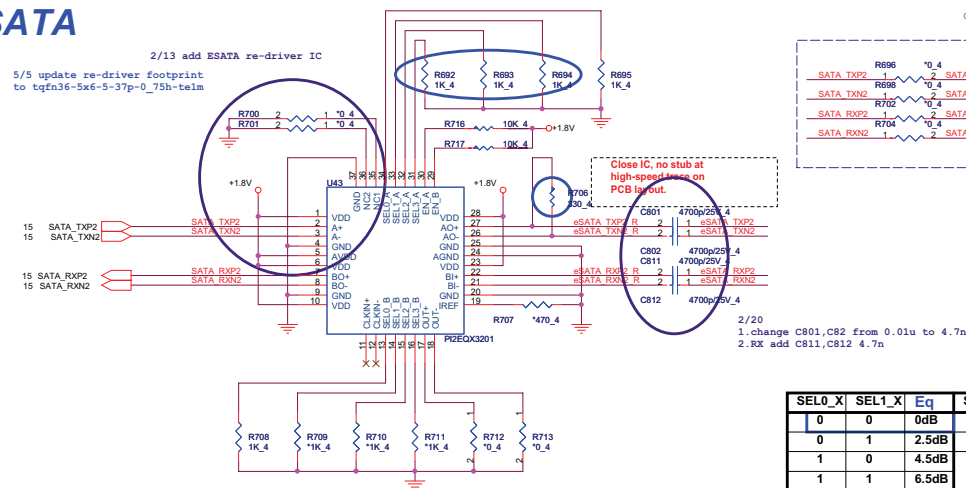
SATA ODD

9/28 change to SATA ODD conn to BD3G use

10/22 update footprint to SATA-C18534-11305-13P-R

**ESATA**

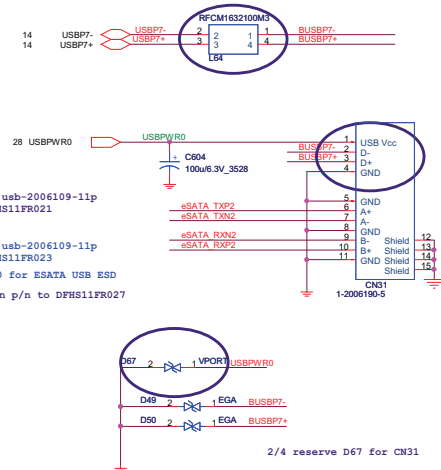
2/13 add ESATA re-driver IC
5/5 update re-driver footprint
to tqfn36-5x6-5-37p-0_75h-teilm



Option SB to ESATA directly

2/29 del R572,R569

Co-lay ESATA footprint



2/26 change ESATA conn usb-2006109-11
update p/n to DFHS11FR021

4/10 change ESATA conn usb-2006109-11p
update p/n to DFHS11FR023

4/10 add D67,D49,D50 for ESATA USB ESD
5/29 change ESATA conn p/n to DFHS11FR02

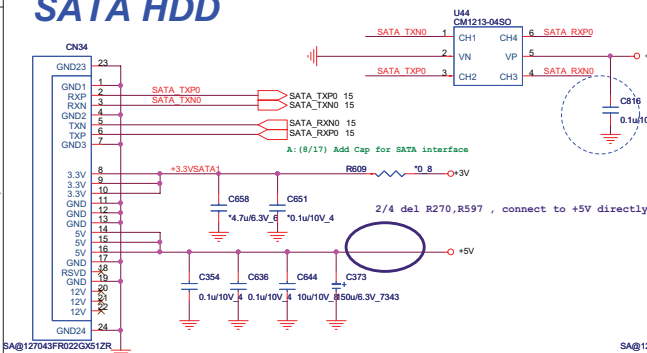
5/29 change ESATA conn p/n to DFHS11FR027

SEL0_X	SEL1_X	E _q	SEL2_X	Swing	SEL3_X	De-Emphasis
0	0	0dB	0	1.0X	0	0dB
0	1	2.5dB	1	1.2X	1	-3.5dB
1	0	4.5dB				
1	1	6.5dB				

4/17 remove D77~D81 for CN34 , change to U44 CM1213-04SO

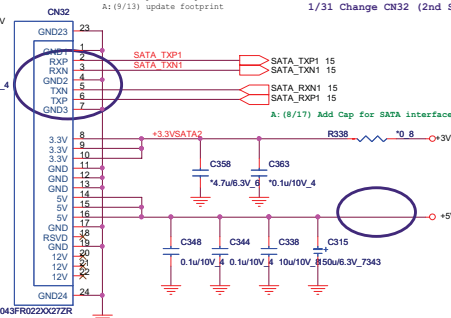
5/5 add C816 0.01u to U44 +5V for ESD

SATA HDD



2'nd SATA HDD

A:(9/5) update footprint
A:(9/13) update footprint



1/17 Change CN32 (2nd SATA CONN) from DFHS22FR064 to DFHS22FR094

1/17 Change CN32 footprint from SATA-127043FR022XX27ZR-22P-L-H to SATA-127043FR022G285ZR-22P-L

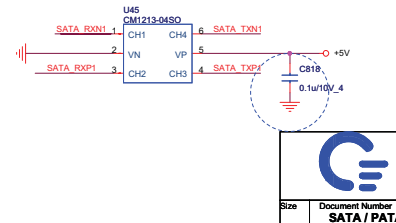
1/31 Change CN34 (1st SATA) P/N from DFHS22FR063 to DFHS22FR082

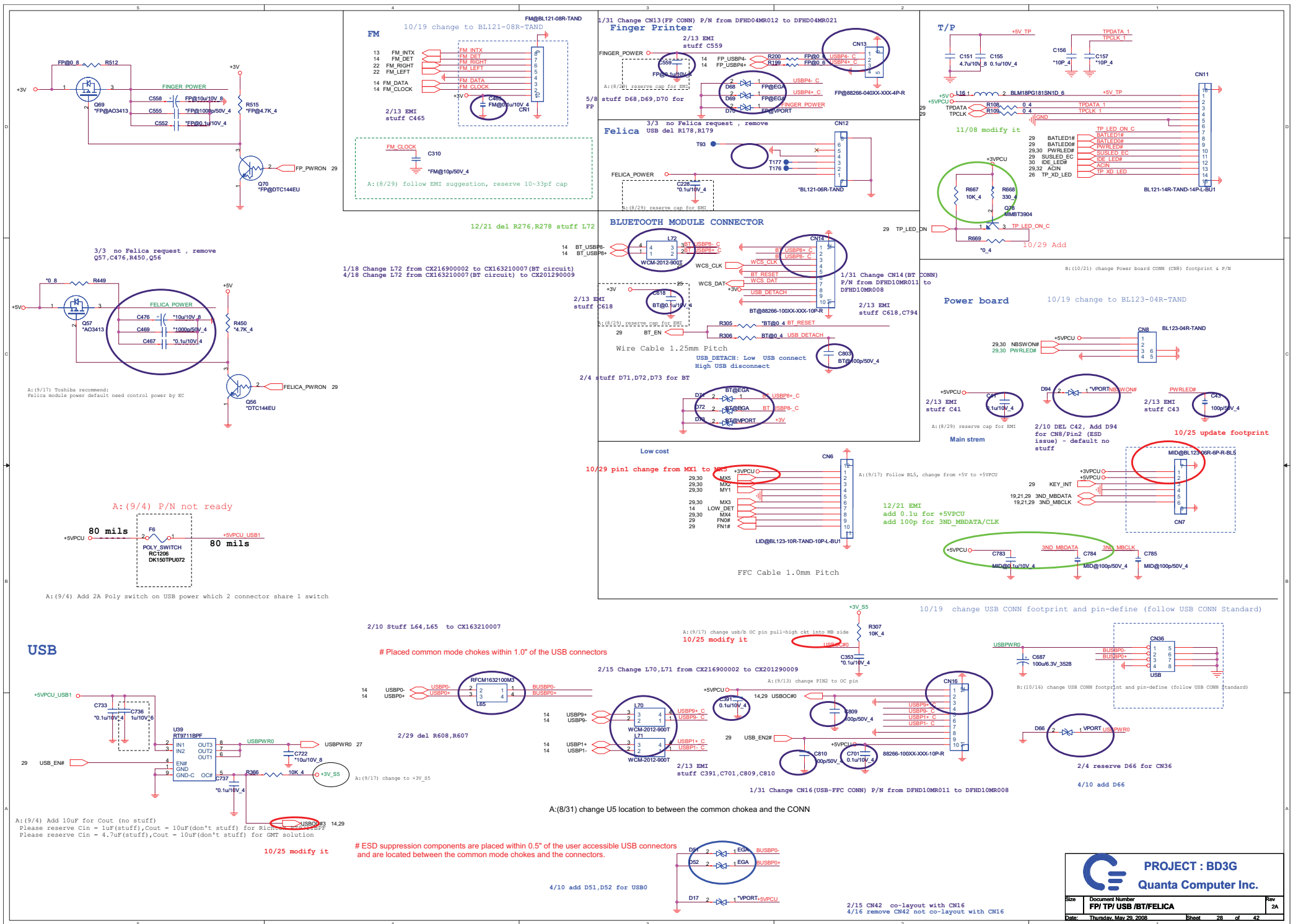
1/31 Change CN32 (2nd SATA) P/N from DFHS22FR094 to DFHS22FR083

