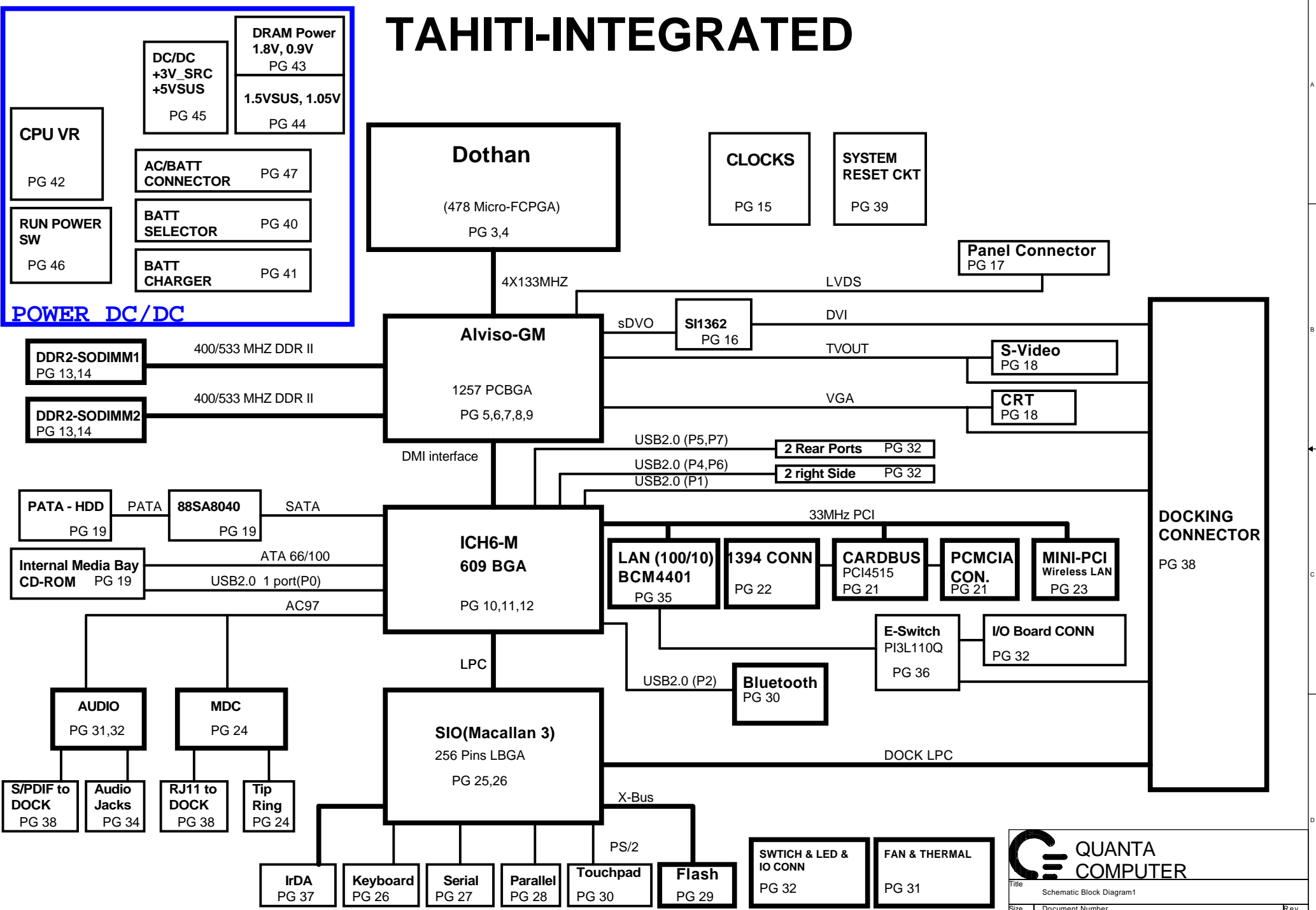


TAHITI-INTEGRATED




INDEX

Pg#	Description	DNI LIST
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2	Front Page	
3-4	Dothan	
5-9	Alviso	
10-12	ICH6	
13-14	DDRII SO-DIMM(200P)	
15	Clock Generator	
16	SI1362	
17	LCD Conn. & SSP	
18	CRT & TV Conn.	
19	SATA & IDE Conn.	
20	PAD & Screw Hole	
21	TI PIC4510	
22	CB/1394 CONN	
23	Mini PCI Conn.	
24	MDC Conn.	
25-26	SIO (LPC47N354)	
27	Parallel Port	
28	Serial Port	
29	Flash ROM	
30	Touch Pad CONN.& Bluetooth CONN	
31	Switch Board Conn. & LED & IO Board	
32	FAN & Thermal	
33-34	Audio CODEC (STAC9751) & Phone Jack	
35-36	LAN Interface	
37	FIR	
38	MISCELLANEA	
39	Docking Conn.	
40	SYSTEM RESET/POWER GOOD	
41-42	Battery Selector & Charger	
43	CPU Power	
44	1.8VSUS/0.9V	
45	1.5V/1.05V	
46	D/D Power	
47	RUN Power Switch	
48	RUN POWER SW	

Power & Ground

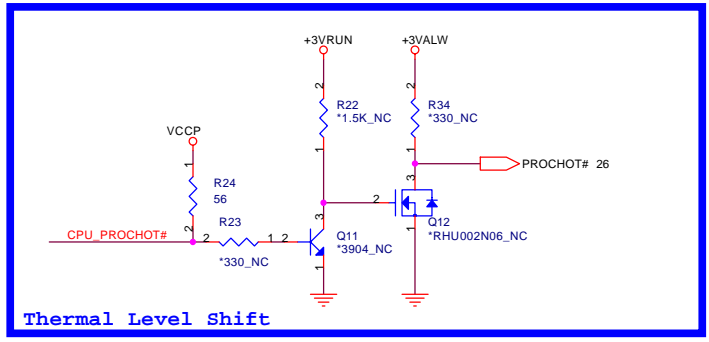
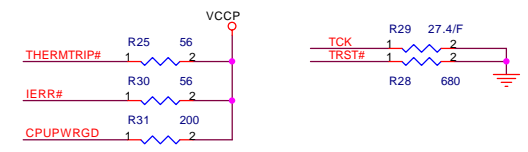
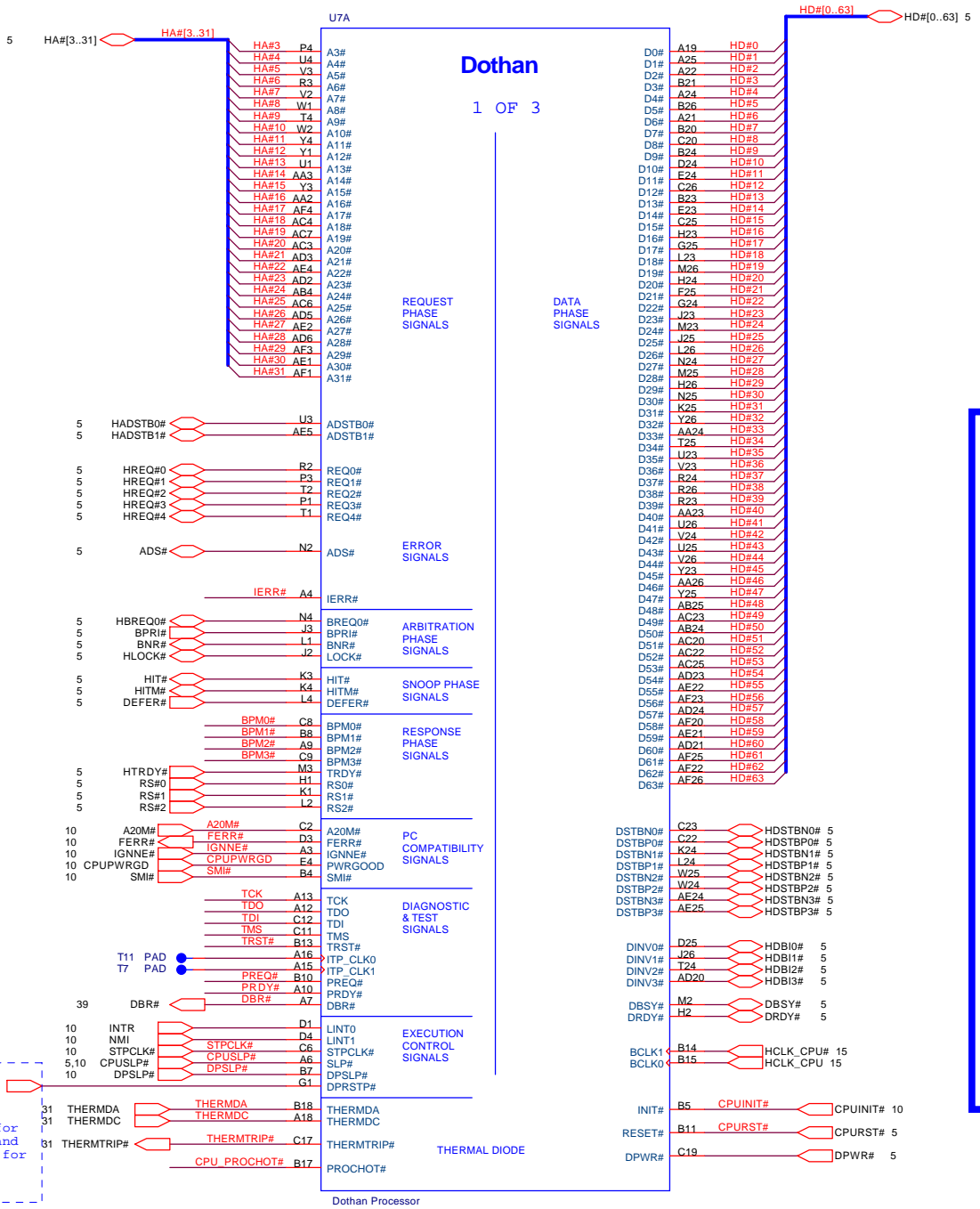
Label	Pg#	Description	Control Signal
DC_IN+		AC ADAPTER (20V)	
PBATT+		MAIN BATTERY + (10~17V)	
PWR_SRC		MAIN POWER (10~20V)	
VHCORE		CPU CORE POWER (1.25/1.15V)	RUNPWROK
1.05V		AGTL+ POWER (1.05V) I/O	RUNPWROK
+3VRUN		SLP_S3# CTRLD POWER	RUN_ON
+3VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VALW		8051 POWER (5V)	
+5VRUN		SLP_S3# CTRLD POWER	RUN_ON
+5VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VHDD		HDD POWER (5V)	HDDC_EN#
+5VMOD		MODULE POWER (5V)	MODC_EN#
STRB#/5V		EXTERNAL FDD POWER (5V)	FDD/LPT#
+5VRUN		FAN POWER (5V)	FAN_OFF/ON#
VDDA		AUDIO ANALOG POWER (5V)	RUN_ON
1_8VSUS		RESUME WELL IN ICH	
1_8VRUN		SLP_S3# CTRLD POWER	
+3VALW		8051 POWER (3V)	
V1_5RUN		ALVISO POWER Non-CPU I/O	
 GND	ALL PAGES	DIGITAL GROUND	
		COMBO CONN GND	

 **QUANTA
COMPUTER**

Title: Index, DNI, Power & Ground

Size: Document Number Tahiti(DM3L) Rev 1A

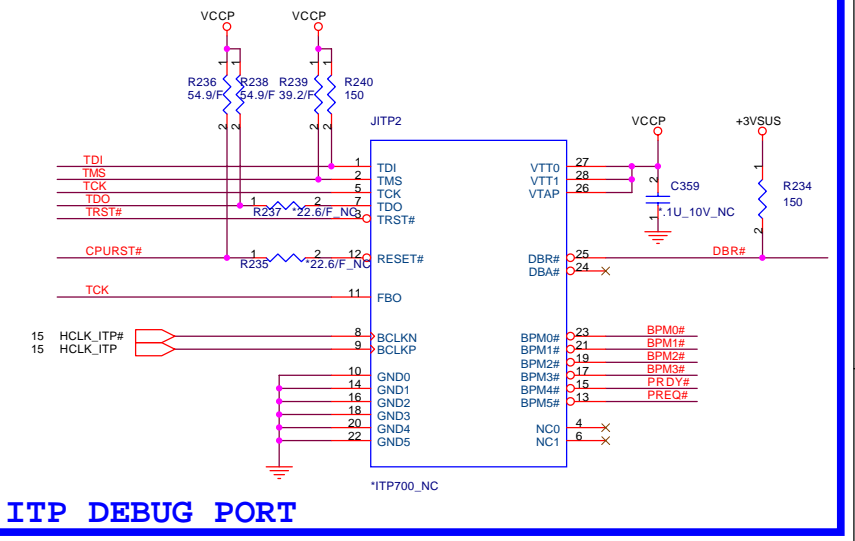
Date: 星期二, 三月 29, 2005 Sheet 2 of 49



ITP disable guidelines

Signal	Resistor Value	Connect To	Resistor Placement
TDI	150 ohm +/- 5%	VTT	Within 2.0" of the CPU
TMS	39 ohm +/- 5%	VTT	Within 2.0" of the CPU
TRST#	680 ohm +/- 5%	GND	Within 2.0" of the CPU
TCK	27 ohm +/- 5%	GND	Within 2.0" of the CPU
TDO	Open	VTT	Within 2.0" of the CPU

Note: Populate All NC component when ITP connector is populated.

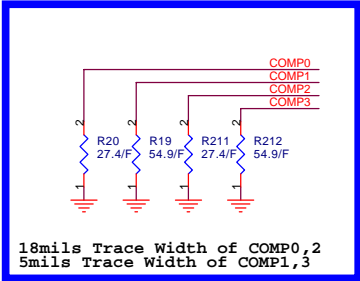


QUANTA COMPUTER

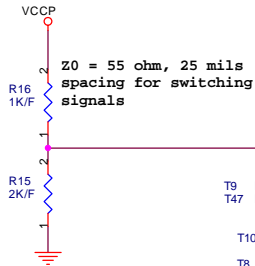
Title: Dothan Processor (HOST)

Size	Document Number Tahiti(DM3L)	Rev 1A
Date:	星期二, 三月 29, 2005	Sheet 3 of 49

G1: NC for Dothan and DPRSTP# for Yonah



18mils Trace Width of COMP0,2
5mils Trace Width of COMP1,3



Z0 = 55 ohm, 25 mils
spacing for switching
signals

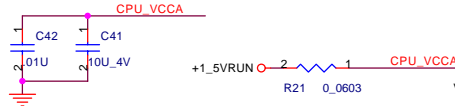
- COMP0 P25
- COMP1 P26
- COMP2 AB2
- COMP3 AB1

- GTLREF0 AD26
- TEST1 C5
- TEST2 F23
- NC1
- RSVD2 C3
- RSVD3 AF7
- RSVD4 AC1
- RSVD5 E26

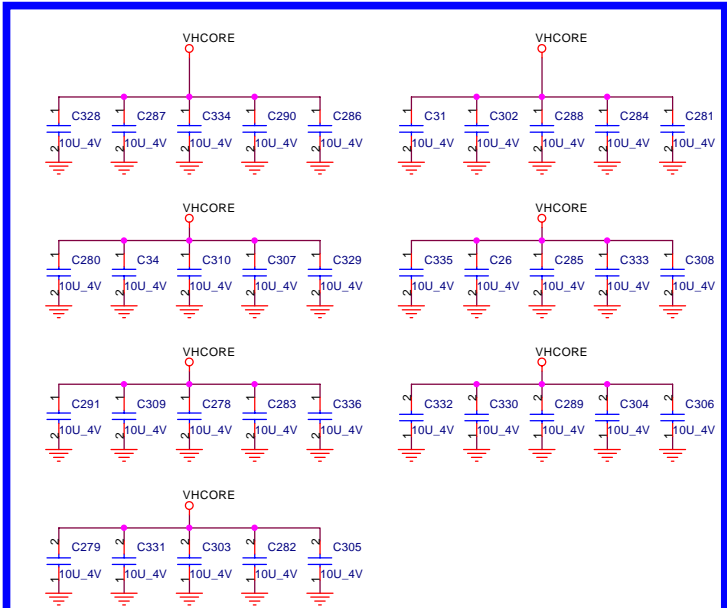
Dothan

2 OF 3

POWER, GROUND, RESERVED SIGNALS

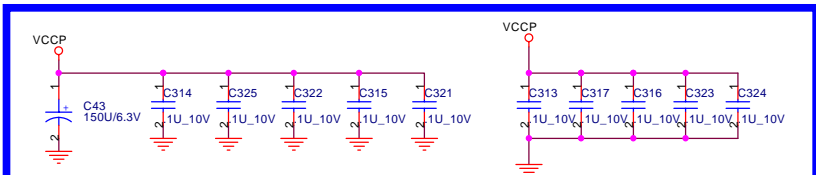


VHCORE

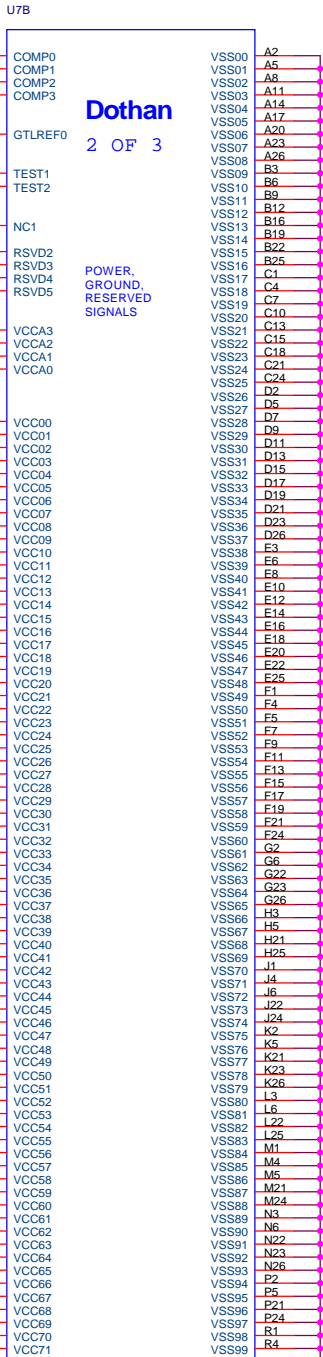


VHCORE

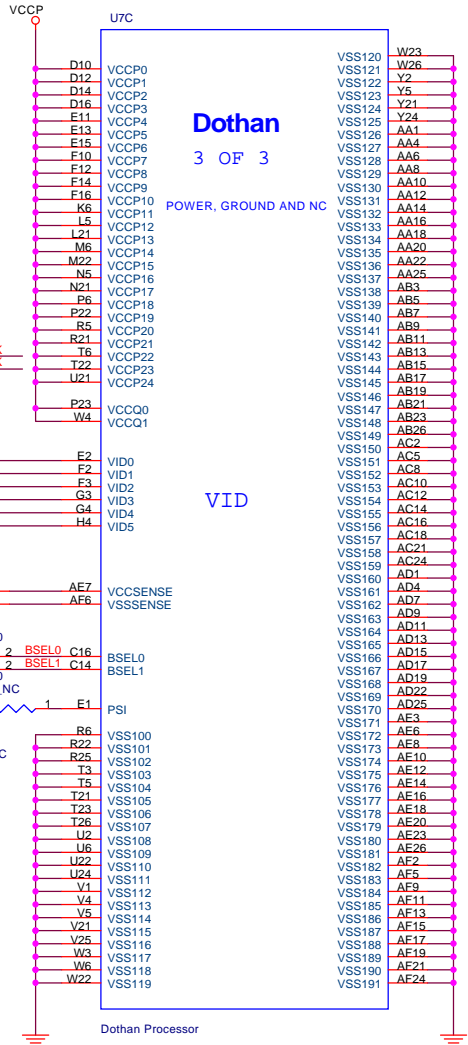
Total caps = 1670 uF > 1430 uF (Intel Recommendation)
ESR = 9m ohm/4 // 5m ohm/35 ---> = 0.1343m ohm



C, mF-----ESR, mW-----ESL, nH
1 x 150 mF-----42 mW (typ) / 2-----2.5 nH / 12
10 x 0.1 mF-----16 mW (typ) / 10-----0.6 nH / 10



Dothan Processor

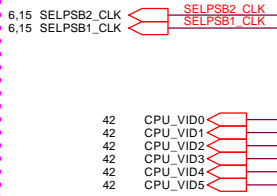


Dothan

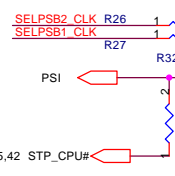
3 OF 3

POWER, GROUND AND NC

VID



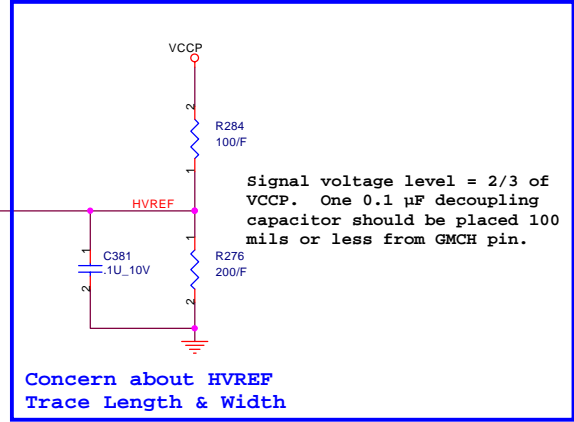
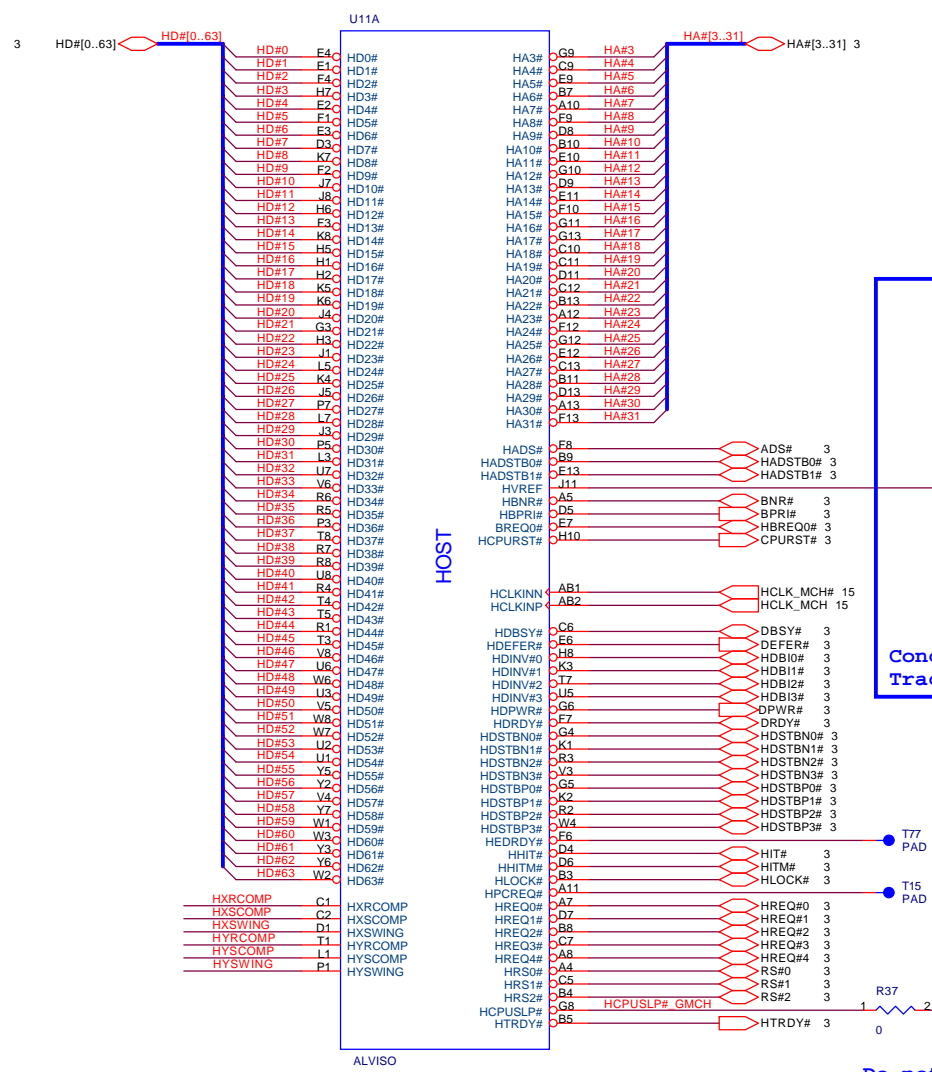
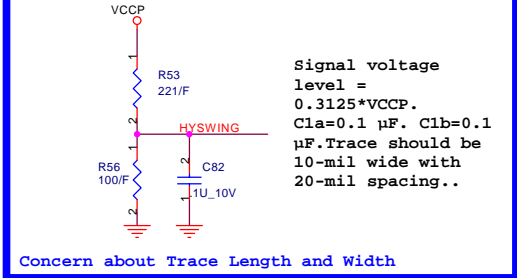
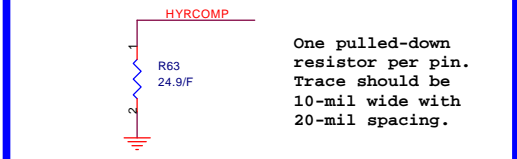
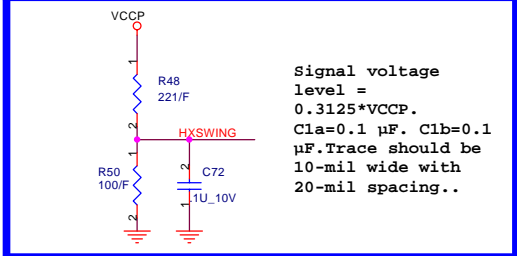
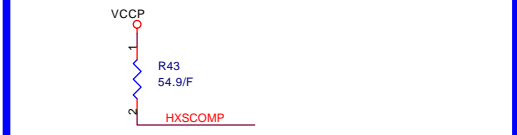
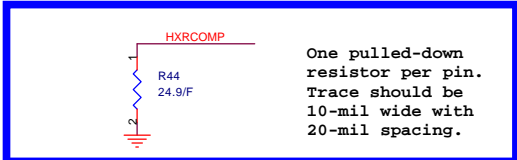
Differential Probe₃ Test Using



NO PSI (Power Saving Indicator)

