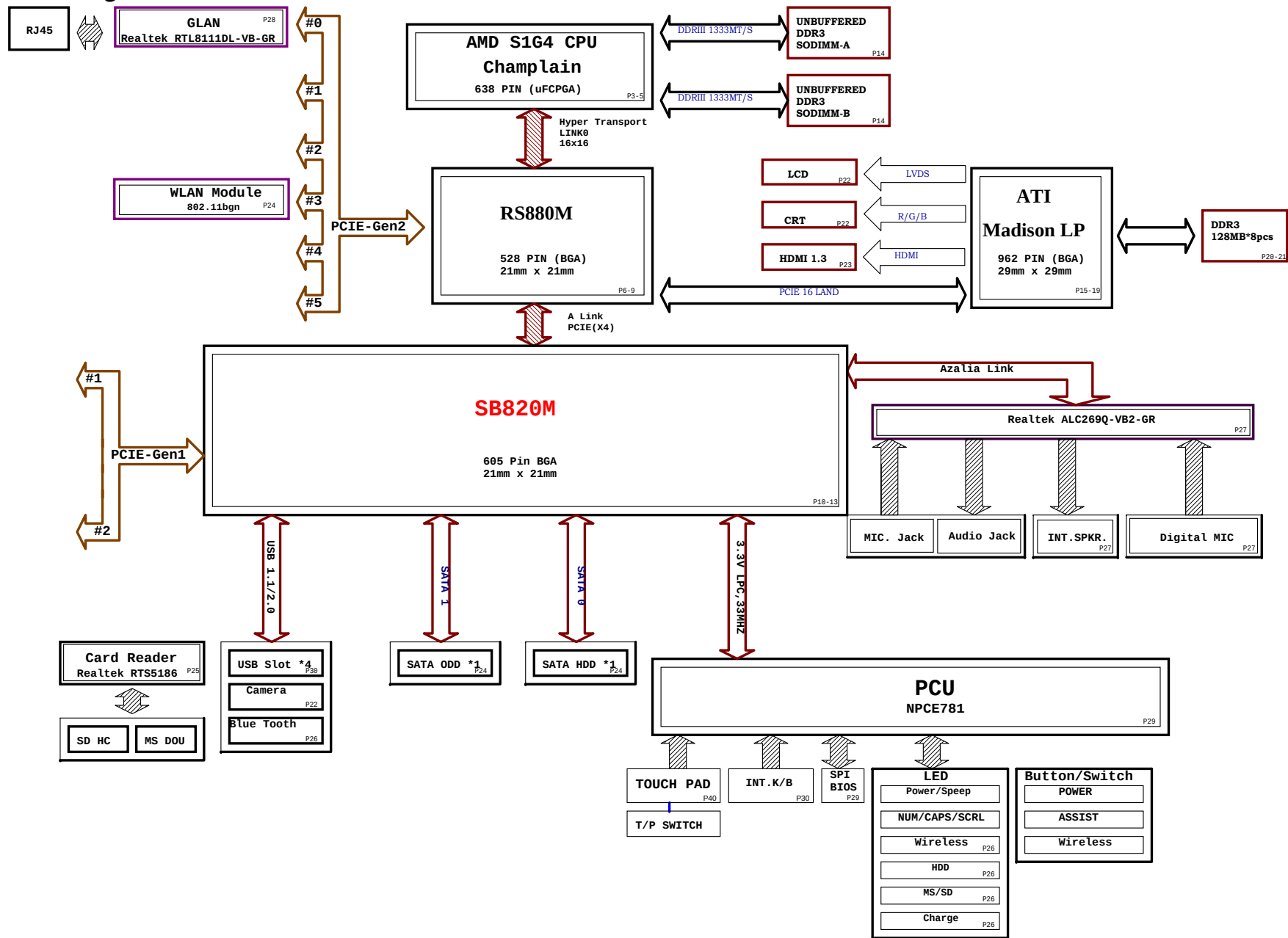
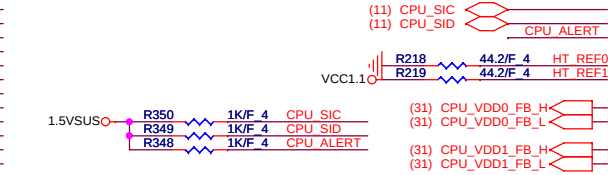
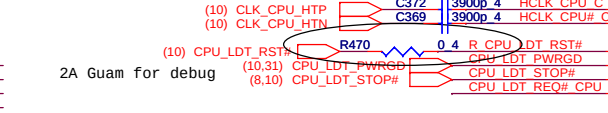
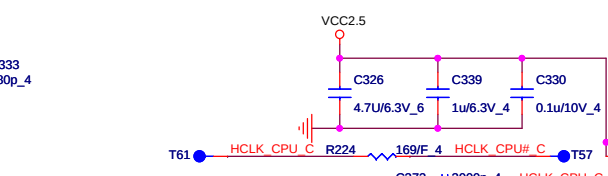
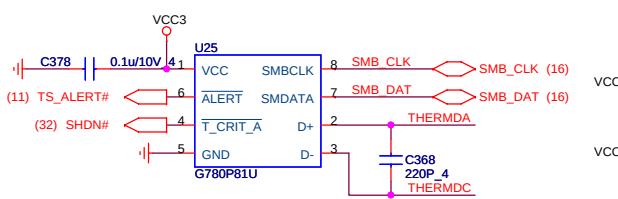
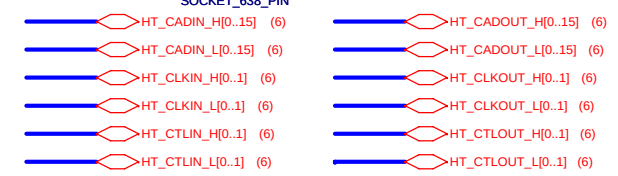
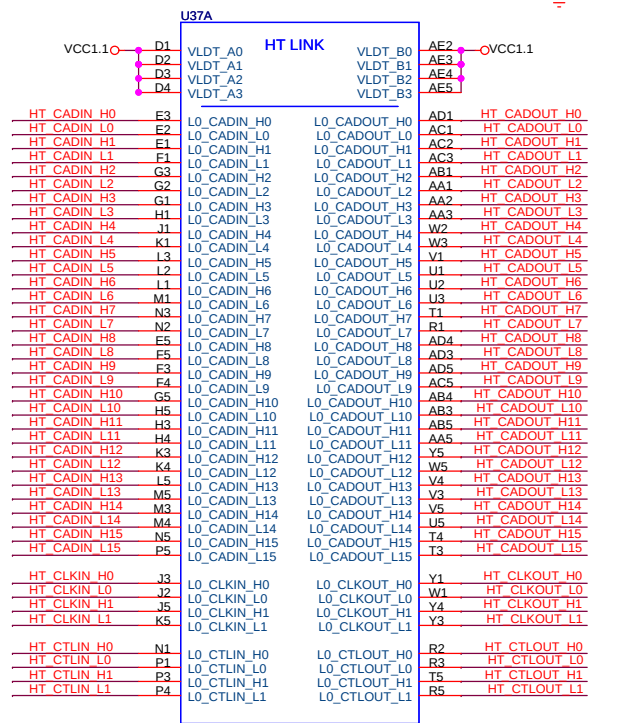
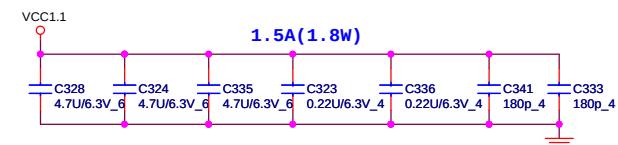
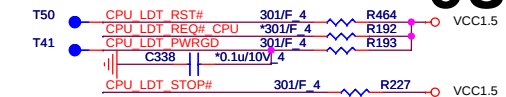


Page	Title of schematic page	Rev.	Date
01	Page List	2A	12/24
02	Block Diagram	2A	12/24
03	CPU-Champlain HT/CONTROL (1/3)	2A	01/04
04	CPU-Champlain MEMORY (2/3)	1B	12/16
05	CPU-Champlain POWER/GND (3/3)	1B	12/08
06	NB-RS880M HT/SP-MEM (1/4)	1B	12/08
07	NB-RS880M GFX/PCIE (2/4)	1A	09/24
08	NB-RS880M SYSTEM (3/4)	1A	09/24
09	NB-RS880M POWER (4/4)	1A	09/24
10	SB-SB820M PCI/CLK/LPC (1/4)	1A	09/24
11	SB-SB820M AUDIO/USB (2/4)	1A	09/24
12	SB-SB820M SATA (3/4)	1B	12/08
13	SB-SB820M POWER (4/4)	1A	09/24
14	DDR3 SODIMM* 2 (5.2mm+9.2mm)	2A	12/24
15	ATI-Madison LP PCIE/LVDS (1/5)	2A	12/24
16	ATI-Madison LP MAIN I/O (2/5)	2A	12/24
17	ATI-Madison LP POWER/GND (3/5)	2A	12/24
18	ATI-Madison LP Display POWER (4/5)	2A	12/24
19	ATI-Madison LP MEM I/F (5/5)	2A	12/24
20	ATI-Madison LP (DDR3 V-ram a)	2A	12/24
21	ATI-Madison LP (DDR3 V-ram b)	1B	12/08
22	CRT/LVDS	2A	12/24

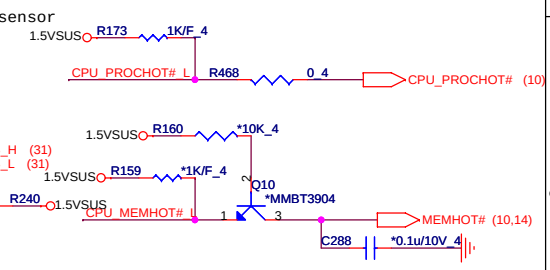
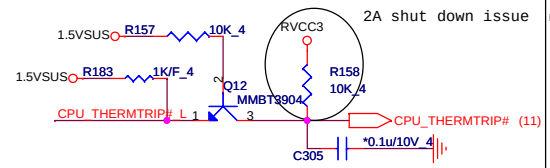
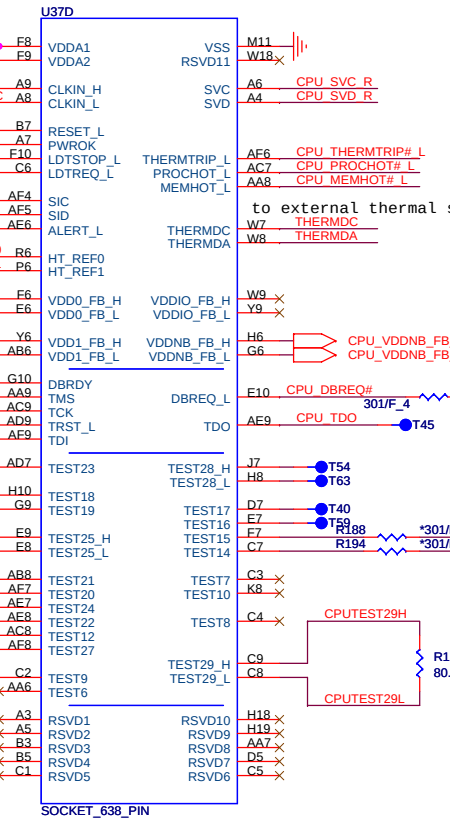
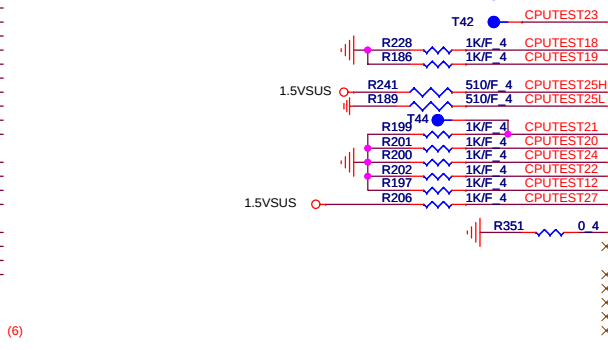
Page	Title of schematic page	Rev.	Date
23	HDMI	1B	12/09
24	WLAN/HDD/ODD	1B	12/08
25	Card Reader RTS5186	1B	12/08
26	Express Card/BT/LED	1B	12/08
27	Codec-ALC269Q VB5 GR	1B	12/08
28	LAN RTL8111E	1B	12/08
29	NPCE781	1B	12/08
30	KB/USB/FAN/PS	1B	12/09
31	VCORE(ISL6265A)	1A	09/24
32	3VPCU&5VPCU(PM6686)	1A	09/24
33	1.5VSUS/VTT_MEM	1A	09/24
34	DYN_VCC1.1(OZ8116LN)	1A	09/24
35	VCC1.1(OZ8116LN)-7A	1A	09/24
36	VGA_CORE(OZ8116)-16A	1A	09/24
37	VCC1.8/0.9/2.5/1.0	1A	09/24
38	POWER(BAT IN / ADA IN/ UL)	1A	09/24
39	CHARGER (ISL6252A)	1A	09/24
40	Small board connector	1A	09/24
41	Power Sequence		
42	CHANGE LIST		

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



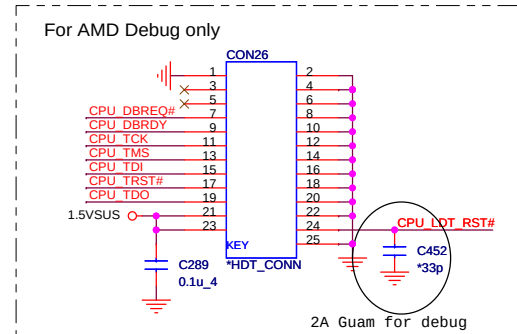
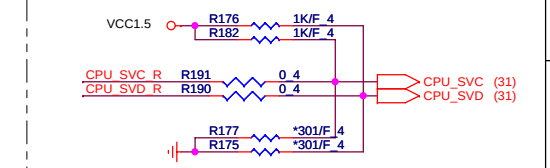


		T62	CPU_DBRDY
		T58	CPU_TMS
TDI、TD0、TCK、		T55	CPU_TCK
TMS、TRST_L: for	ICT	T83	CPU_TRST#
		T82	CPU_TDI



S1g4 does not support MEMHOT#

VFIX MODE		VID Override Circuit
SVC	SVD	Voltage Output
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V