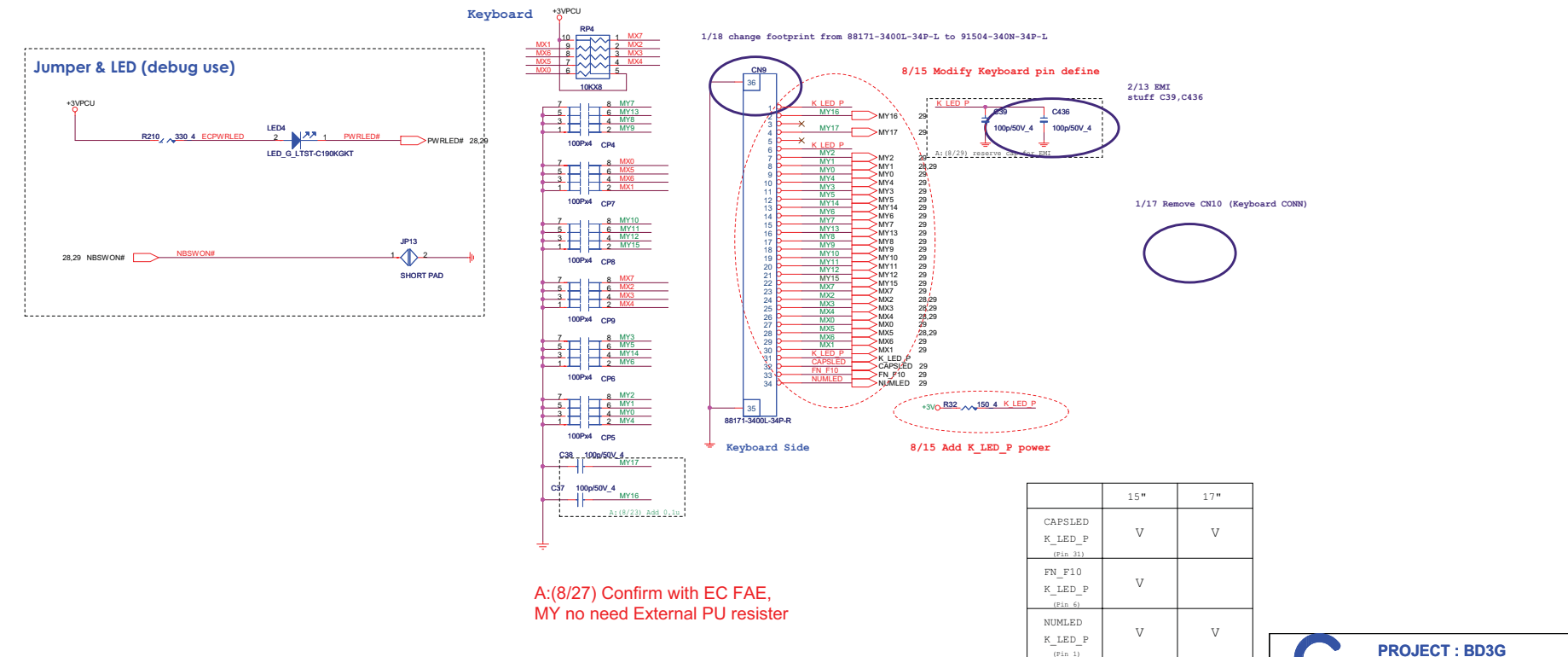
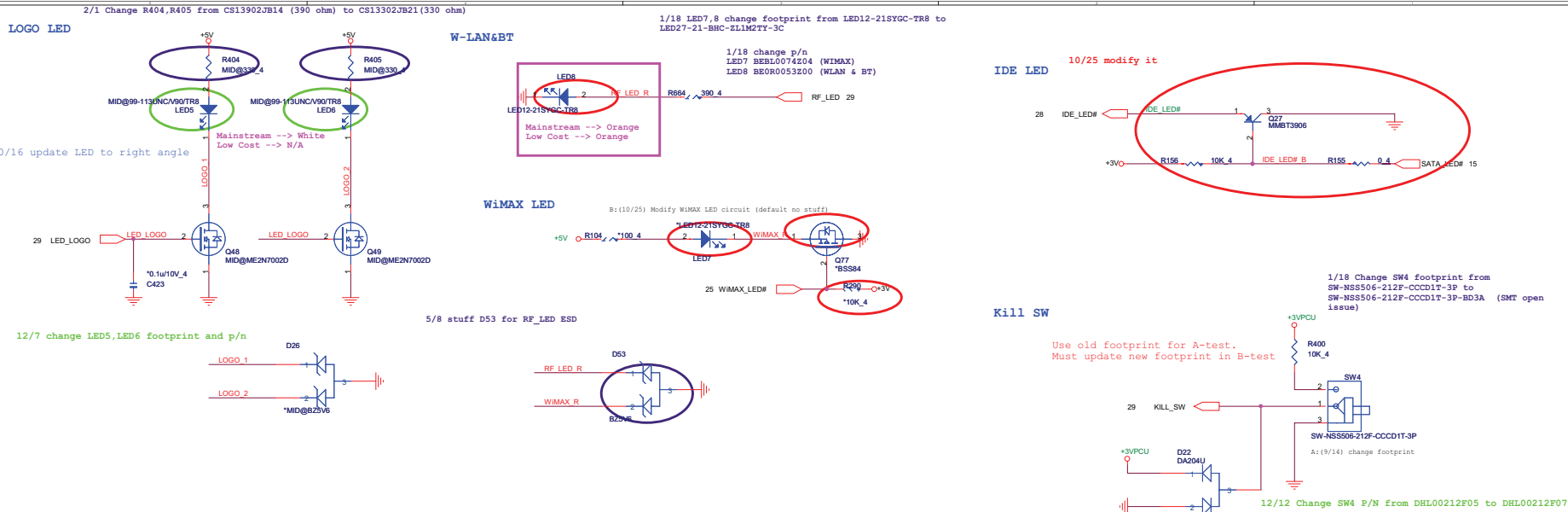
2/4 reserve D82~D86 for CN32 (2ND HDD)

4/17 remove D82~D86 for CN32 , change to U45 CM1213-04SO

5/5 add C818 0.01u to U45 +5V for ESD



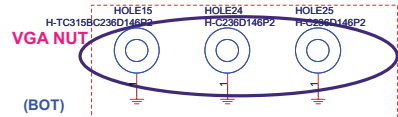




HOLE

Take care NUT P/N base on IV/EV sku

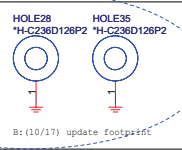
1/18 HOLE 17,18,23 FBBL5004010
change to FBBL5002010