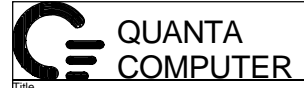
	DothanA	DothanB
R26	NC	Install

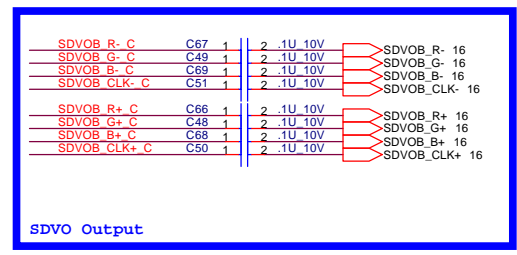
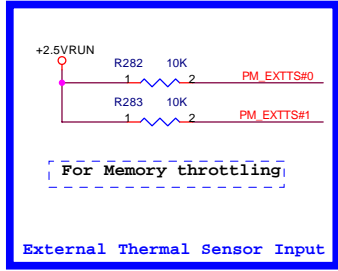
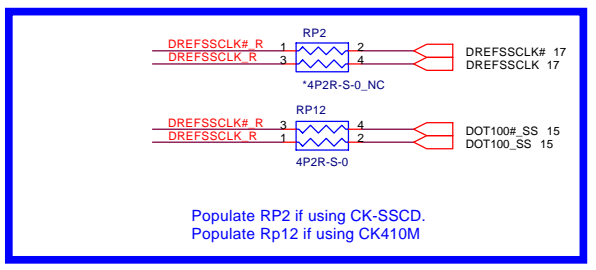
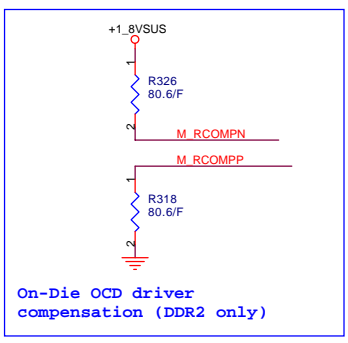
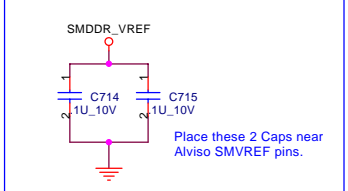
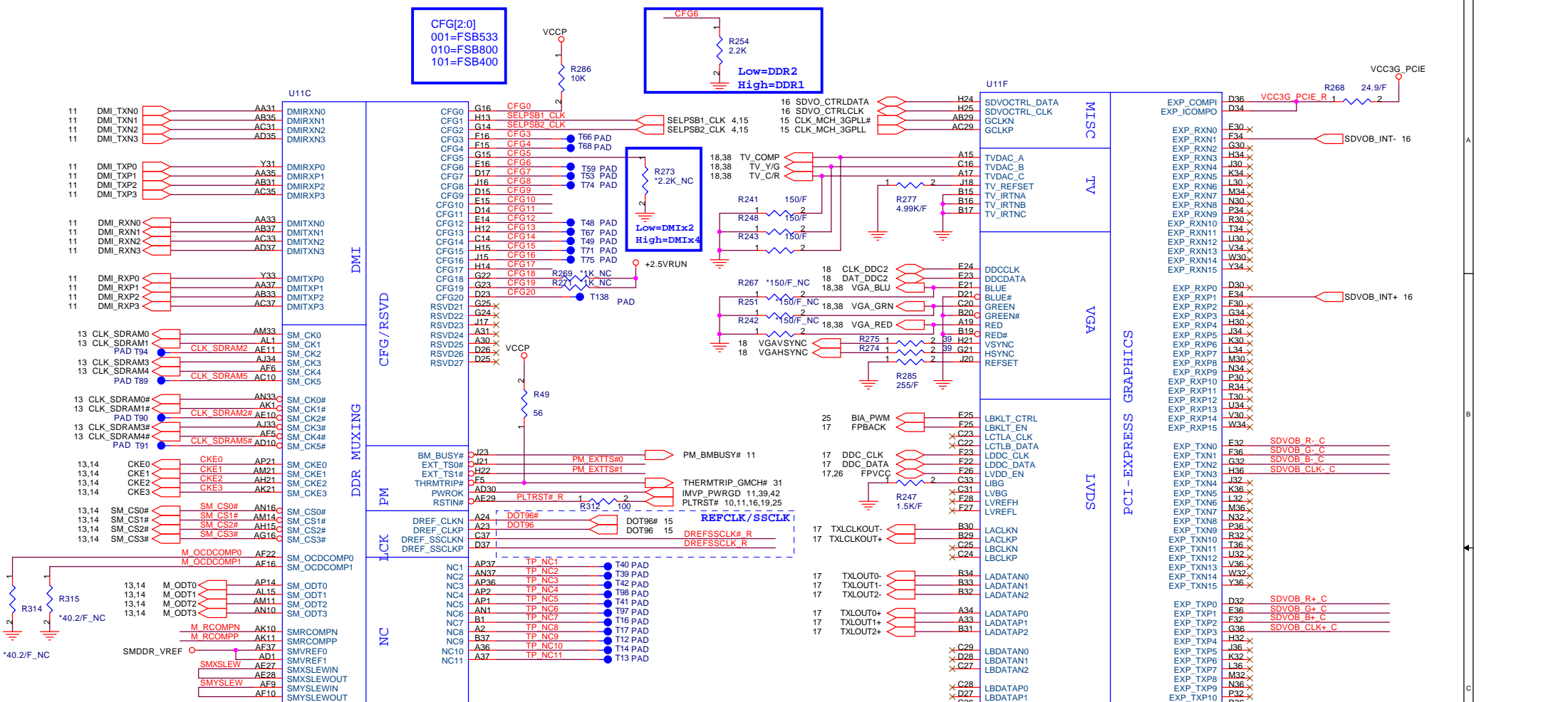


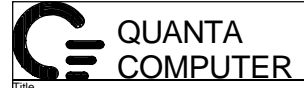
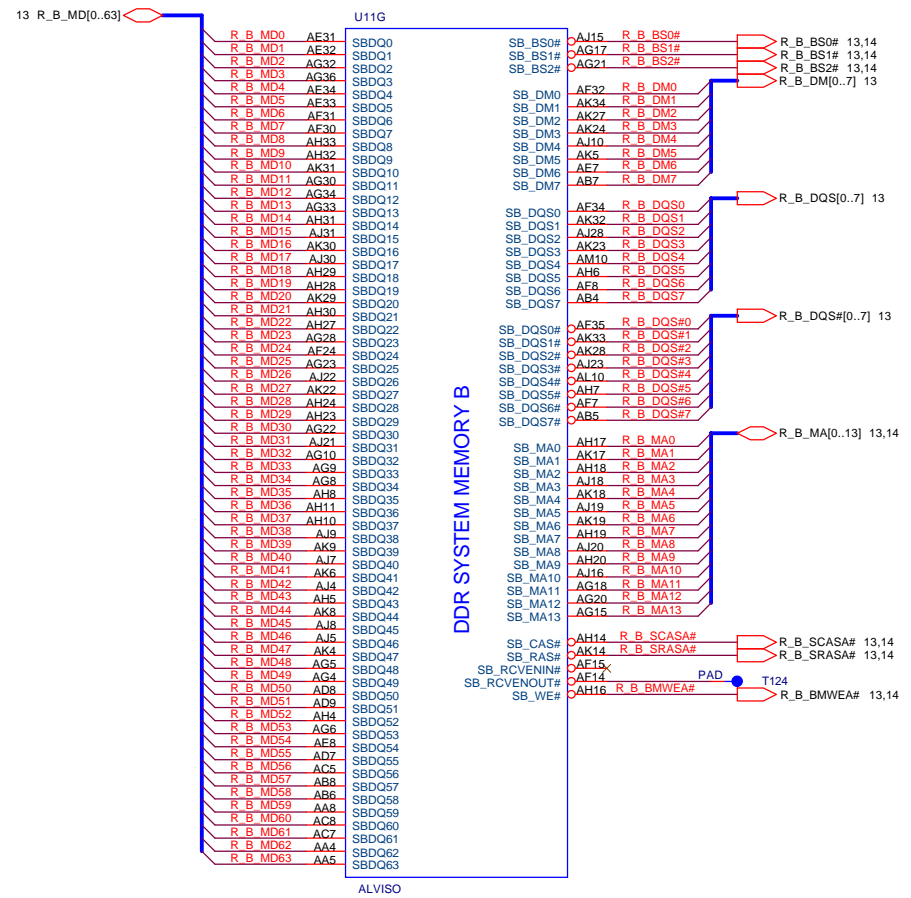
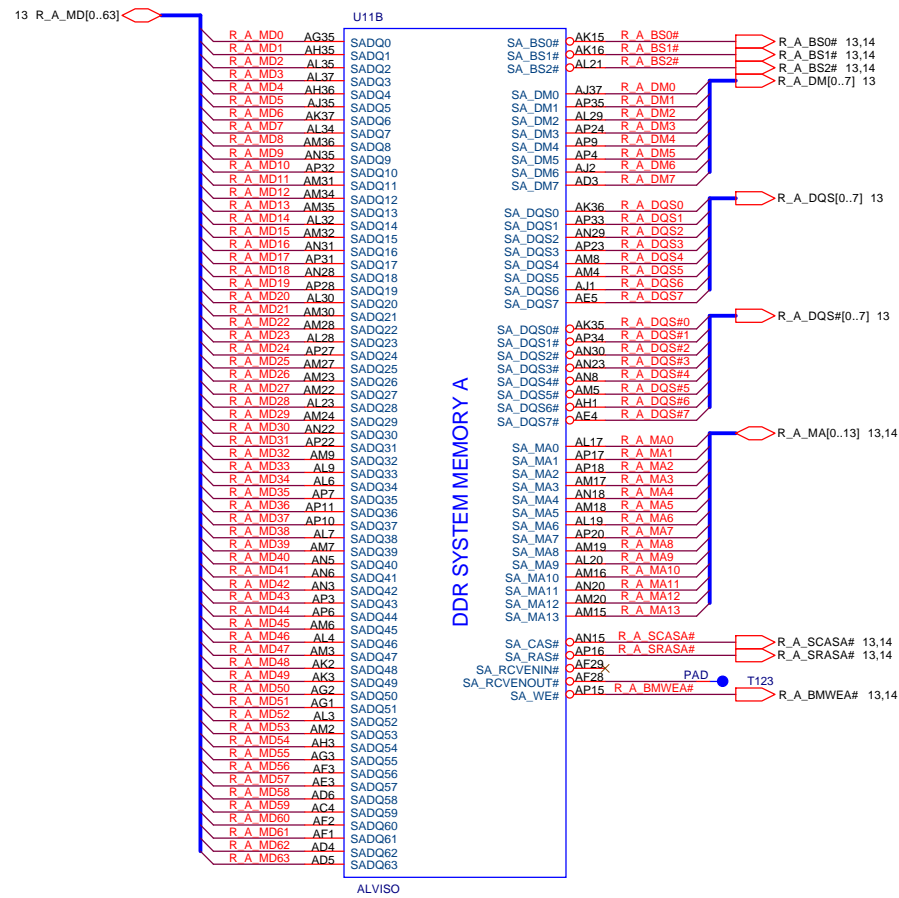


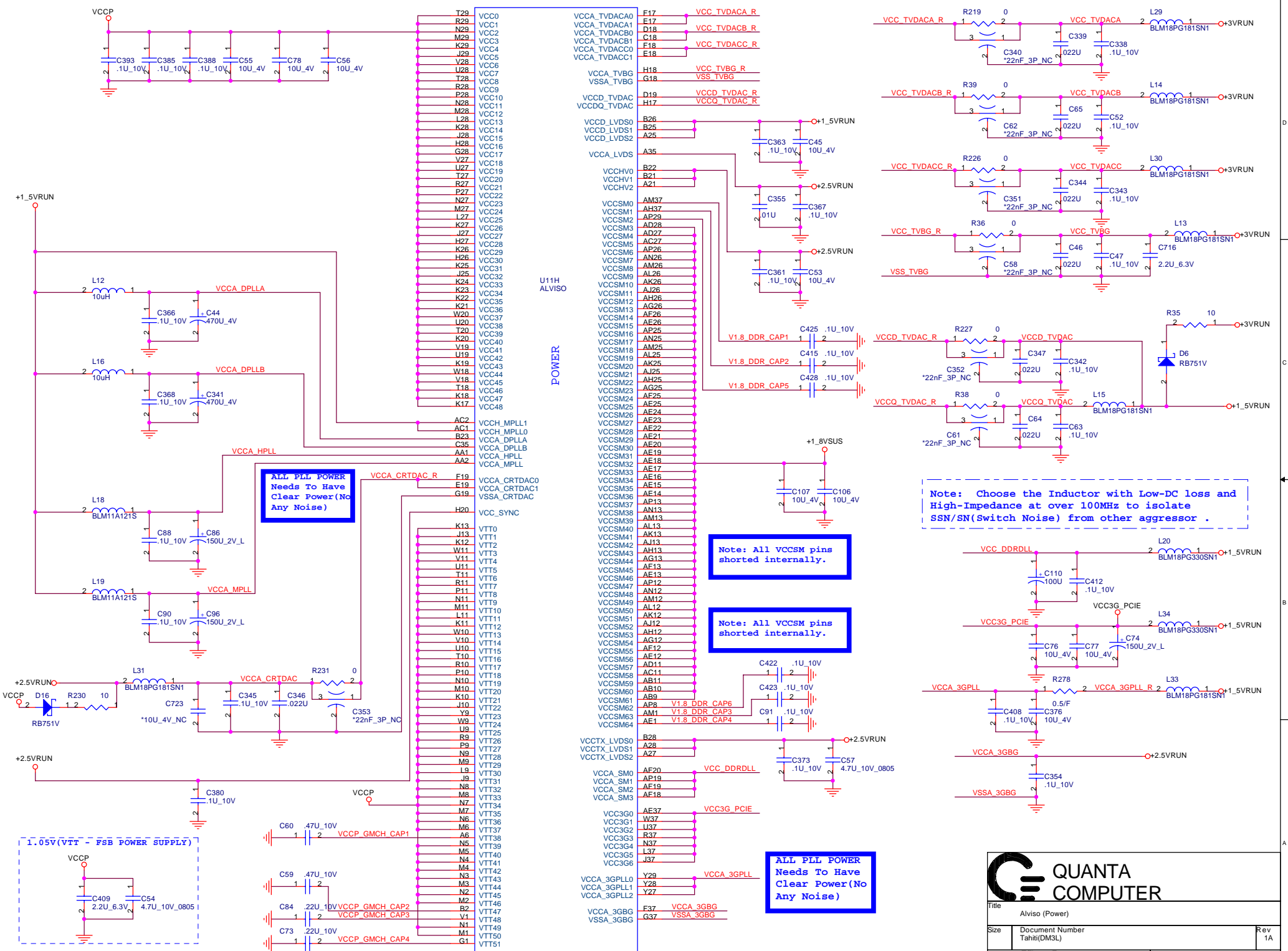
Concern about HVREF Trace Length & Width

Do not install R37 for Dothan-A and install for Dothan-B









All PLL Power Needs To Have Clear Power (No Any Noise)

Note: All VCCSM pins shorted internally.

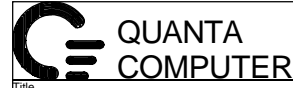
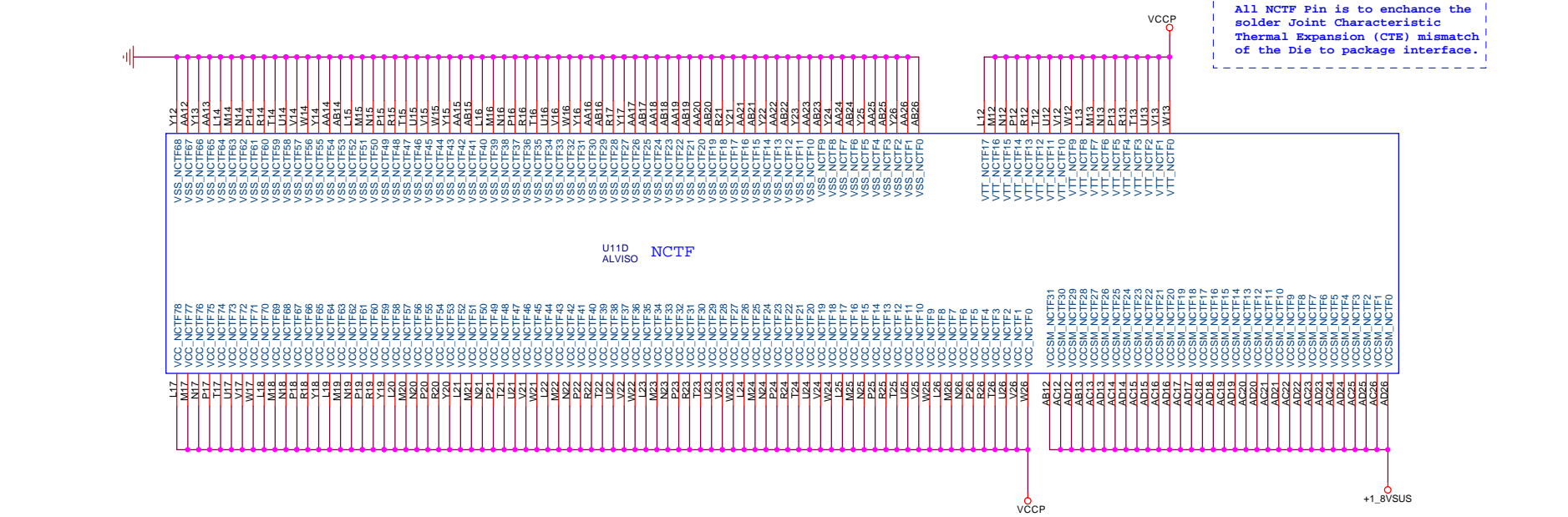
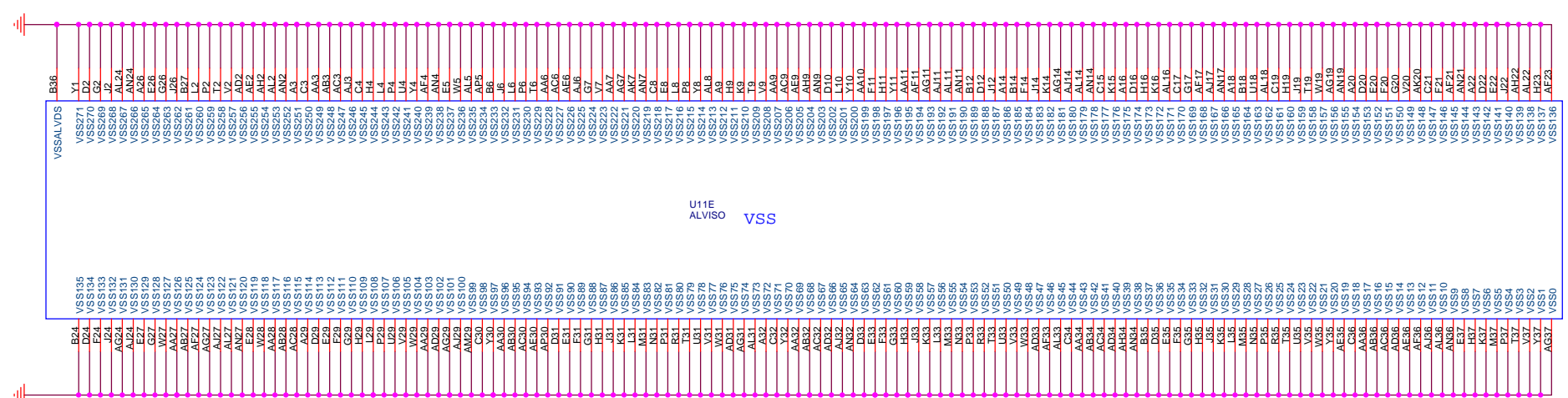
Note: All VCCSM pins shorted internally.

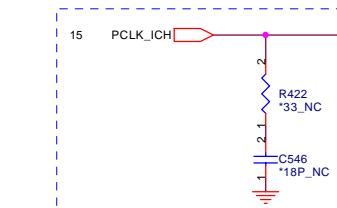
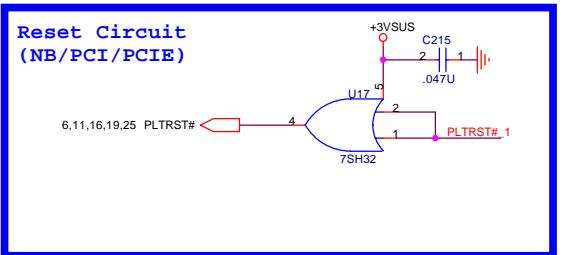
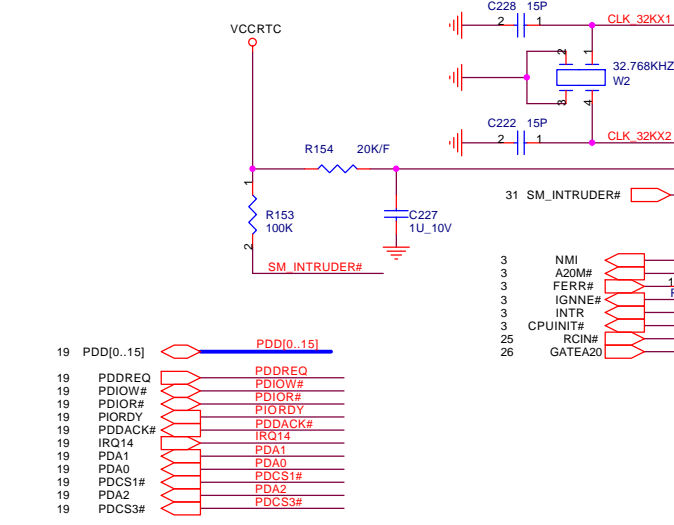
Note: Choose the Inductor with Low-DC loss and High-Impedance at over 100MHz to isolate SSN/SN(Switch Noise) from other aggressor .

ALL PLL POWER Needs To Have Clear Power (No Any Noise)

QUANTA COMPUTER

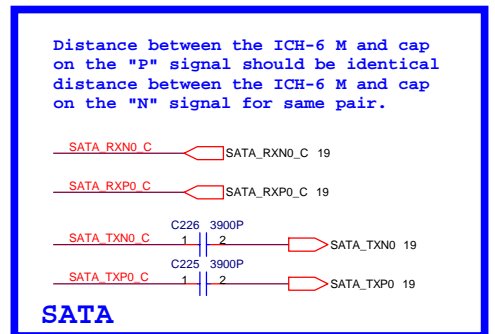
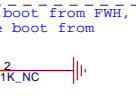
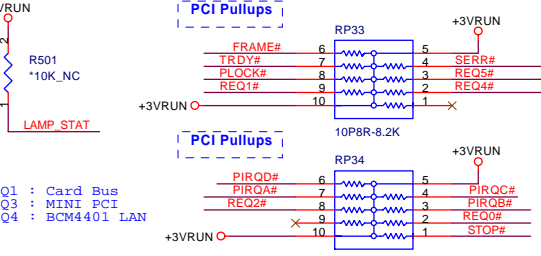
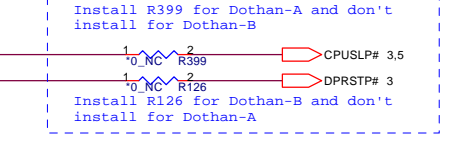
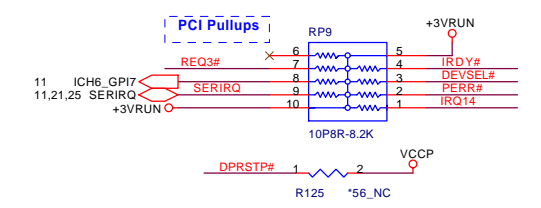
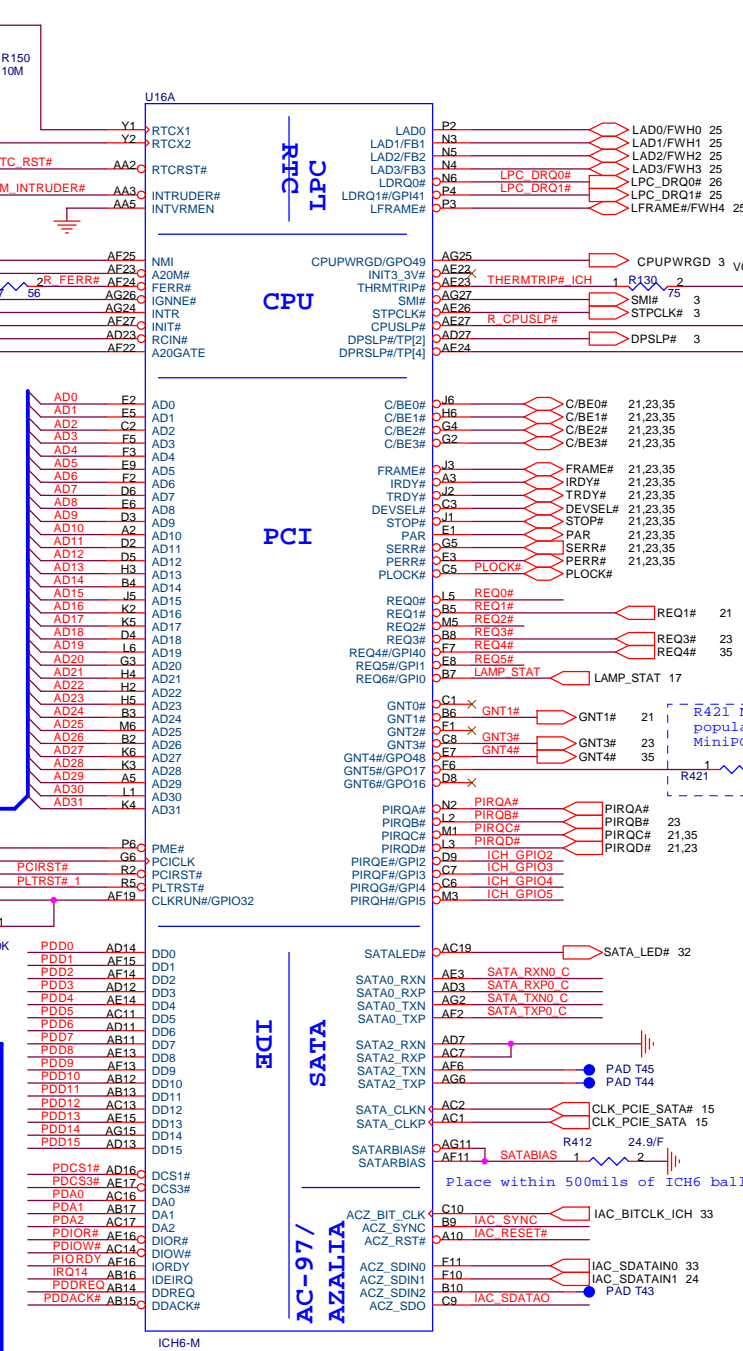
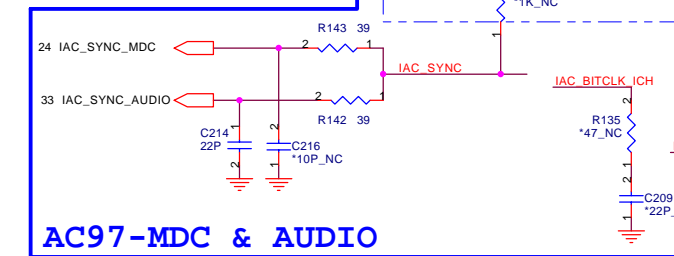
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Size:	Document Number: Tahiti(DM3L)	Rev: 1A
Date:	星期三, 三月 29, 2005	Sheet: 8 of 49