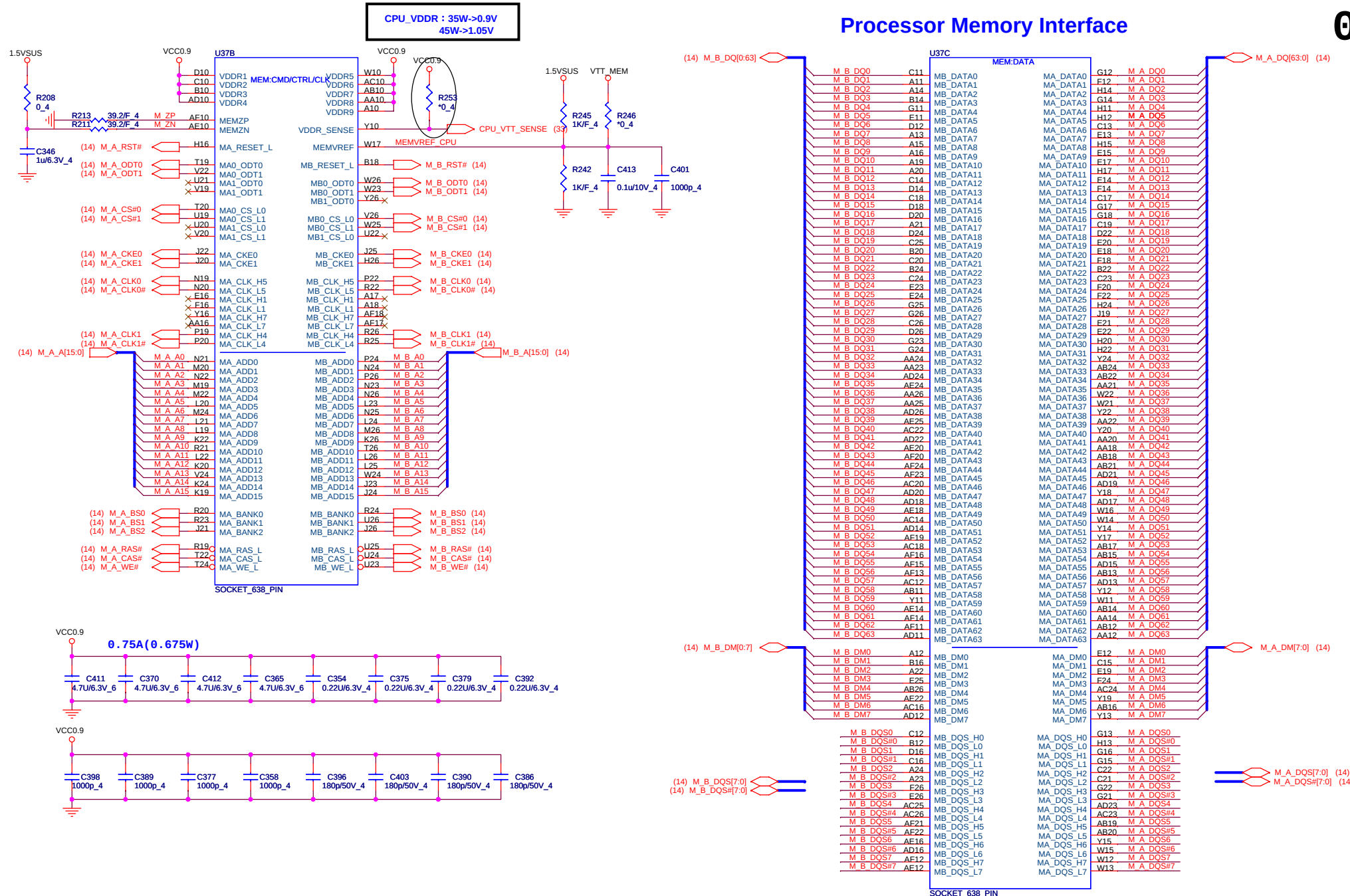


2A Guam
1. Level 1 Environment-related Substances Should NEVER be Used.
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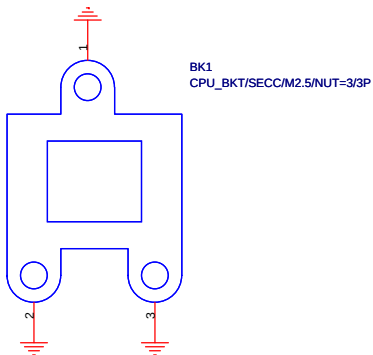
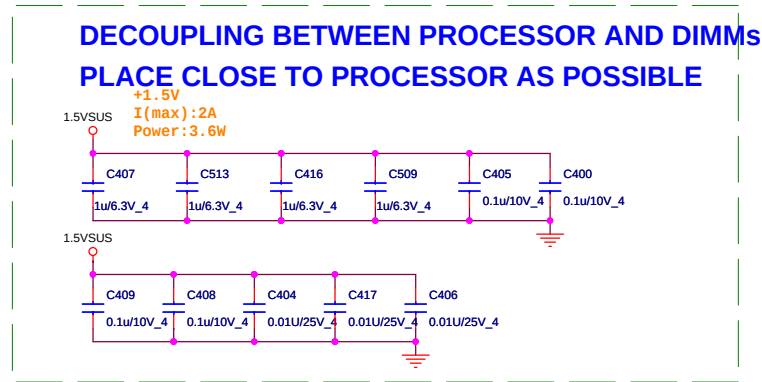
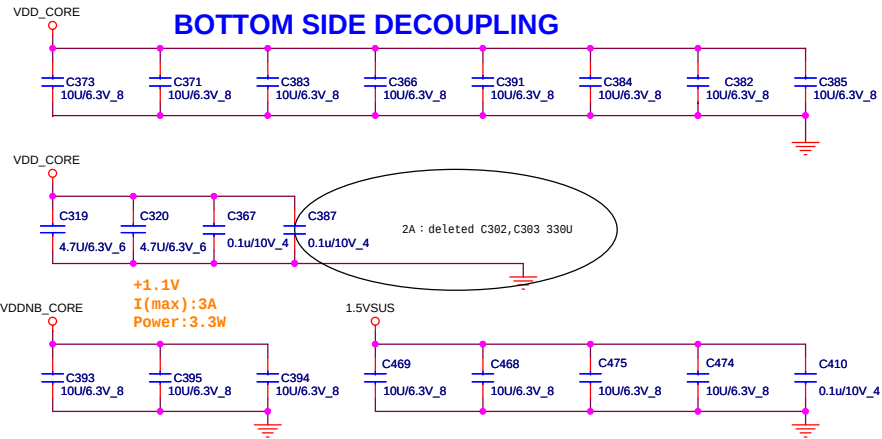
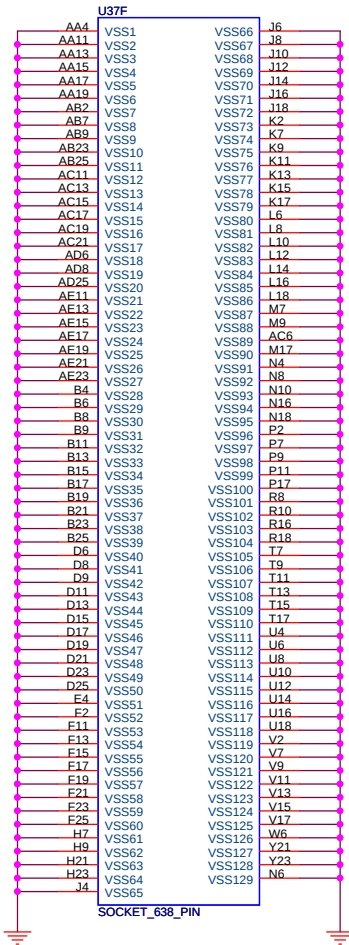
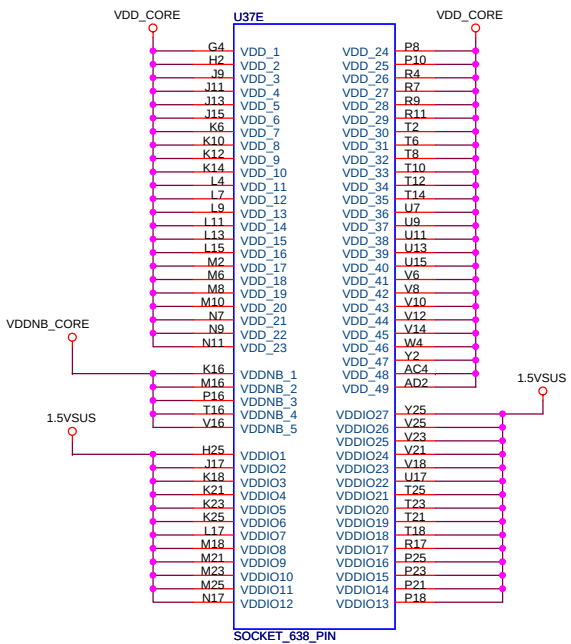


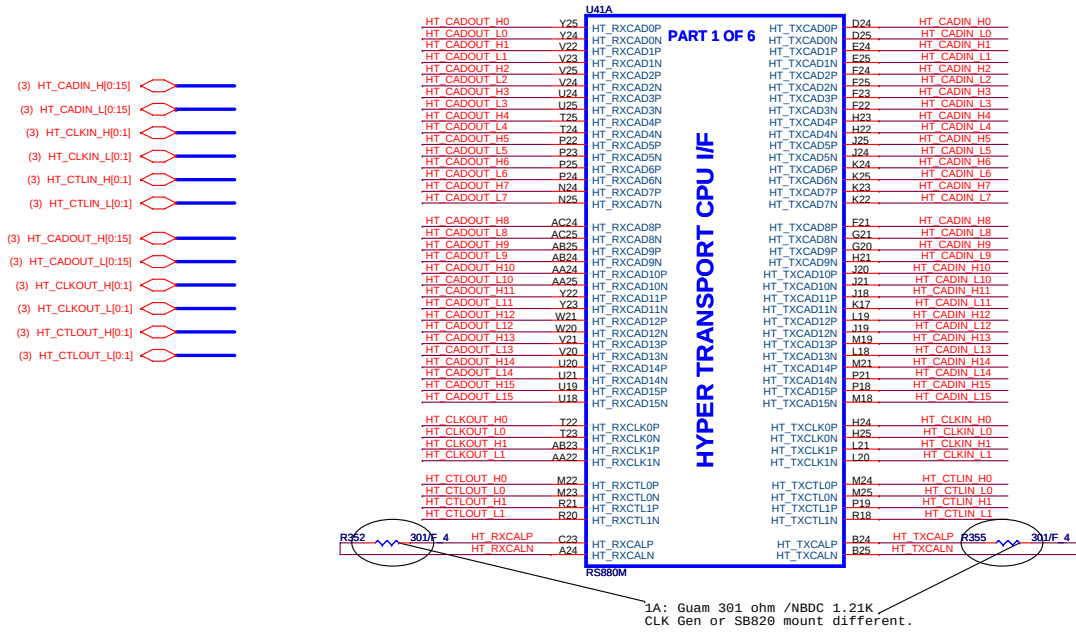
Quanta Computer Inc.
PROJECT : NE8

Size	Document Number	Rev
	CPU HT/CONTROL(1/3)	2A
Date:	Wednesday, January 27, 2010	Sheet 3 of 42

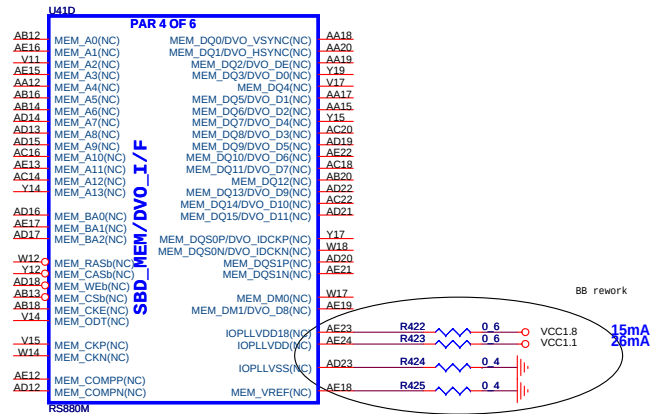


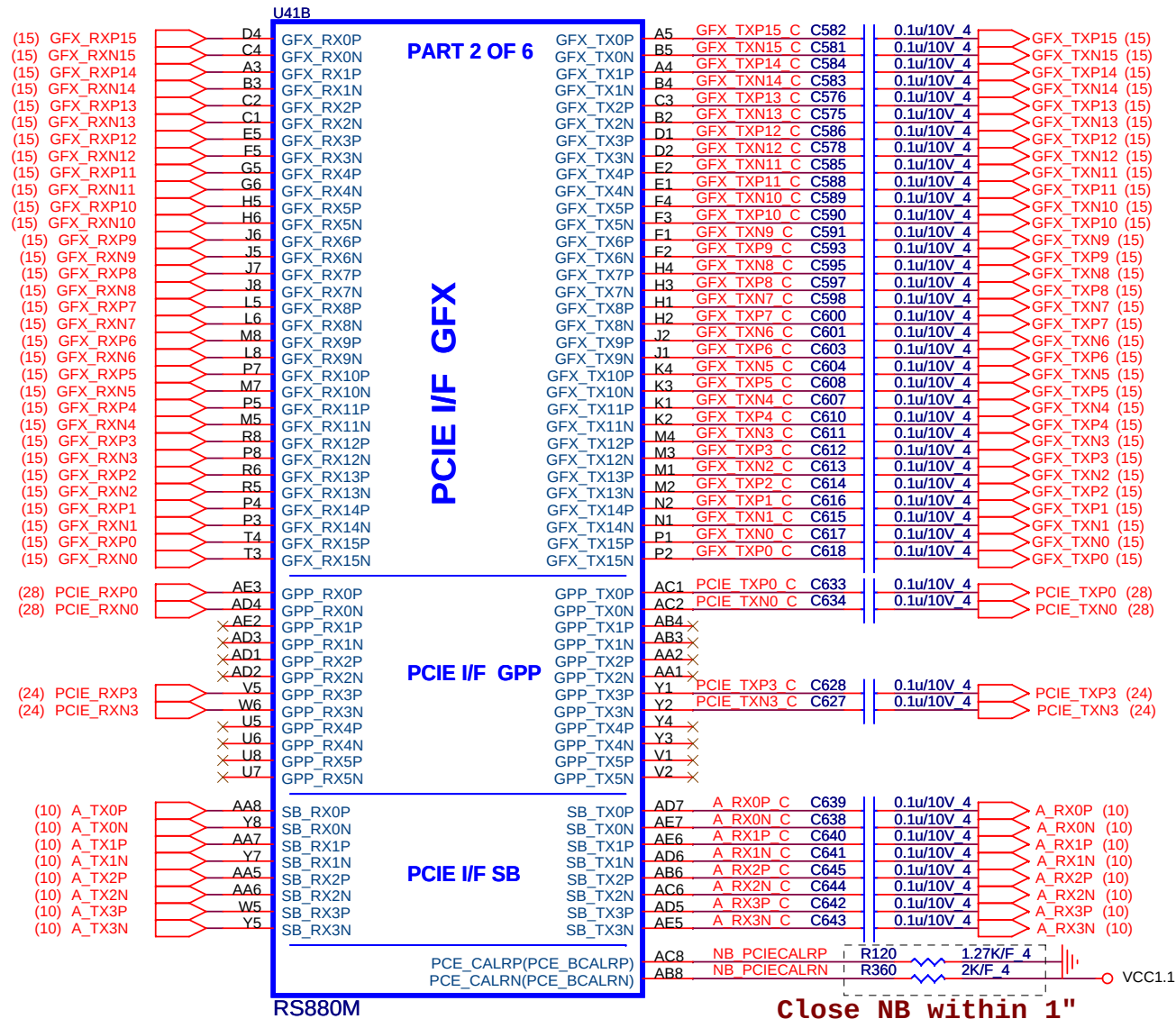
Socket Type	QCI P/N
Normal	DG0^8000018
90 degree	DG0^8000023





This block is for Side Port only , others can remove some components





Layout Swap
 TX11, TX10, TX9,
 TX8, TX7, TX6, TX5,
 TX4, TX3, TX2, TX0

GLAN

WLAN

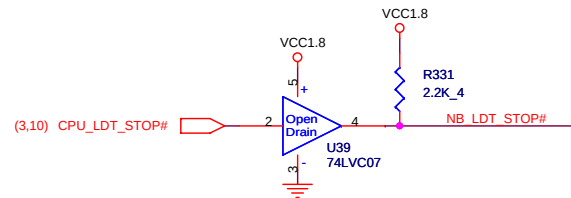
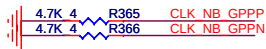
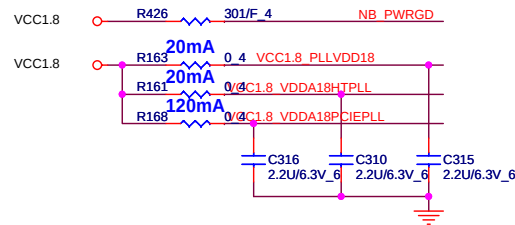
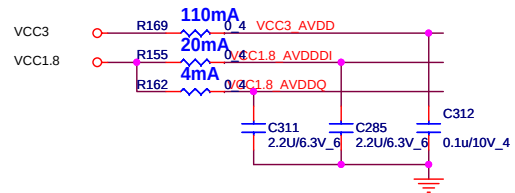


Quanta Computer Inc.