MDC NUT (BOT)



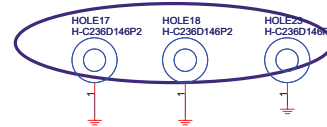
Mini-PCI-A NUT (BOT)



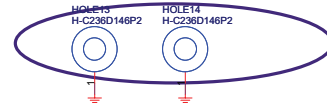
2/18 HOLE 28,35 FBBL5007010
change to FBBL5050010

5/5 remove HOLE28,35 (HD Decoder)

CPU NUT (BOT)



Mini-PCI-B NUT (BOT)



2/18 HOLE 13,14 FBBL5008010
change to FBBL5051010

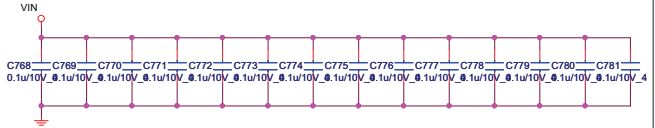
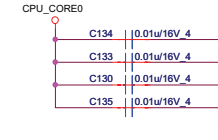
4/17 update HOLE13,14 footprint to H-C236D146P2

For fix HyperTransport nets
across plane splits

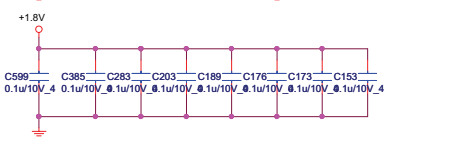
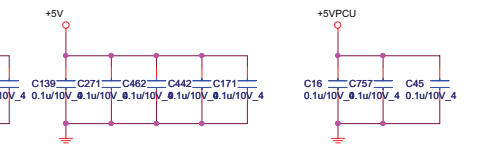
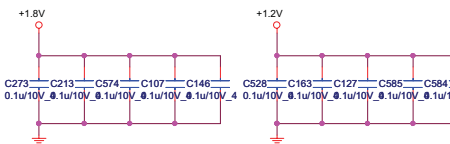
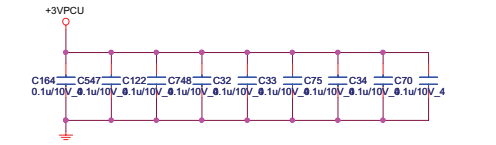
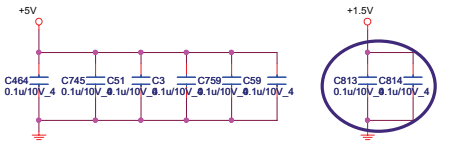
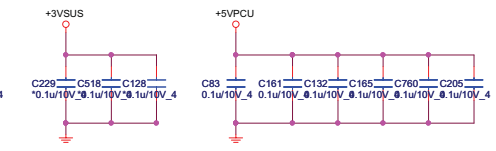
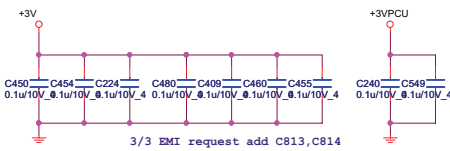
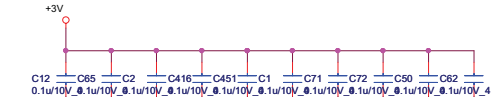
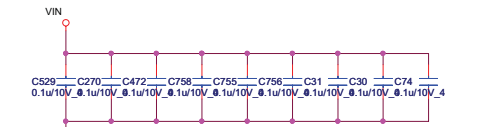
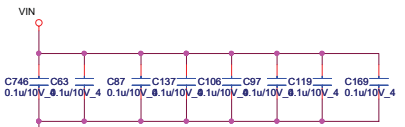
NUT P/N Control Table

	UMA sku	EV sku
HOLE15	FBBL5002010	FBBD3021010
HOLE24	FBBL5002010	FBBD3021010
HOLE25	FBBL5002010	FBBD3021010

Stitch CAP



EMI CAP.



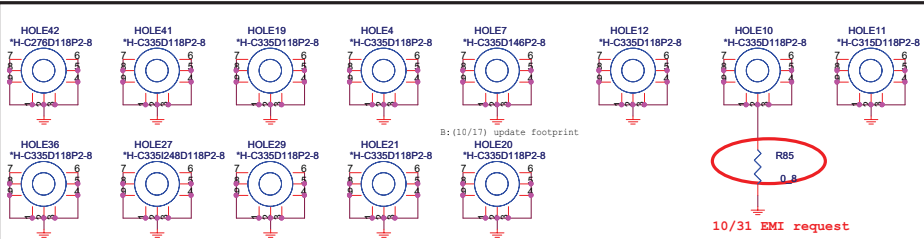
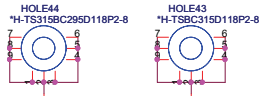
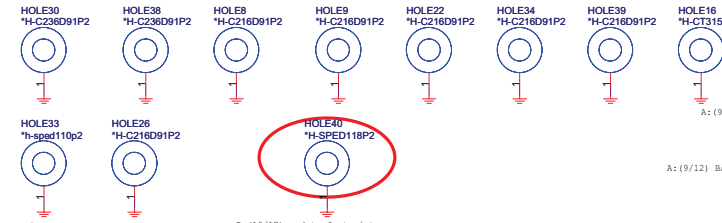
PROJECT : BD3G
Quanta Computer Inc.

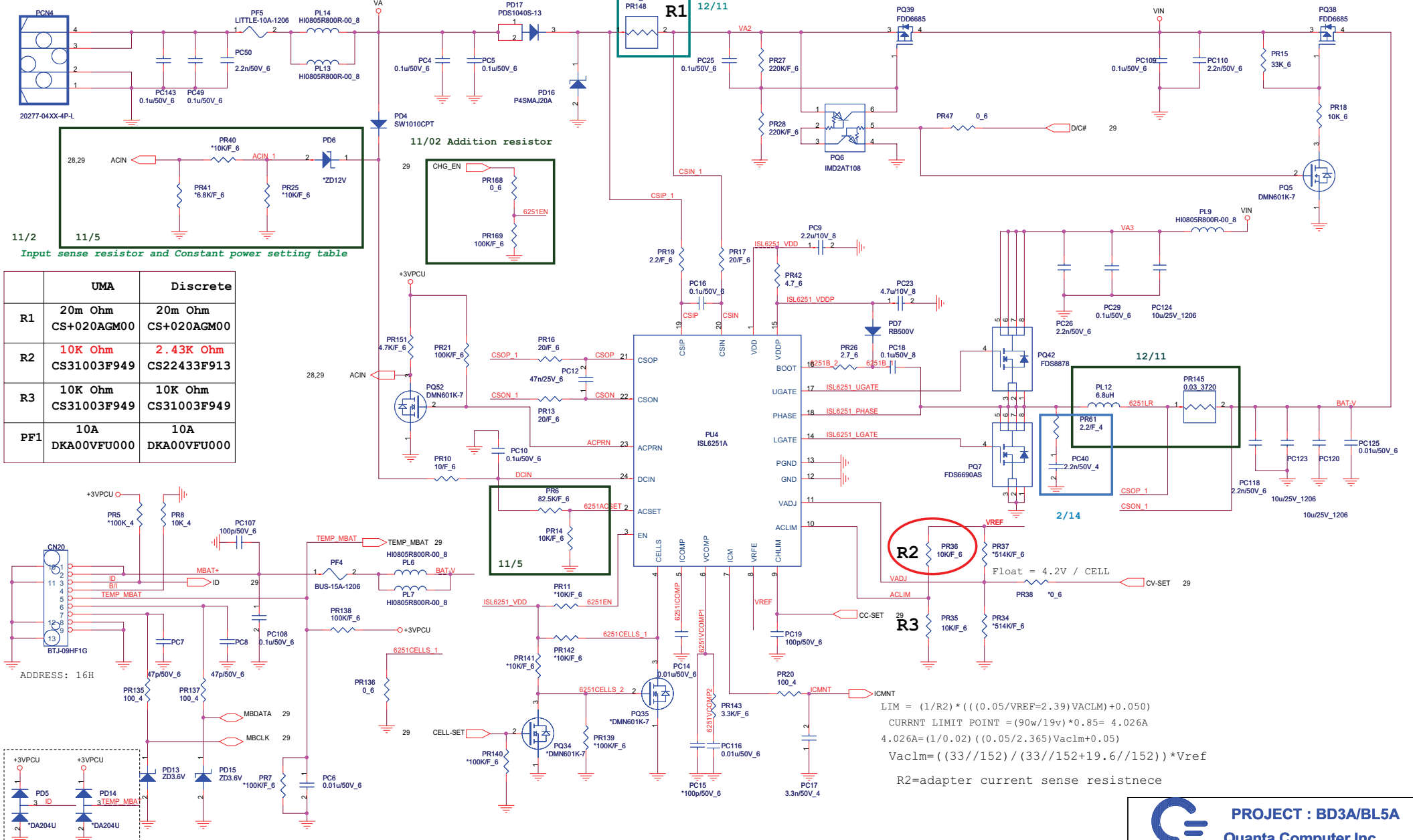
Size	Document Number	Rev
	HOLE/EMI CAP/ESD PAD	2A
Date	Thursday, May 29, 2008	Sheet 31 of 42