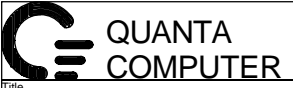
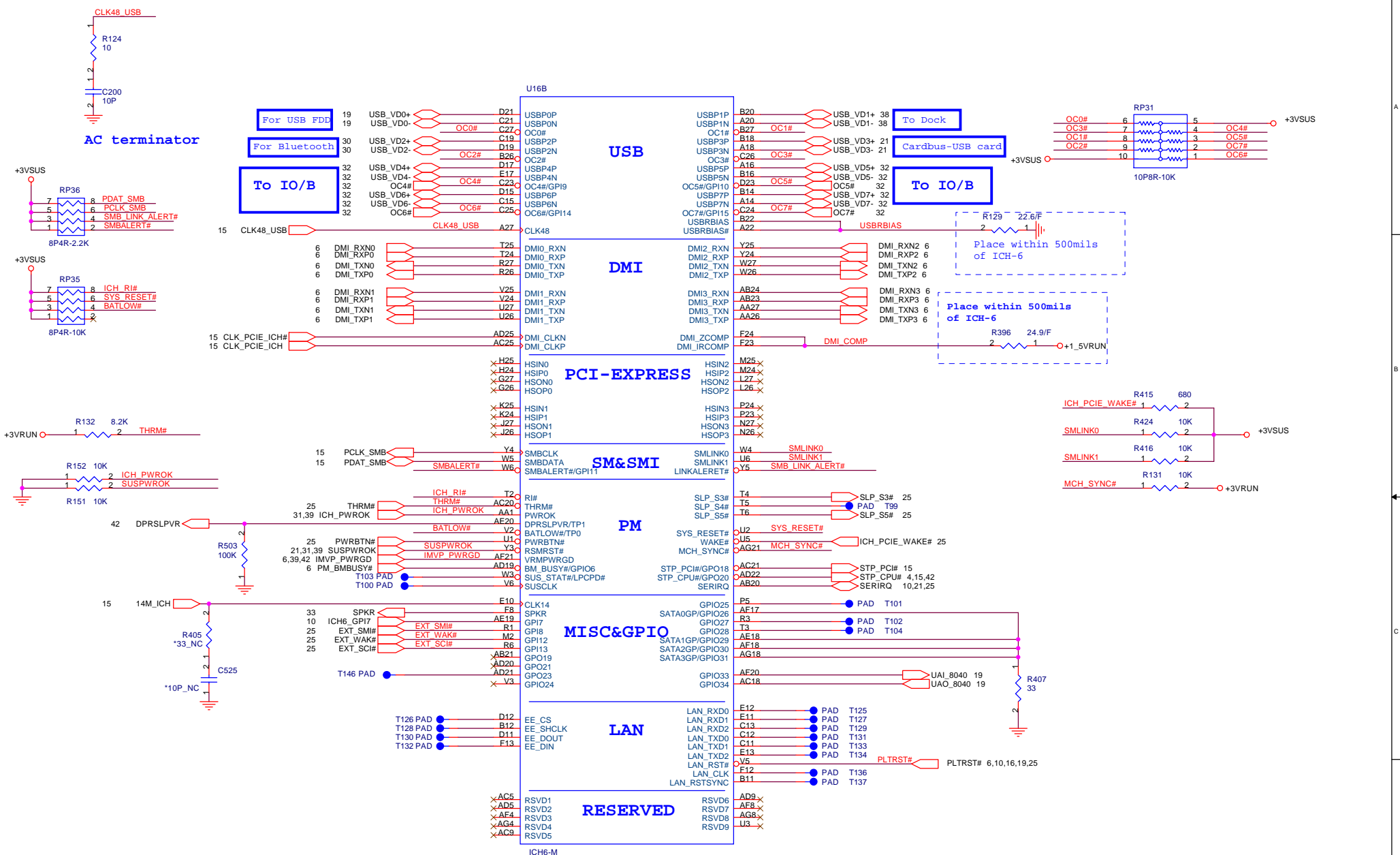


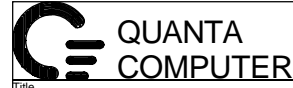
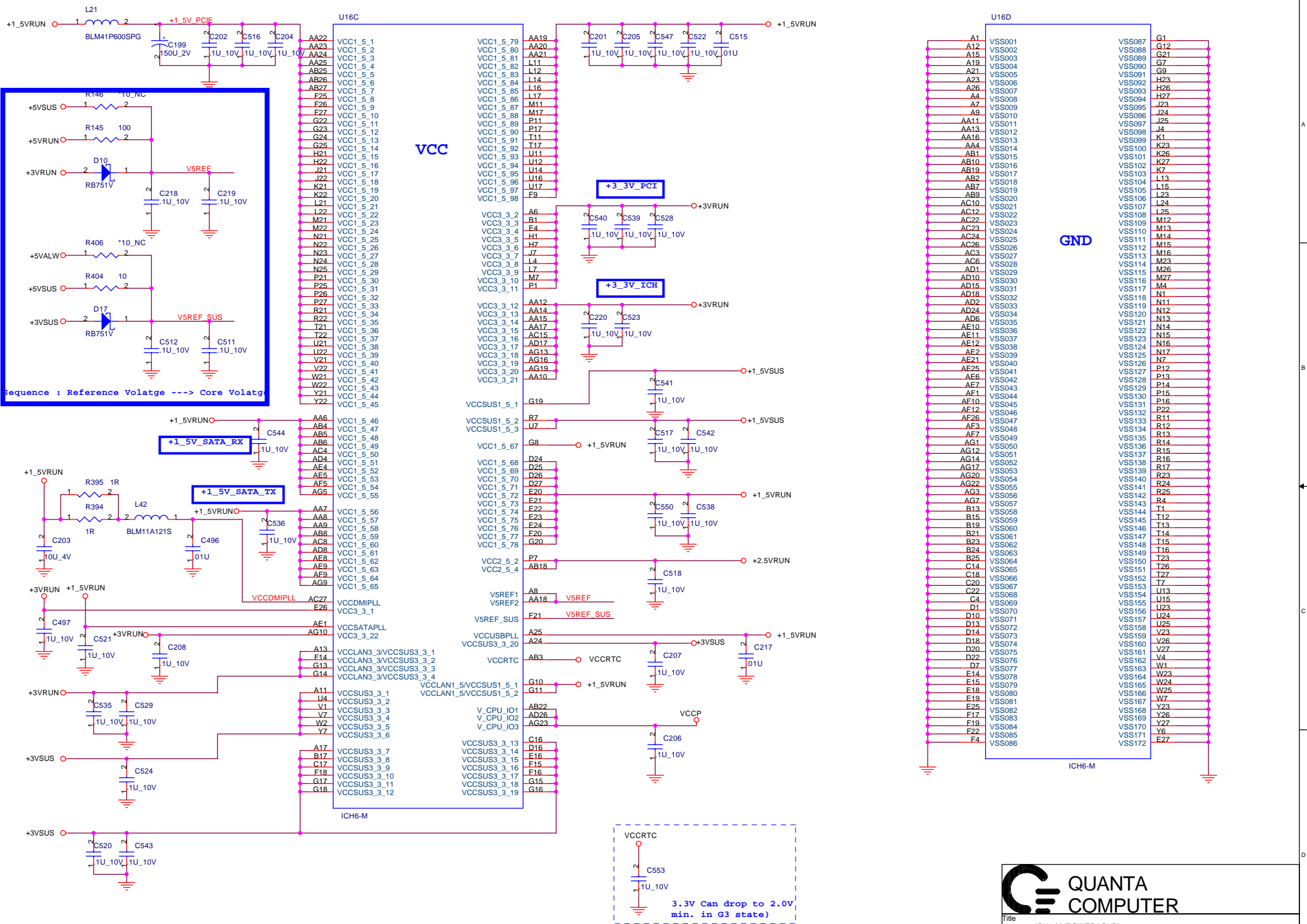


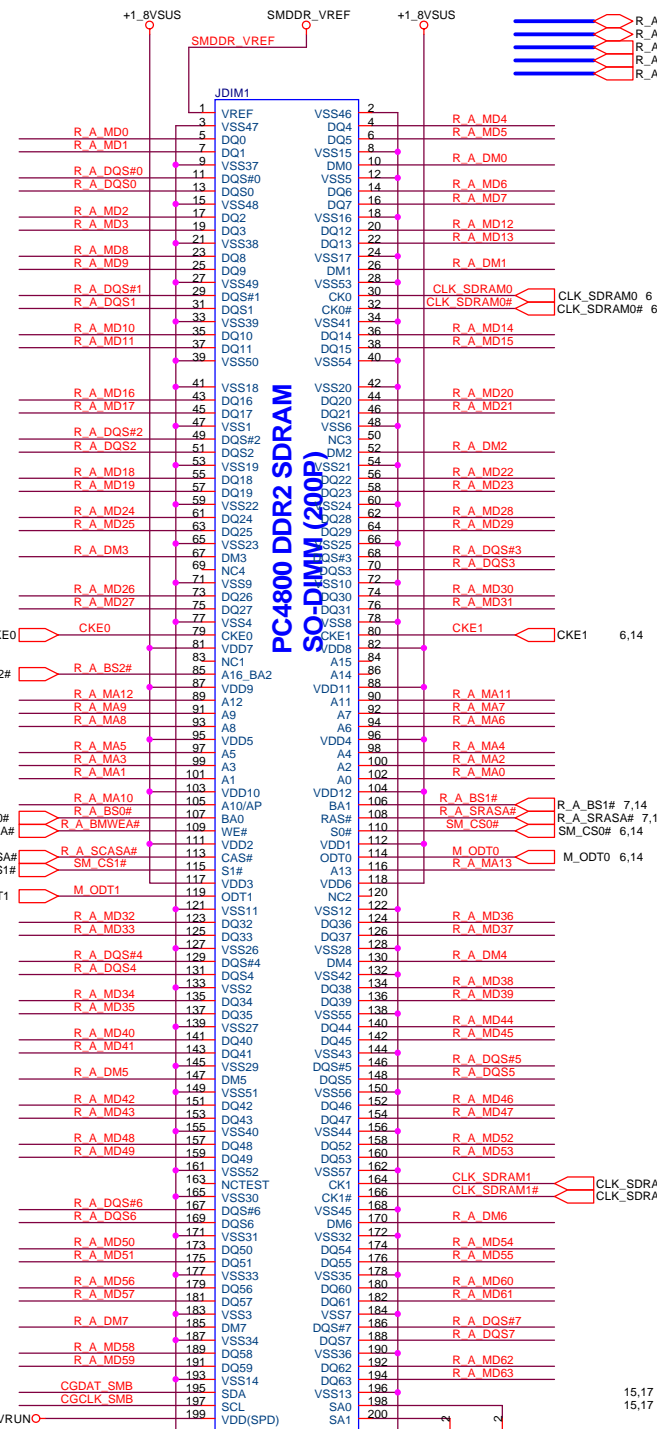
X1, X2 Docking

IAC_SYNC	Port X Line	R144
1	1X2, 2X1	STUFF
0	4X1	UNSTUFF





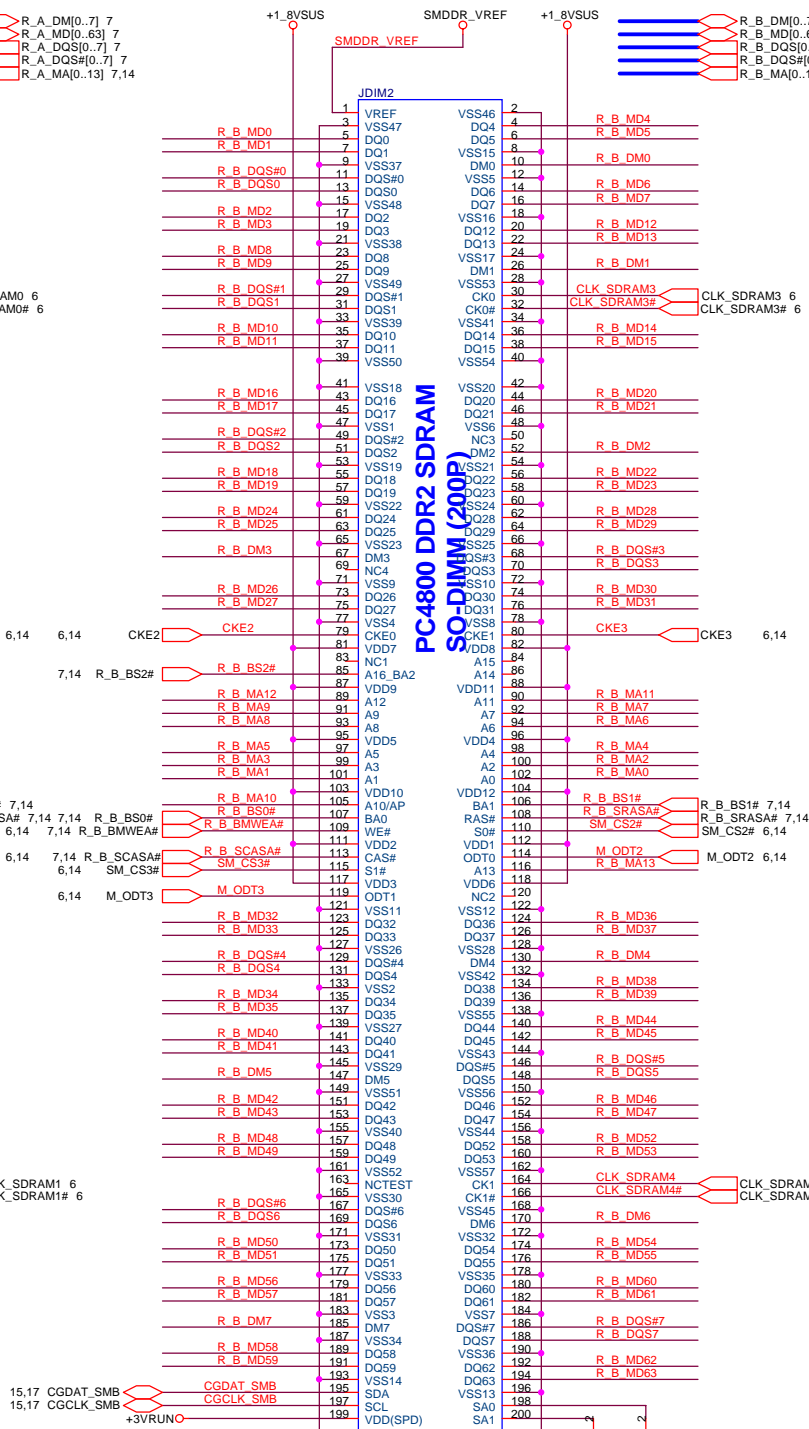




**PC4800 DDR2 SDRAM
SO-DIMM (200P)**

**CLOCK 0,1,2
CKE 0,1**

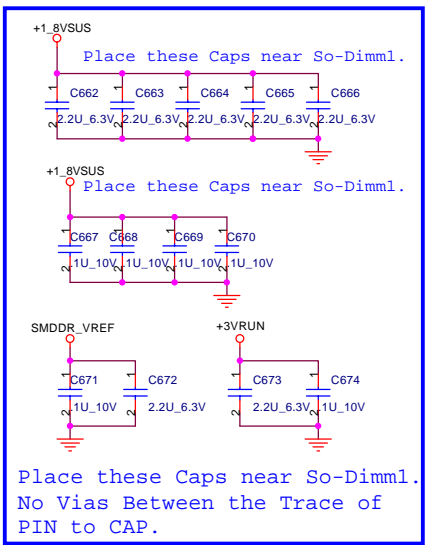
SMbus address A0



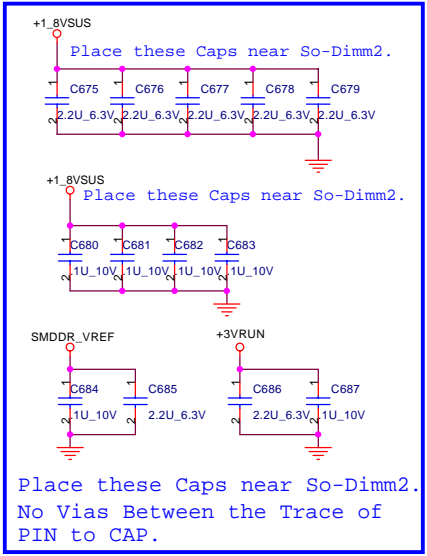
**PC4800 DDR2 SDRAM
SO-DIMM (200P)**

**CLOCK 3,4,5
CKE 2,3**

SMbus address A4



Place these Caps near So-Dimm1.
Place these Caps near So-Dimm1.
Place these Caps near So-Dimm1.
No Vias Between the Trace of PIN to CAP.



Place these Caps near So-Dimm2.
Place these Caps near So-Dimm2.
Place these Caps near So-Dimm2.
No Vias Between the Trace of PIN to CAP.

QUANTA COMPUTER

Title: System DRAM Expansion (200P-DDR_SODIMM X 2)

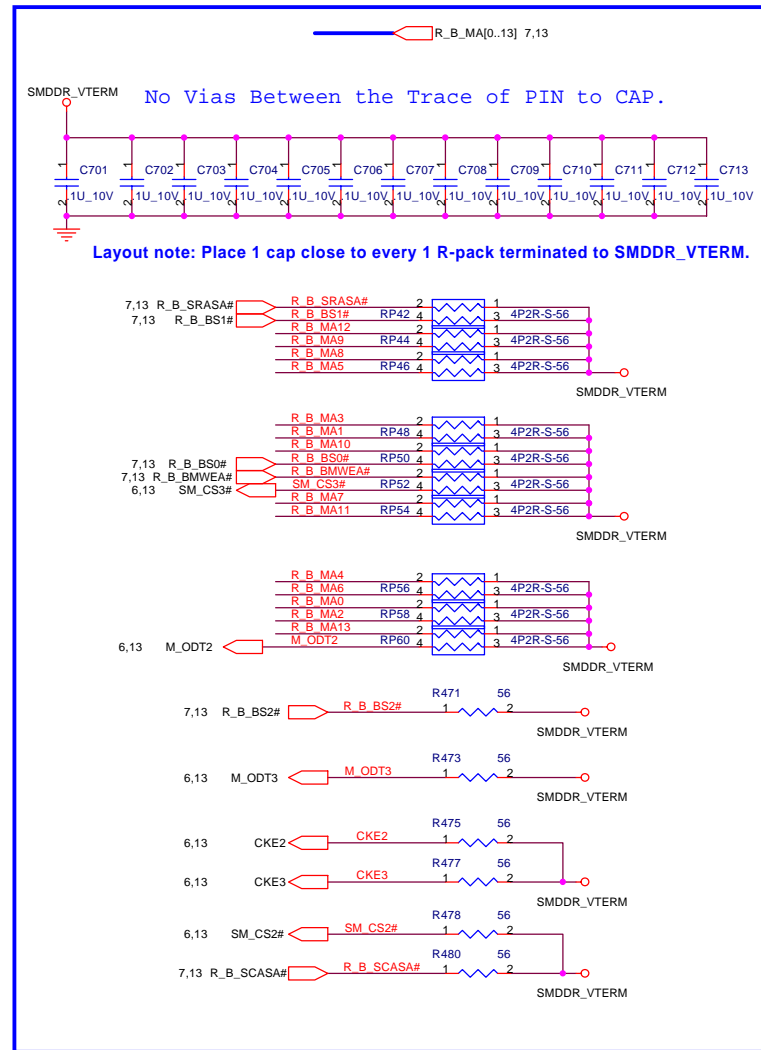
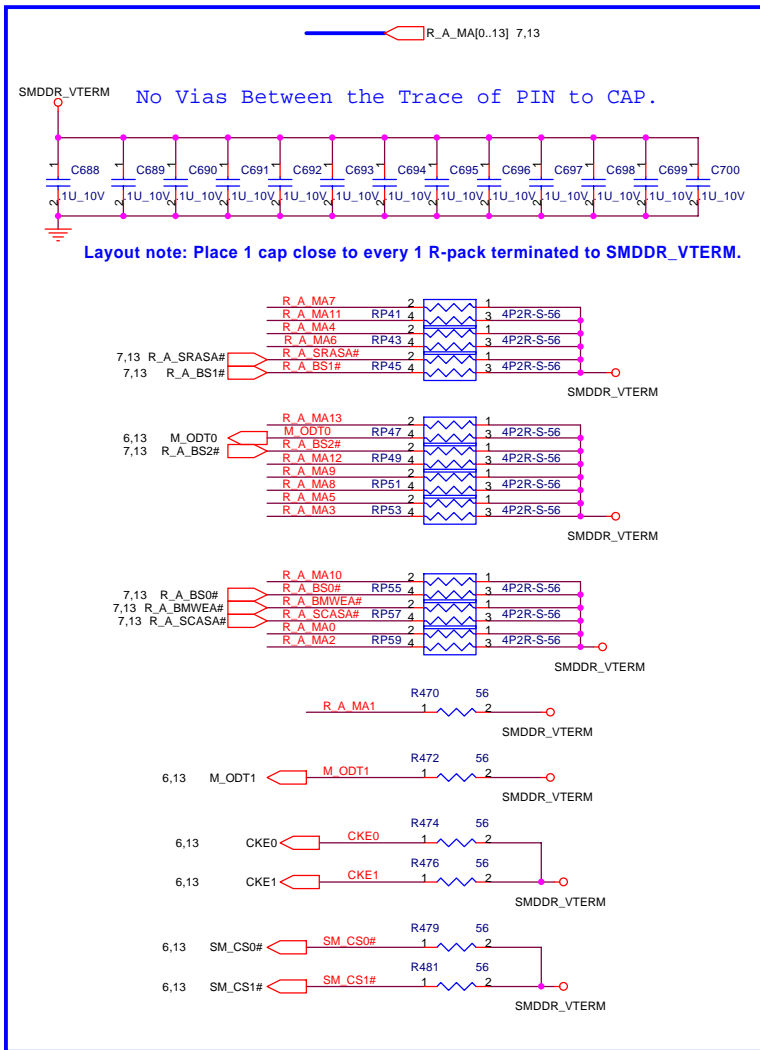
Size	Document Number Tahiti(DM3L)	Rev 1A
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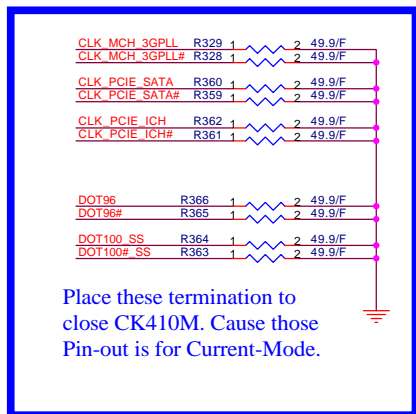
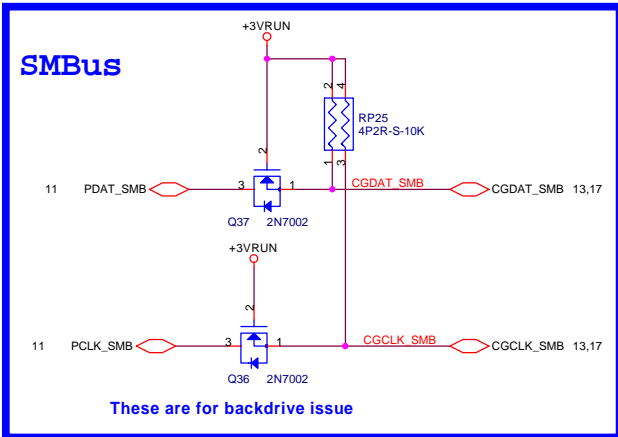
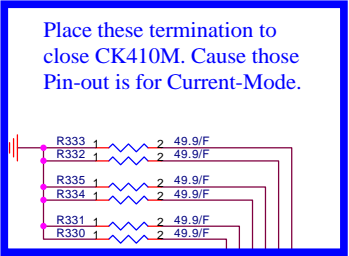
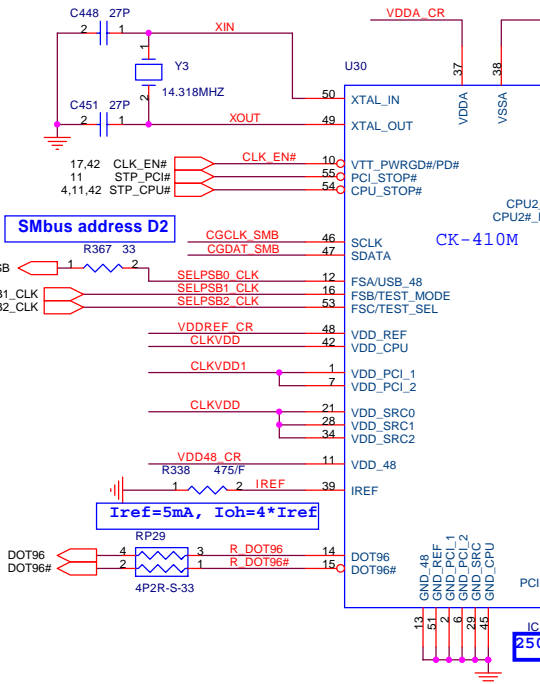
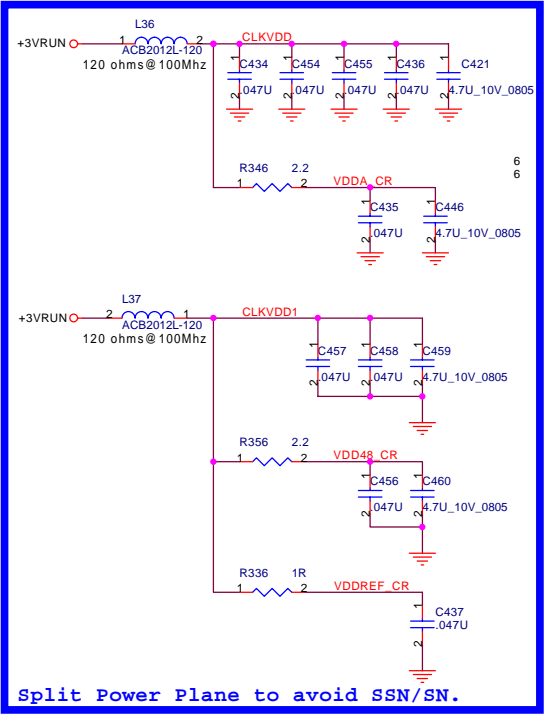
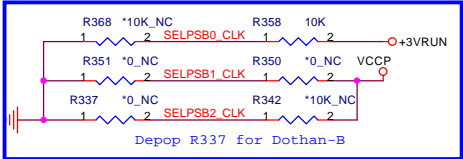
DDRII DUAL CHANNEL A,B.