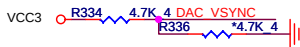
PROJECT : NE8

Size	Document Number	Rev
	RS880M GFX/PCIE(2/4)	2A
Date:	Wednesday, January 27, 2010	Sheet 7 of 42

1.Level 1 Environment-related Substances Should NEVER be Used.
 2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

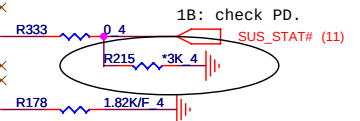
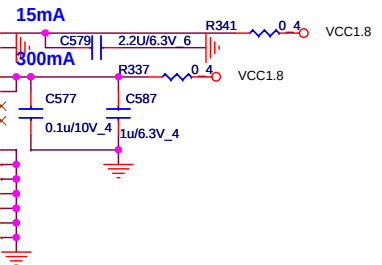
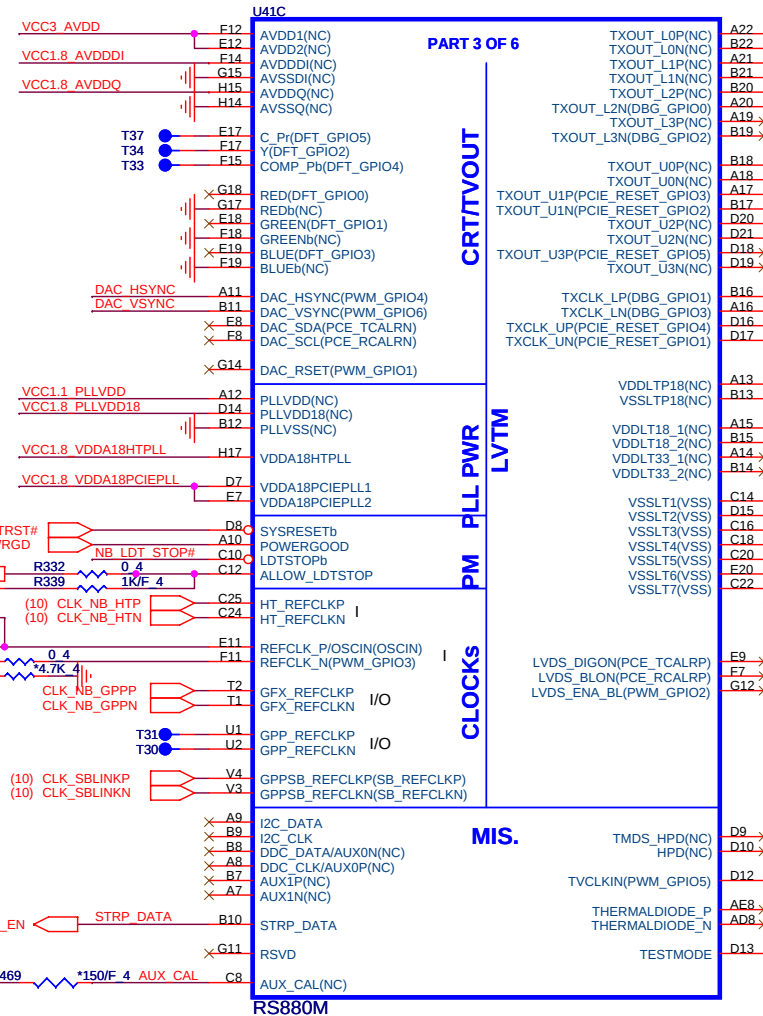


Enables Debug Bus access through memory I/O pads and GPIO.
0 : Enable RS880M, Default
1 : Disable RS880M



Discrete : Connect A11, B11

Indicates if memory Side port is available or not
1: Disable side port memory
0: Enable side port memory



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Quanta Computer Inc.
PROJECT : NE8

Size	Document Number	Rev
	RS880M SYSTEM(3/4)	2A
Date:	Wednesday, January 27, 2010	Sheet 8 of 42



B

B[illegible][illegible]

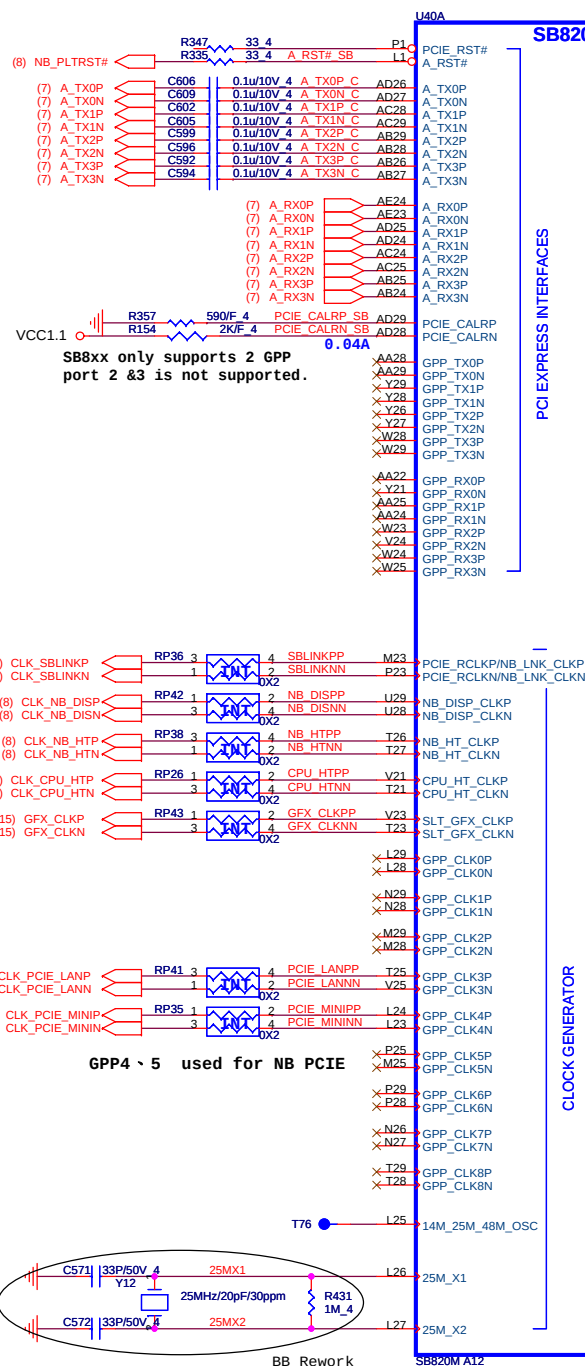
--	--	--

Strap Table

PCI_CLK1	PCI_CLK2	PCI_CLK3	PCI_CLK4
ALLOW PCIe Gen2	Watchdog Timer Enable	USE DEBUG STRAPS	non_Fusion CLOCK MODE DEFAULT
FORCE PCIe Gen1	Watchdog Timer Disable	IGNORE DEBUG STRAPS	Fusion CLOCK MODE
DEFAULT	DEFAULT	DEFAULT	

RTC

10



SB820M PD

Part 1 of 5

PCI CLKs

PCI EXPRESS INTERFACES

PCI INTERFACE

CLOCK GENERATOR

LPC

CPU

RTC

BB Rework

14M_25M_48M_OSC

25M_X1

25M_X2

25M_X3

25M_X4

25M_X5

25M_X6

25M_X7

25M_X8

25M_X9

25M_X10

25M_X11

25M_X12

25M_X13

25M_X14

25M_X15

25M_X16

25M_X17

25M_X18

25M_X19

25M_X20

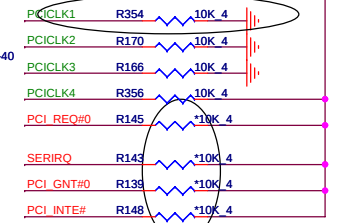
25M_X21

25M_X22

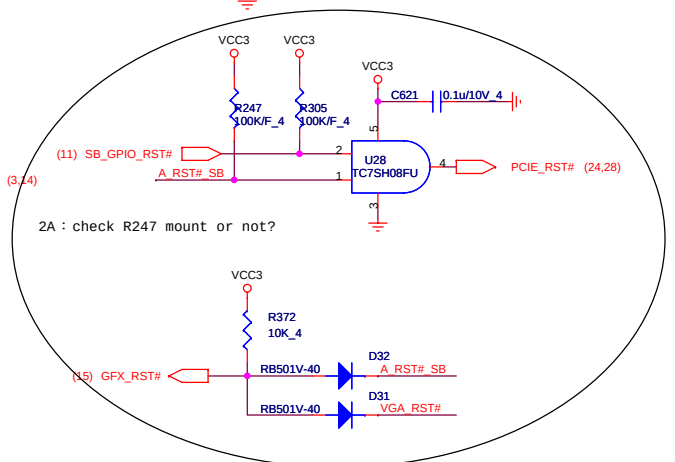
25M_X23

25M_X24

PCI Strap

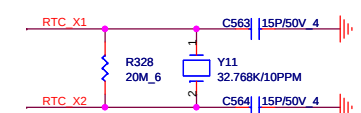


12/17 Eric R145/R143/R139/R148 DNI



2A: check R247 mount or not?

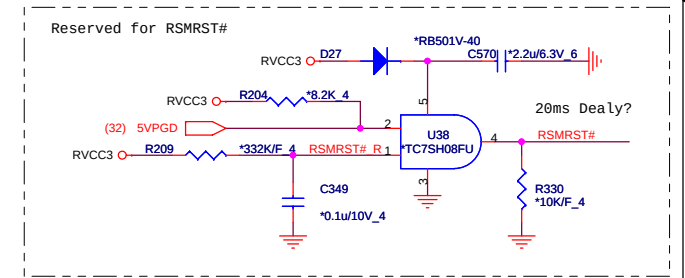
LPCLK0	LPCLK1
H=Enable embedded EC	H=Enable Internal CLK Gen.
L=Disable embedded EC	L=Disable Internal CLK Gen.



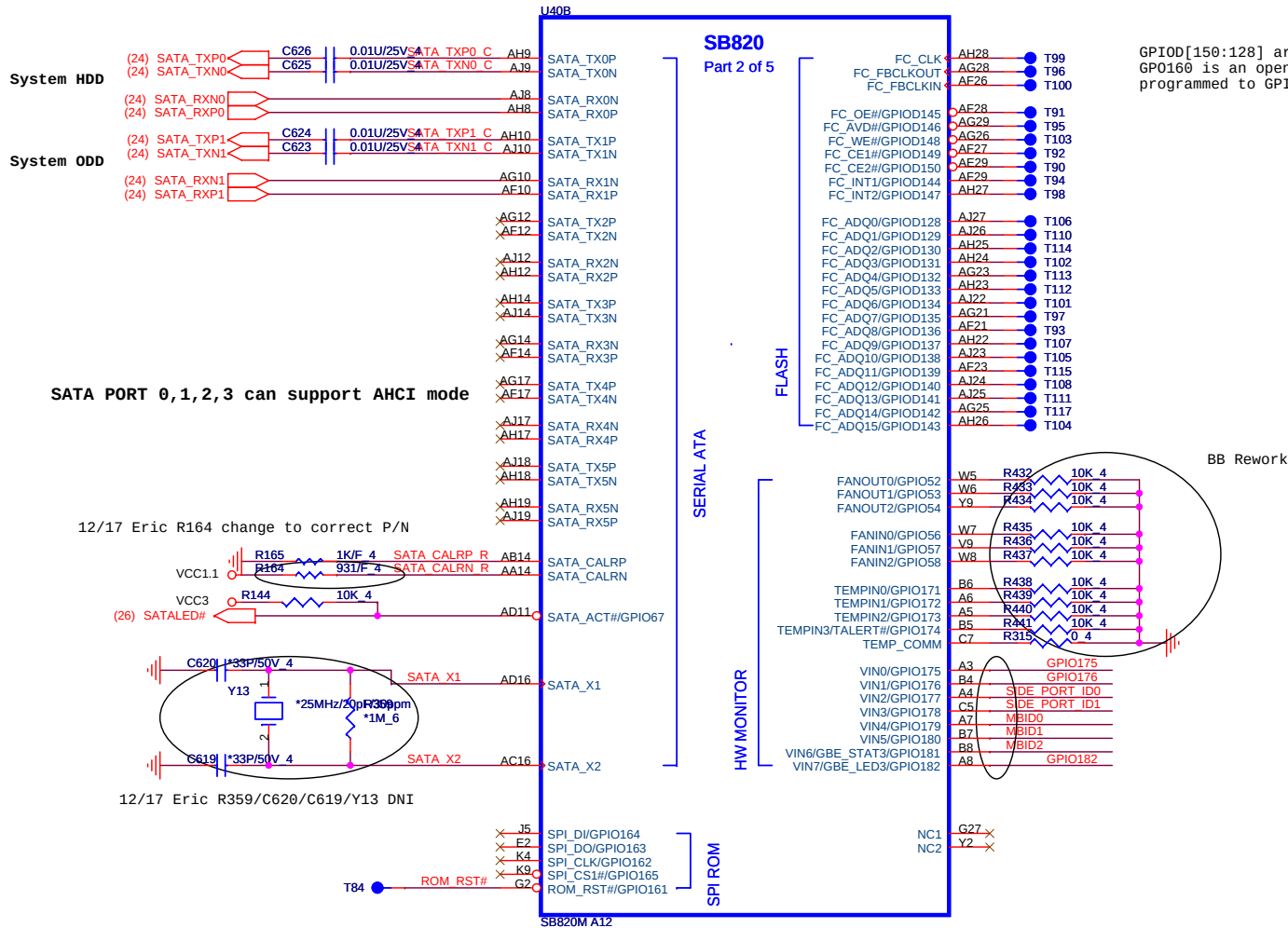
Quanta Computer Inc.
PROJECT : NE8

Size	Document Number	Rev
	SB820M PCI/CLK/LPC(1/4)	2A
Date:	Thursday, January 28, 2010	Sheet 10 of 42

1. Level 1 Environment-related Substances should NEVER be Used.
2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



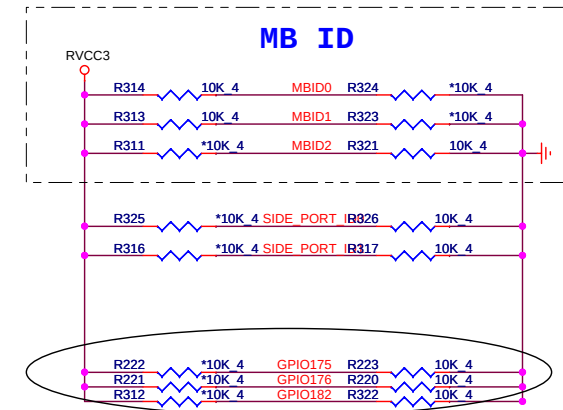
	GPIO200, GPIO199
PULL HIGH	H, H=Reserved H, L=SPI ROM
PULL LOW	L, H=LPC ROM(Default) L, L=FWH ROM



GPIO[150:128] are open drain GPIO pins where as GP0160 is an open drain GPO pin. These pins are not programmed to GPIO mode by default.

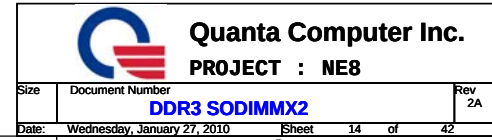
ID2	ID1	ID0	
0	0	0	Danube UMA
0	0	1	Danube UMA+Side port
0	1	0	Danube+Park XT
0	1	1	Danube+Madison LP
1	0	0	Danube+M92 XTX
1	0	1	
1	1	0	
1	1	1	

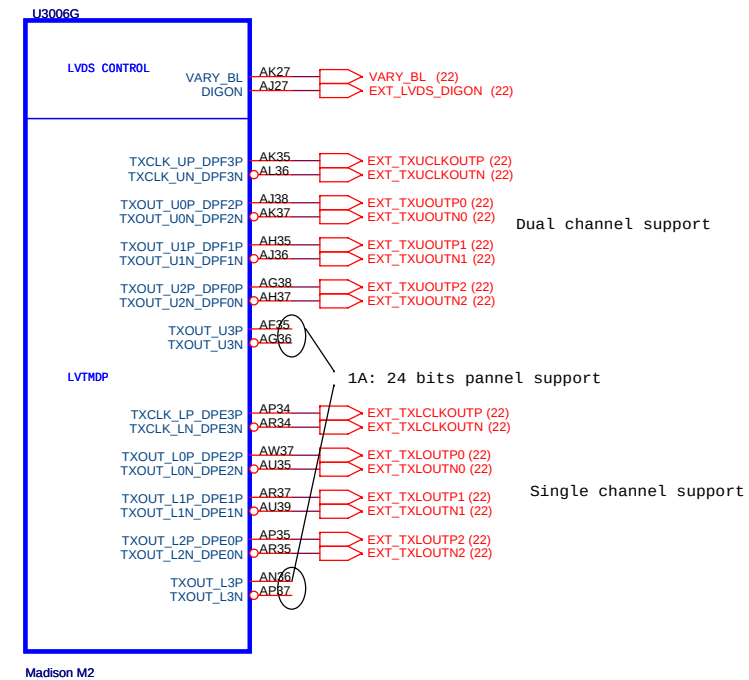
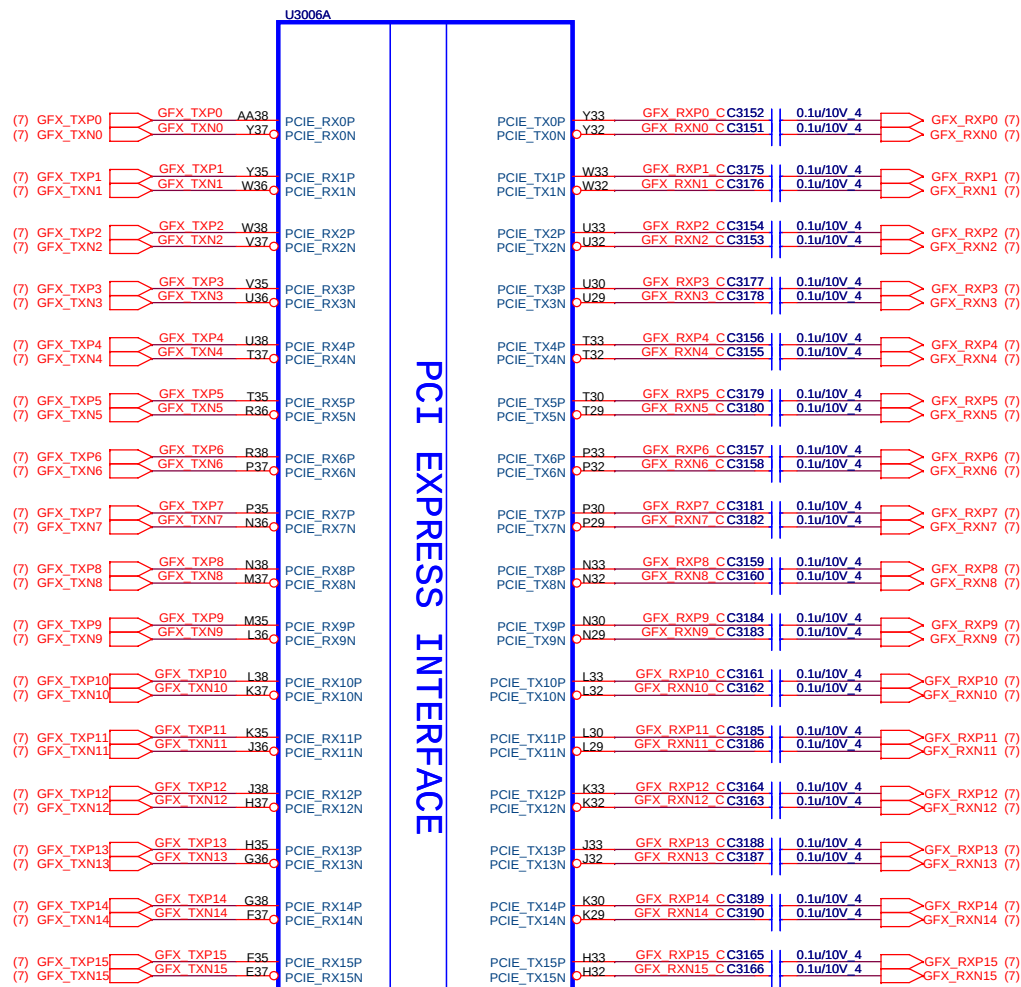
	NON	SAMSUNG	HYNIX	
SP ID0	0	1	0	1
SP ID1	0	0	1	1



- 1.Level 1 Environment-related Substances Should NEVER be Used.
- 2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.