RAMP:(1/16) Follow BL5, update Hole footprint (13pcs)

B: (10/17) update footprint

10/31 EMI request





11/2
Input sense resistor and Constant power setting table

	UMA	Discrete
R1	20m Ohm CS+020AGM00	20m Ohm CS+020AGM00
R2	10K Ohm CS31003F949	2.43K Ohm CS22433F913
R3	10K Ohm CS31003F949	10K Ohm CS31003F949
PF1	10A DKA00VFU000	10A DKA00VFU000

A: (9/7) Add ESD diode base on EC PAE suggestion

CELL-SET = Hi ----> Cells = VDD ----> 4S
CELL-SET = Low ----> Cells = GND ----> 3S

$$LIM = (1/R2) * (((0.05/VREF=2.39)VACLM)+0.050)$$

$$CURRNT LIMIT POINT = (90w/19v) * 0.85 = 4.026A$$

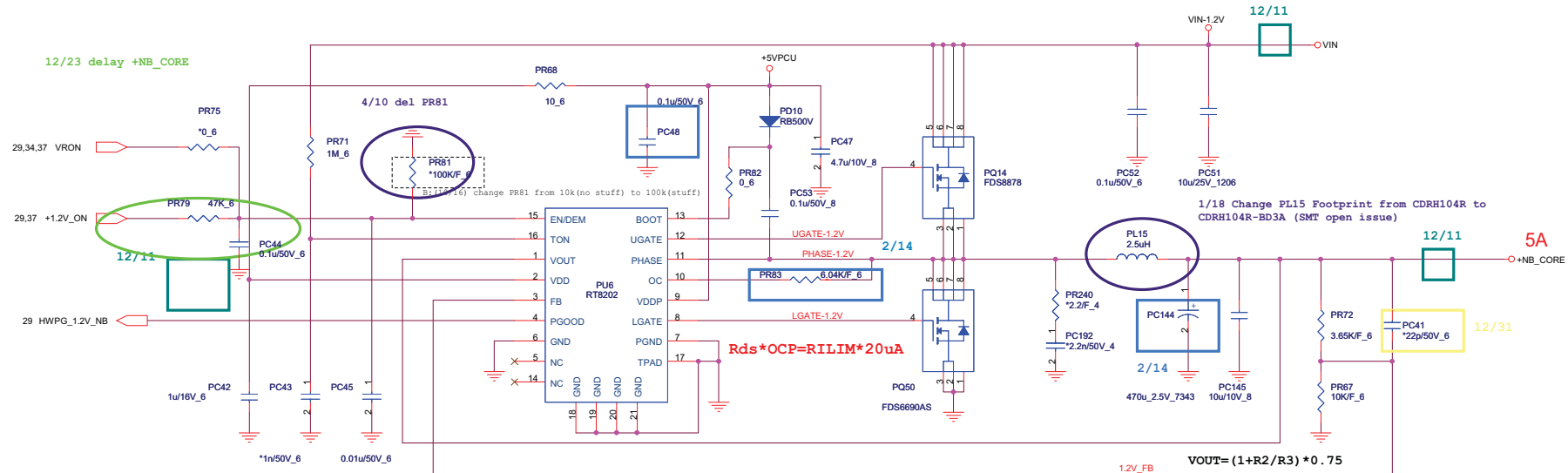
$$4.026A = (1/0.02) * ((0.05/2.365)Vac1m+0.05)$$

$$Vac1m = ((33/(152)) / (33/(152)+19.6/(152))) * Vref$$

R2=adapter current sense resistnece

SVC	SVD	Output
0	0	1.4
0	1	1.2
1	0	1.0
1	1	0.8





$$TON = 3.85p * RTON * Vout / (Vin - 0.5)$$

$$Frequency = Vout / (Vin * TON)$$

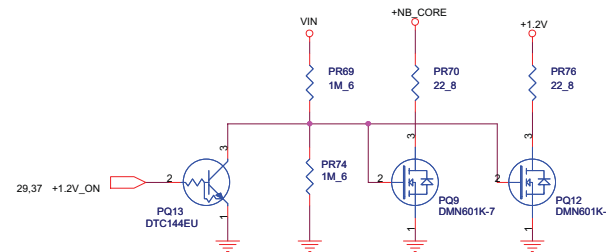
6A OCP --- OC=4.53K
FDS6690AS Rds=15mOhm