DDRII A CHANNEL

DDRII B CHANNEL



FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

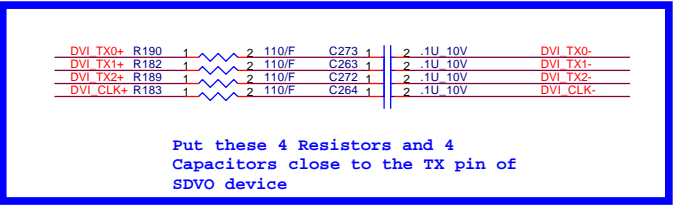
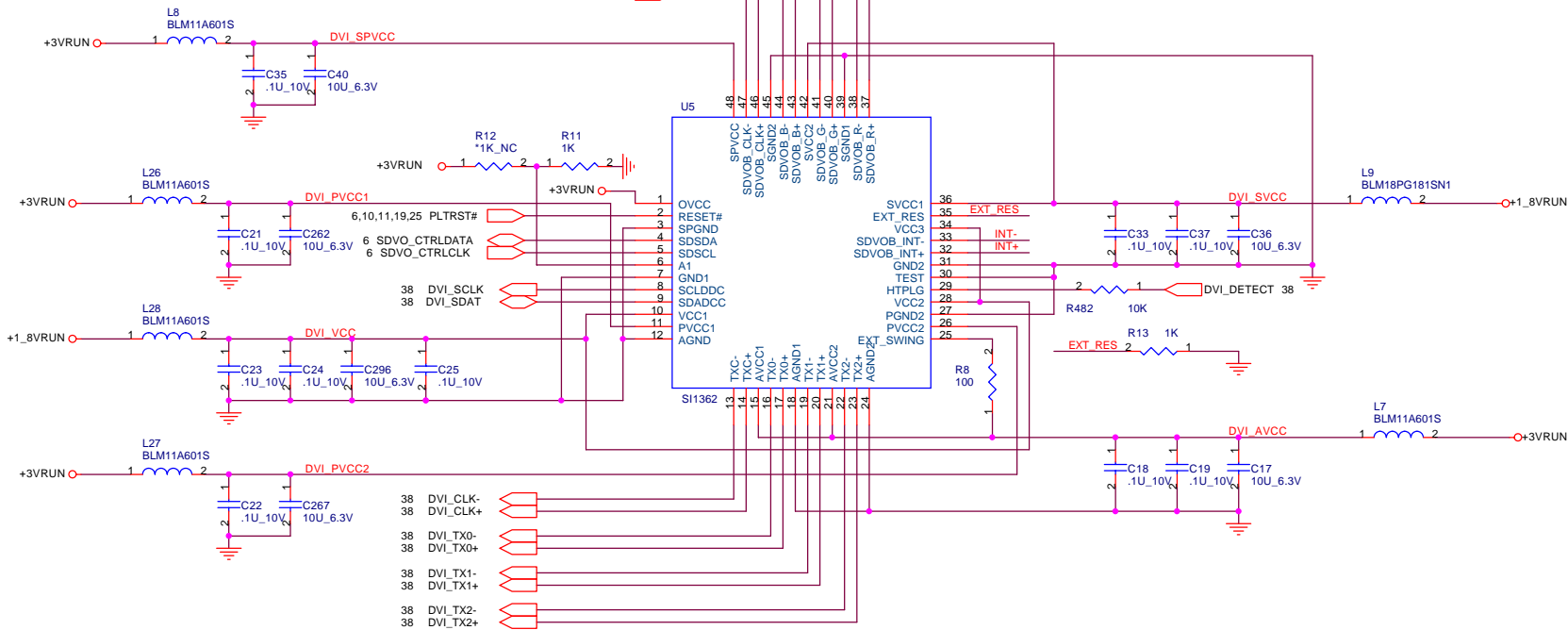
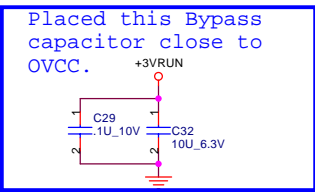
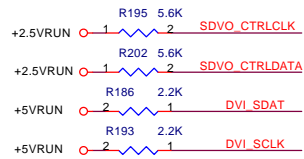


QUANTA COMPUTER

Title: CLOCK GENERATOR

Size	Document Number	Rev
	Tahiti(DM3L)	1A

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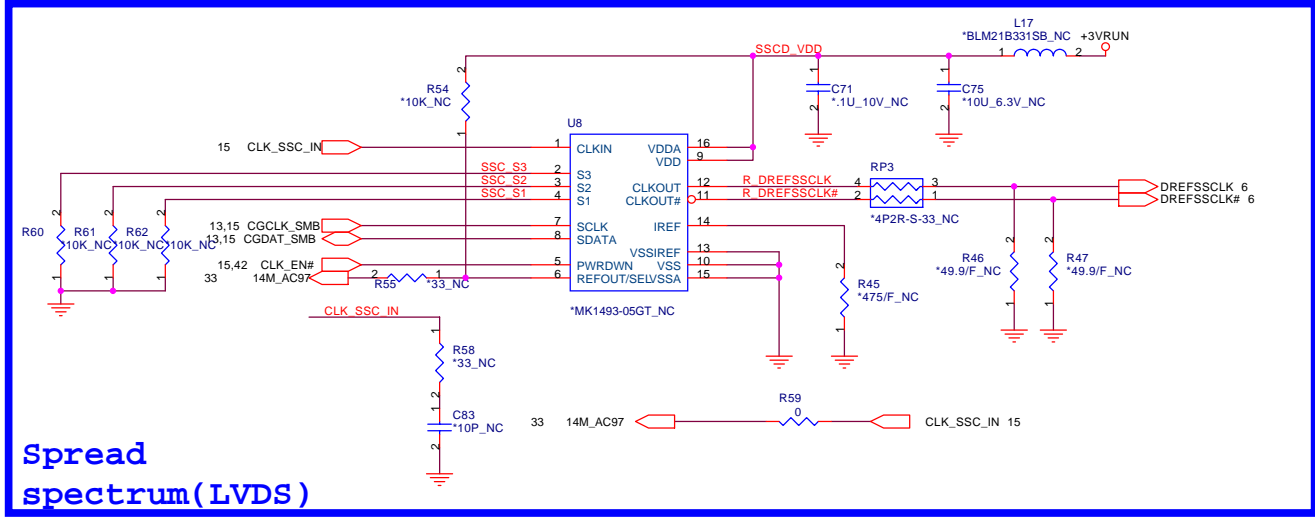
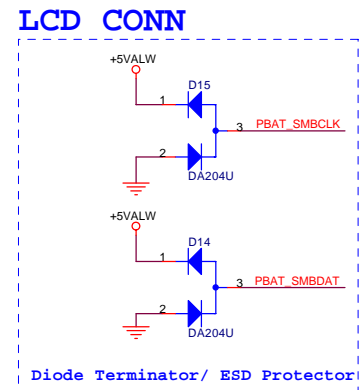
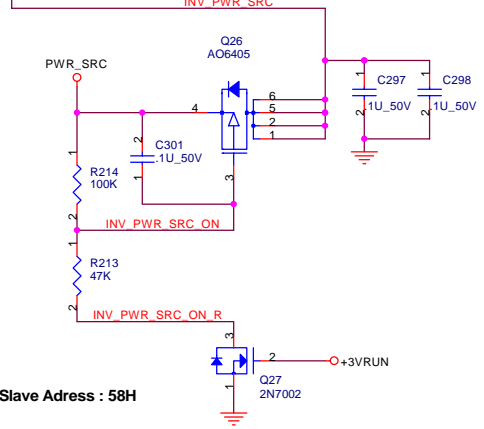
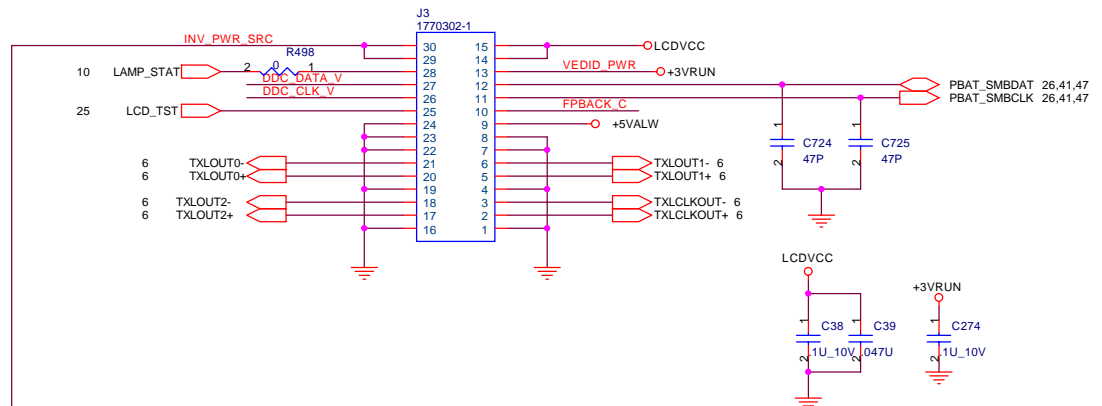
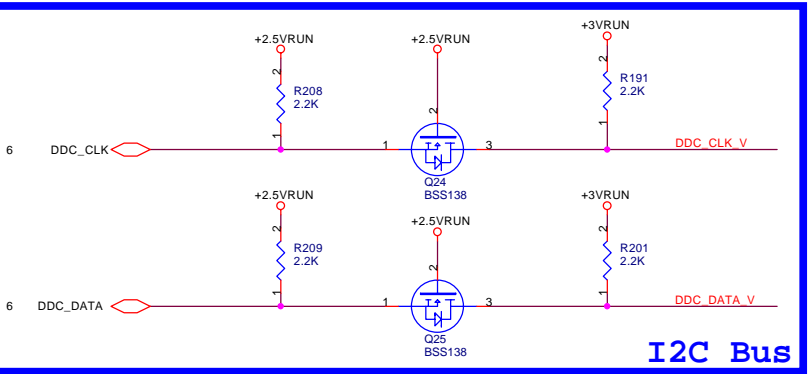
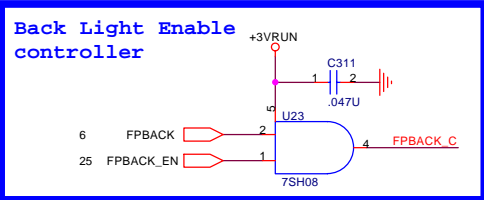
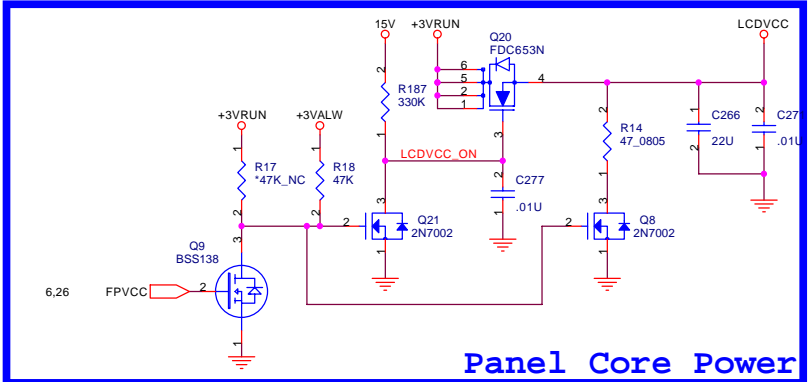


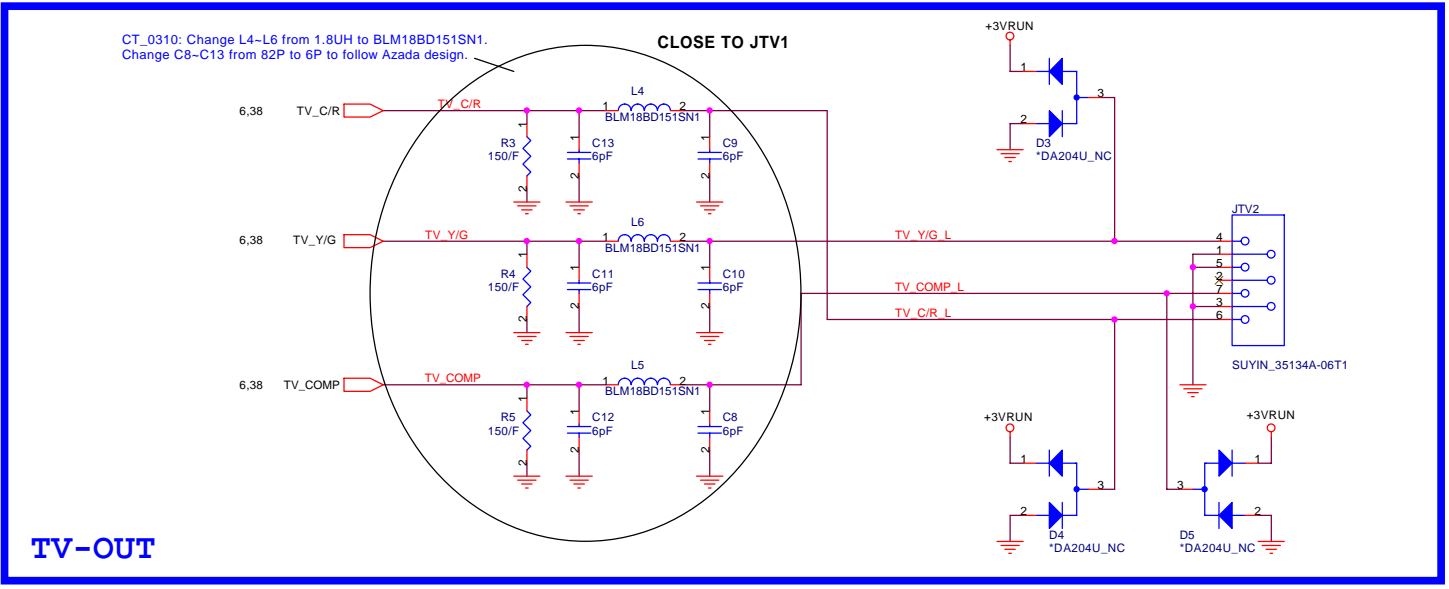
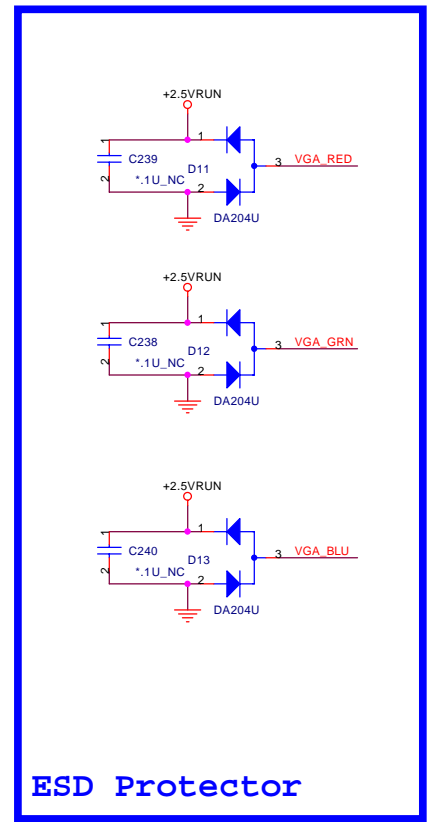
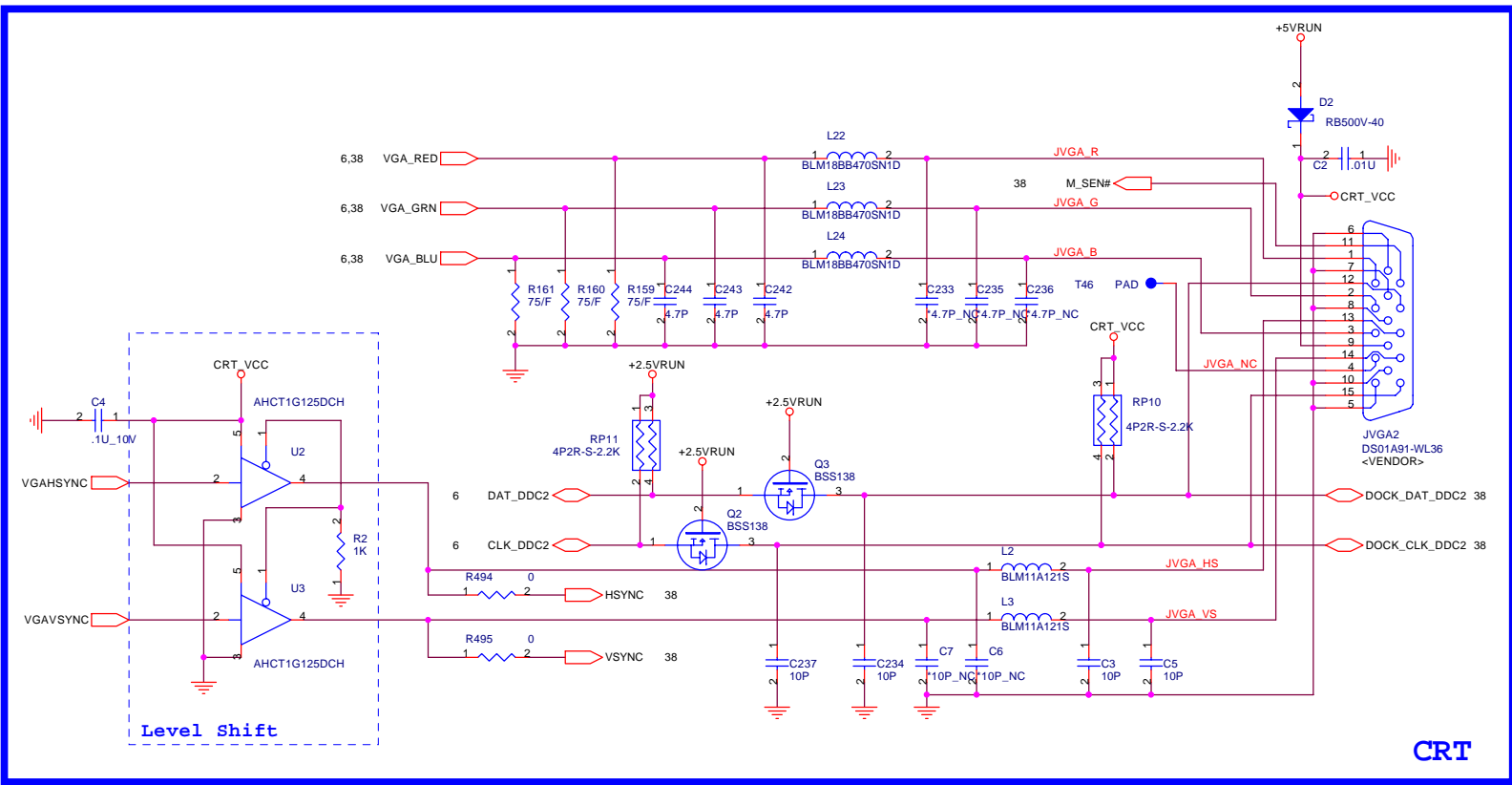
QUANTA COMPUTER

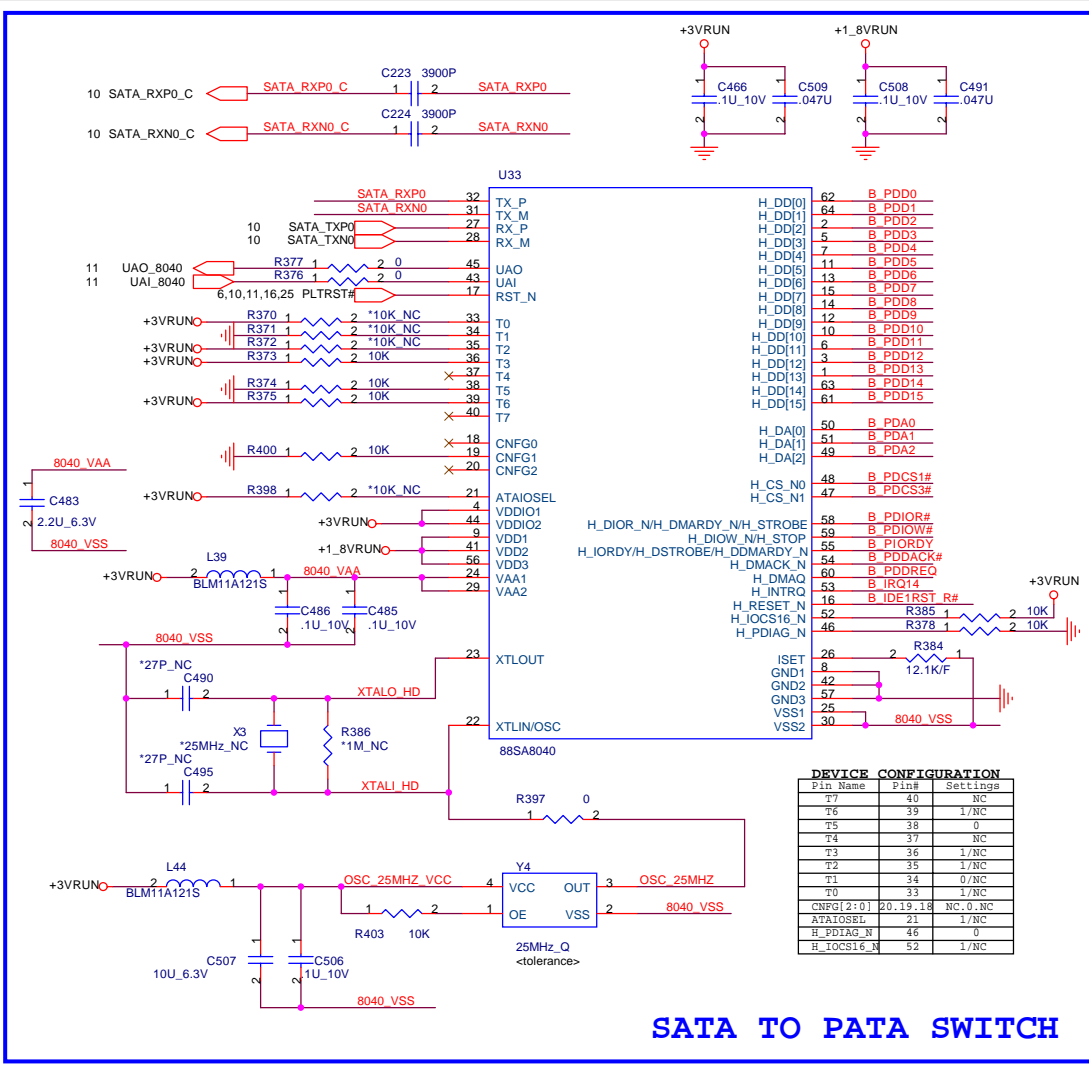
Title: SIL 1362 DVI

Size: Document Number Tahiti(DM3L) Rev 1A

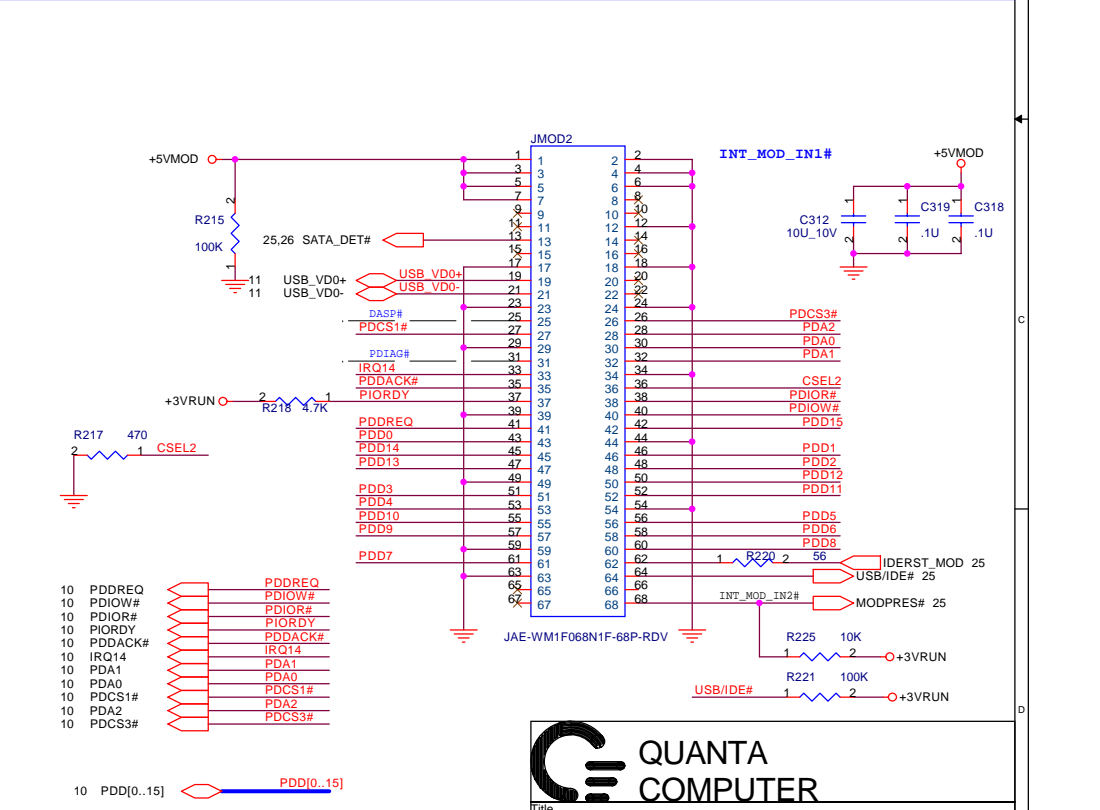
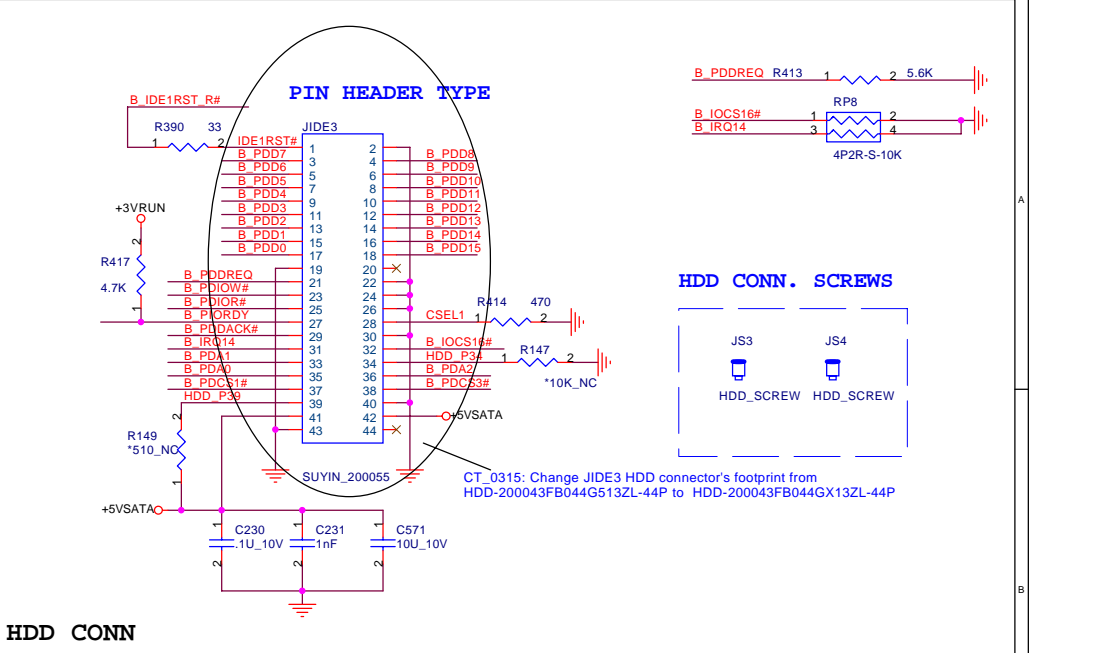
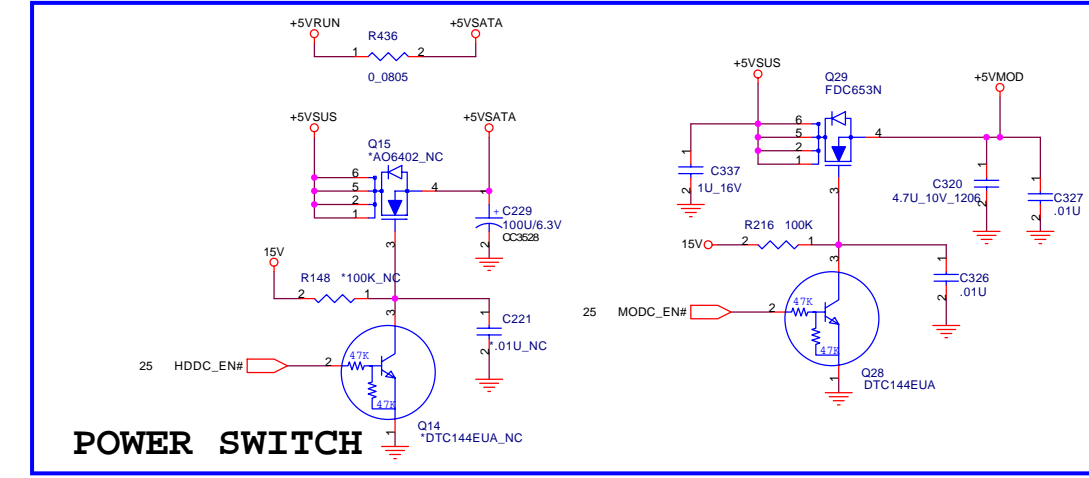
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SATA TO PATA SWITCH