M9x : R3039 -> NC

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2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



Quanta Computer Inc.
PROJECT : NE8

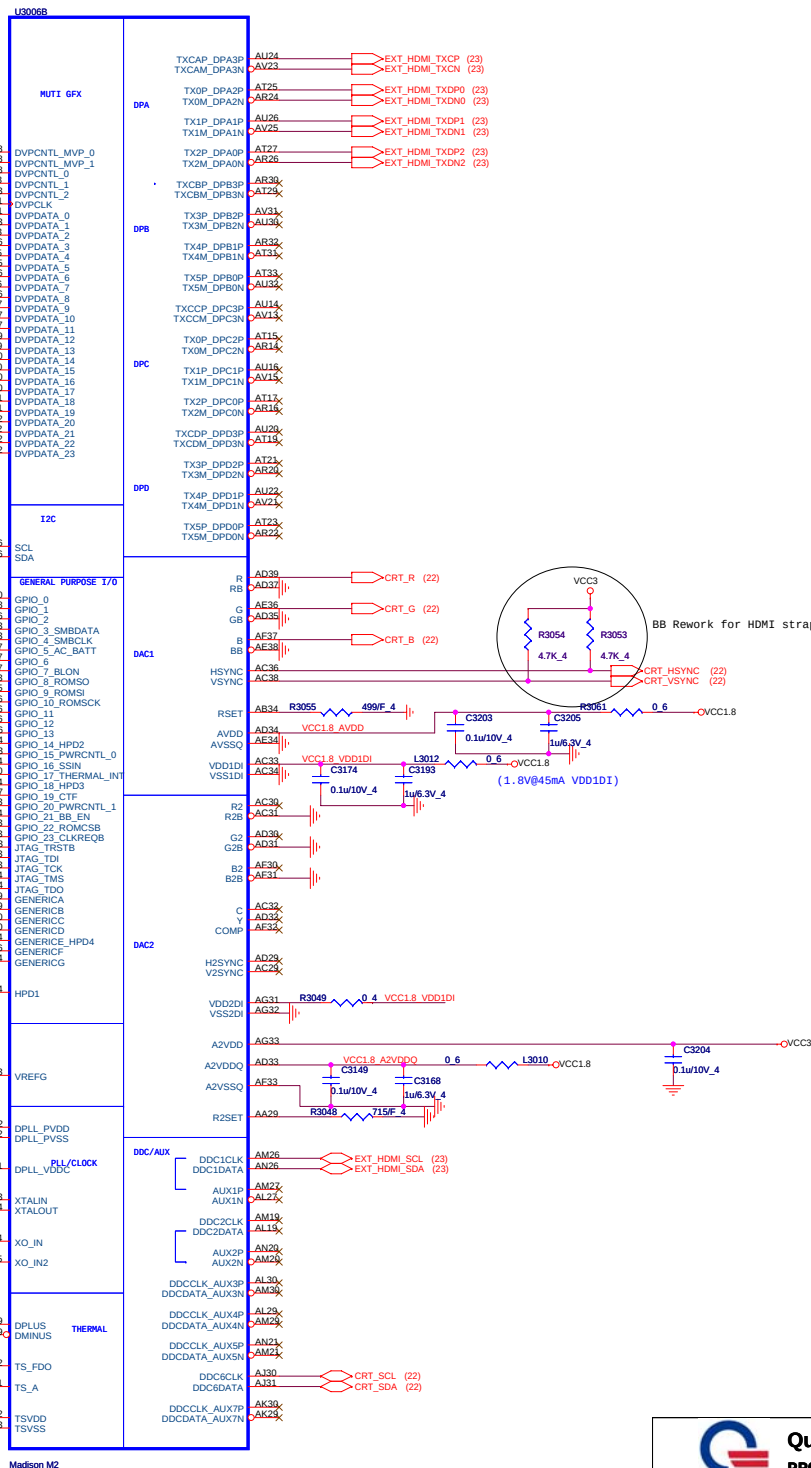
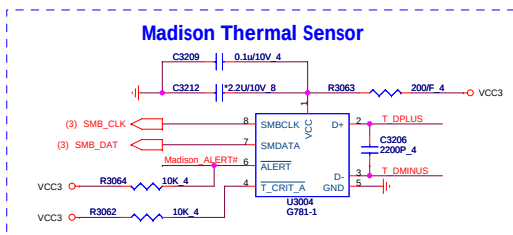
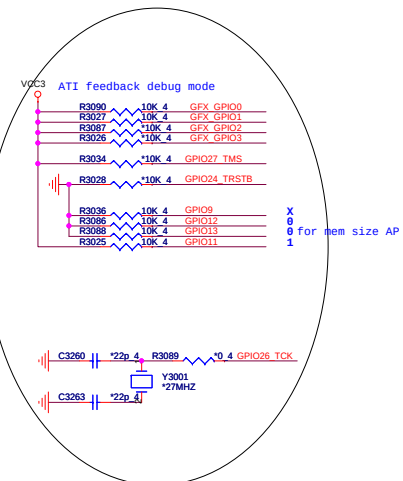
Size	Document Number	Rev
	ATI PCIE/LVDS	2A
Date:	Wednesday, January 27, 2010	Sheet 15 of 42

AKD5LZGTW00
AKD5LGGT502
AKD5LGGT701

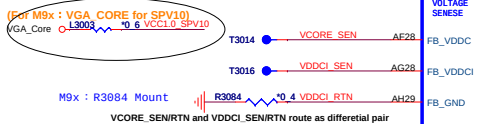
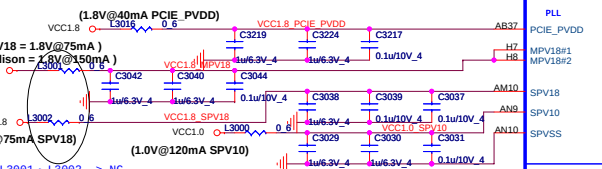
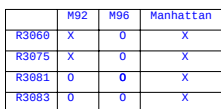
[illegible]

The diagram illustrates the peripheral connections of the T3000 SoC. Key components and connections include:

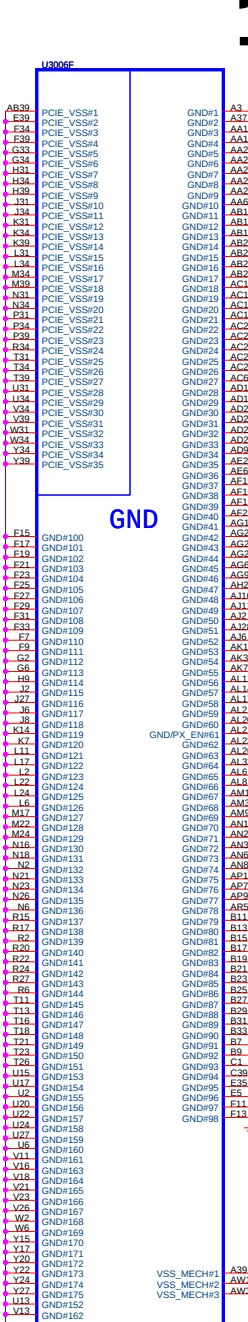
- VCC3** supply connected to **R3066** and **R3065** resistors, which are connected to **A7K_4** and **A7K_4** pins.
- AK26** and **AJ26** pins are connected to the **A7K_4** pins.
- GPIO** pins are connected to various external devices:
 - GPIO0** to **GPIO3** are connected to **T3009**, **T3002**, **T3008**, and **T3001** respectively.
 - GPIO9** is connected to **T3017**.
 - GPIO11** to **GPIO13** are connected to **T3006**.
 - GPIO24** to **GPIO28** are connected to **T3000**, **T3001**, **T3007**, and **T3003** respectively.
- EXT_LVDS_BLON** is connected to **T3017**.
- V_PWRCNTL0** is connected to **T3017**.
- V_PWRCNTL1** is connected to **T3006**.
- PCIE_REQ_GFX#** is connected to **T3000**.
- MDIO** is connected to **T3000**.
- MDIO** is connected to **T3001**.
- MDIO** is connected to **T3007**.
- MDIO** is connected to **T3003**.



(For Park&DDR3, VDDR = 1.5V@2.0A)



VCORE_SEN/RTN and VDDCI_SEN/RTN route as differetial pair



GND

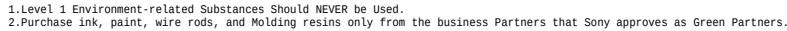
GI

27, 20

Quanta Computer Inc.
PROJECT : NE8

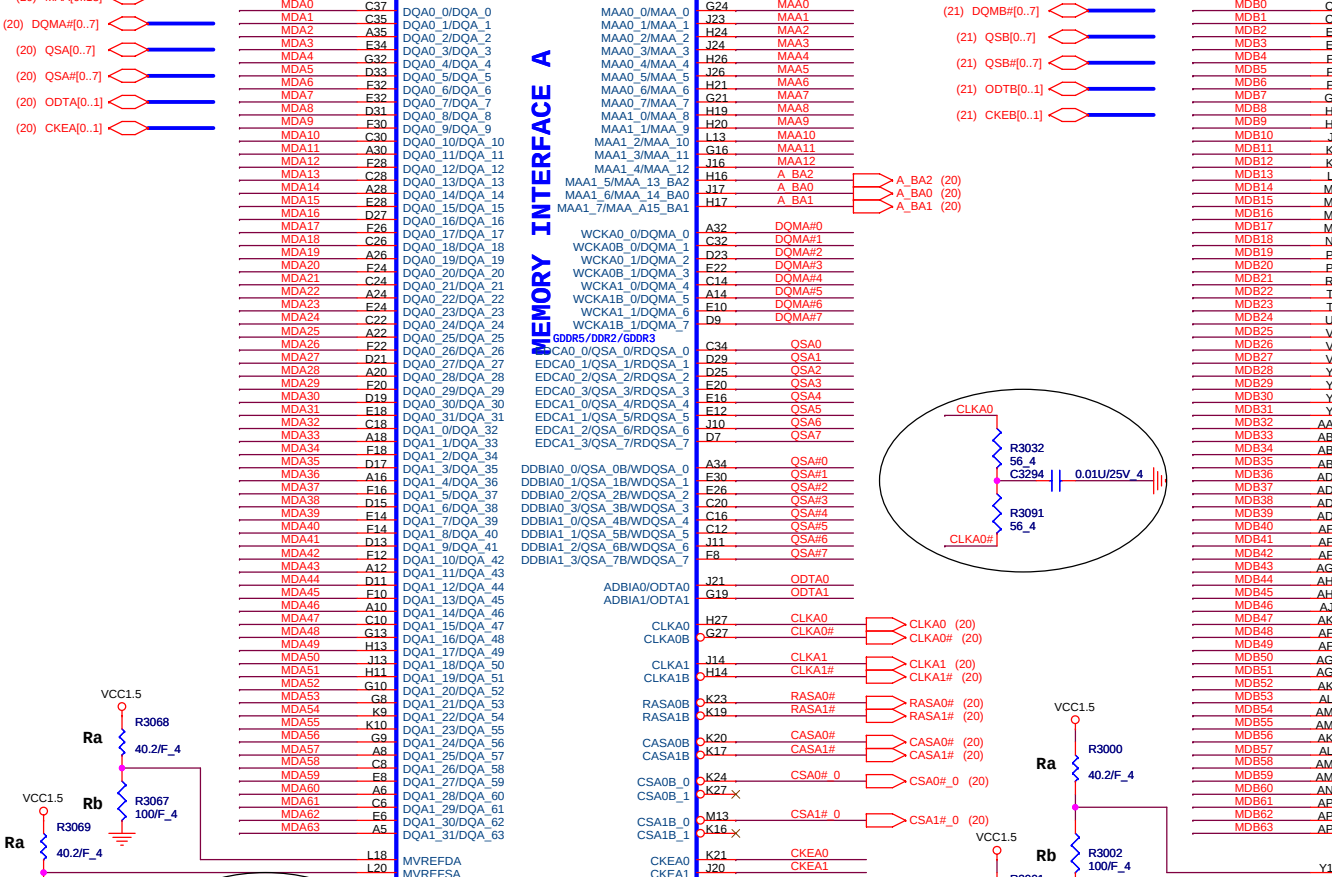
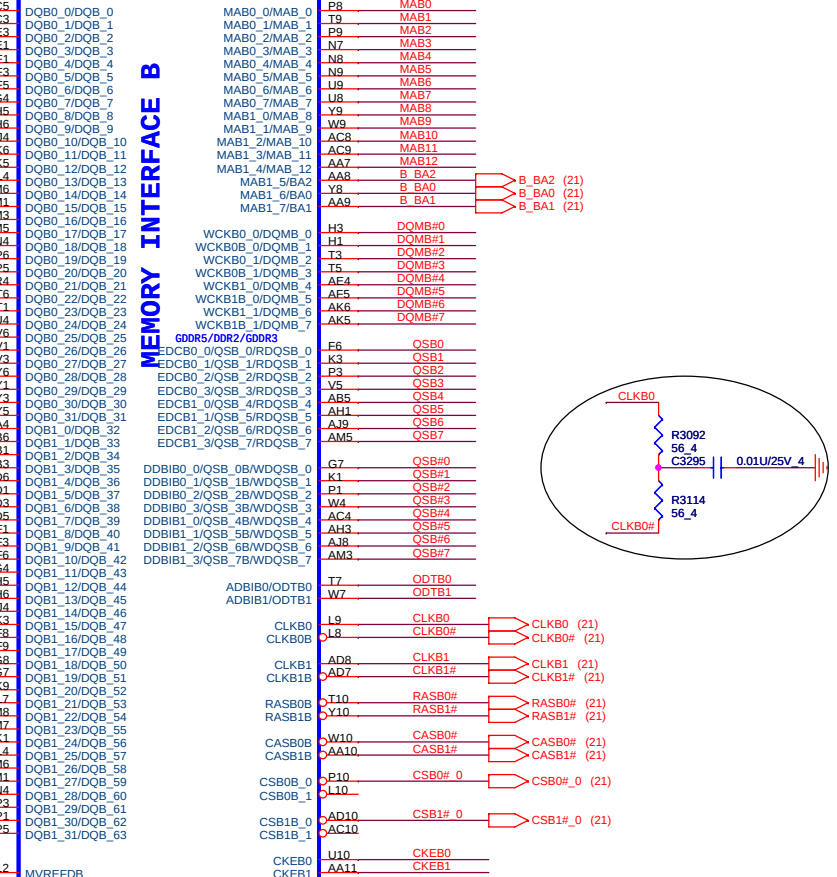
Size	Document Number	Rev
	ATI POWER/GND	2A
Date:	Wednesday, January 27, 2010	Sheet 17 of 42

2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners



 Quanta Computer Inc. PROJECT : NE8		
Size	Document Number	Rev 2A
ATI MEM/IF/DP		
Date:	Wednesday, January 27, 2010	Sheet 18 of 42

... ..