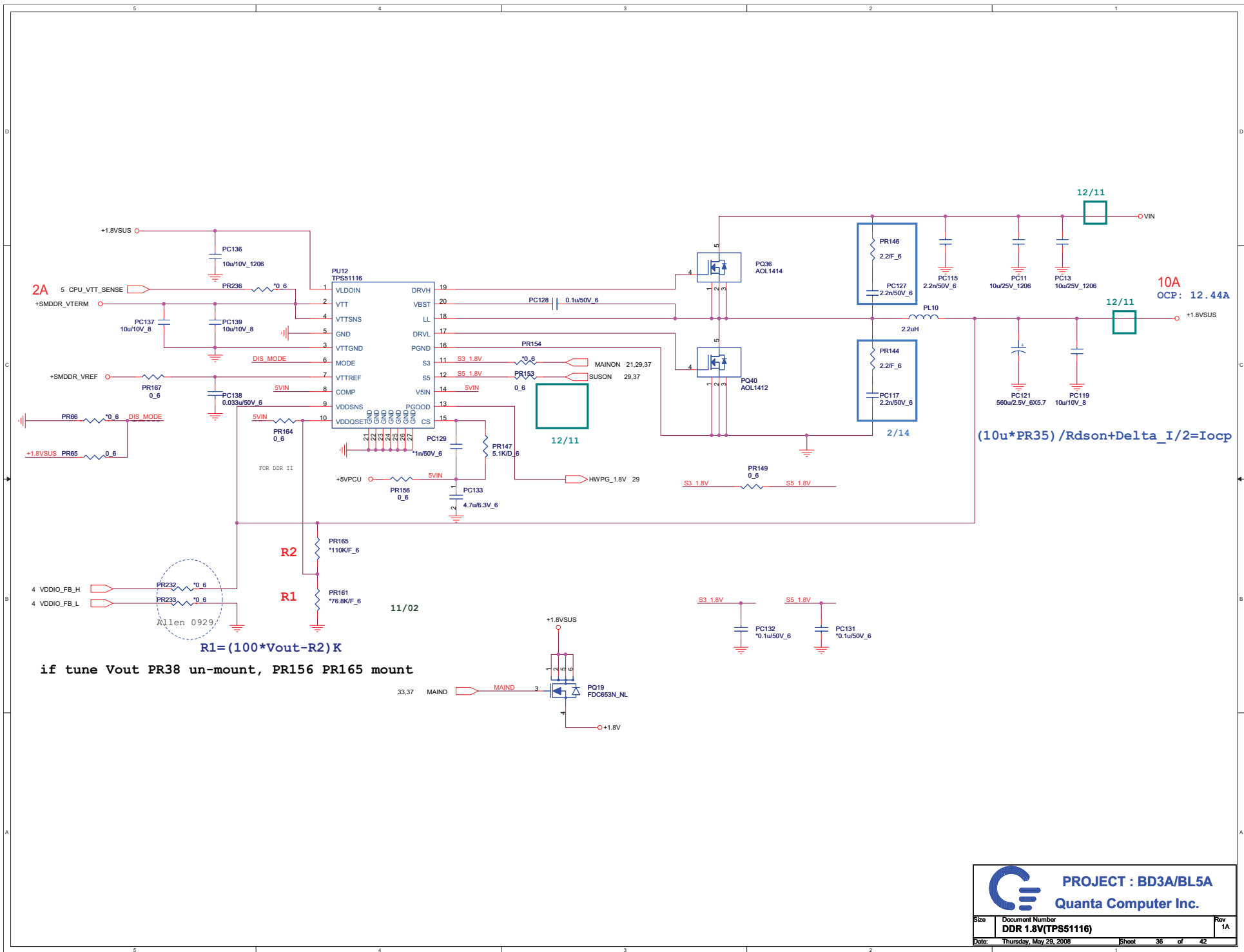
$$Rds * OCP = RILIM * 20uA$$

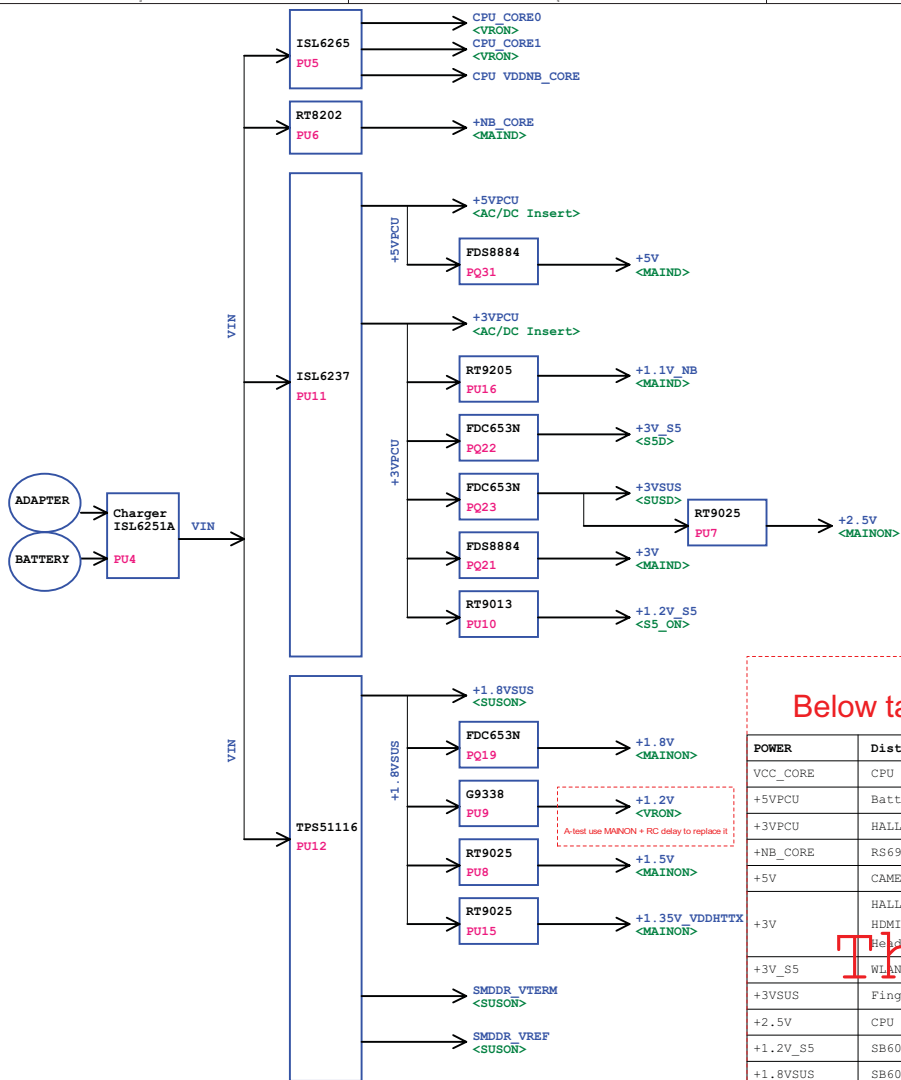
12/14 change PR73 from 8.25K to 35.7K

HI --- 1.0V
LOW --- 1.1V

12/14 del +1.35V_VDDHTTX
PU15
PC180, PC182, PC179
PR227, PR226, PR225



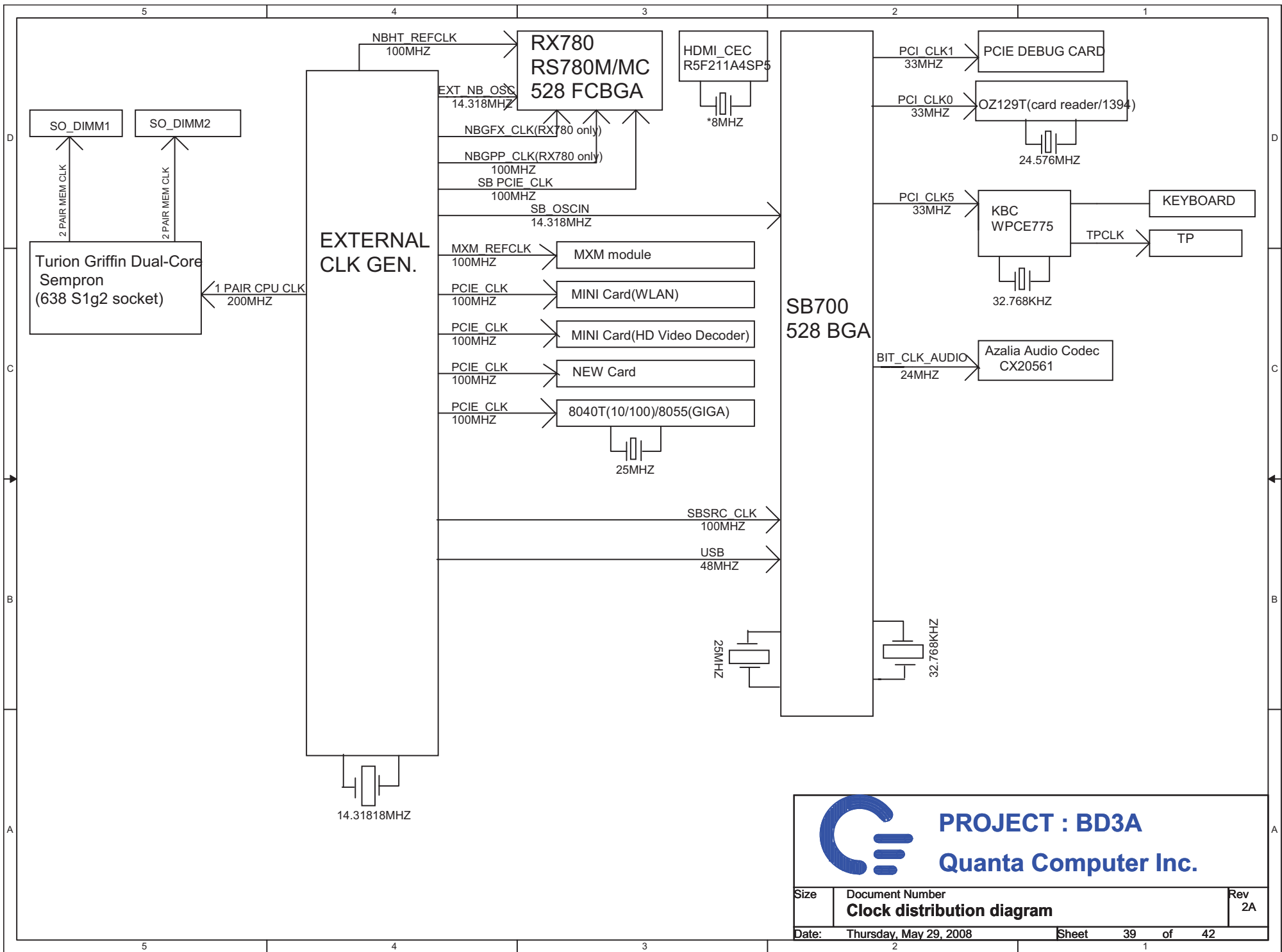




Below table need be modify (waiting other schematic ready)