QUANTA COMPUTER

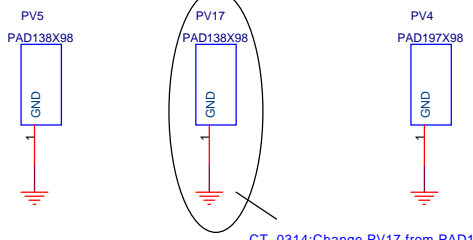
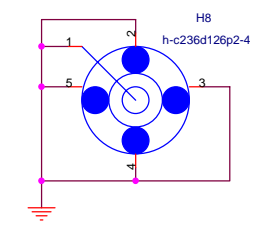
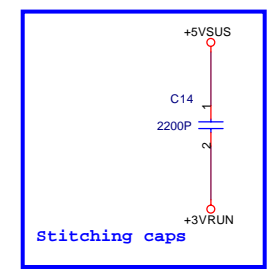
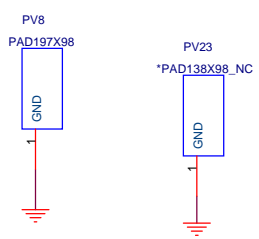
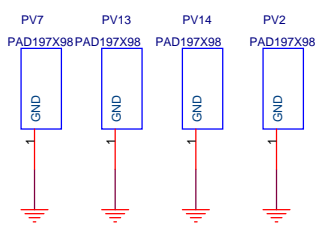
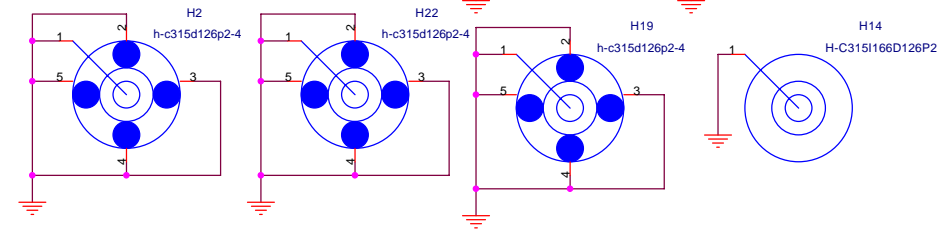
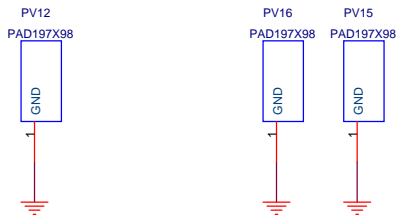
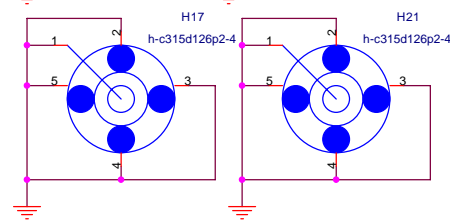
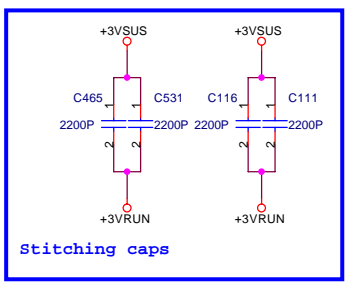
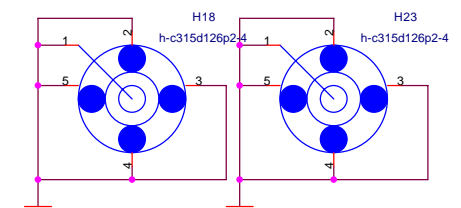
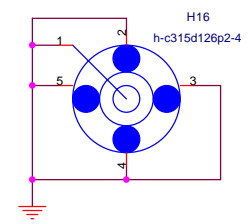
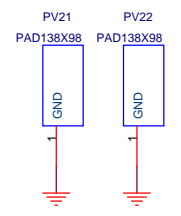
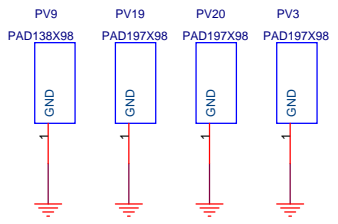
Title: IDE (HDD&CD_ROM)

Size: Document Number
Tahiti(DM3L)

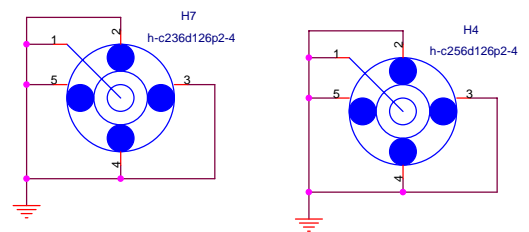
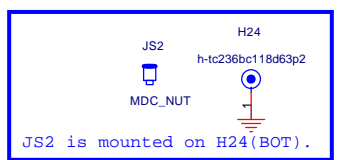
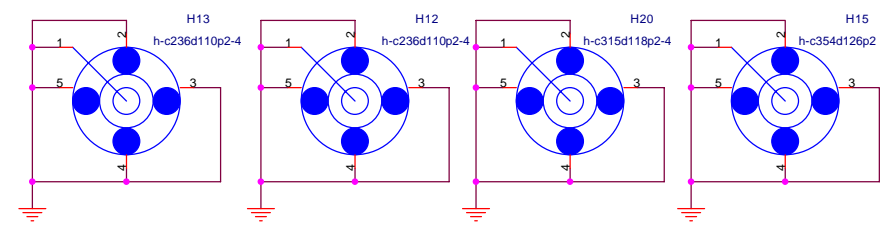
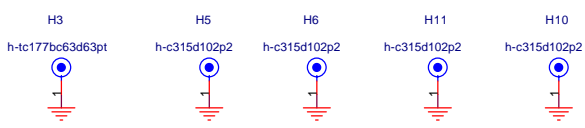
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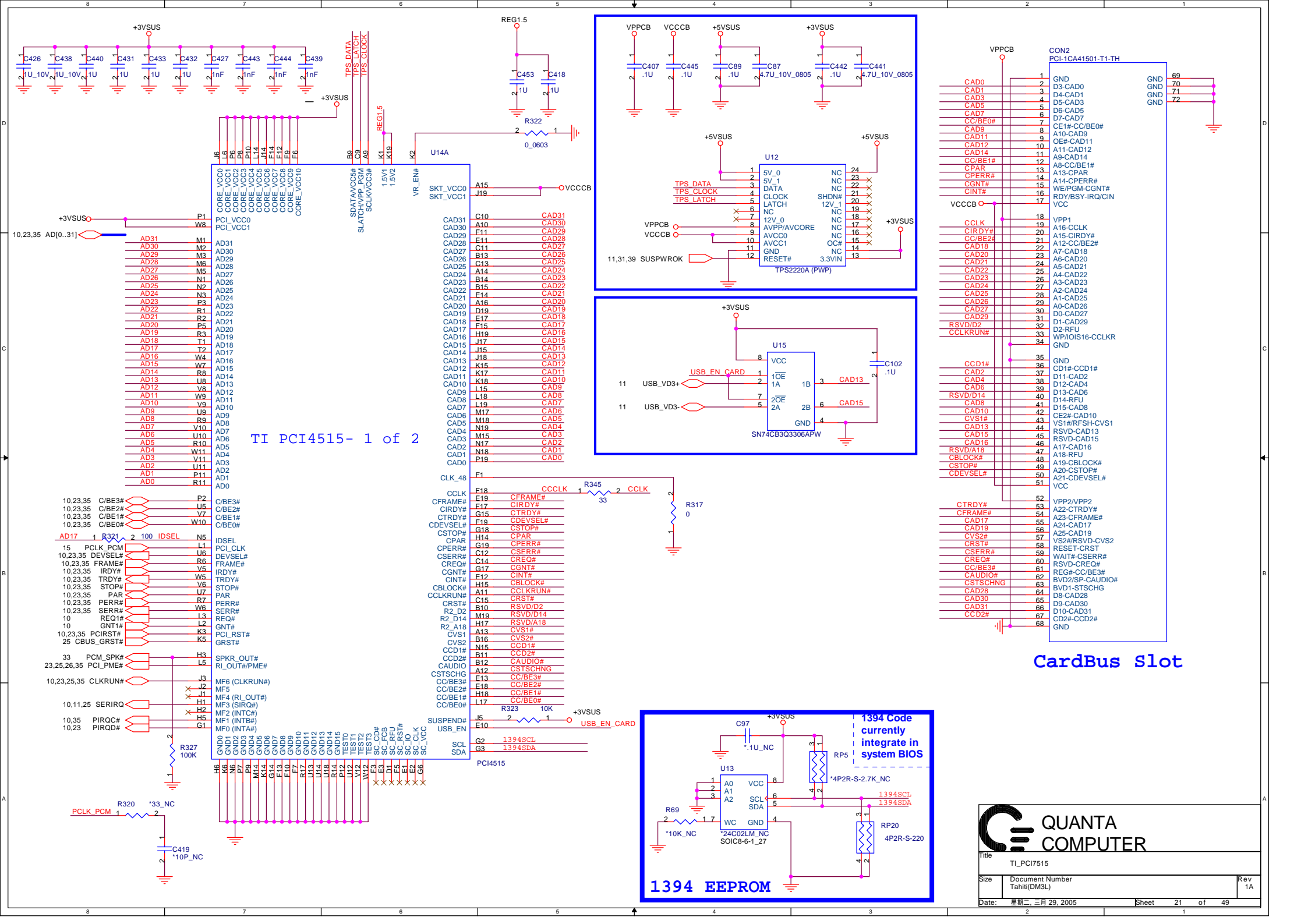


CT_0314: Change PV17 from PAD197X98 to PAD138X98 small size.



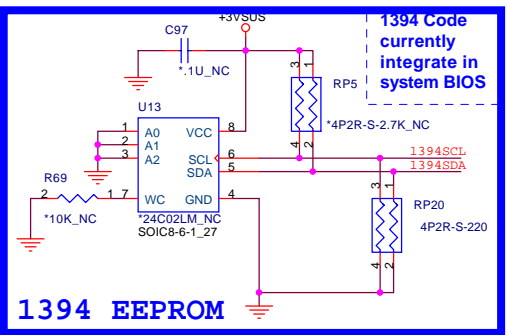
**QUANTA
COMPUTER**

Title		SCREW PAD
Size	Document Number	Rev
Date:	Tahiti(DM3L)	1A
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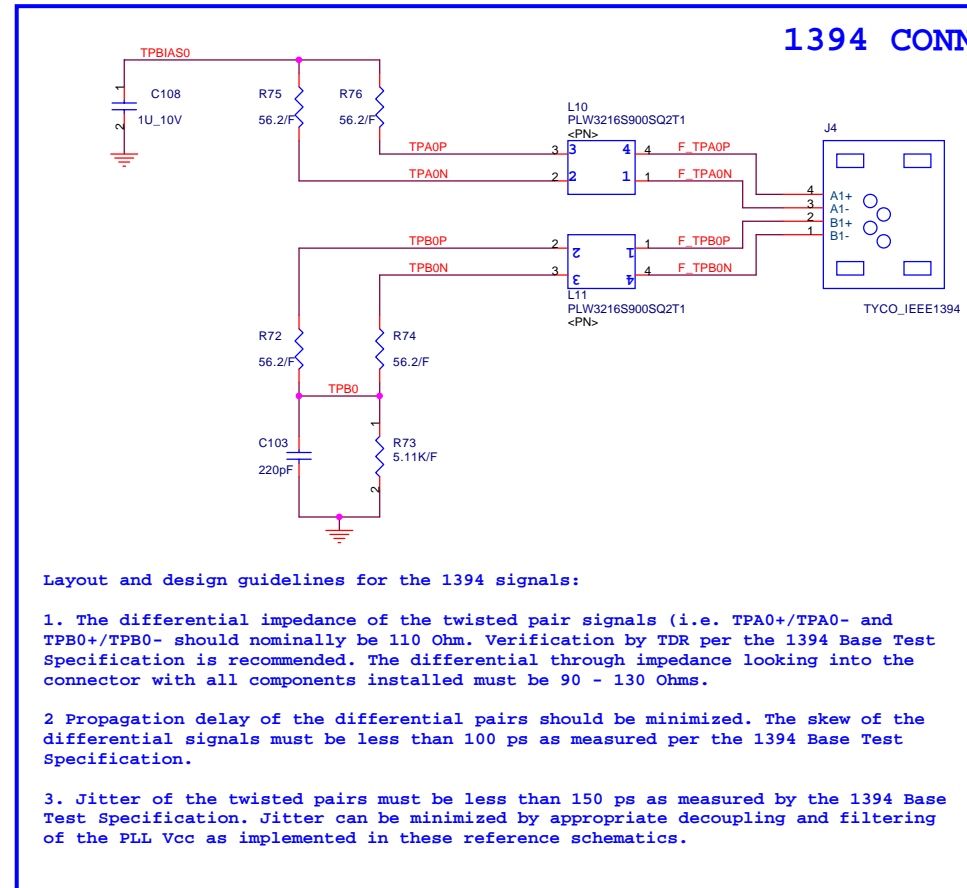
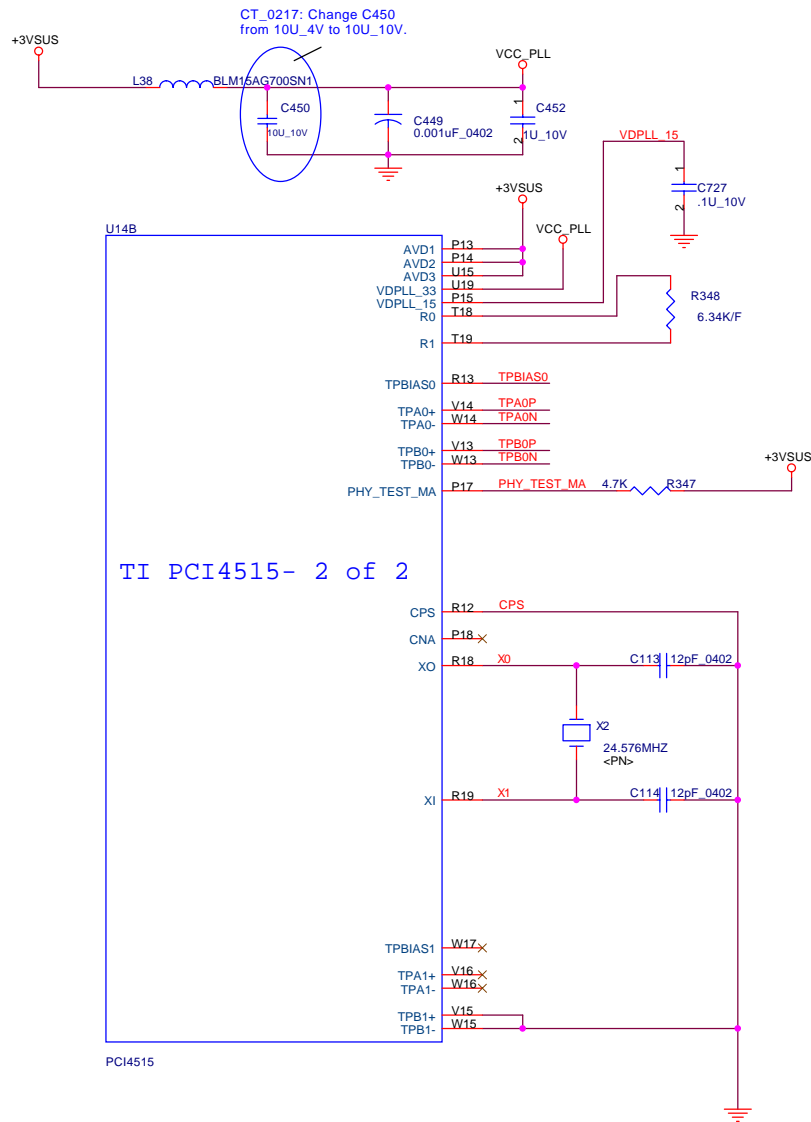


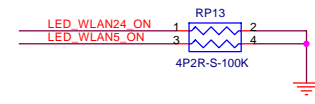
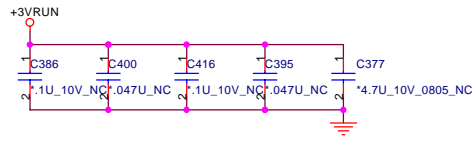
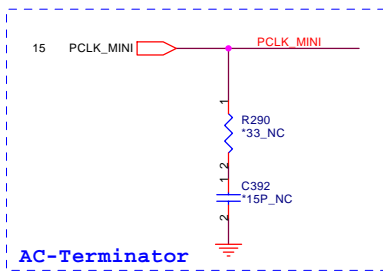
TI PCI4515- 1 of 2

CardBus Slot

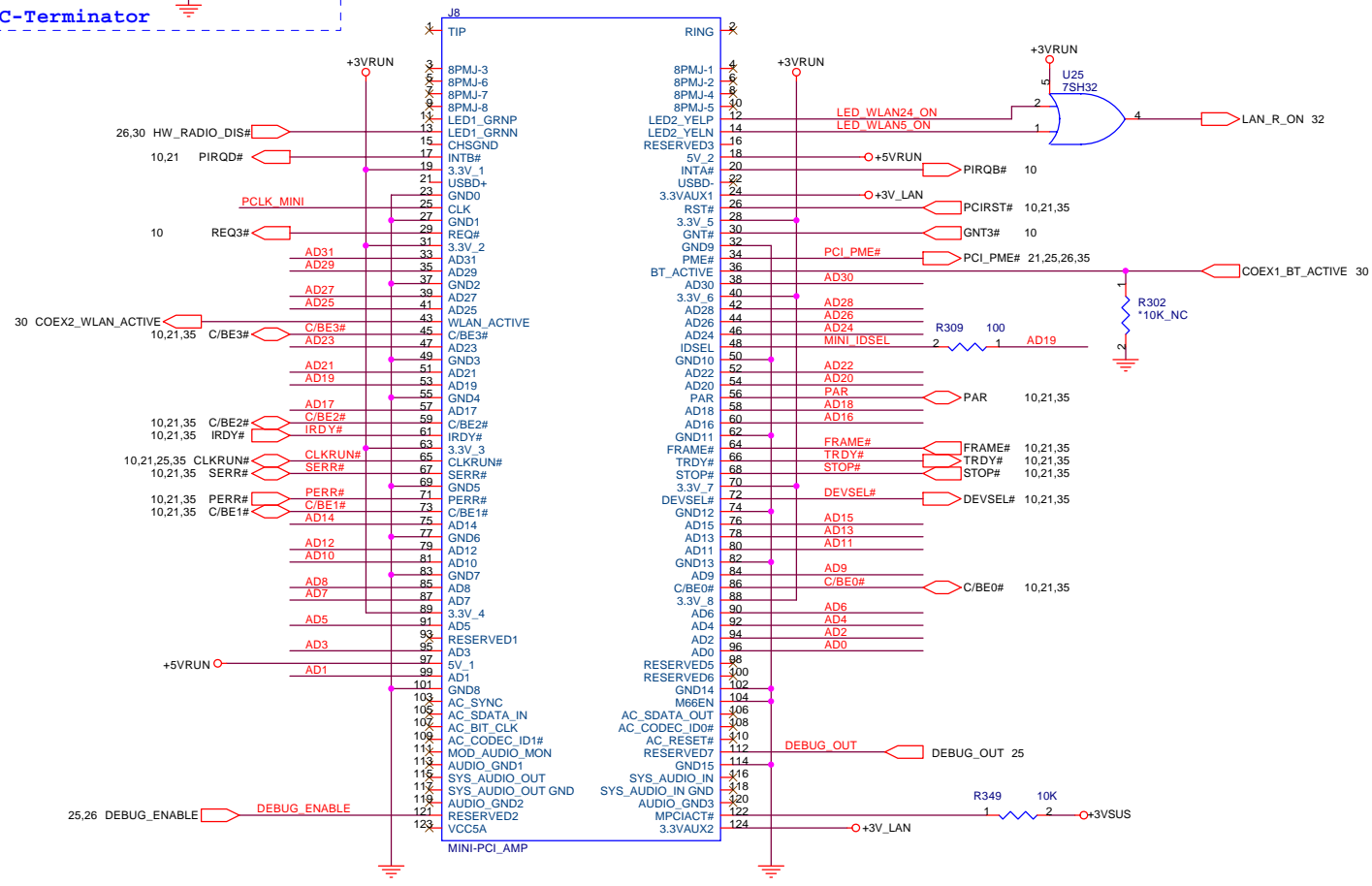


		Title	
		TI_PCI7515	
Size	Document Number	Rev	1A
	Tahiti(DM3L)		
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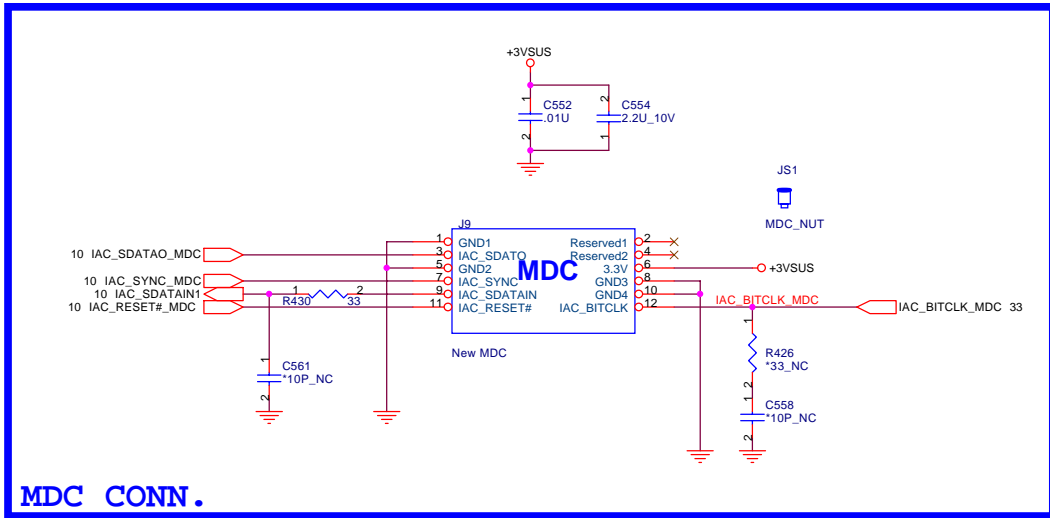


AD[0..31] 10,21,35

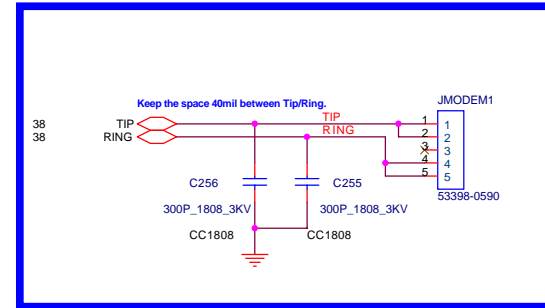


QUANTA COMPUTER

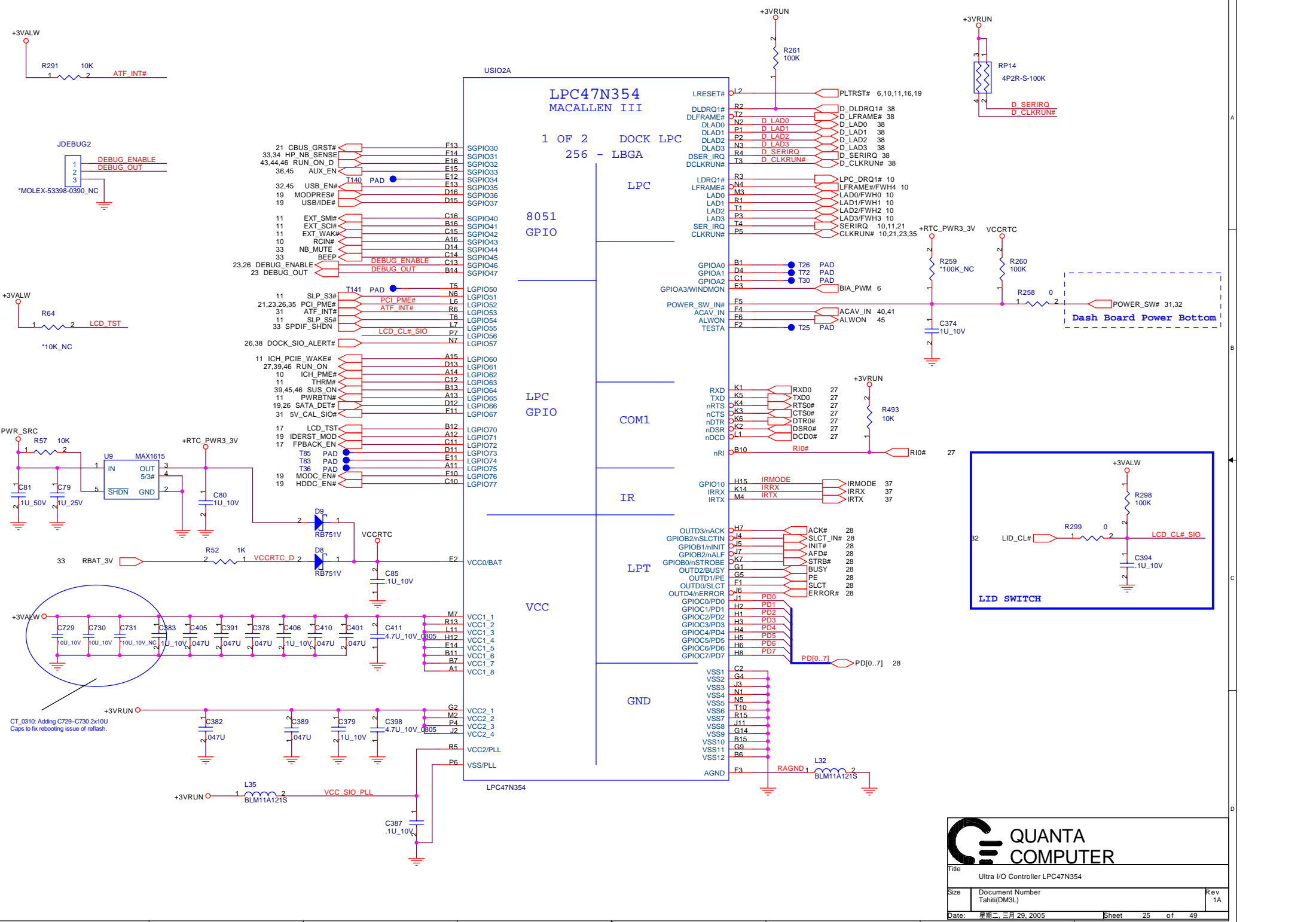
Title MINI-PCI & MDC		
Size	Document Number Tahiti(DM3L)	Rev 1A
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MDC CONN.