	DDR3
MEM_CALR	1.5V
Ra	40.2R
Rb	100R

2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners

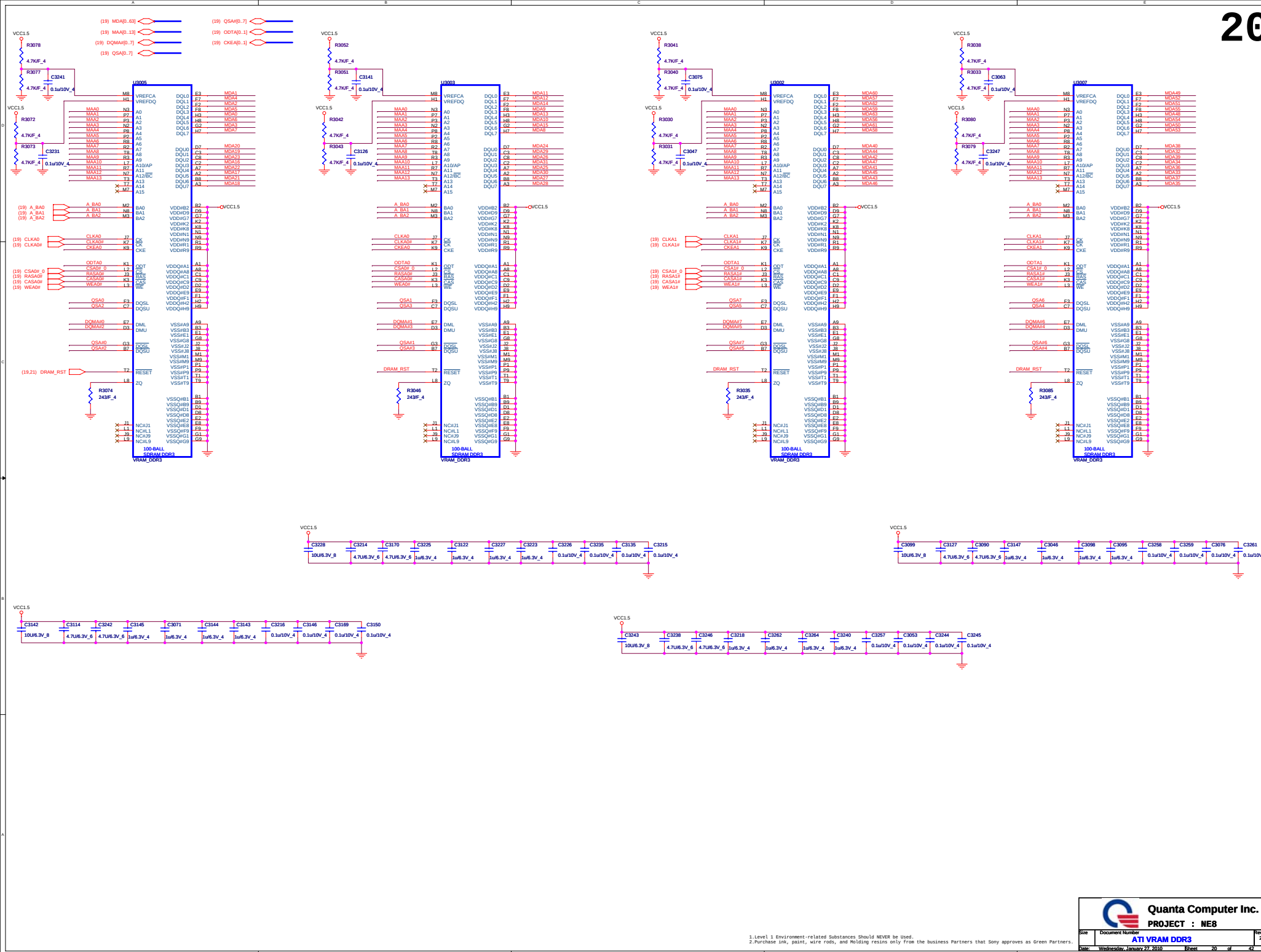
Use this option ONLY
for Park-S3

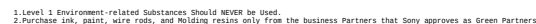


Quanta Computer Inc.
PROJECT : NE8

Size	Document Number	Rev
	ATI MEM IF	2A
Date:	Wednesday, January 27, 2010	Sheet 19 of 42

```
route 50ohms single-ended/100ohms diff
and keep short
Debug only, for clock observation, if not needed, DN
```

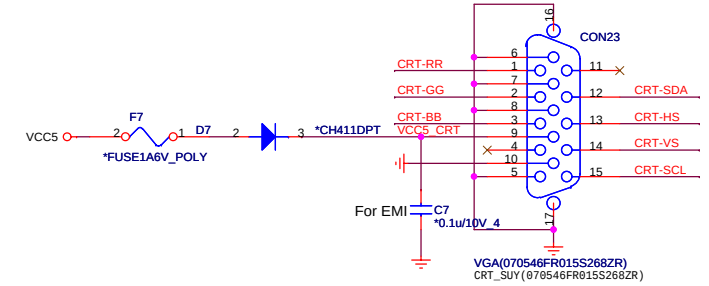
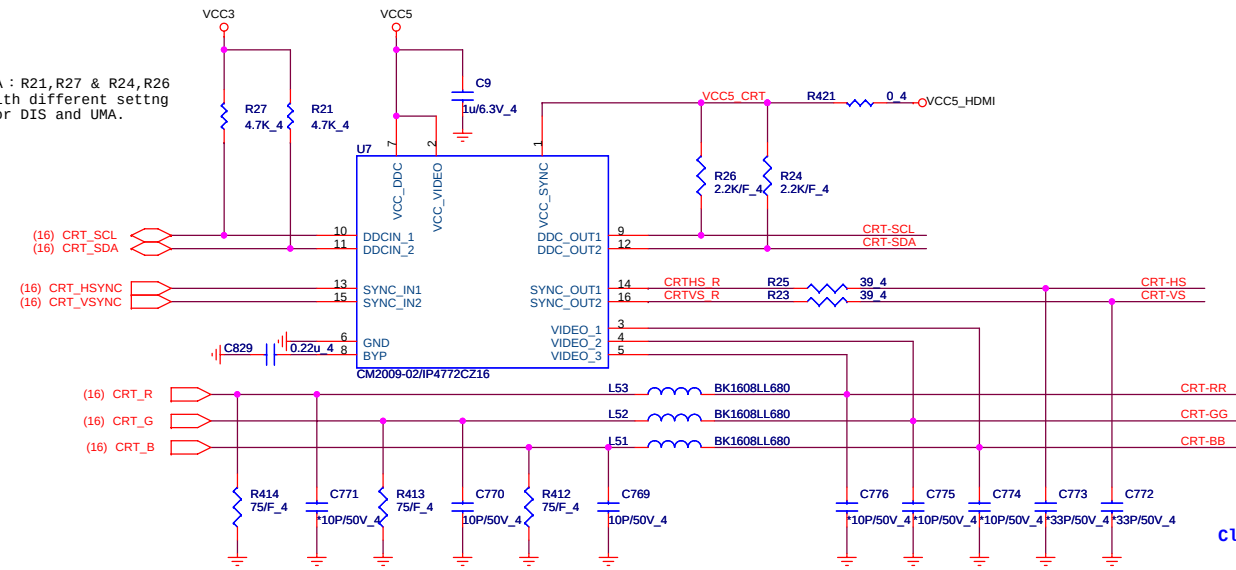




CRT

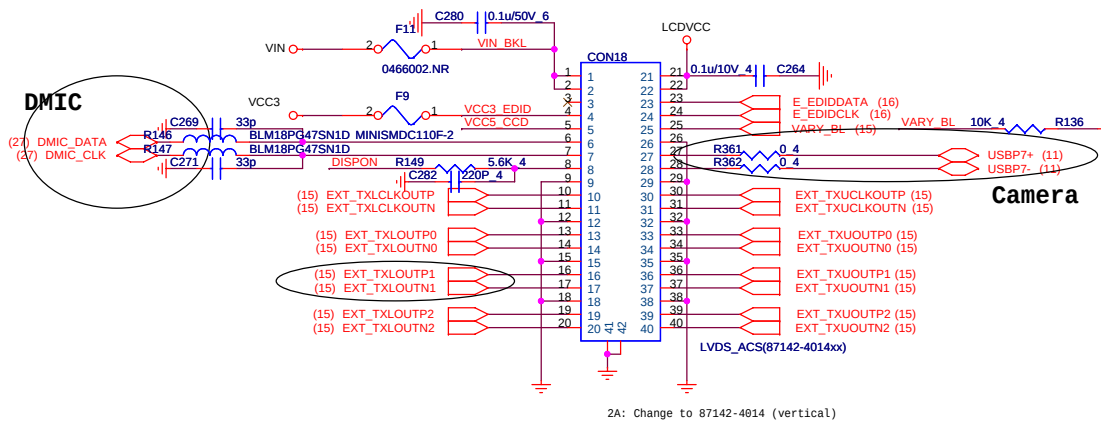
22

2A : R21,R27 & R24,R26
with different setting
for DIS and UMA.



Close to Con3

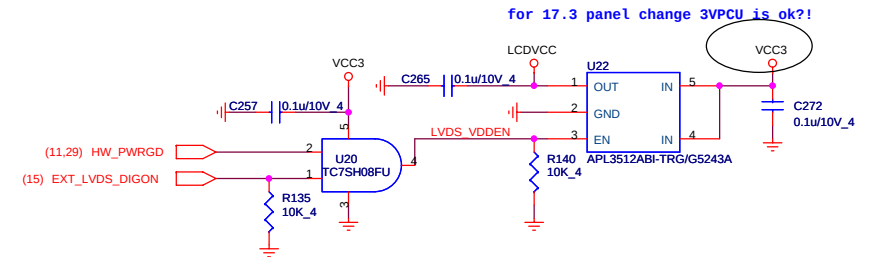
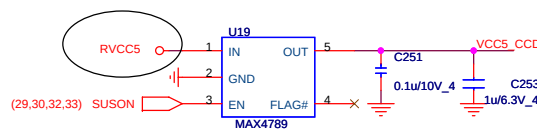
LVDS



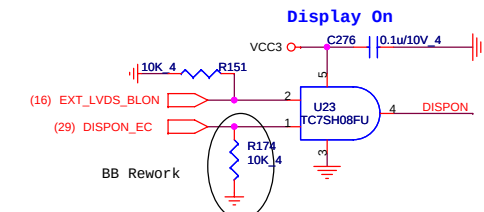
Camera

2A: Change to 87142-4014 (vertical)

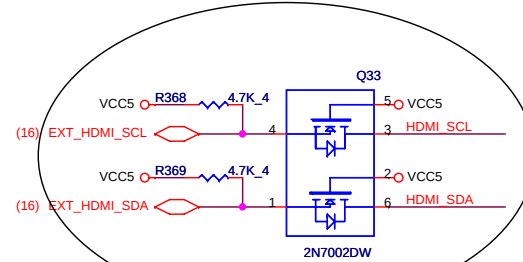
1C: 12/17 add RVCC5 for optional power source



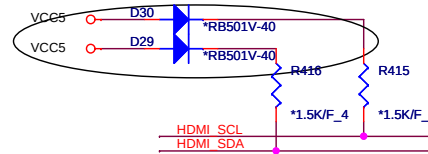
for 17.3 panel change 3VPCU is ok?!



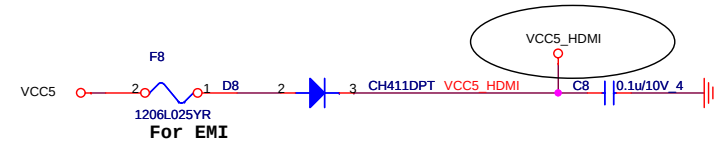
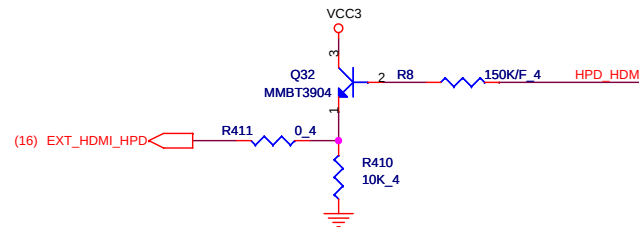
1B: share power with CRT port



1B: add diode for HDMI test



12/17 Eric D29/D30/R416/R415 DNI

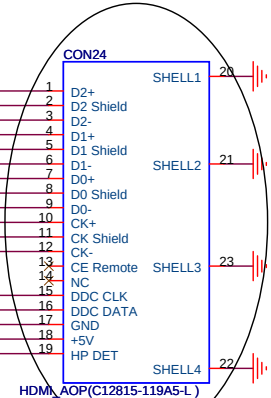
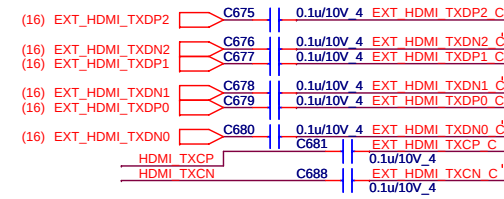


For EMI

EXT HDMI TXDP0 R420 *100/F 4 EXT HDMI TXDN0
EXT HDMI TXDP1 R418 *100/F 4 EXT HDMI TXDN1
EXT HDMI TXDP2 R419 *100/F 4 EXT HDMI TXDN2
HDMI TXCP R417 *100/F 4 HDMI TXCN



ATI Suggestion close to Con24

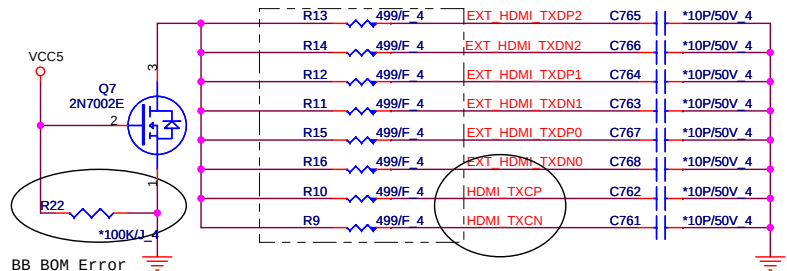


HDMI AOP(C12815-119A5-L)

0115 change connector, need update P/N

ATI Suggestion close to Con24

For ESD



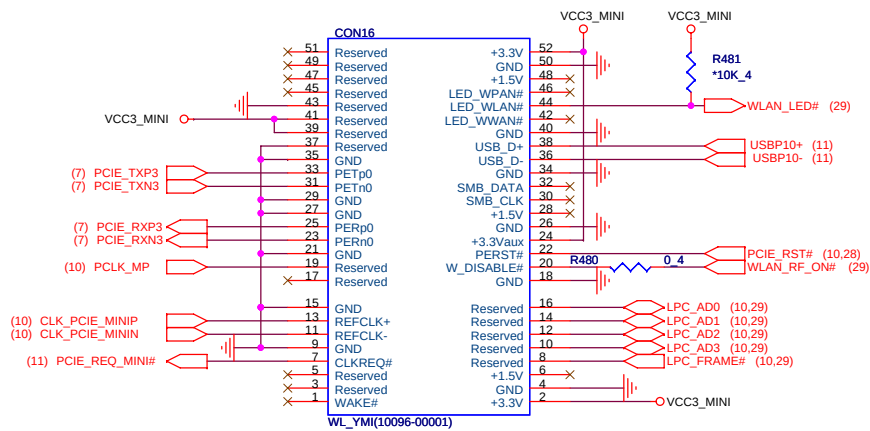
BB BOM Error
100K ohm
12/17 Eric R22 DNI



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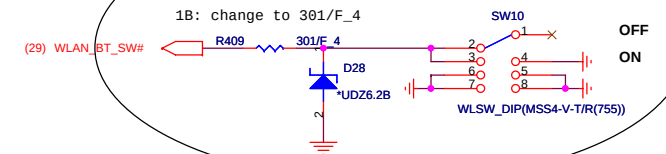
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