POWER	Distribution
VCC_CORE	CPU
+5VPCU	Battery LED , Power LED , USB , CIR , RTC
+3VPCU	HALL SENSOR , Battery LED , RF LED , kill SW , Jumper LED , KB , Power Board , EC , ID , SPI Flash , CIR
+NB_CORE	RS690M
+5V	CAMERA , Card Reader LED , ODD/HDD LED , Felica , T/P , T/sensor , CRT , HDMI , SB600 , CPU FAN , MXM , Headphone , EC , INT SPK AMP
+3V	HALL SENSOR , LCD PANEL , LVDS , WLAN , HD Decoder , NEW CARD , KB , KB LED , XD LED , Blue tooth , Touch sensor , Card Reader (OZ129) , ODD/HDD , HDMI , CRT , TVOUT , REQUIRED STRAPS , DEBUG STRAPS , SB600 , RS690M , DDR , CPU Thermal monitor , CPU FAN , CLK , MXM , VR , FM Tuner MDC , Headphone , EC , LAN , Modem (CX 20561)
+3V_S5	WLAN , NEW CARD , SB600 , MXM , LAN
+3VSUS	Finger print , SB600
+2.5V	CPU
+1.2V_S5	SB600
+1.8VSUS	SB600 , DDR , CPU , HDT
+1.8V	SB600 , LCD , LVDS , RS690M
+1.2V	SB600 , RS690M , CPU , WLAN , HD Decoder , NEW CARD
+SMDDR_VTERM	DDR , CPU
+SMDDR_VREF	DDR
+5V_S5	

The Table NOT READY



PROJECT : BD3A
Quanta Computer Inc.

Size	Document Number	Rev
	Clock distribution diagram	2A
Date:	Thursday, May 29, 2008	Sheet 39 of 42

Model	REV	DATE	CHANGE LIST	NOTE
BD3G	A1A	2007	FIRST RELEASED : Import BOM ECN	ECN Release
		20071008	PAGE23:Reverse U42,C761 for VR	Circuit modify
	B2A	20071008	PAGE28:Add R667,R668,Q78 for TP_LED	Circuit modify
		20071204	PAGE04:Reverse C762 for AMD engineer CPU use	Circuit modify
		20071204	PAGE19:update CN25 HDMI footprint to HDMI-C12816-119A5-L-19P-V-BL5-1	Circuit modify
		20071204	PAGE15:change BOARD ID3 from GEVENT7 to GPIO48	Circuit modify
		20071204	PAGE14:change BOARD ID PD value from 10K to 1K(R227,R228,R229,R248,R343,R236)	Circuit modify
		20071204	PAGE29:Stuff R510, no-stuff R509 (slope BT module can't bring up issue)	Circuit modify
		20071204	PAGE20: modify display on ckt to avoid flash when into S3/S4/S5 (add Q78,Q80,R670,del Q41,R388)	Circuit modify
		20071207	PAGE19:update CN25 HDMI footprint to HDMI-C12816-119A5-L-19P-H-BD3	Circuit modify
		20071207	PAGE32:update ACIN design	Circuit modify
		20071207	PAGE24:Change R449(0 ohm) to D56(Diode) for leakage issue (3VPCU to 3V_S5)	Circuit modify
		20071207	PAGE23: Slove Audio issue:When plug in-out headphone, headphone has bo sound. 1. Change R652&R651 to C763,C764(10U/6.3V 0603)	Circuit modify
		20071207	PAGE22: Remove D19 to slove Audio issue Switch Mute to Un-mute, sound will delay about 2 seconds.	Circuit modify
		20071207	PAGE14: add D57,D58 to avoid voltage leakage	Circuit modify
		20071207	PAGE30:update LED5,LED6 footprint and PN	Circuit modify
		20071207	PAGE04:add R671~R679 for AMD request	Circuit modify
		20071208	PAGE03:change C223 C225 from 10p to 33p PAGE15:change C257 C258 from 10p to 27p PAGE26:change C380 C381 from 22p to 18p	
		20071210	PAGE25:Change New card footprint to NCARD-13180151-T-26P-L-BL5S	
		20071210	PAGE22:stuff R372 for FM	
		20071211	update power	
		20071212	PAGE29: Change U41(CIR) from BEBK0081D00 to BEBK0081D01	
		20071212	PAGE18: Change CN22(S-Video) from DFMD04FR296(Yellow Color) to DFMD04FR006(Black Color)	
		20071212	PAGE30: Change SW4 P/N from DHL00212F05 to DHL00212F07	
		20071212	PAGE31: Update Hole43 H-TSBC315D118P2, Hole 44 H-TS315BC295D118P2	
		20071212	PAGE29: pull down 100k R680 for ECPWROK	
		20071212	A11 to A12 implemen PAGE12: Del L15 stuff L36 PAGE16: Del R234 stuff R235 PAGE35: Del PU15,PC180,PC182,PC179PR227,PR226,PR225, Change PR73 from 8.25K to 35.7K	
		20071220	PAGE23: Slove GPRS noise 1. stuff R386/R387/C404/C405 to 0.1u 2. Change L44/41 to BK1608LL121	
		20071220	PAGE29: avoid leakage reserve D59/D60 to CLKRUN#/PLTRST#	
		20071221	PAGE18:add 27p(C790~C793) for TV_Y/G , TV_C/R	
		EMI	PAGE21:stuff C568,C548 PAGE22:stuff R399,R379 PAGE23:Change L43/44 to BK1608LL121 PAGE24:add L74,C766,C767,C789,C788 for +2.5V_1.8V_LAN,add L73 for +1.2V_LAN PAGE26:add 0 ohm and 22p for SD/MS CLK , R308~R329 0ohm(CS00002JB38) change to 33ohm(CS03302JB29), remove RN34,RN35, stuff L68,L69 for 1394 PAGE28:del R276,R278 stuff L72 , del R613,R612,R624,R626 stuff L70,L71 , add 0.1u for +5VPCU add 100p for 3ND_MBDATA/CLK PAGE31:stuff all 0.1 cap	
		20071221	update power	
		20071222	PAGE11: stuff R48 2.2K for power play	
		20071222	PAGE24: Per cost down remove LAN eeprom,stuff R381,remove U21,R380,R378	
	C3A	20080102	PAGE14: NEW_DET# change from Geven3# to GPM1#	
		20080117	Update RX781	
		20080117	PAGE13:Modify RTC circuit. R301,R302 change from 8.66k to 2k. R332 change from 4.7K to 6.8K	
		20080117	PAGE13:Change RTC Battery from VARTA (AHL03001441) to MATSUSHITA (AHL03002005)	
		20080117	PAGE19:Change back HDMI connector(CN25) footprint from HDMI-C12816-119A5-L-19P-H-BD3 to HDMI-C12816-119A5-L-19P-H-BL5(SMT open issue)	
		20080117	PAGE20:for engery star add R684 connect to EC pin27	
		20080117	PAGE24:Change CN28 (RJ45 CONN) from DFTJ12FR024 to DFTJ12FR035	
		20080117	PAGE27:Change CN32(2nd SATA CONN) from DFHS22FR064 to DFHS22FR094	
		20080117	PAGE27:Change CN32 footprint from SATA-127043FR022XX27ZR-22P-L-H to SATA-127043FR022G285ZR-22P-L	
		20080117	PAGE30:Remove CN10 (Keyboard CONN)	
		20080117	PAGE21:Remove R492,R517, Short CN27/Pin189,190 to VIN directly.	
		20080118	PAGE28:Change L72 from CX216900002 to CX163210007(BT circuit)	
		20080118	PAGE08:Change CN19 footprint from DDR-C-292564-200P to DDR-C-292564-200P-BD3A (SMT open issue)	
		20080118	PAGE08:Change CN23 footprint from DDR-C-1734071-200P to DDR-C-1734071-200P-BD3A (SMT open issue)	
		20080118	PAGE30:Change SW4 footprint from SW-NSS506-212F-CCCD1T-3P to SW-NSS506-212F-CCCD1T-3P-BD3A (SMT open issue)	
		20080118	PAGE23:Change CN43 footprint from MDC-1-179373-2-12P-RUV to MDC-1-179373-2-12P-RUV-BD3A (SMT open issue)	
		20080118	PAGE35:Change PL15 Footprint from CDRH104R to CDRH104R-BD3A (SMT open issue)	
		20080118	PAGE22:Add R685 for VISTA WHQL circuit	
		20080118	PAGE24: Change RJ45 footprint from LAN-100073FR012G101ZL-12P to rj45-c100s7-10806-I-12P	
		20080118	PAGE31:HOLE 17,18,23 FBBL5004010 change to FBBL5002010	