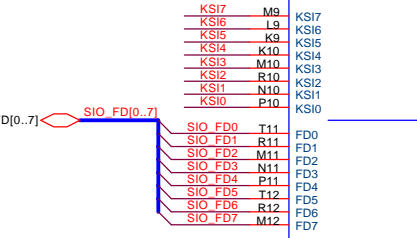
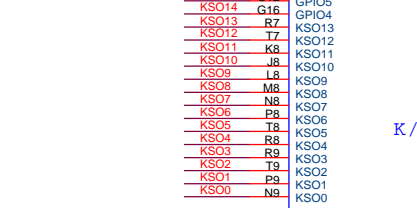
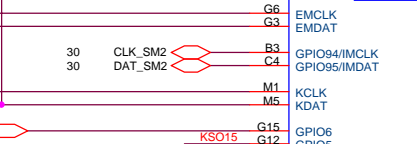
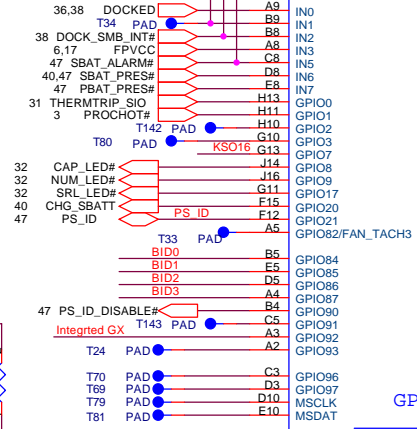
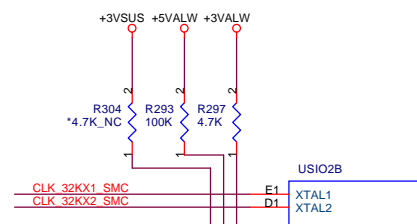
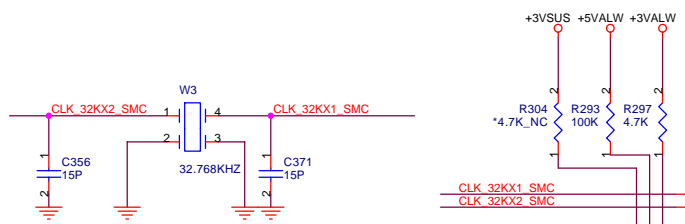
TIP & RING To Docking and MDC CONN.



QUANTA COMPUTER

Title: Ultra I/O Controller LPC47N354

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LPC47N354
MACALLEN III
2 OF 2
256 - LBGA

MISC

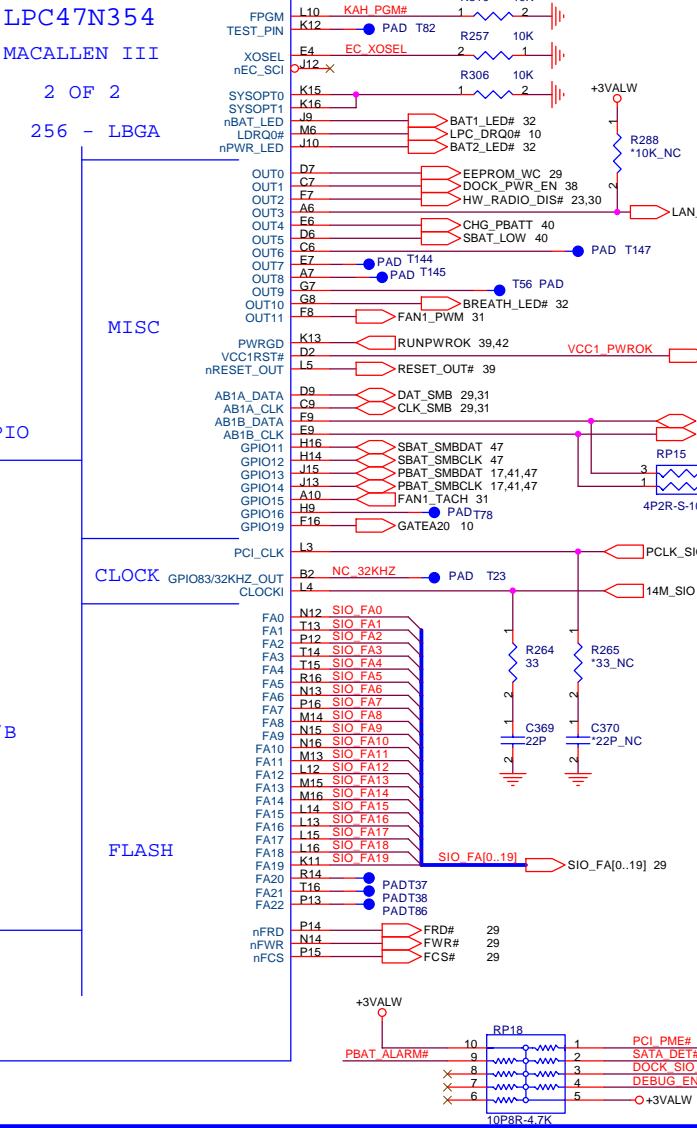
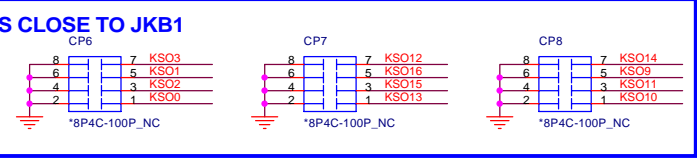
GPIO

CLOCK

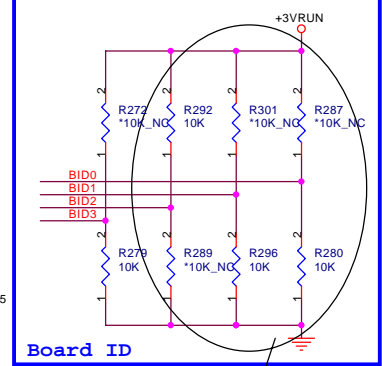
K/B

FLASH

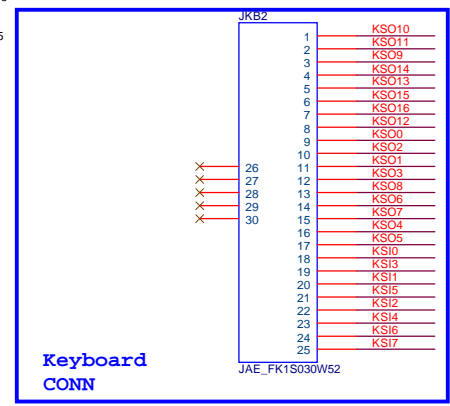
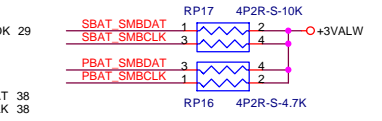
LPC47N354



BID3	BID2	BID1	BID0	Board Revision
0	0	0	0	PROTO1
0	0	0	1	PROTO1.5
0	0	1	0	PROTO2.0
0	0	1	1	PROTO3.0
0	1	0	0	QT
0	1	0	1	RAMP1



Board ID
CT_0217: Pop R296,R280,R292 10K, Depop R301,R287,R289 10K.

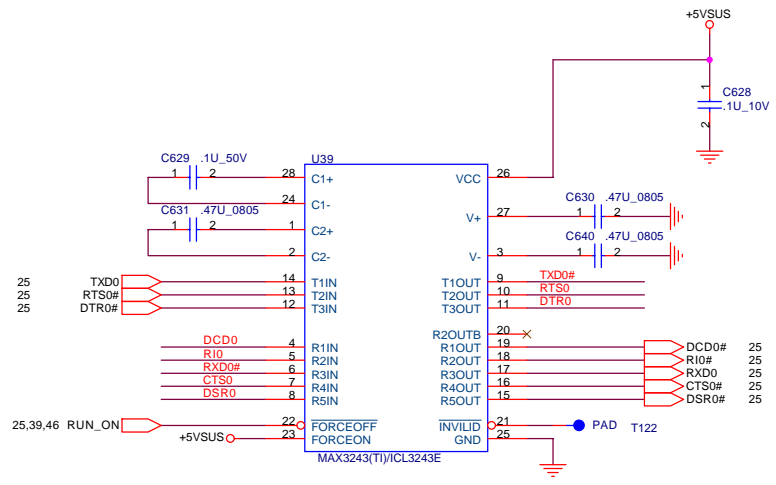


QUANTA COMPUTER

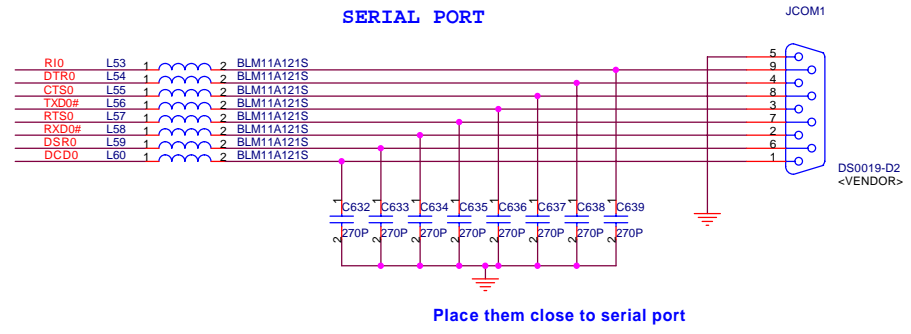
Title: Ultra I/O Controller LPC47N254(GPIO/KB/MISC/FLASH)

Size: Document Number Tahiti(DM3L) Rev 1A

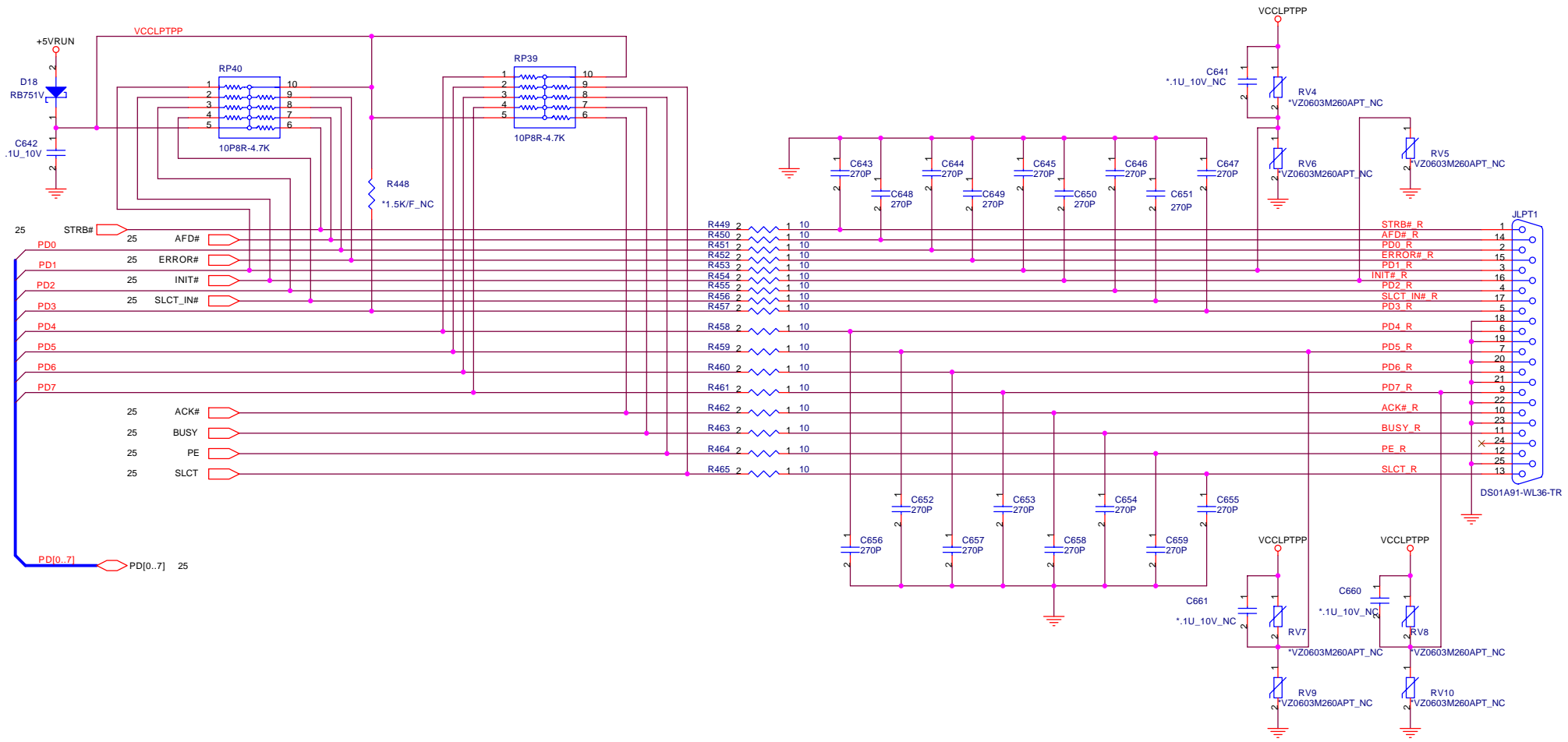
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If MAX3243 pin 22 tied to RUN_ON, then it can not support Ring Out



Place them close to serial port



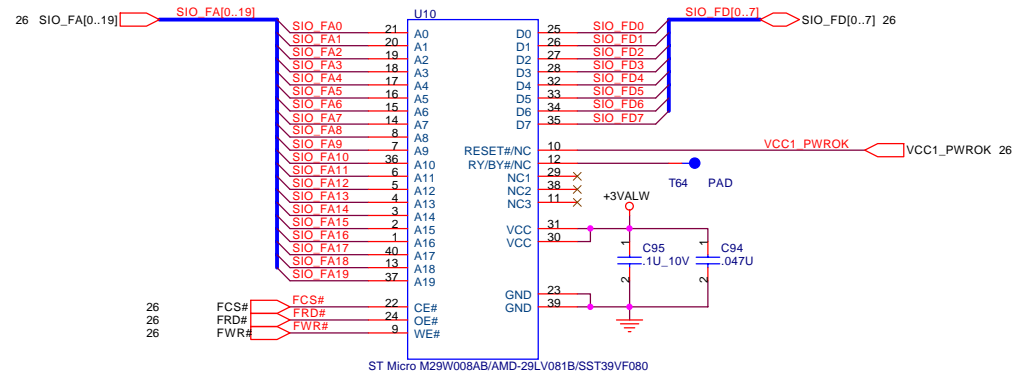


QUANTA COMPUTER

Title PARALLEL CONN.		
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BIOS FLASH MEMORY

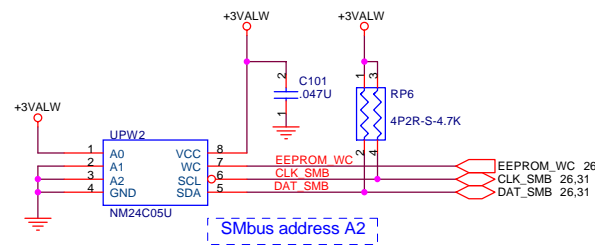
8Mbit (1M Byte), ISN'T PLCC TYPE



ST Micro M29W008AB/AMD-29LV081B/SST39VF080

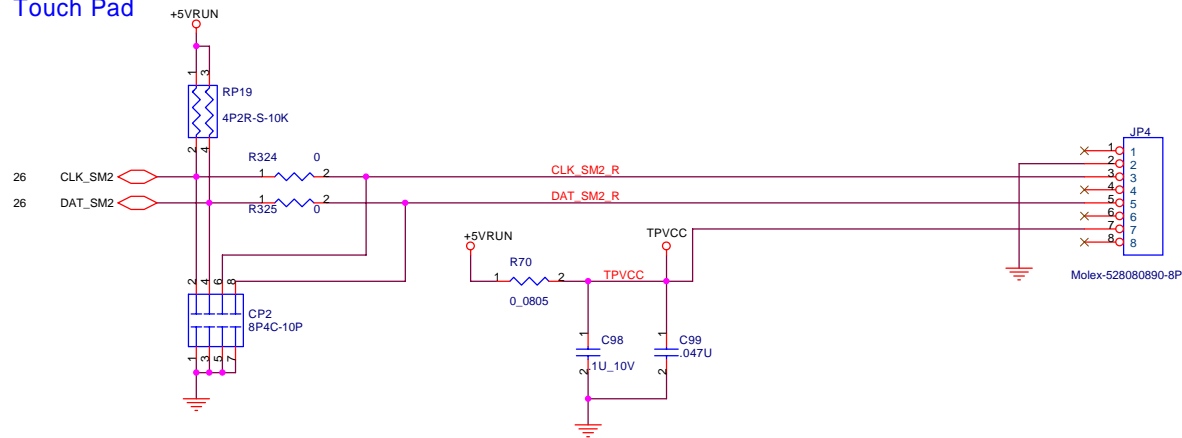
AMD :Pin 10 is RESET# ; Pin12 is RY/BY#
SST :Pin10,12 are NC

- 1.AMD-29LV081B require MAX 500nS Tready for it's hardware reset.And MAX6326_UR29 has >100mS reset timing.So we can tie it's reset# pin to +3VALW directly.
- 2.SIO has internal 20 mS delay of VCC1_PWROK

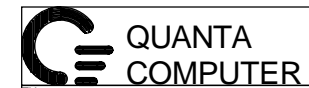
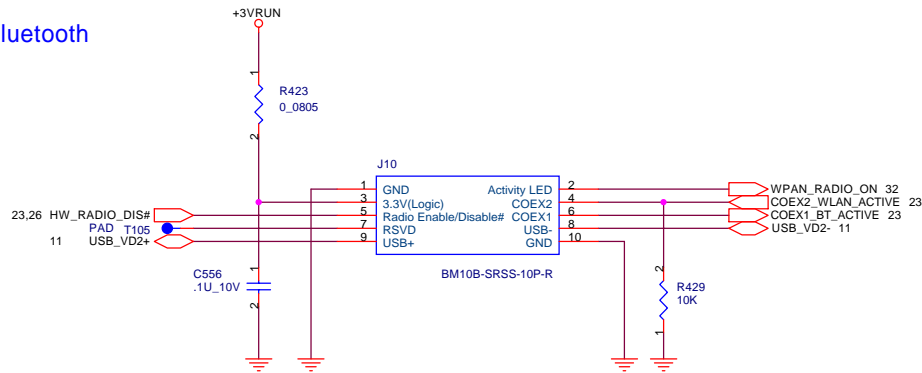


User Password

Touch Pad

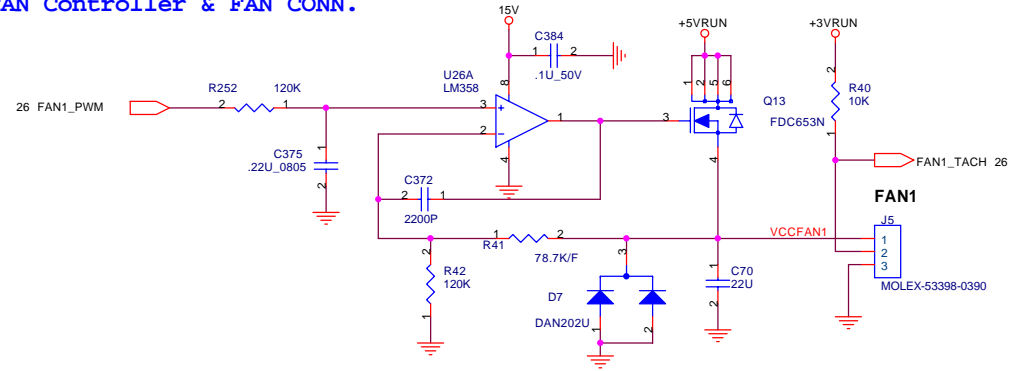


Bluetooth



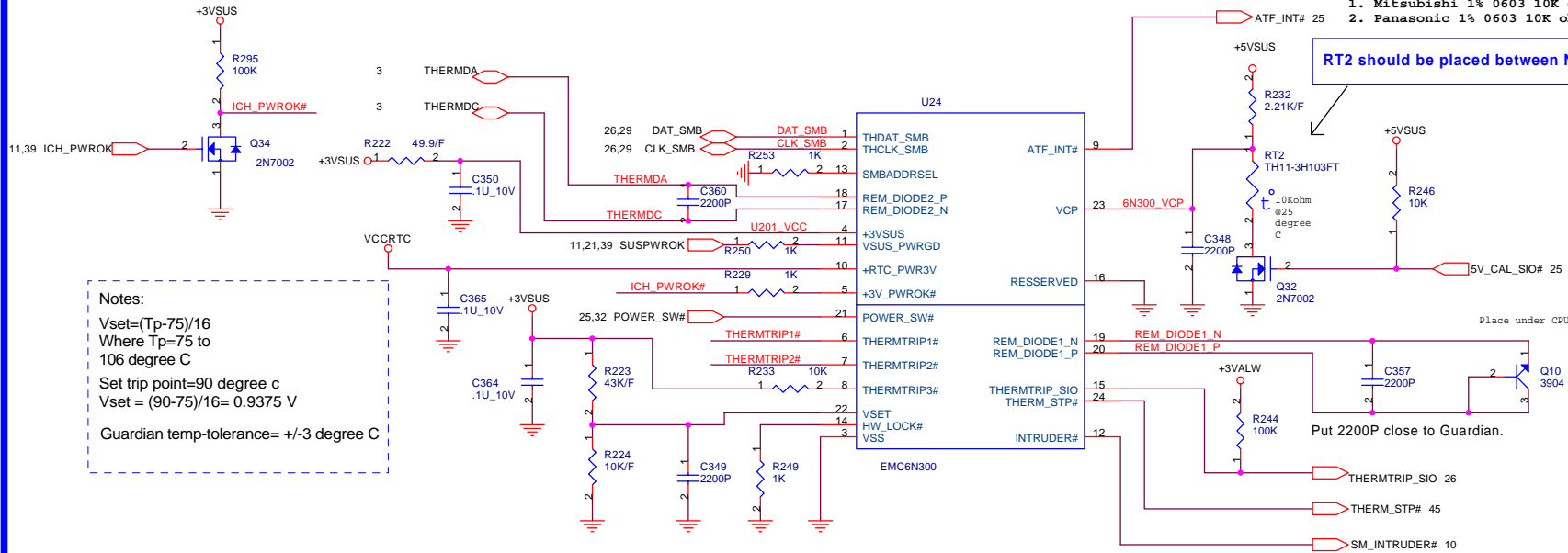
Title TOUCH PAD & BULE TOOTH		
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FAN Controller & FAN CONN.



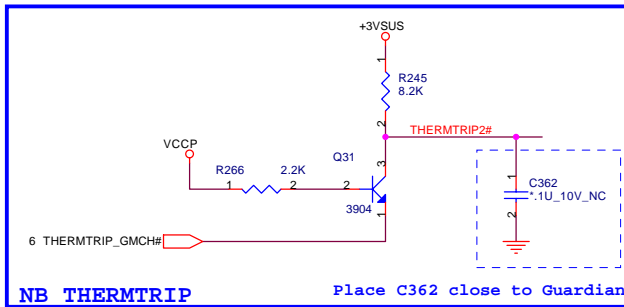
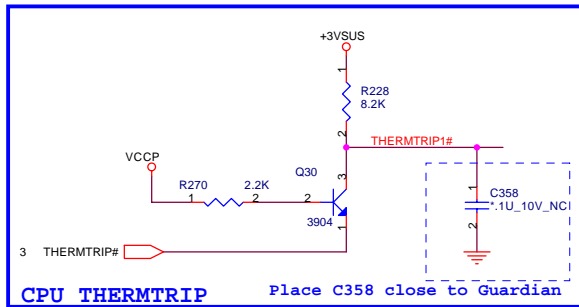
- RT2:**
 1. Mitsubishi 1% 0603 10K ohm@25 degree C. P/N: TH11-3h103FT
 2. Panasonic 1% 0603 10K ohm @25 degree C. P/N:ERTJ1VGL03FA

RT2 should be placed between NB and SO-DIMM on BOT side.