Win7 didn't support wake WLAN

2A need check TOP or BOT again

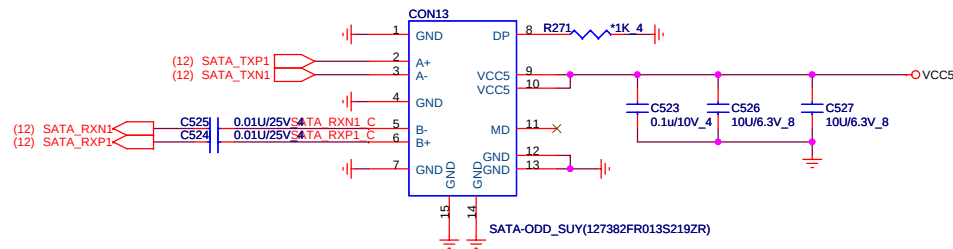
WLAN_BT_SW



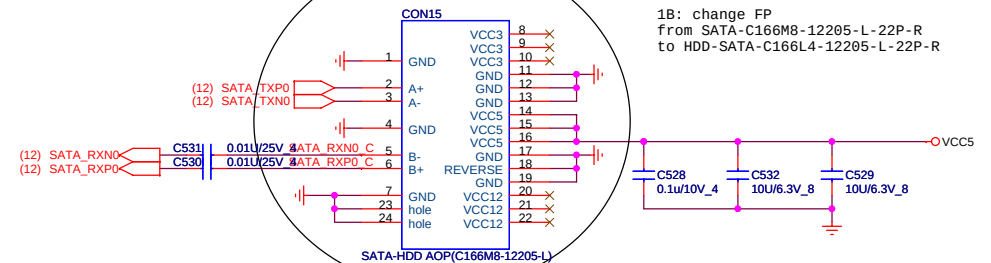
BTM Side , Right==>ON

2A : deleted VCC1.5_MINI

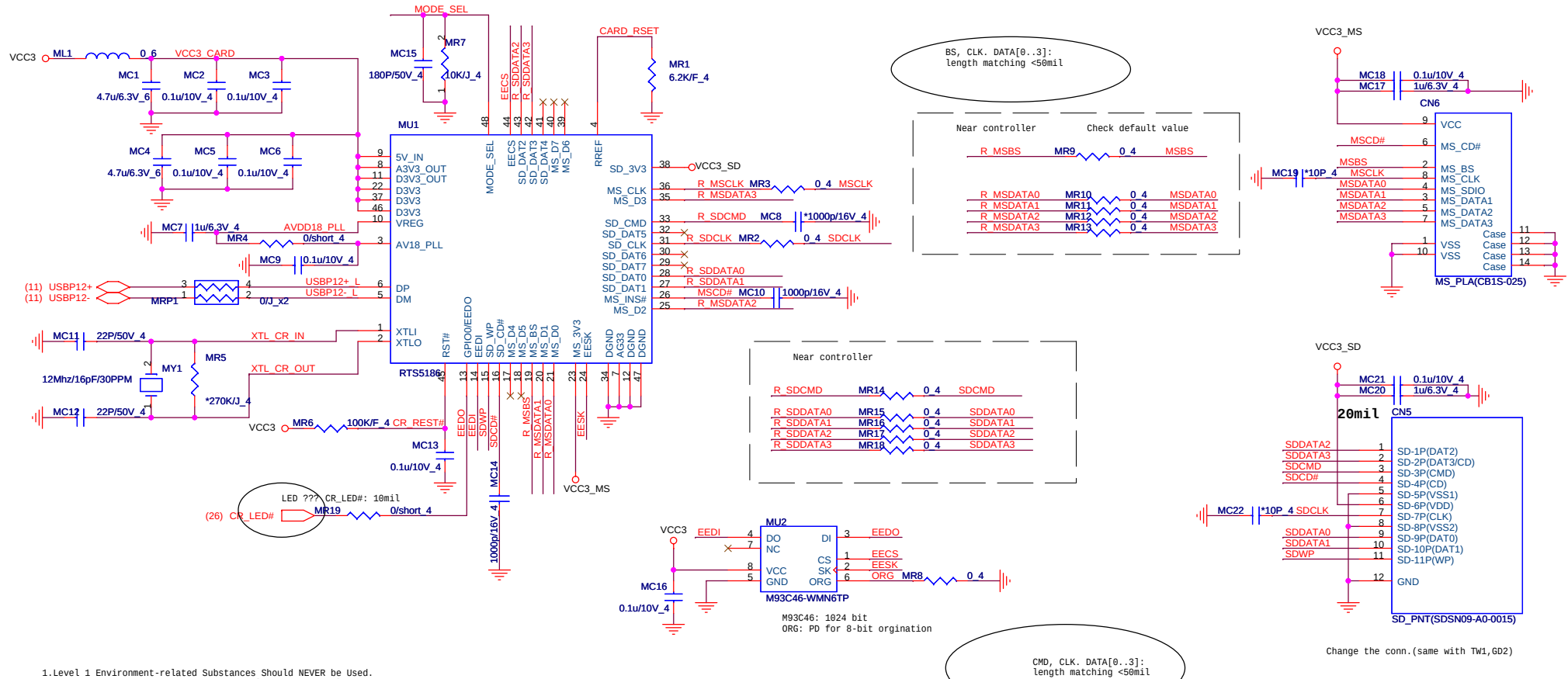
SATA ODD



2.5 inch SATA HDD



1B: change FP from SATA-C166M8-12205-L-22P-R to HDD-SATA-C166L4-12205-L-22P-R

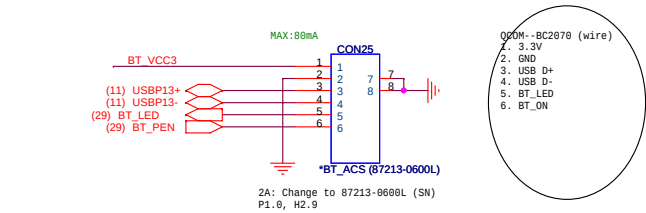
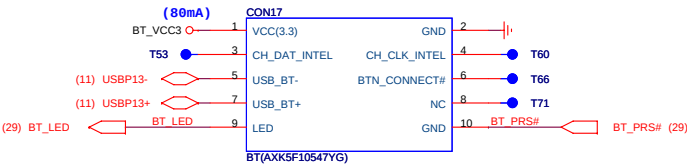
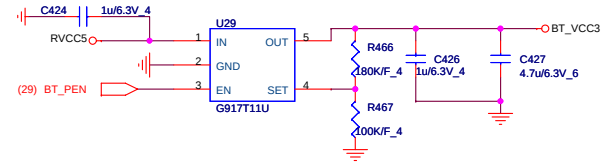


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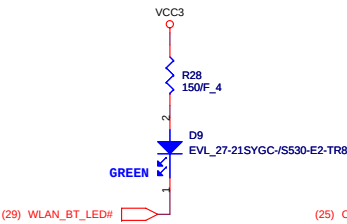
Size	Document Number	Rev
	CARD Reader	2A
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2A : Remove Express card

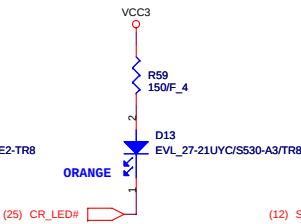
Bluetooth



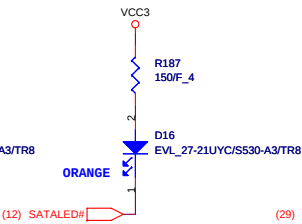
RF LED



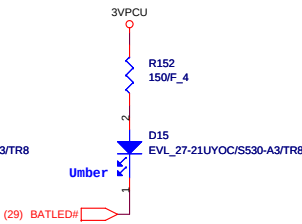
Card LED



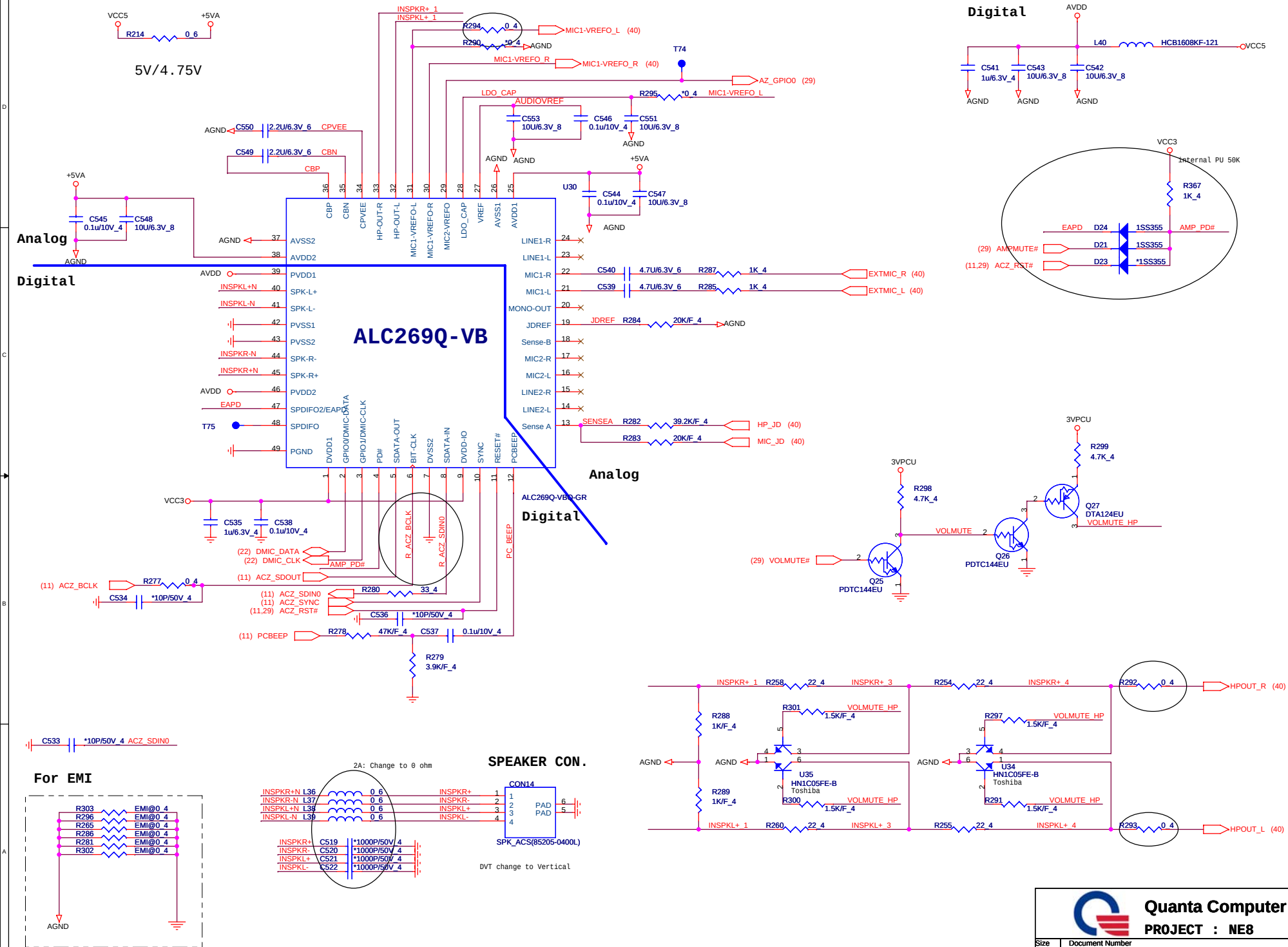
HDD LED

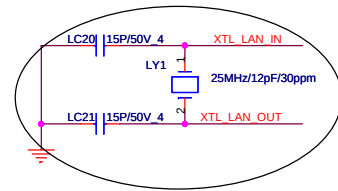


Battery LED



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2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners

I/O Address		
BADDR1-0	Index	Data
1 0	2E	2F
1 1	4E	4F
0 0	(HCFGBAH, HCFGBAL) (HCFGBAH, HCFGBAL)+1	
0 1	XOR-TREE TEST	

SHMB: SHBM(If = 0 Enable share host BIOS memory)

DOCK_RST# : BADDR0
T7: BADDR1

1A: issue after RVCCON 20-25ms

Power step3
Power step1

Reserved for more EC wake up function

BB Rework

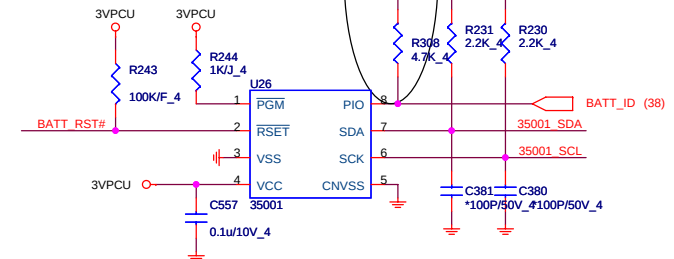
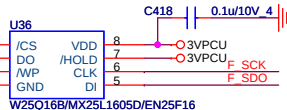
12/17 Eric R306 mount

BATT_SCK R236 4.7K 4
BATT_SDA R307 4.7K 4
FUN_ASSIST# R304 10K 4

Power step4

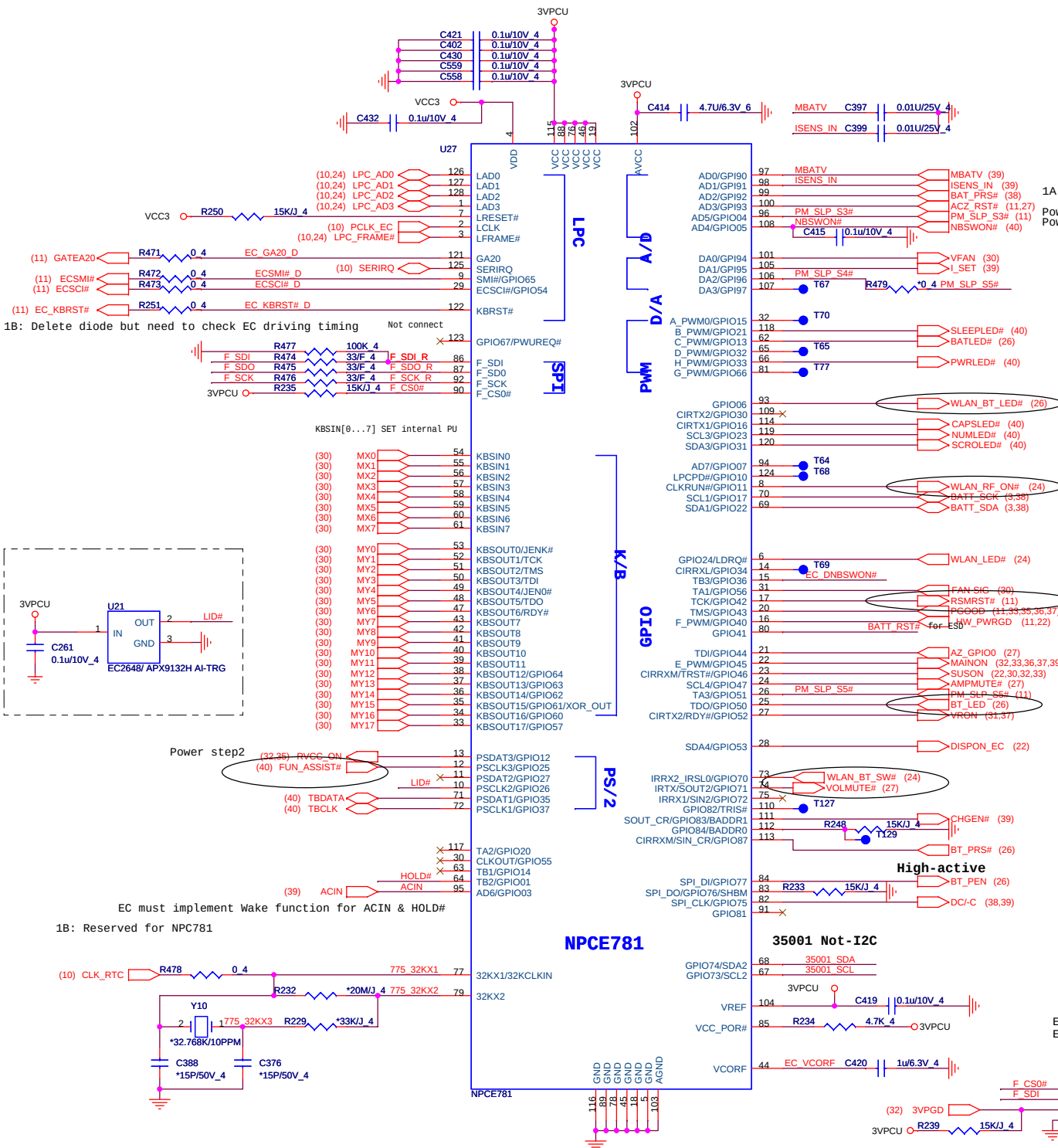
Power step5

Adding for IC7

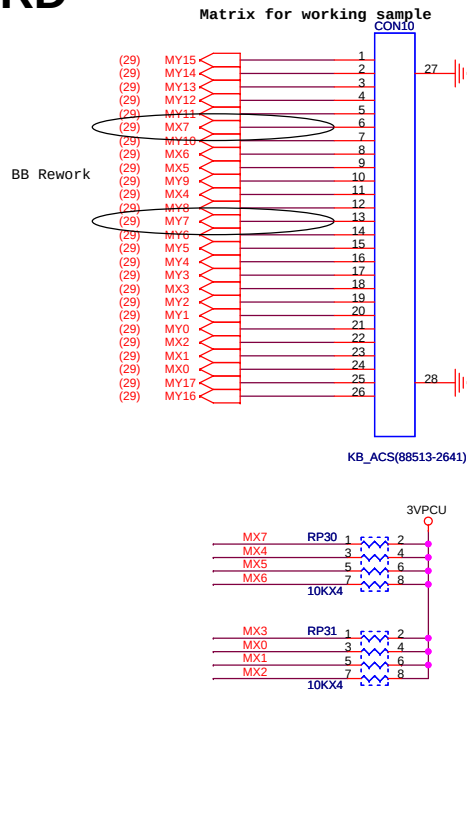
EC SDI-> EEprom D0
EC SDO-> EEprom DI

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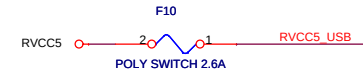
Size	Document Number	Rev
	NPCE781 & FLASH	2A
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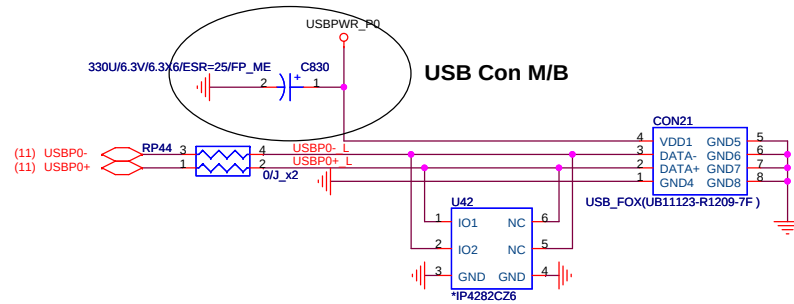
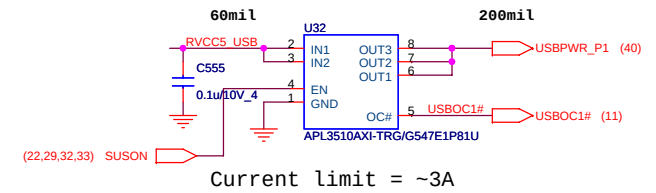
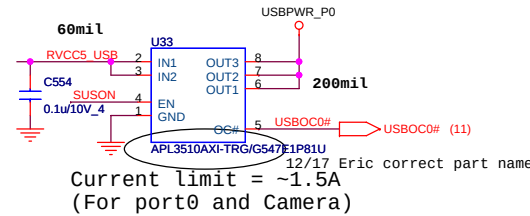
KEYBOARD