Model	REV	DATE	CHANGE LIST	NOTE
BD3G	C3A	20080118	PAGE30:change footprint from 88171-3400L-34P-L to 91504-340N-34P-L	Circuit modify
		20080118	PAGE30:LED7,8 change footprint from LED12-21SYGC-TR8 to LED27-21-BHC-ZL1M2TY-3C	Circuit modify
		20080118	PAGE30:change p/n LED7 BEBL0074Z04 (WIMAX),LED8 BE0R0053Z00 (WLAN & BT)	Circuit modify
		20080131	PAGE31:update HOLE42,41,19,4,7,12,10,11,36,27,29,21,20,43,44	Circuit modify
		20080131	voltage leakage issue	Circuit modify
			PAGE04:modify CPU_PROCHOT# ckt (add R687, no stuff R686,R425), CPU_LDT_REQ#_CPU ,CPU_PWRGD connect to +1.8V	Circuit modify
			PAGE11:remove Q5,Q3,R83,R80,R97,stuff R88,R77	Circuit modify
			PAGE14:BOARD_ID4 change from GPIO66 to GPIO3	Circuit modify
		20080131	PAGE14:NEW CARD hot plug issue ,NEW_DET# change from GEVEN5# to GPM1# (SB700 A12 Errata)	Circuit modify
		20080131	PAGE19: DEL L56,L57,L58,L59,R465,R474,R493,R495,R486,R488,R478,R483,C226,C227 for HDMI circuit	Circuit modify
		20080131	PAGE25: add +3V to CN21 pin39,41	Circuit modify
		20080131	PAGE18: Change L4,L5,L6 to CX8BA470003 to meet CRT spec	Circuit modify
		20080131	PAGE19: Change U11 from ARBL5SV0000 to ARBL5MV0000	Circuit modify
		20080131	PAGE28:According to customer request, we can't stuff C782 (22pF) in SD/MS_CLK	Circuit modify
		20080131	PAGE25: Change R573 from 28.7K to 0 ohm, Remove C628 for NEW card some device can't work normal	Circuit modify
		20080131	PAGE14: Change R350 from 1K to 0 ohm (Slove VCCRTC can't reach 0V when clear CMOS.)	Circuit modify
		20080131	PAGE28: Change CN33(5 in 1 card CONN) P/N from DFHS38FR003 to DFHS38FR005	Circuit modify
		20080131	PAGE27: Change CN34 (1st SATA) P/N from DFHS22FR063 to DFHS22FR082	Circuit modify
		20080131	PAGE27: Change CN32 (2nd SATA) P/N from DFHS22FR094 to DFHS22FR083	Circuit modify
		20080131	PAGE20: Change CN5 (I-MIC)P/N from DFHD02MR003 to DFHD02MR016	Circuit modify
		20080131	PAGE22: Change CN39(I-MIC CONN) P/N from DFHD02MR003 to DFHD02MR016	Circuit modify
		20080131	PAGE22: Change CN17(SPK CONN) P/N from DFHD04MR012 to DFHD04MR021	Circuit modify
		20080131	PAGE28: Change CN16(USB-FFC CONN) P/N from DFHD10MR011 to DFHD10MR008	Circuit modify
		20080131	PAGE28: Change CN13(FP CONN) P/N from DFHD04MR012 to DFHD04MR021	Circuit modify
		20080131	PAGE28: Change CN14(BT CONN) P/N from DFHD10MR011 to DFHD10MR008	Circuit modify
		20080201	PAGE22: Change INT-SPK AMP GAIN VALUE. Change R623,R625 from 9.1k to 5.1k 1%,Change R620,R621 from 10k to 16k 1%	Circuit modify
		20080201	PAGE30: Change R404,R405 from CS13902JB14 (390 ohm) to CS13302JB21(330 ohm)	Circuit modify
		20080201	RS780M A13 Errata	Circuit modify
			PAGE11:change R103 from 150 to 140 CS11402FB01	Circuit modify
			PAGE18:RS780M A13 R8 ----> 140 CS11402FB19,MXM R8 ----> 150 CS11502FB21	Circuit modify
		20080201	PAGE19: change HDMI SCL/SDA pull res R168,R171,R163,R170 to 4.7K ,change R1,R2 to 6.8K	Circuit modify
		20080201	PAGE20: change Panel SDA/SDC pull res R412,R410 from 39K to 4.7K	Circuit modify
		20080204	ESD solution	Circuit modify
			PAGE23: add Varistor D63,D64,D65 on SPDIF_OUT/HP_JD/+3V_SPD	Circuit modify
			PAGE28: reserve D66 for CN36 , reserve D68,D69,D70 for FP , stuff D71,D72,D73 for BT	Circuit modify
			PAGE20:reserve D74,D75,D76 for CCD ,stuff D87 for LID switch	Circuit modify
			PAGE27:del R270,R597 , connect to +5V directly ,reserve D77~D81 for CN34(1ND HDD) ,reserve D82~D86 for CN32(2ND HDD) ,reserve D67 for CN31	Circuit modify
			PAGE26:reserve D88~D91 for 1394	Circuit modify
			PAGE04:reserve D92,D93 for FAN , reserve C795,C796 change R122 to 0 0603	Circuit modify
			PAGE13,19,21,25:reserve C797~800 for PLTRST#	Circuit modify
		20080204	PAGE04: pull up R691 CPU_BDREQ# to avoid noise cause system shut down	Circuit modify
		20080205	PAGE23:Change R714,R715 from 10uF to 0 ohm (Audio HP circuit)	Circuit modify
		20080210	PAGE18,29: DEL D4,D5 footprint and DEL CRT_SENSE# net, No stuff R218	Circuit modify
		20080210	PAGE28: DEL C42, Add D94 for CN8/Pin2 (ESD issue) - default no stuff	Circuit modify
		20080210	PAGE28: Change L70,L71 from CX216900002 to CX163210007	Circuit modify
		20080210	PAGE28: Stuff L64,L65 to CX163210007	Circuit modify
		20080213	PAGE27: Add ESATA re-driver IC	Circuit modify
		20080213	PAGE25: Change the footprint of R33 and R330 from 1206 to 0805	Circuit modify
		20080213	EMI solution	Circuit modify
			PAGE18: C4,C7,C10,C5,C8,C11 change from 10p to 6.8p	Circuit modify
			PAGE28: stuff C391,C701, C559 ,C228,C465,C618,C41,C43, C618,C794,C809,C810	Circuit modify
			PAGE20: stuff C427~C432	Circuit modify
			PAGE30: stuff C39,C346	Circuit modify
			PAGE29: stuff C577,C578,C560	Circuit modify
			PAGE12: stuff C804~C807 for +NB_CORE	Circuit modify
			PAGE25: stuff C40,C36,C54,C58,C289,C352,C319,C272 for WL	Circuit modify
			PAGE19: stuff C808 for HDMI	Circuit modify
			PAGE15: stuff C375,C366 for SB HW MONITOR	Circuit modify
			PAGE22: stuff R627	Circuit modify
			PAGE26: change R683 from 0 to 33 ohm	Circuit modify
		20080214	UPDATE POWER	Circuit modify
		20080215	PAGE28: CN42 co-layout with CN16	Circuit modify
		20080215	PAGE31: Remove R98,R145,R118 Hole15,17,18	Circuit modify
		20080215	PAGE28: Change L70,L71 from CX216900002 to CX201290009	Circuit modify
		20080218	PAGE31: HOLE 15,24,25 FBBD3017010 change to FBBD3021010	Circuit modify
		20080218	PAGE31: HOLE 28,35 FBBL5007010 change to FBBL5050101 , HOLE 13,14 FBBL5008010 change to FBBL5051010	Circuit modify