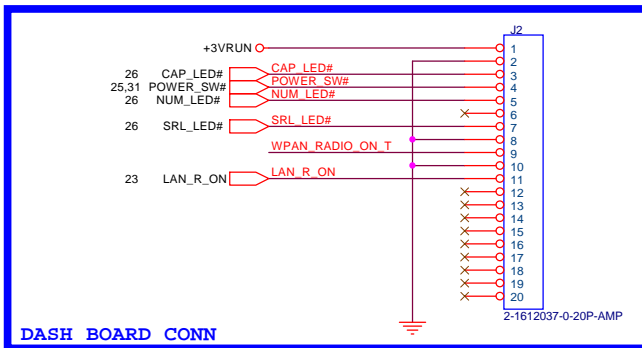
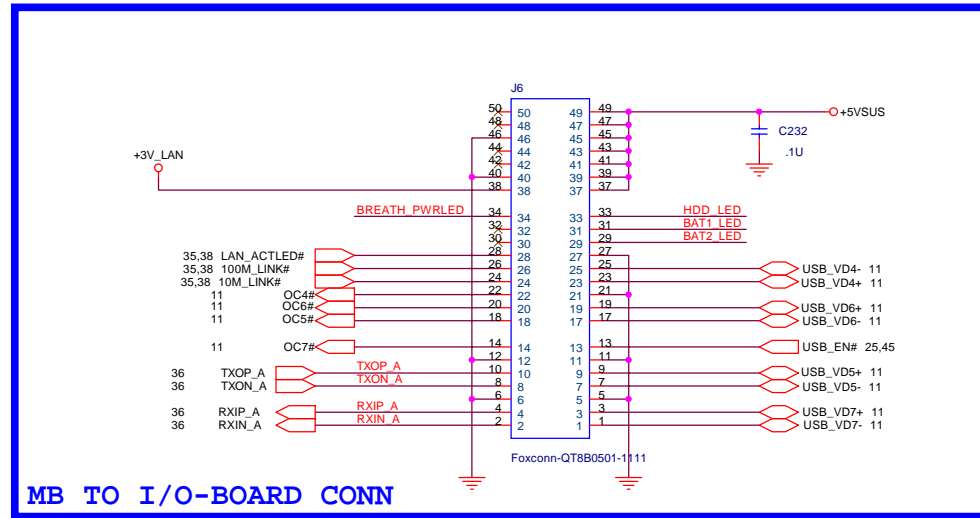
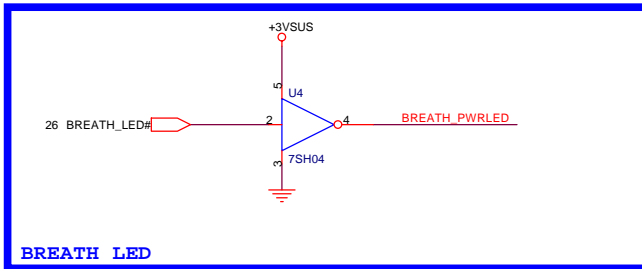
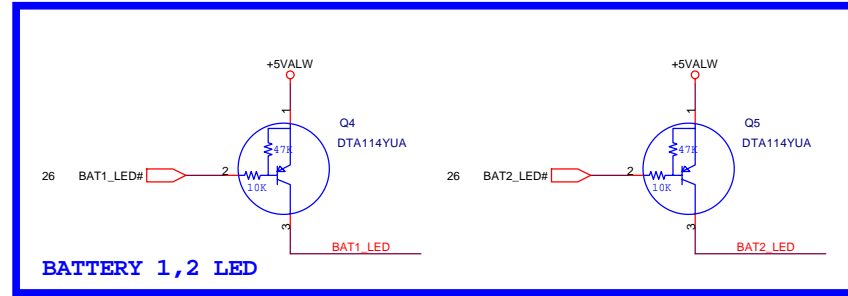
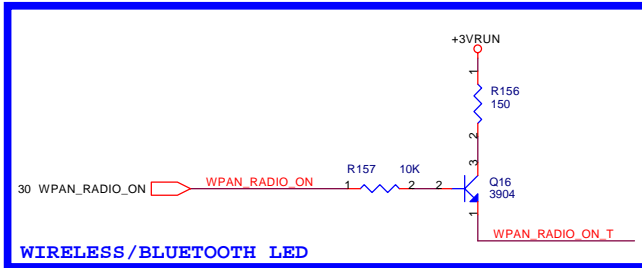
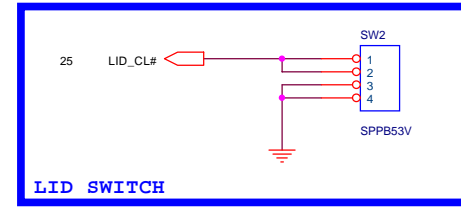
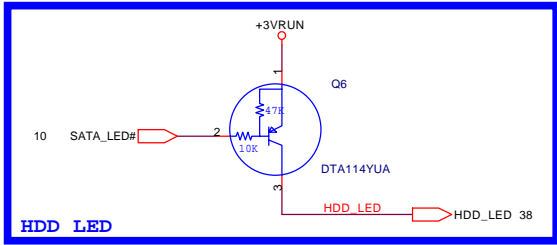
Notes:
 $V_{set} = (T_p - 75) / 16$
 Where $T_p = 75$ to 106 degree C
 Set trip point = 90 degree C
 $V_{set} = (90 - 75) / 16 = 0.9375$ V
 Guardian temp-tolerance = ± 3 degree C

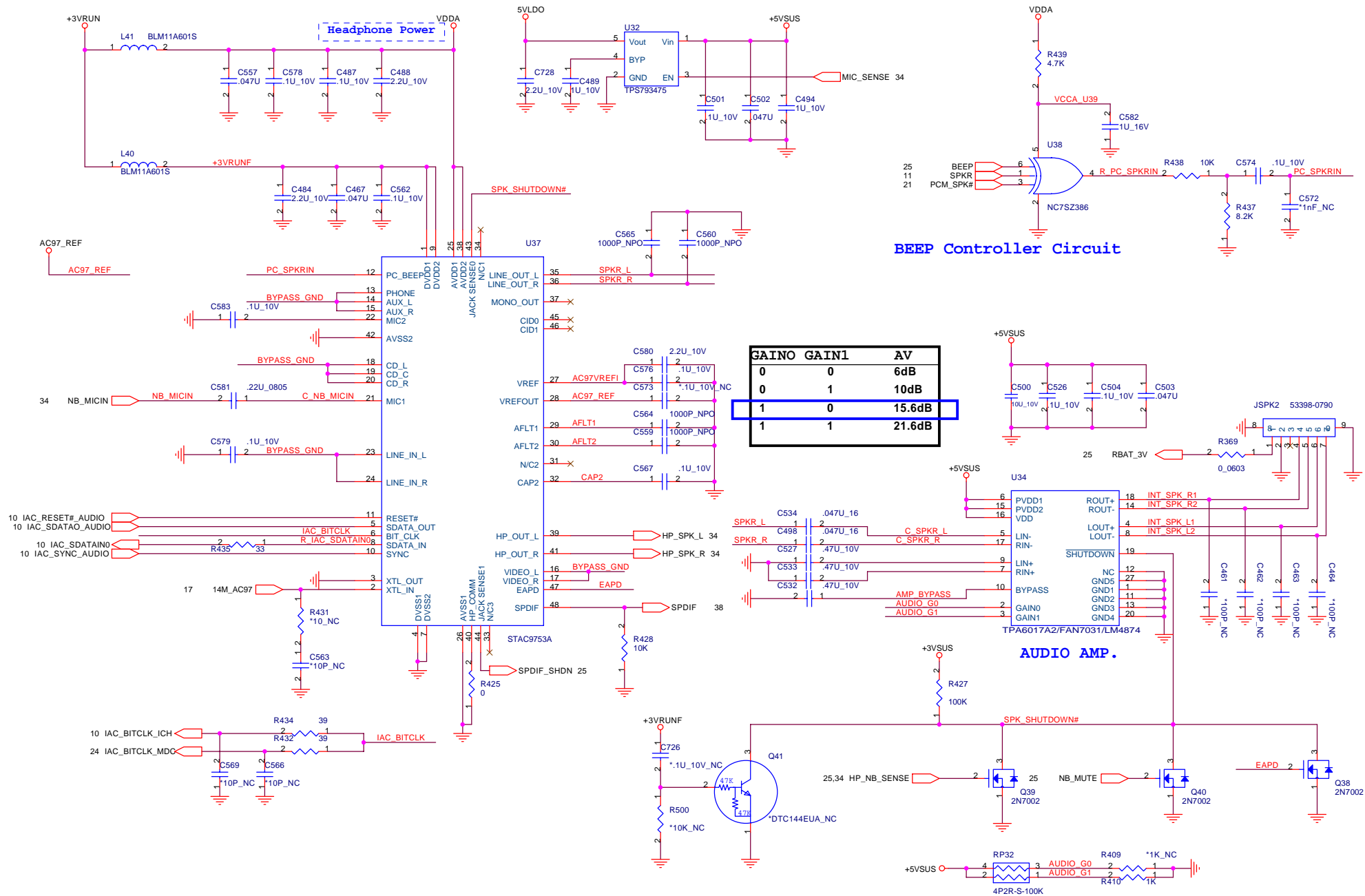
GUARDIAN IC

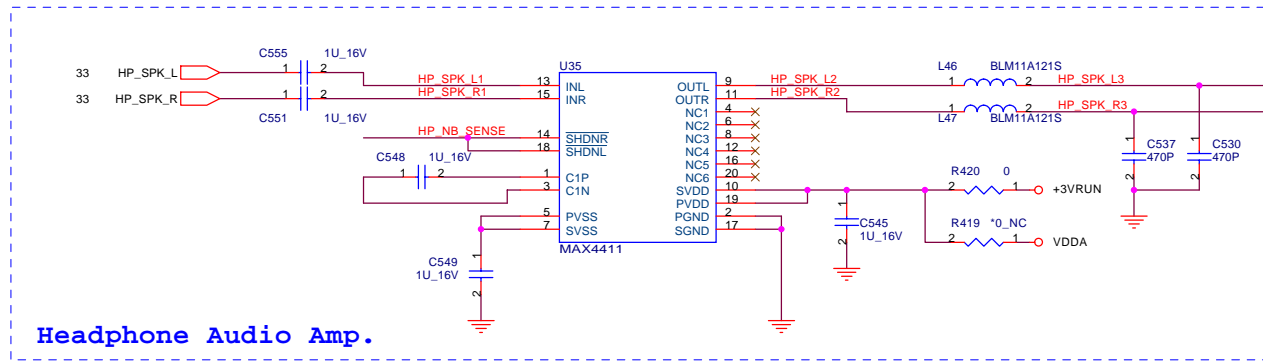
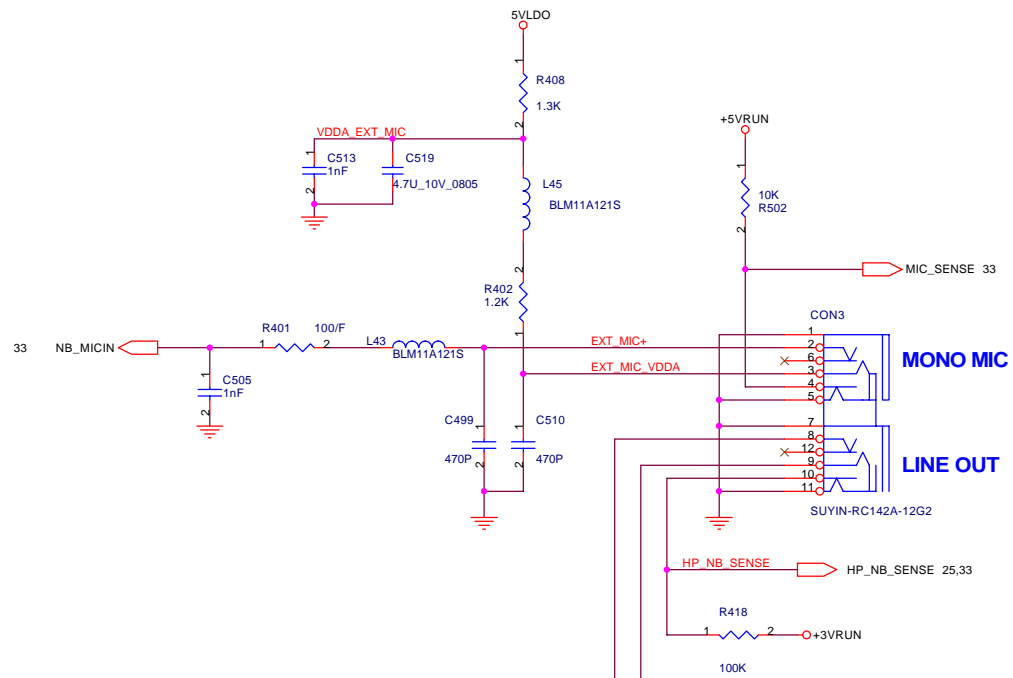


QUANTA COMPUTER

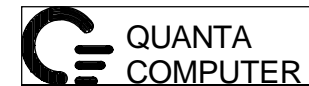
Title: FAN & THERMAL
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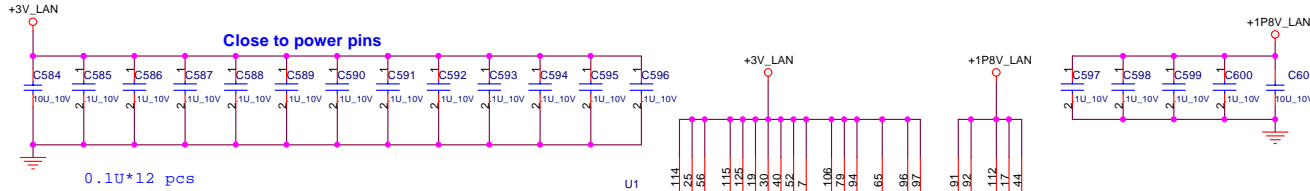


Headphone Audio Amp.



Title AUDIO HEADPHONE CONN		
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LAN-BCM4401KFB(10/100M) BCM4401--10/100

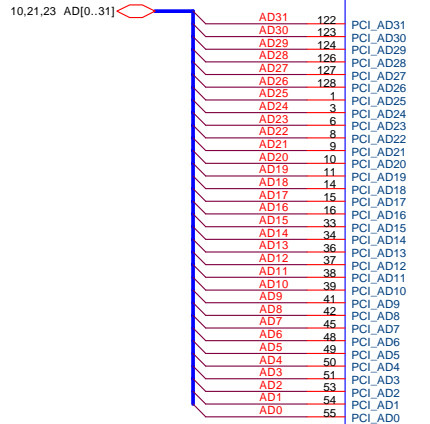


ID Select : AD16

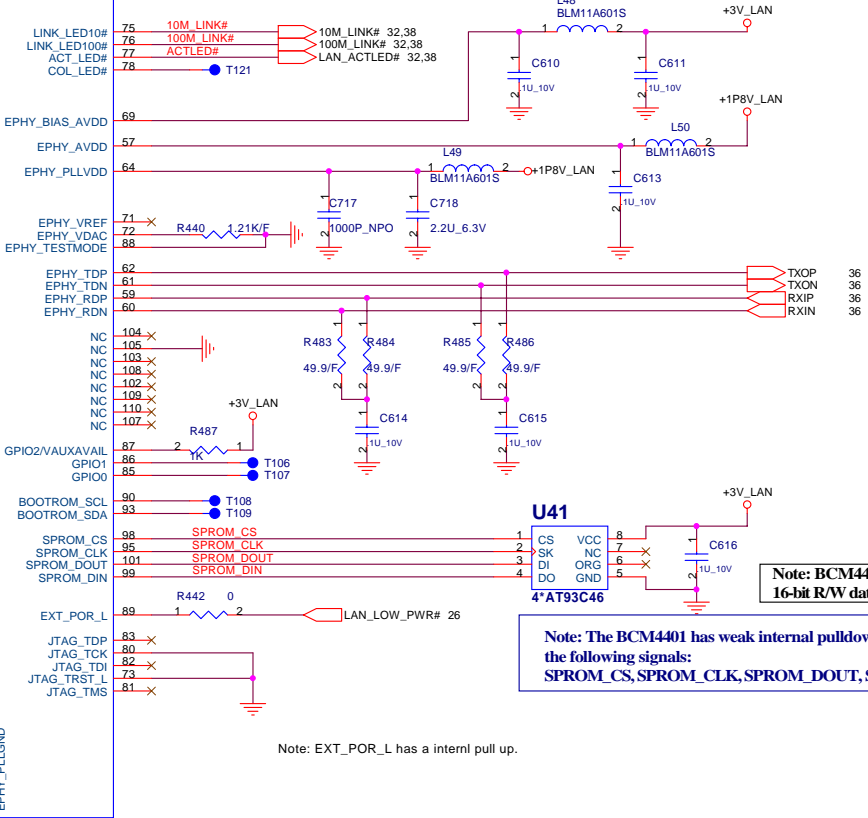
Interrupt Pin : PIRQC#

Request indicate : REQ4#

Grant indicate : GNT4#



BCM4401KQL 128P QFP

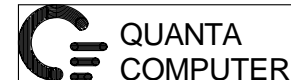


Note: BCM4401 requires 16-bit R/W data width

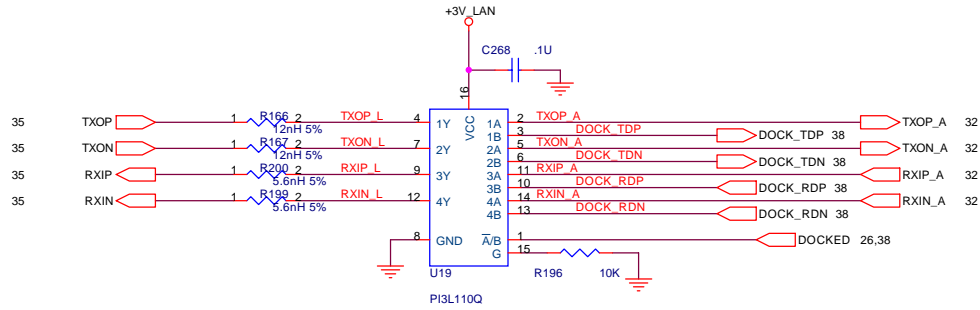
Note: The BCM4401 has weak internal pulldown resistors on the following signals: SPROM_CS, SPROM_CLK, SPROM_DOUT, SPROM_DIN.

Note: EXT_POR_L has a internal pull up.

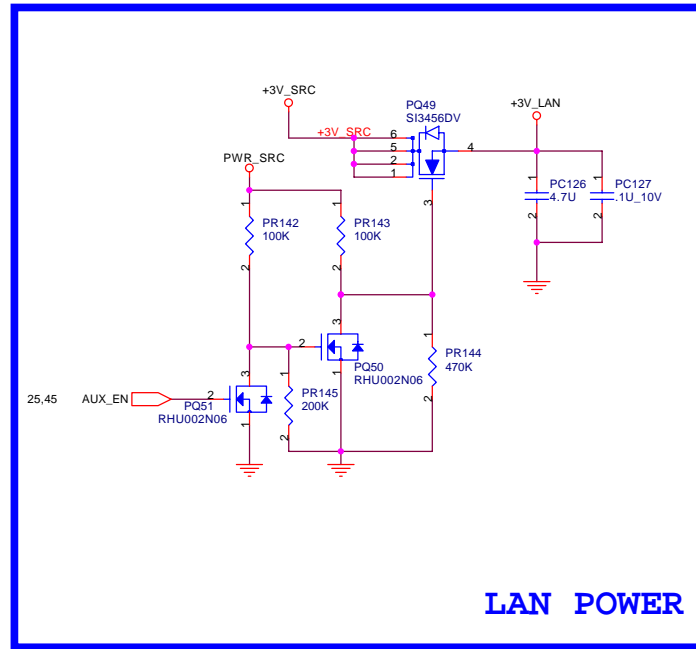
Note: Pop R489 depop R490 when CLKRUN# is required
Pop R490 depop R489 when CLKRUN# is not required



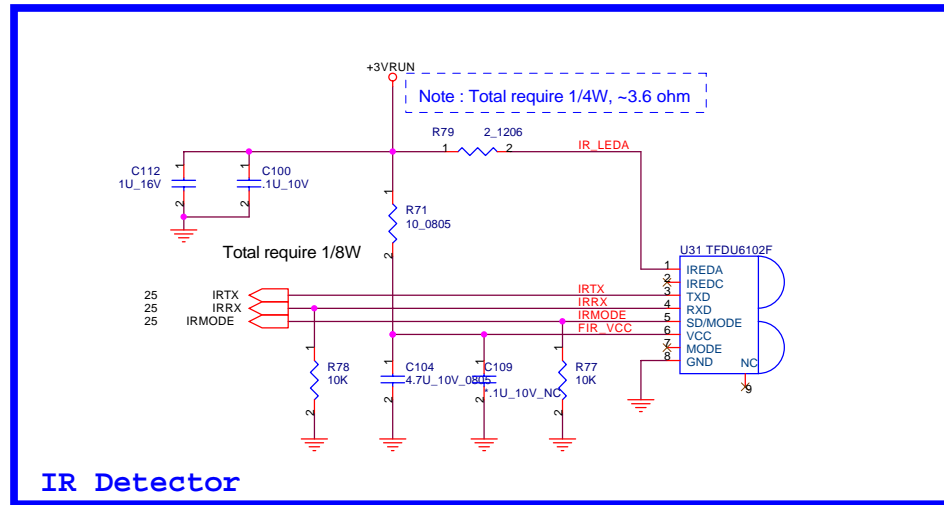
Title		BCM4401 100/10 LAN	
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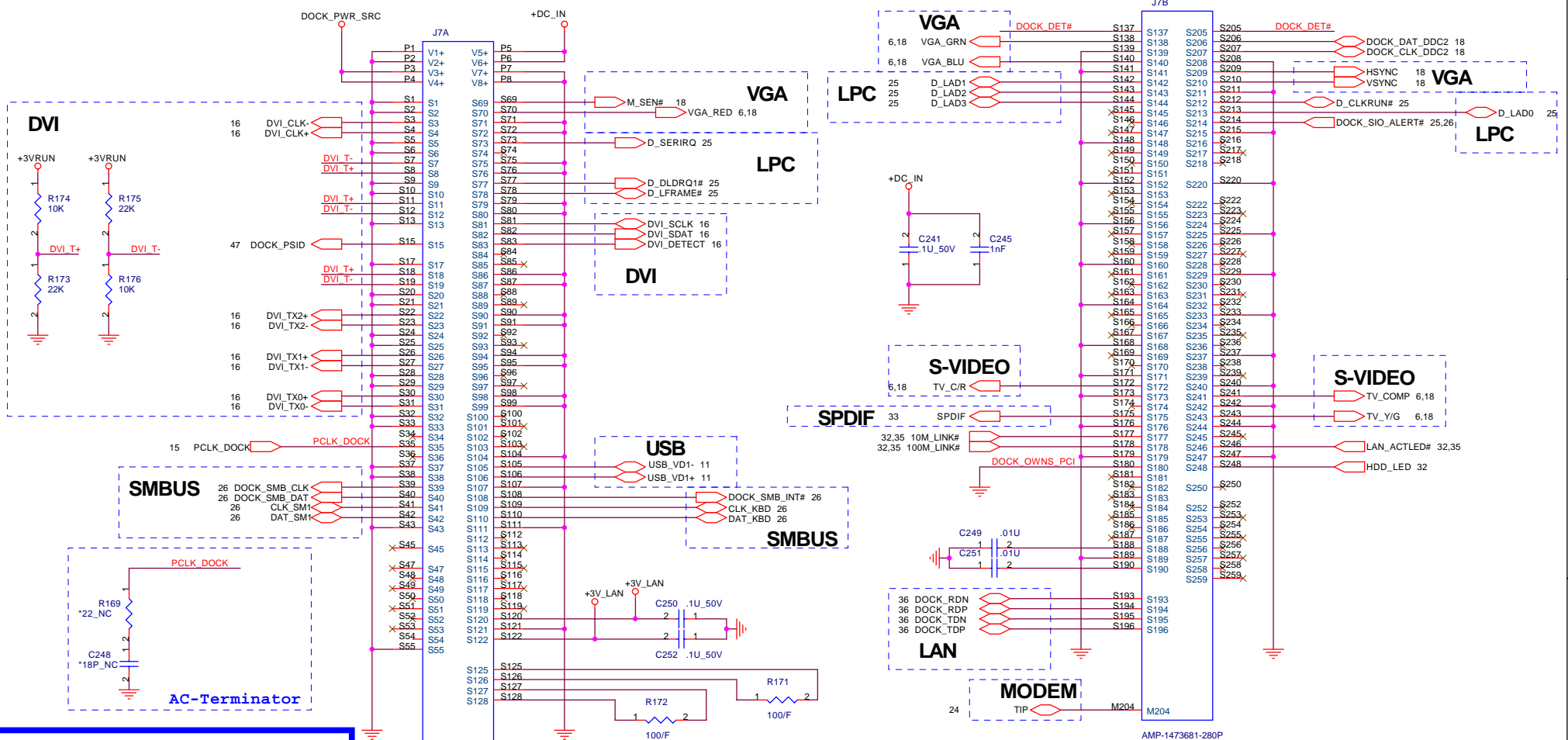


10/100LAN_E-SWITCH



LAN POWER





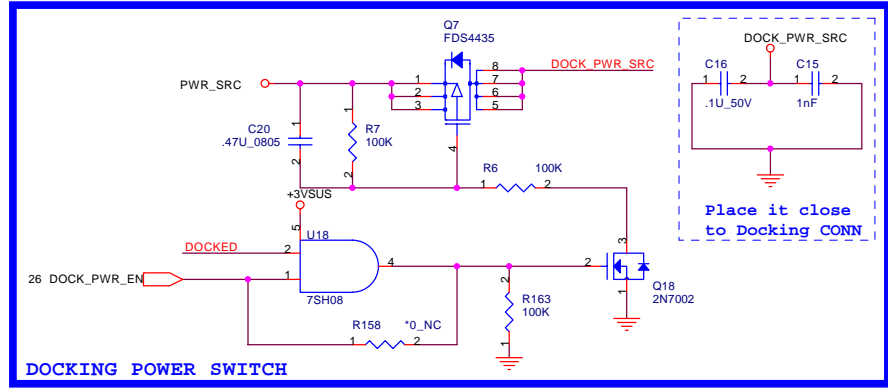
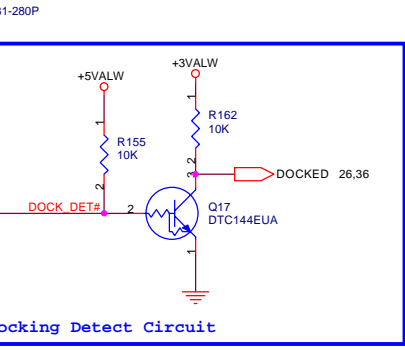
SMBUS ADDRESS :