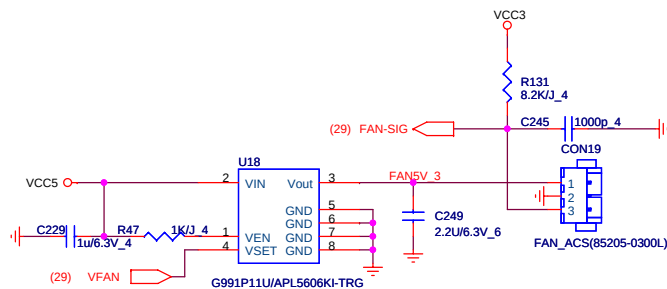
USB Port + e-SATA(USB)



Current limit need to check



FAN



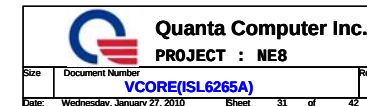
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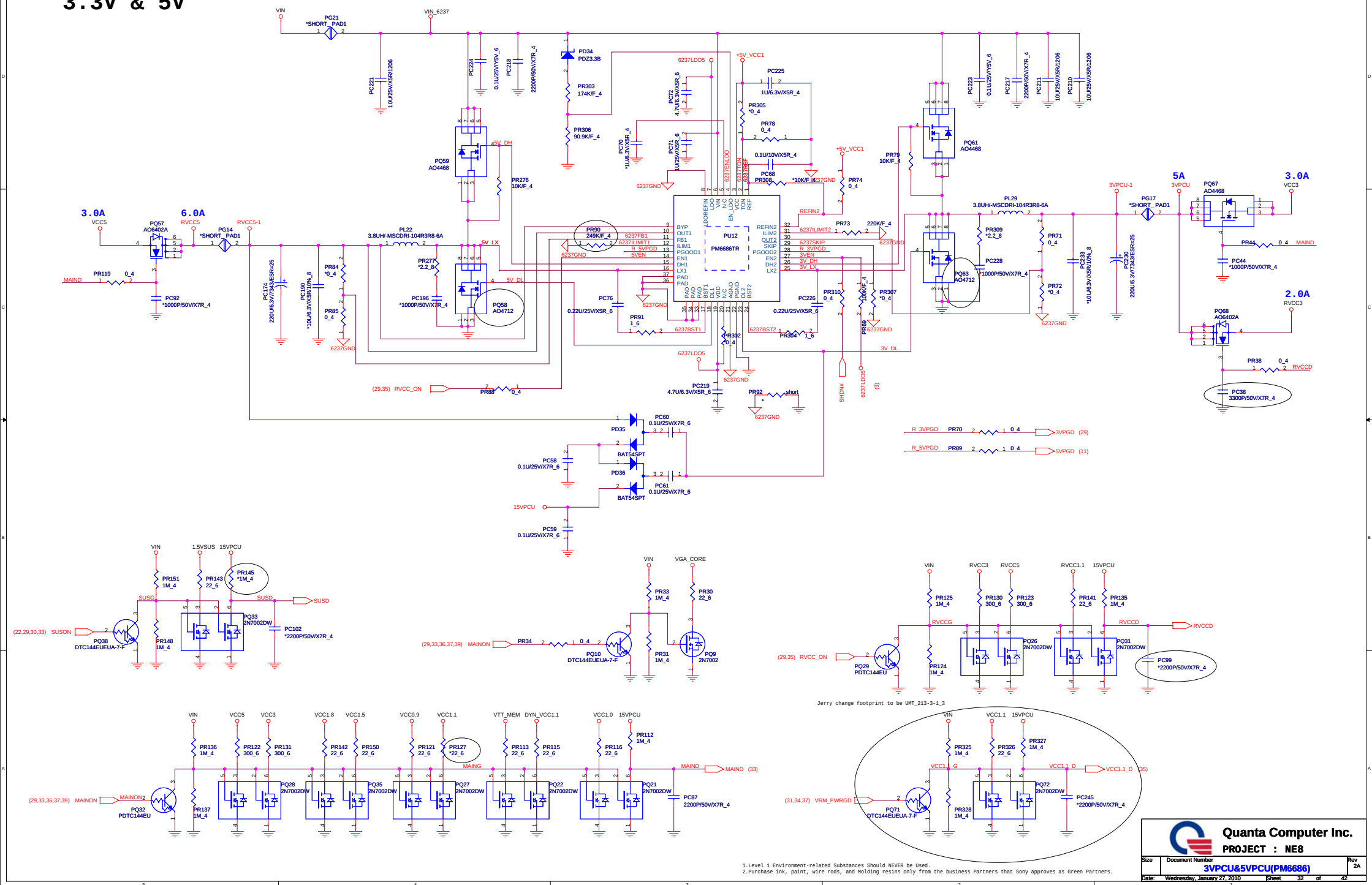
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SVC	SVD	Output
0	0	1.4
0	1	1.2
1	0	1.0
1	1	0.8

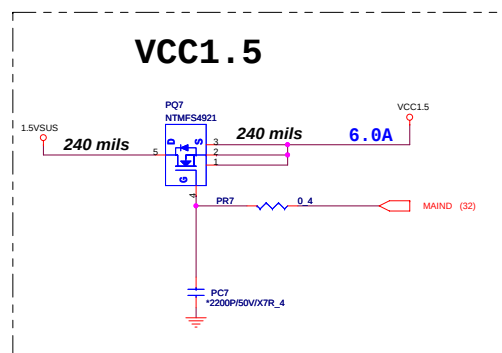
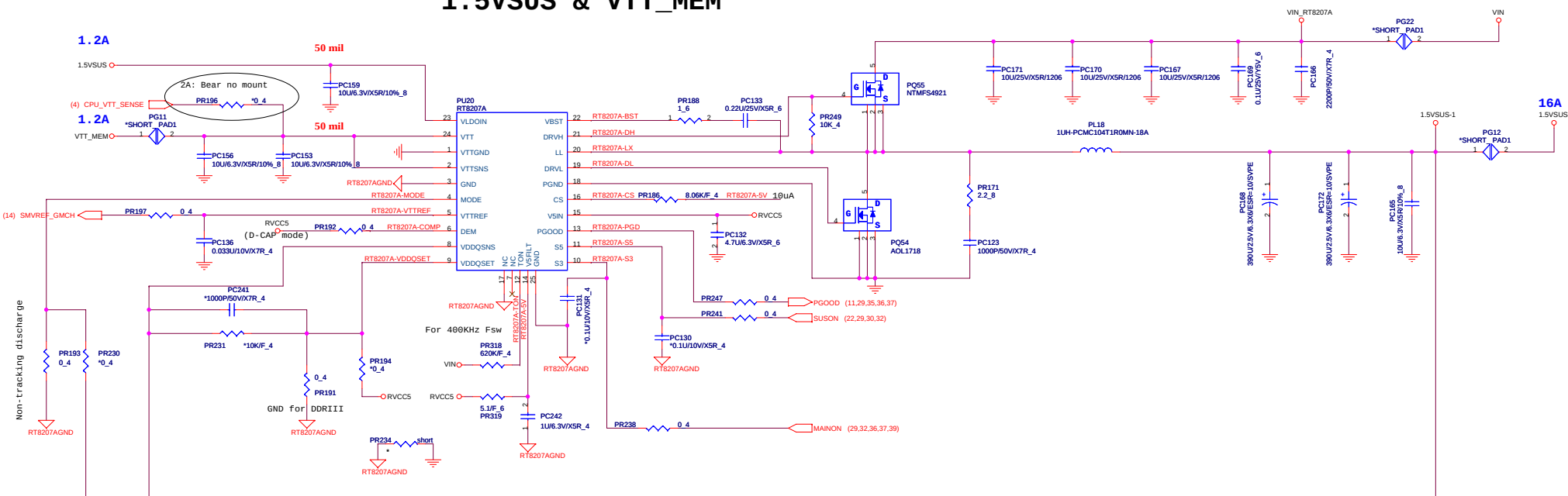


2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

3.3V & 5V



1.5VSUS & VTT_MEM

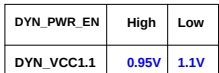


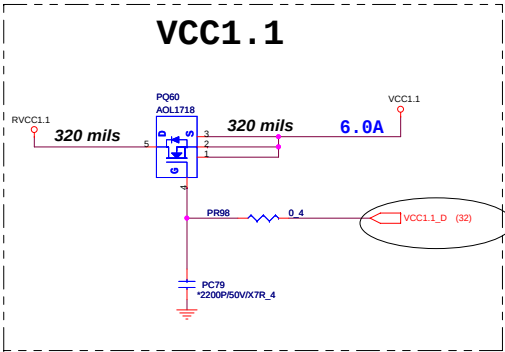
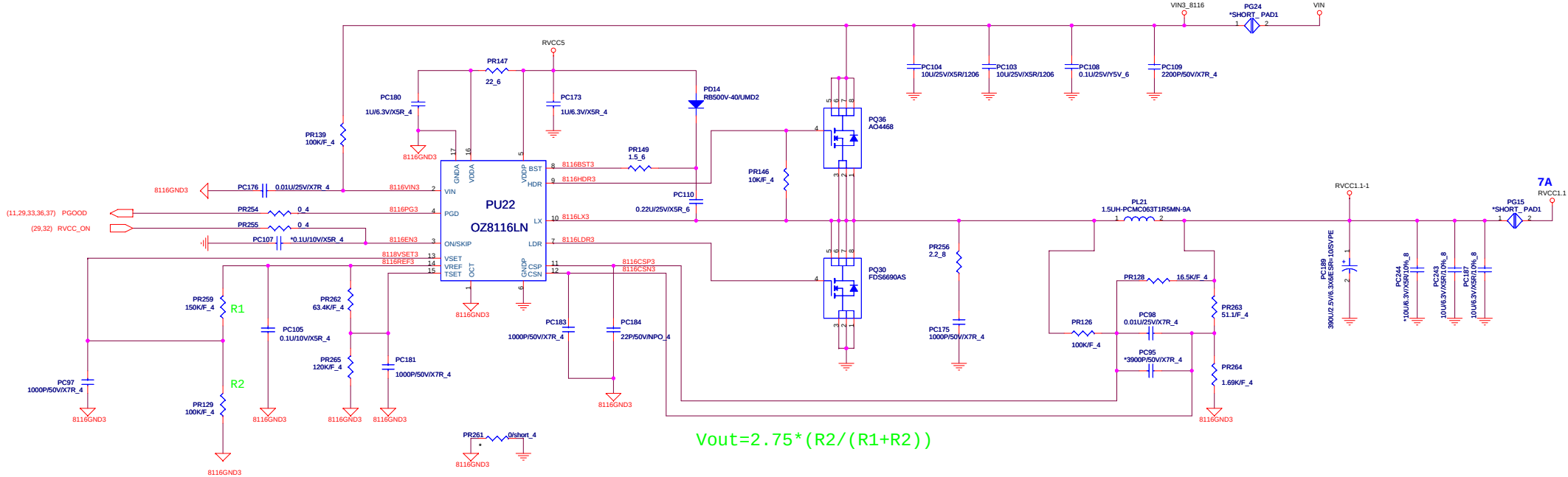
MODE	DISCHARGE MODE
+5V	No discharge
+1.8V	Tracking discharge
GND	Non-tracking discharge

VDDQSET	VDDQ(V)	VTTREF & VTT	NOTE
GND	1.5 fixed	VDDQSNS/2	DDR3
5V	1.8 fixed	VDDQSNS/2	DDR2
FB-Resistor	Adjustable	VDDQSNS/2	1.5V<VDDQ<3V

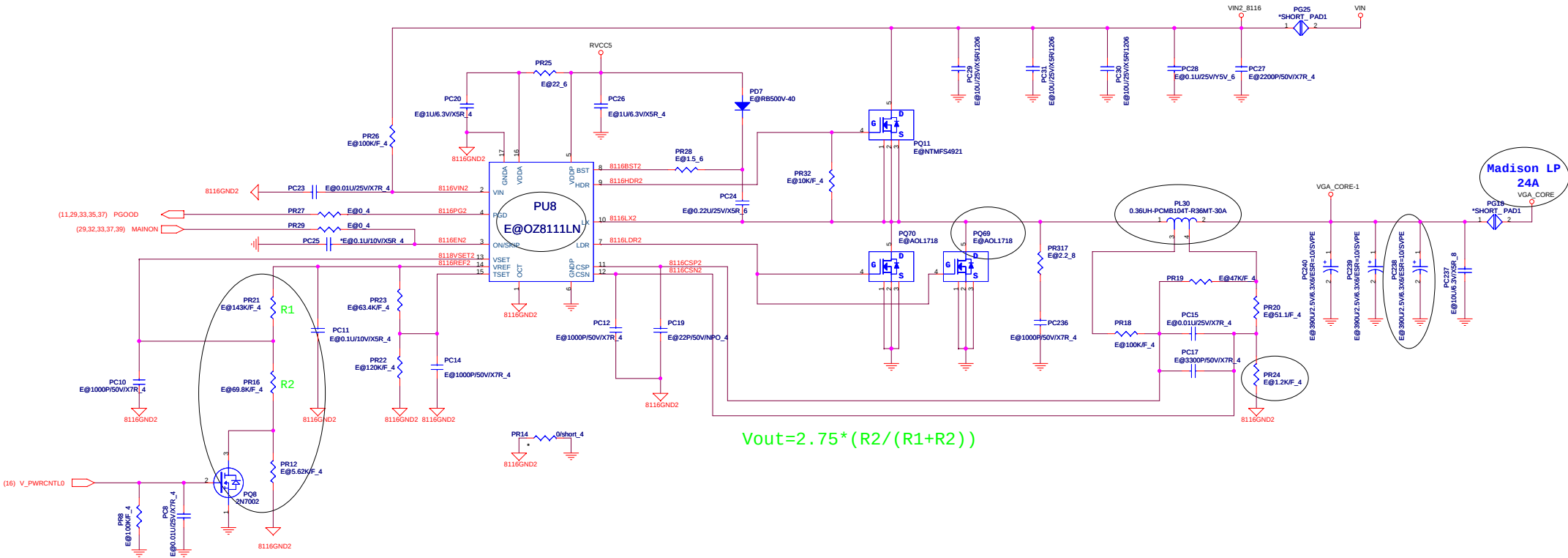
$$V_{TT} = V_{TTREF} = V_{DDQSNS}/2 = 0.75V$$

STATE	S3	S5	1.5VSUS	VTTREF	VTT
S0	1	1	on	on	on
S3	0	1	on	on	off
S4/S5	0	0	off	off	off





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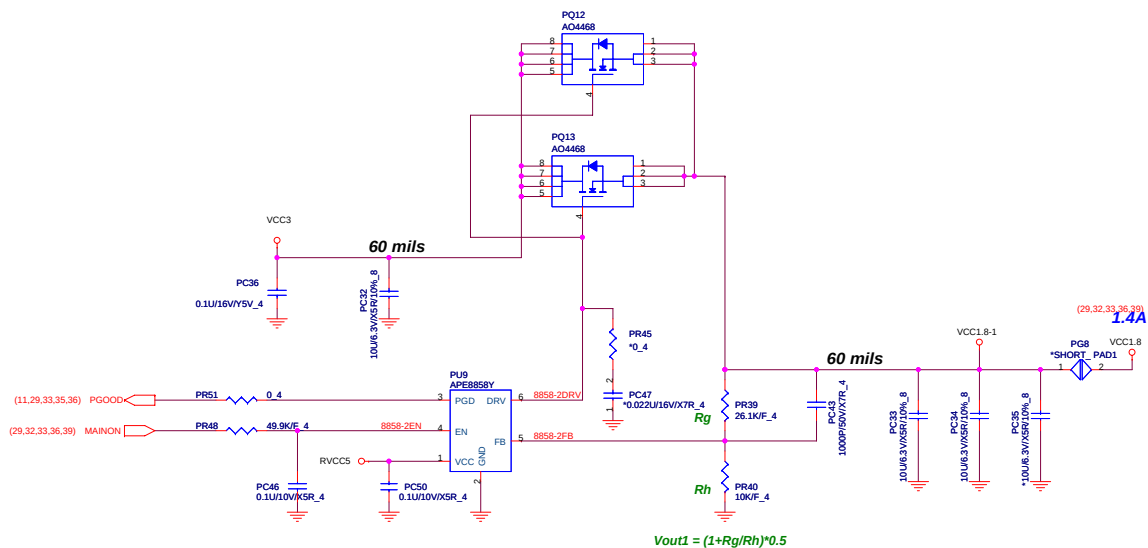
Madison LP