PROJECT : BD3G
Quanta Computer Inc.

Size	Document Number	Rev
	Change List02	3C
Date	Thursday, May 29, 2008	Sheet 41 of 42

Model	REV	DATE	CHANGE LIST	NOTE
BD3G	C3A	20080218	PAGE04: G781 reverse R718 0 ohm for Griffin CPU	Circuit modify
		20080219	PAGE04: change G781 to G786P81U	Circuit modify
		20080220	PAGE27:1.change C801,C82 from 0.01u to 4.7n, 2.RX add C811,C812 4.7n	Circuit modify
		20080222	PAGE15:change SATA ODD from port3 to port4 (solve ODD post detect fail)	Circuit modify
		20080226	PAGE27:change ESATA conn usb-2006109-11p,update p/n to DFHS11FR021	Circuit modify
		20080227	update power include EMI	Circuit modify
		20080229	del co-layout parts	Circuit modify
			RN34,RN35,R608,R607,R572,R569	Circuit modify
		20080303	PAGE14: del Mini card USB10,Felica USB5 , change BT to port5 , ESATA to port 10	Circuit modify
		20080303	PAGE25: MINI PCI II no need USB , change USB10 to ESATA .and del R169,R188	Circuit modify
		20080303	PAGE28: no Felica request , remove USB del R178,R179,remove Q57,C476,R450,Q56	Circuit modify
		20080303	PAGE31: EMI request add C813,C814	Circuit modify
		20080410	PAGE17: change R150 to R152 for power sequence	Circuit modify
		20080410	PAGE26: add D88~D91 for 1394 ESD	Circuit modify
		20080410	PAGE27: change ESATA conn usb-2006109-11p update p/n to DFHS11FR023	Circuit modify
		20080410	PAGE27: add D67,D49,D50 for ESATA USB ESD	Circuit modify
		20080410	PAGE28: add D51,D52, D66 for USB0	Circuit modify
		20080410	PAGE34: add PC191,PC193 for CPU core	Circuit modify
		20080410	PAGE35: del PR81	Circuit modify
		20080410	PAGE27: remove Flash card ckt	Circuit modify
		20080416	PAGE13: change RTC pad location to G1	Circuit modify
		20080416	PAGE14: pull up USB_OC5# R719	Circuit modify
		20080416	PAGE18: update footprint to sv-030018fr004s100fr-4p-h-bl5m	Circuit modify
		20080416	PAGE23: update footprint to knob-xre094-3p-bl5m	Circuit modify
		20080416	PAGE28: remove CN42 not co-layout with CN16	Circuit modify
		20080416	PAGE31: update HOLE13,14 footprint to H-C236D146P2	Circuit modify
		20080417	PAGE27: remove D77~D81 for CN34 , change to U44 CM1213-04SO(AL001213001) ,remove D82~D86 for CN32 , change to U45 CM1213-04SO	Circuit modify
		20080418	PAGE28: Change L72 from CX163210007(BT circuit) to CX201290009	Circuit modify
		20080421	PAGE31: remove Hole31,37	Circuit modify
		20080421	no stuff +3VSUS component	Circuit modify
			PAGE31: no stuff C229,C518,C128	Circuit modify
			PAGE33: no stuff PQ23	Circuit modify
			PAGE37: no stuff PR95,PQ20	Circuit modify
		20080424	PAGE16: IDE/FLASH not use ,remove C287,C288,C297,C293,C294	Circuit modify
		20080424	PAGE16: internal clk not use ,remove C332,C330,C327,C331, change L28 to 0 ohm	Circuit modify
			To meet ESATA SI	Circuit modify
		20080424	PAGE27: change R706 from 0 ohm to 330 , stuff R692,R693,R694	Circuit modify
		20080424	PAGE16: remove C762 to meet PWRGD timing spec	Circuit modify
		20080424	PAGE9: stuff R480,R479 to meet AMD spec	Circuit modify
		20080424	PAGE17: stuff C765 10nf to meet power sequence	Circuit modify
		20080505	PAGE34: intersil recommand to set OCP to 30A	Circuit modify
			Change PR218 from CS32052FB21 to CS41072FB11,Change PR157 from CS41002FB28 to CS31002FB26,Change PR160 PR216 from CS31622FB27 to CS23652FB08	Circuit modify
		20080505	PAGE22: Change CN17 from DFHD04MR021 to DFHD04MRA75	Circuit modify
		20080505	PAGE27: update re-driver footprint to tqfn36-5x6-5-37p-0_75h-te1m	Circuit modify
		20080505	PAGE20: reserve R720,R721 for cost down	Circuit modify
		20080505	PAGE27: add C816 0.1u to U44 +5V for ESD , add C818 0.1u to U45 +5V for ESD	Circuit modify
		20080505	PAGE25: remove CN30 second PCIE (HD Decoder)	Circuit modify
		20080505	PAGE31: remove HOLE28,35 (HD Decoder)	Circuit modify
		20080507	PAGE20: stuff D74,D75,D76 for CCD	Circuit modify
		20080508	PAGE20: reserve CM1293 U46,C819 for CCD ESD protect	Circuit modify
		20080508	PAGE28: stuff D68,D69,D70 for FP	Circuit modify
		20080508	PAGE30: stuff D53 for RF_LED ESD	Circuit modify
		20080509	PAGE26: 5/9 for card reader MS DUO adapter short issue	Circuit modify
			reserve R723,724,722 ,Q82,Q81,Q83,Q84	Circuit modify
		20080513	PAGE4: follow AMD design guide 1.03 stuff R675	Circuit modify
		20080527	PAGE26: some 1394 device can't boot normal	Circuit modify
			change L38 to BK1608HS220_6	Circuit modify
		20080527	PAGE34: CPU core adj	Circuit modify
			1.PR160,PR216 change to 3.92K/F_4	Circuit modify
			2.PR213,PR215 change to 18.2K/F_4	Circuit modify
		20080527	PAGE33: solve system hang up , when plug adp quickly	Circuit modify
			change PR113 from 150K_4 to 115K/F_4	Circuit modify
		20080527	PAGE33: avoid right side USB voltage drop	Circuit modify
			change PR119 to 63.4K , PR120 to 10K	Circuit modify
		20080528	PAGE12: del C805,C807	Circuit modify
		20080529	PAGE27: change ESATA conn p/n to DFHS11FR027	Circuit modify



PROJECT : BD3G
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