External VGA_CORE Voltage Setting:

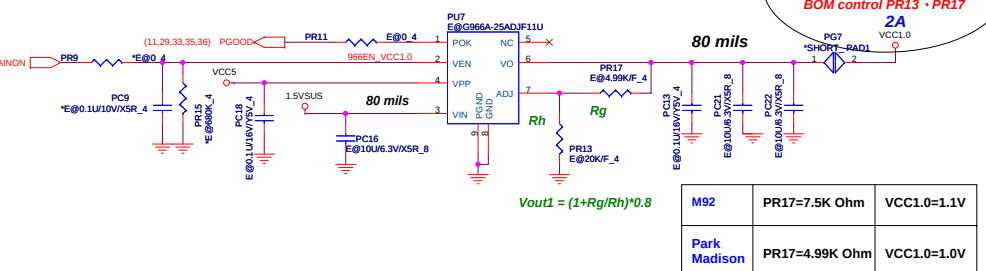
V_PWRCNTL0	VGA_CORE
0	0.95V
1	0.90V

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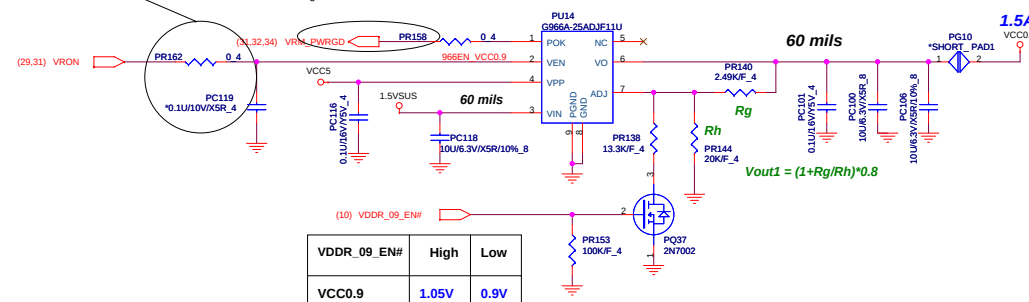
VCC1.8



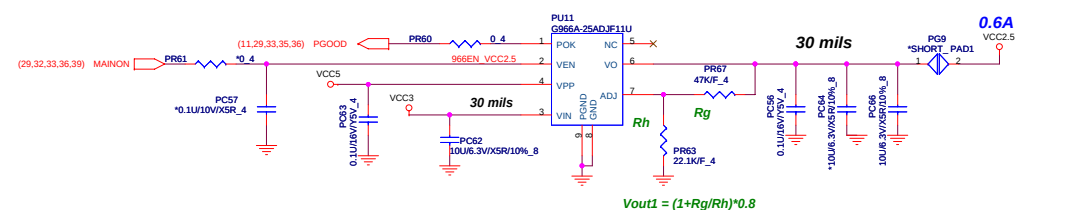
VCC1.0



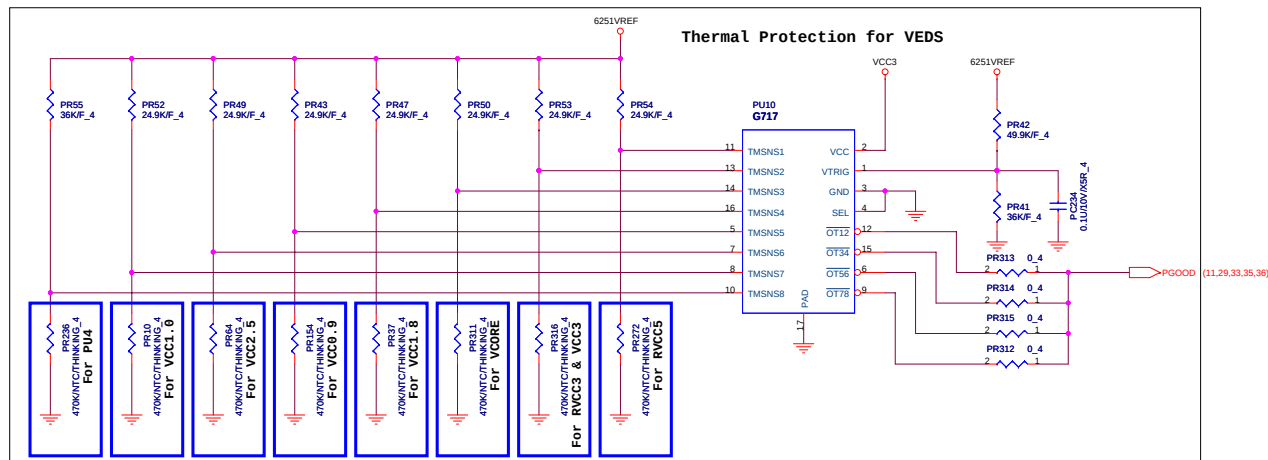
VCC0.9

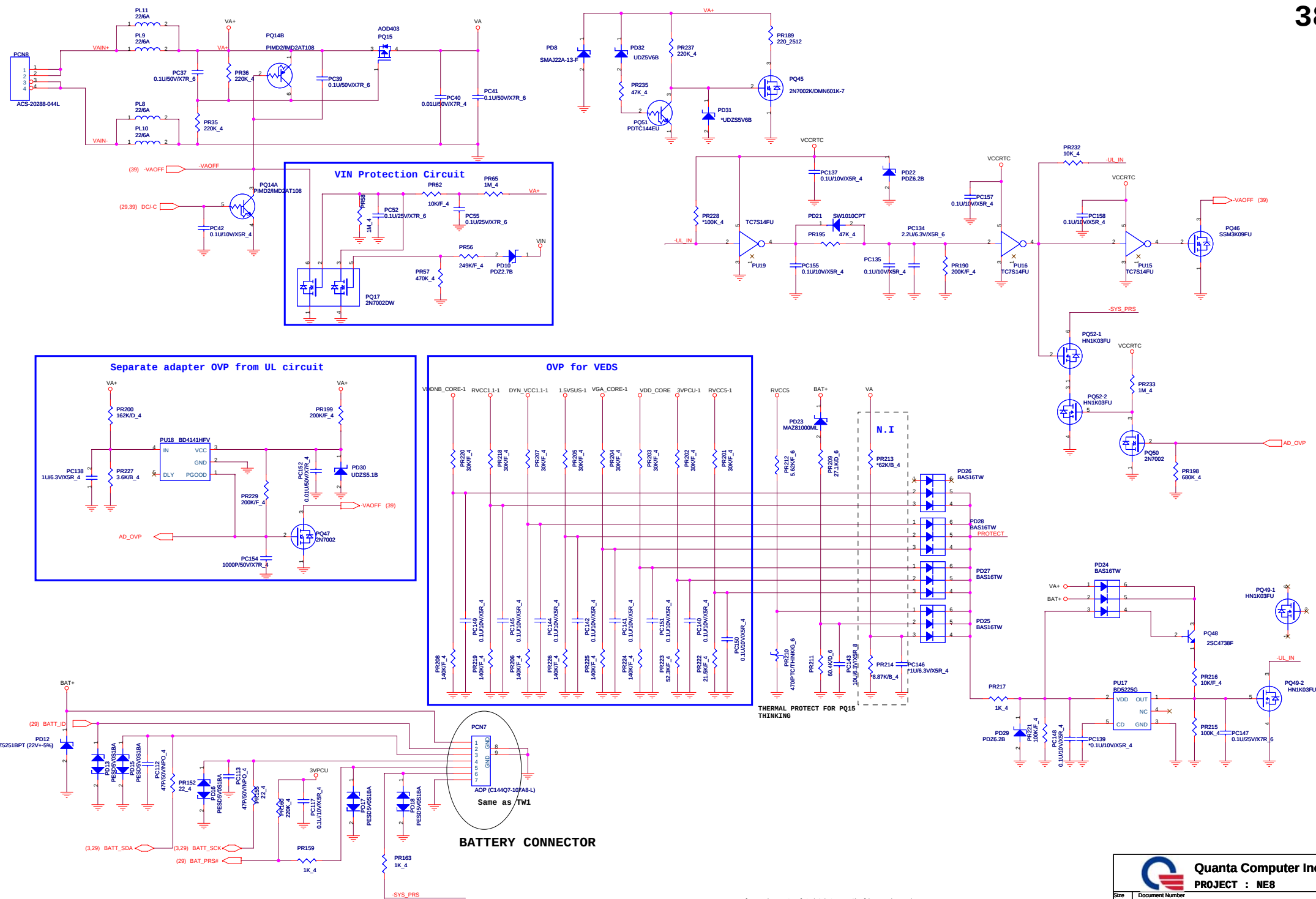


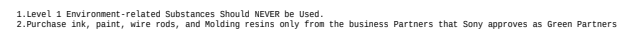
VCC2.5

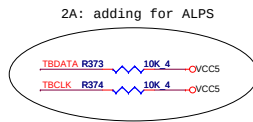
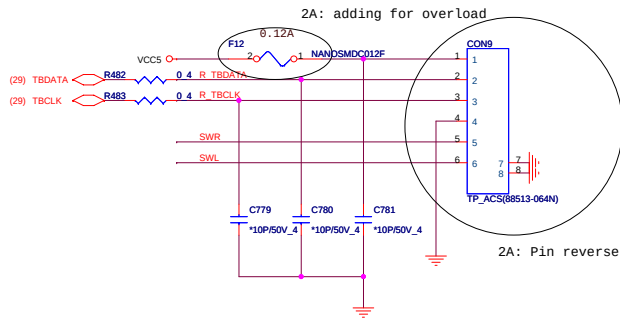
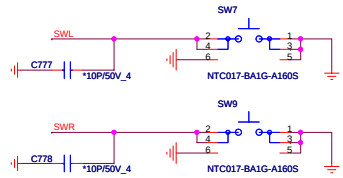


Thermal Protection for VEDS

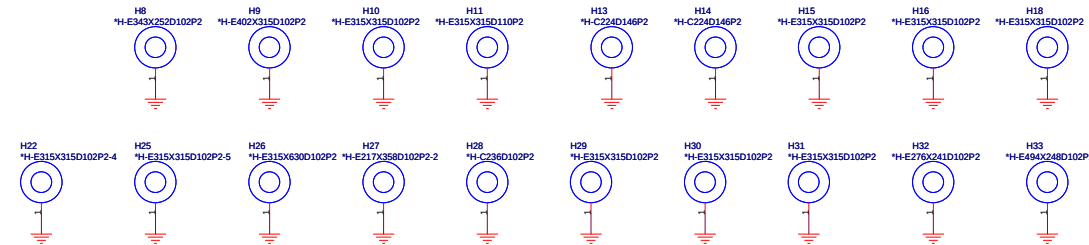






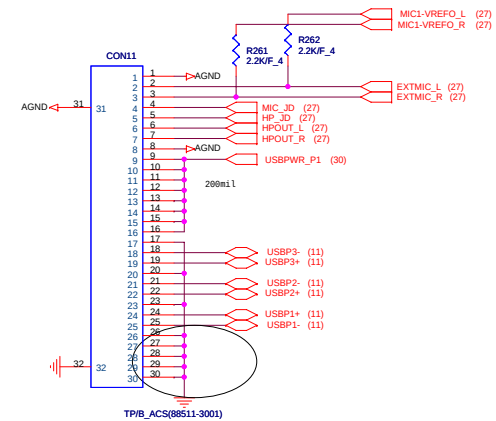
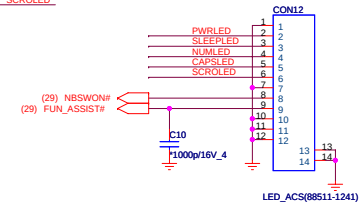
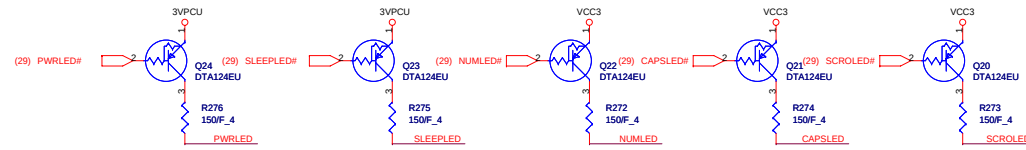
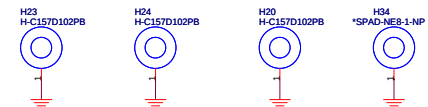


2A: Pin reverse



WLAN

BT

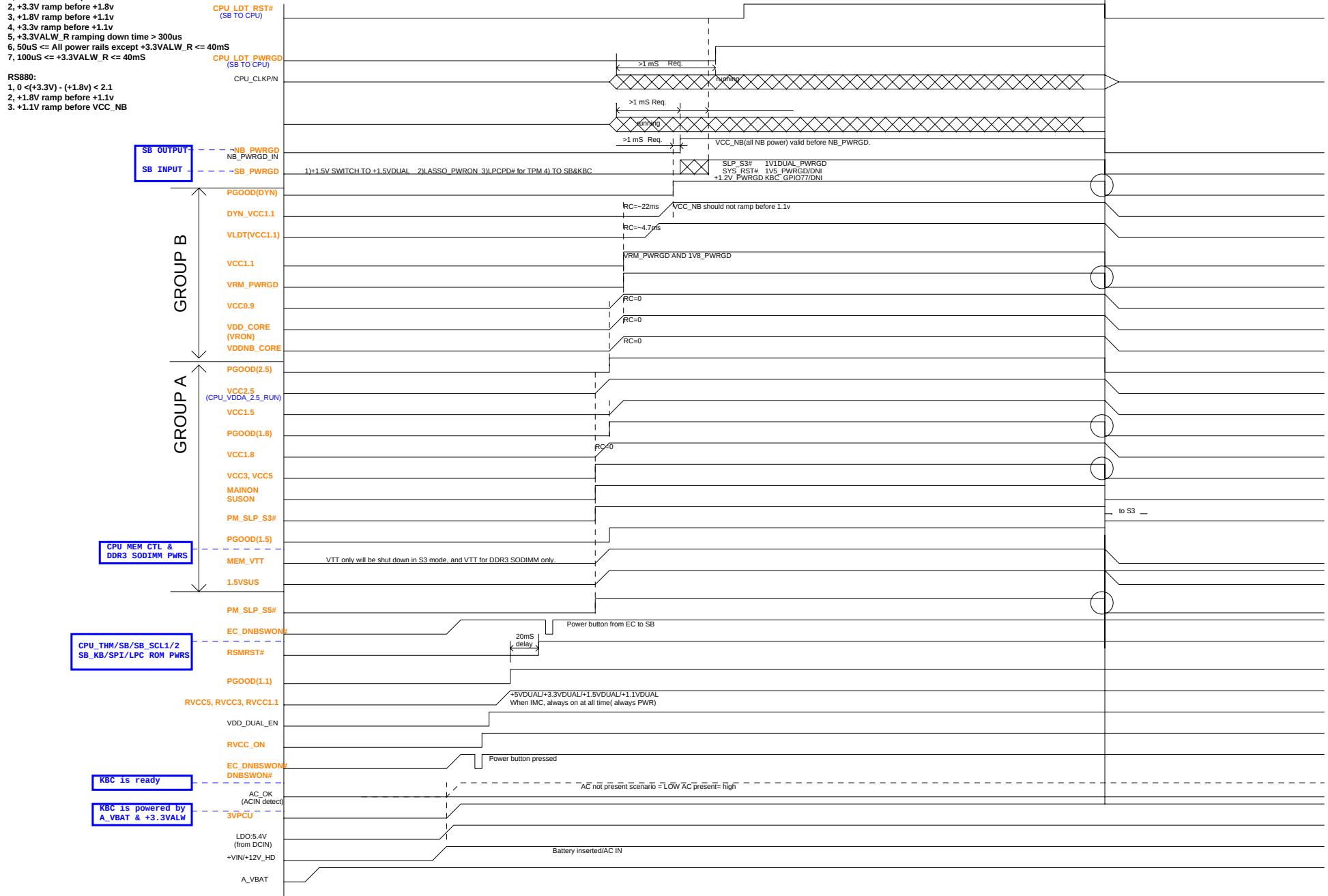


2A: change CON11 form 26pin to 30pin.

Power on Sequence required:

SB800:
 1, +3.3VDUAL ramp before +1.1VDUAL
 2, +3.3V ramp before +1.8V
 3, +1.8V ramp before +1.1V
 4, +3.3v ramp before +1.1v
 5, +3.3VALW_R ramping down time > 300us
 6, 50uS <= All power rails except +3.3VALW_R <= 40ms
 7, 100uS <= +3.3VALW_R <= 40ms

RS880:
 1, 0 <(+3.3V) - (+1.8v) < 2.1
 2, +1.8V ramp before +1.1v
 3, +1.1V ramp before VCC_NB



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2A Adding R159 (10K) for shut down issue.

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