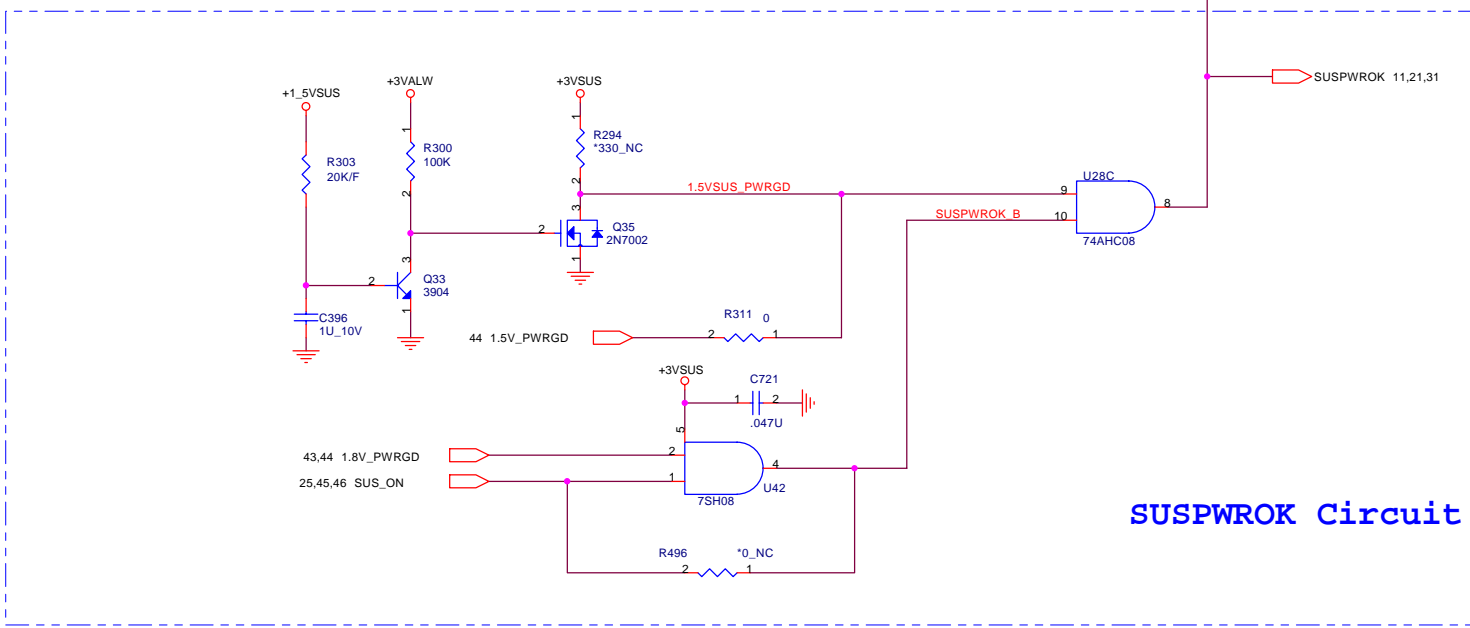
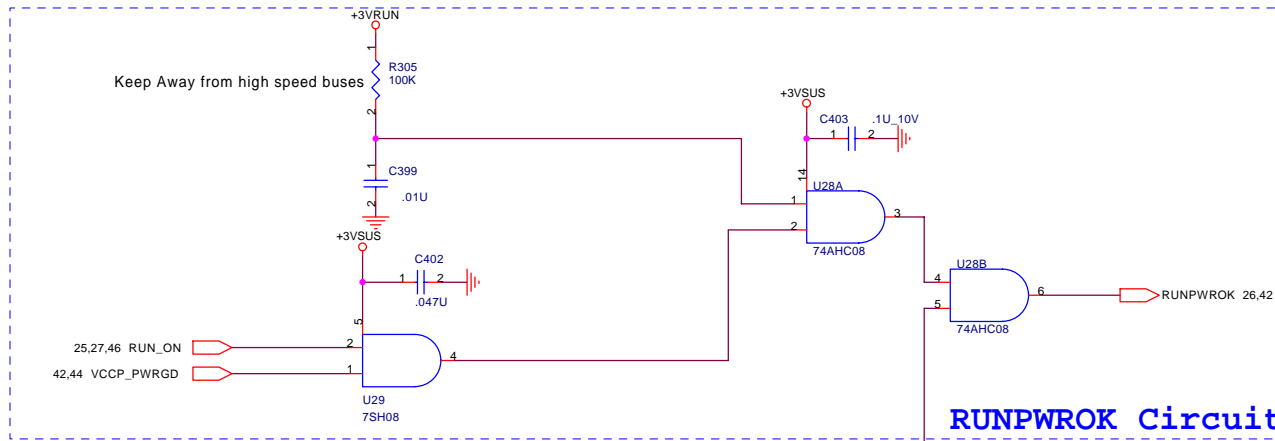
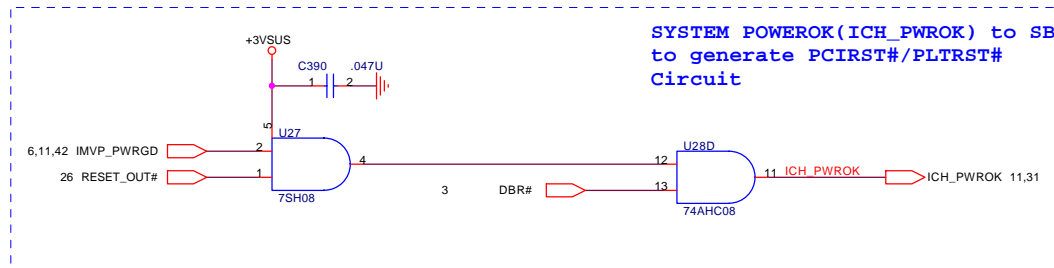
DOCK/APR Microprocessor -- 74H

DOCK USB/IDE Interface(FX2) -- 72H

DOCK SMBus Battery 16h Charger 12h IDE I/F 70h D-BAY

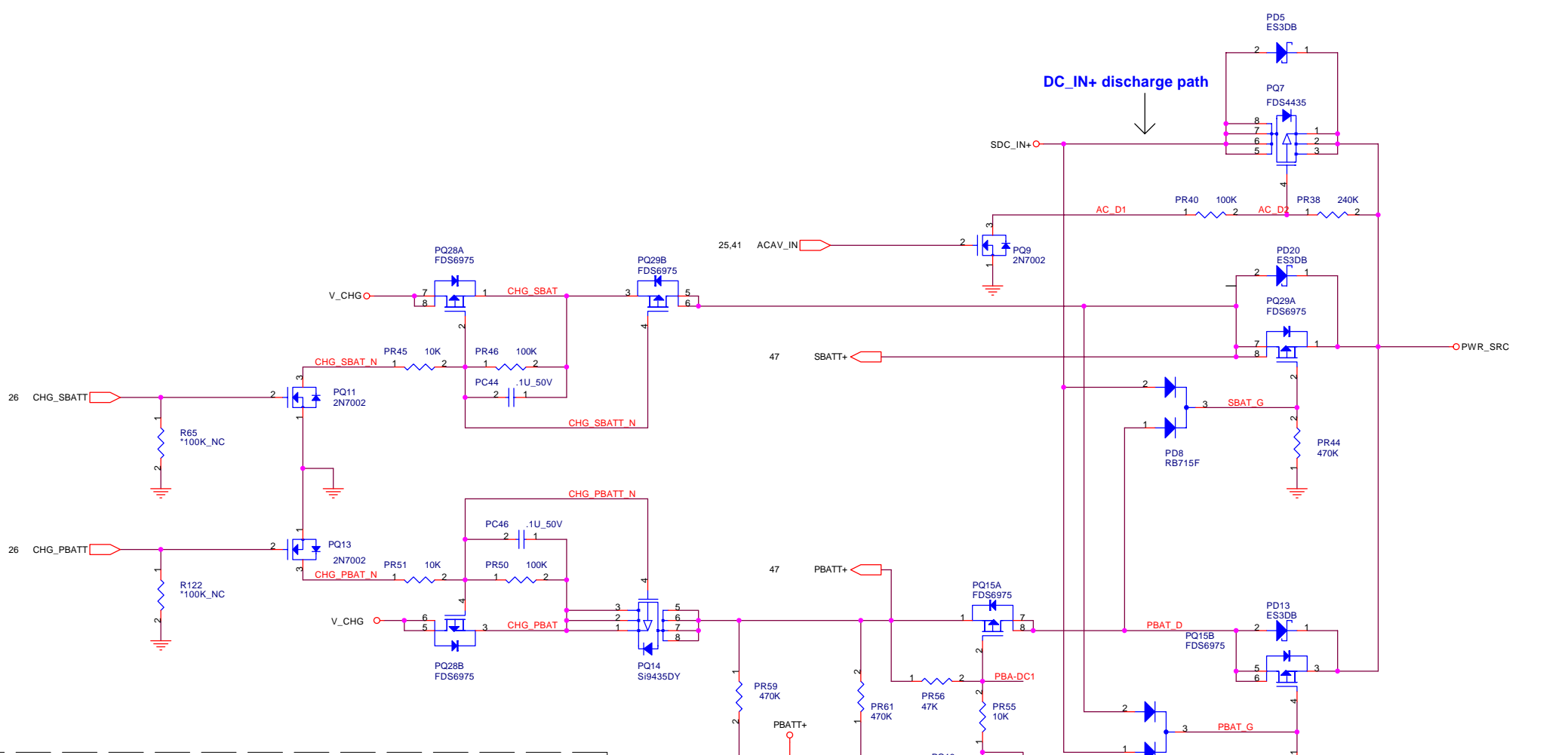
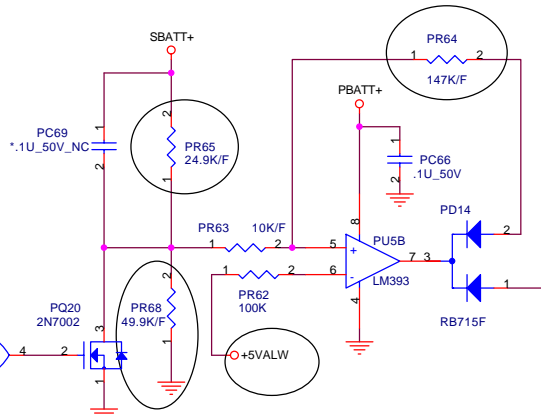
72h SIO 48h





To change swap battery's voltage from 9.6V to 7.5V

CT_0315: Change PR64 from 1M to 147K/F, PR65 from 49.9K/F to 24.9K/F, PR68 from 24.9K/F to 49.9K/F per Power.

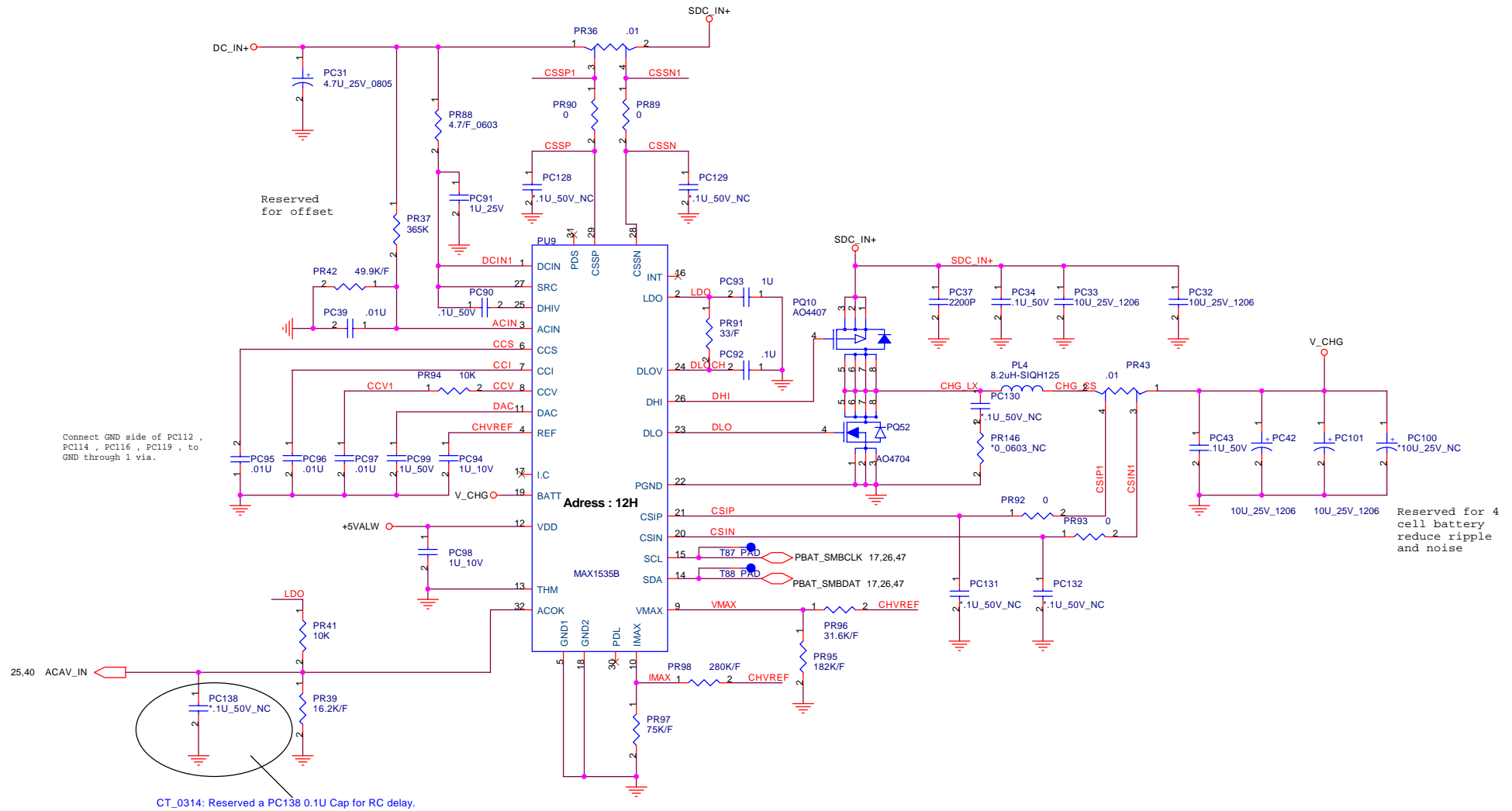


QUANTA COMPUTER

Title: BATTERY SELECTOR

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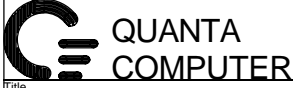
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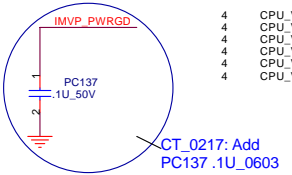
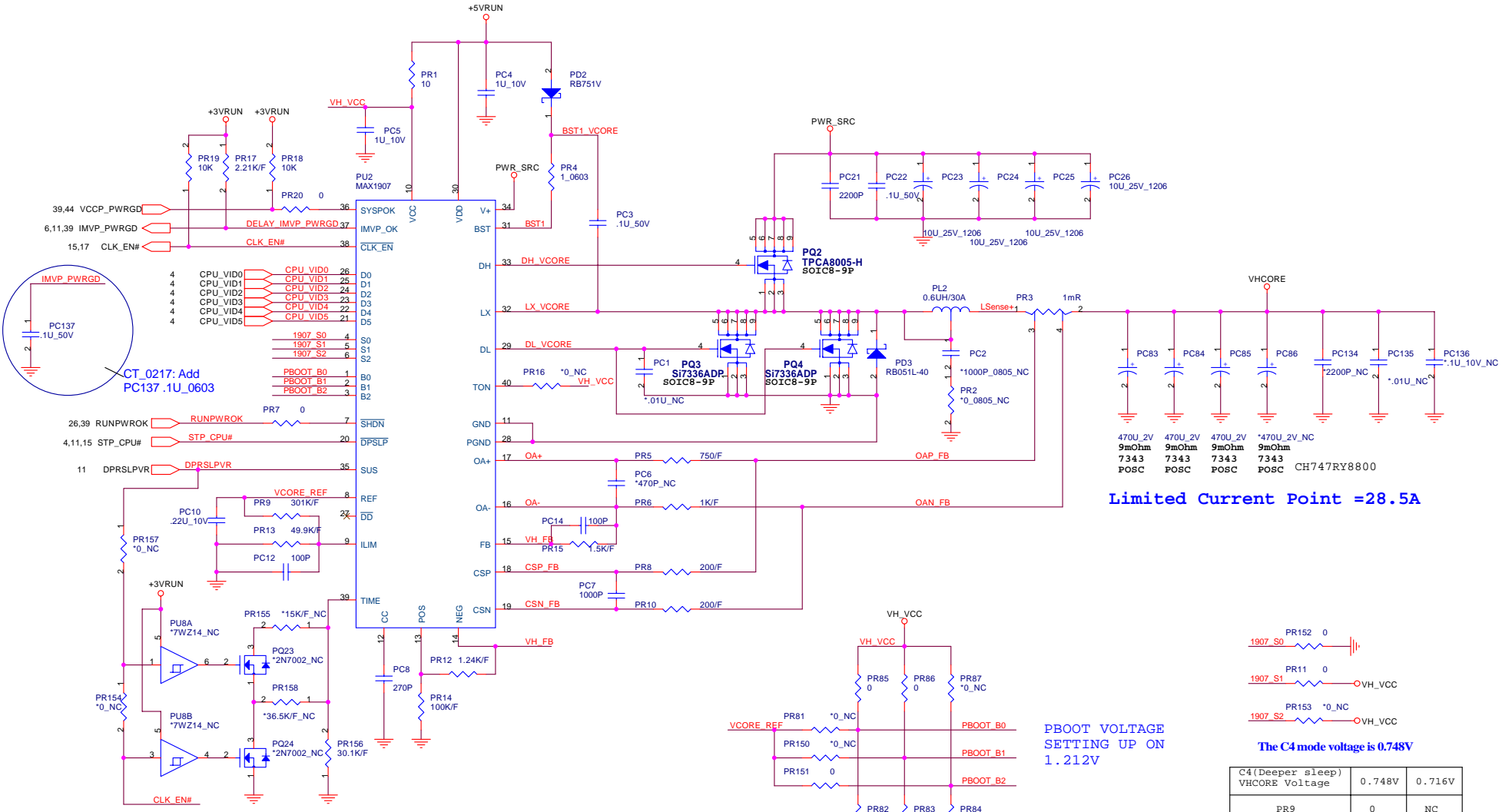


Connect GND side of PC112 , PC114 , PC116 , PC119 , to GND through 1 via.

CT_0314: Reserved a PC138 0.1uF Cap for RC delay.

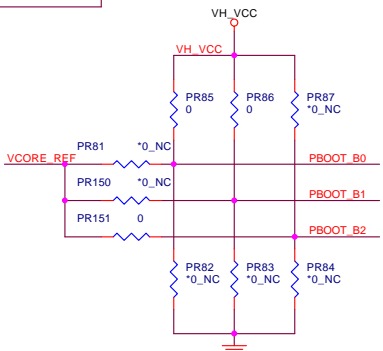
Reserved for 4 cell battery reduce ripple and noise



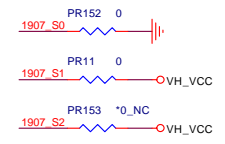


CT_0217: Add
PC137 .1U_0603

Limited Current Point = 28.5A



PBOOT VOLTAGE
SETTING UP ON
1.212V

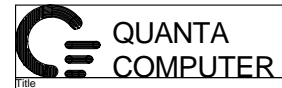


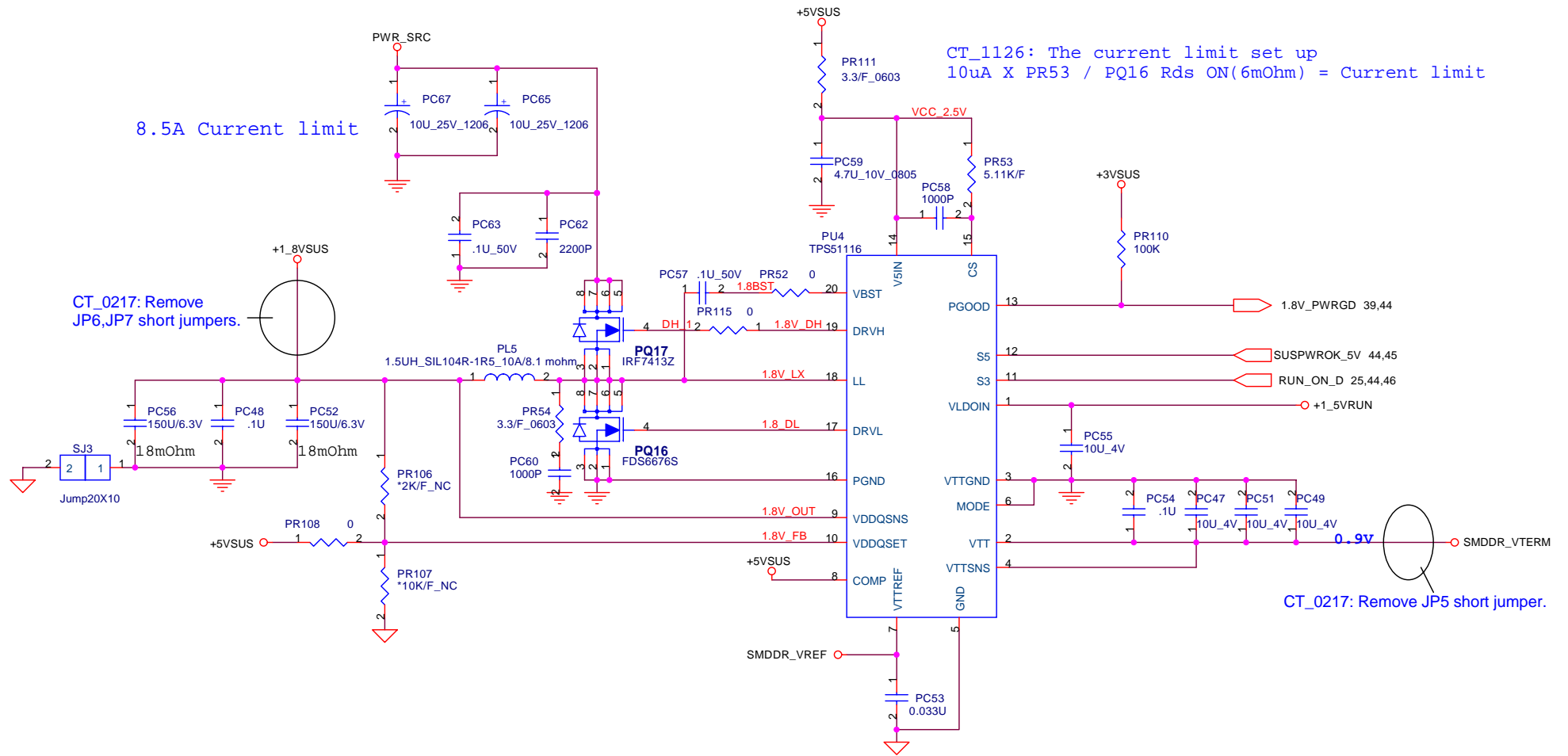
The C4 mode voltage is 0.748V

C4 (Deeper sleep) VHCORE Voltage	0.748V	0.716V
PR9	0	NC
PR11	0	0
PR13	NC	NC

CT_0105: Change PU8
footprint from SC70-6 to
SC70-2_1-65-6P

D5	D4	D3	D2	D1	D0	Output	D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	1.196V	0	0	0	0	0	0	1.708V
1	0	0	0	0	1	1.180V	0	0	0	0	1	1	1.692V
1	0	0	0	1	0	1.164V	0	0	0	0	1	0	1.676V
1	0	0	0	1	1	1.148V	0	0	0	0	1	1	1.660V
1	0	0	1	0	0	1.132V	0	0	0	1	0	0	1.644V
1	0	0	1	0	1	1.116V	0	0	0	1	0	1	1.628V
1	0	0	1	1	0	1.100V	0	0	0	1	1	0	1.612V
1	0	0	1	1	1	1.084V	0	0	0	1	1	1	1.596V
1	0	1	0	0	0	1.068V	0	0	1	0	0	0	1.580V
1	0	1	0	0	1	1.052V	0	0	1	0	0	1	1.564V
1	0	1	0	1	0	1.036V	0	0	1	0	1	0	1.548V
1	0	1	0	1	1	1.020V	0	0	1	0	1	1	1.532V
1	0	1	1	0	0	1.004V	0	0	1	1	0	0	1.516V
1	0	1	1	0	1	0.988V	0	0	1	1	0	1	1.500V
1	0	1	1	1	0	0.972V	0	0	1	1	0	0	1.484V
1	0	1	1	1	1	0.956V	0	0	1	1	1	1	1.468V
1	1	0	0	0	0	0.940V	0	1	0	0	0	0	1.452V
1	1	0	0	0	1	0.924V	0	1	0	0	0	1	1.436V
1	1	0	0	1	0	0.908V	0	1	0	0	1	0	1.420V
1	1	0	0	1	1	0.892V	0	1	0	0	1	1	1.404V
1	1	0	1	0	0	0.876V	0	1	0	1	0	0	1.388V
1	1	0	1	0	1	0.860V	0	1	0	1	0	1	1.372V
1	1	0	1	1	0	0.844V	0	1	0	1	0	1	1.356V
1	1	0	1	1	1	0.828V	0	1	0	1	1	1	1.340V
1	1	1	0	0	0	0.812V	0	1	1	0	0	0	1.324V
1	1	1	0	0	1	0.796V	0	1	1	0	0	1	1.308V
1	1	1	0	1	0	0.780V	0	1	1	0	1	0	1.292V
1	1	1	0	1	1	0.764V	0	1	1	0	1	1	1.276V
1	1	1	1	0	0	0.748V	0	1	1	1	0	0	1.260V
1	1	1	1	0	1	0.732V	0	1	1	1	0	1	1.244V
1	1	1	1	1	0	0.716V	0	1	1	1	0	1	1.228V
1	1	1	1	1	1	0.700V	0	1	1	1	1	1	1.212V





8.5A Current limit

CT_0217: Remove JP6, JP7 short jumpers.

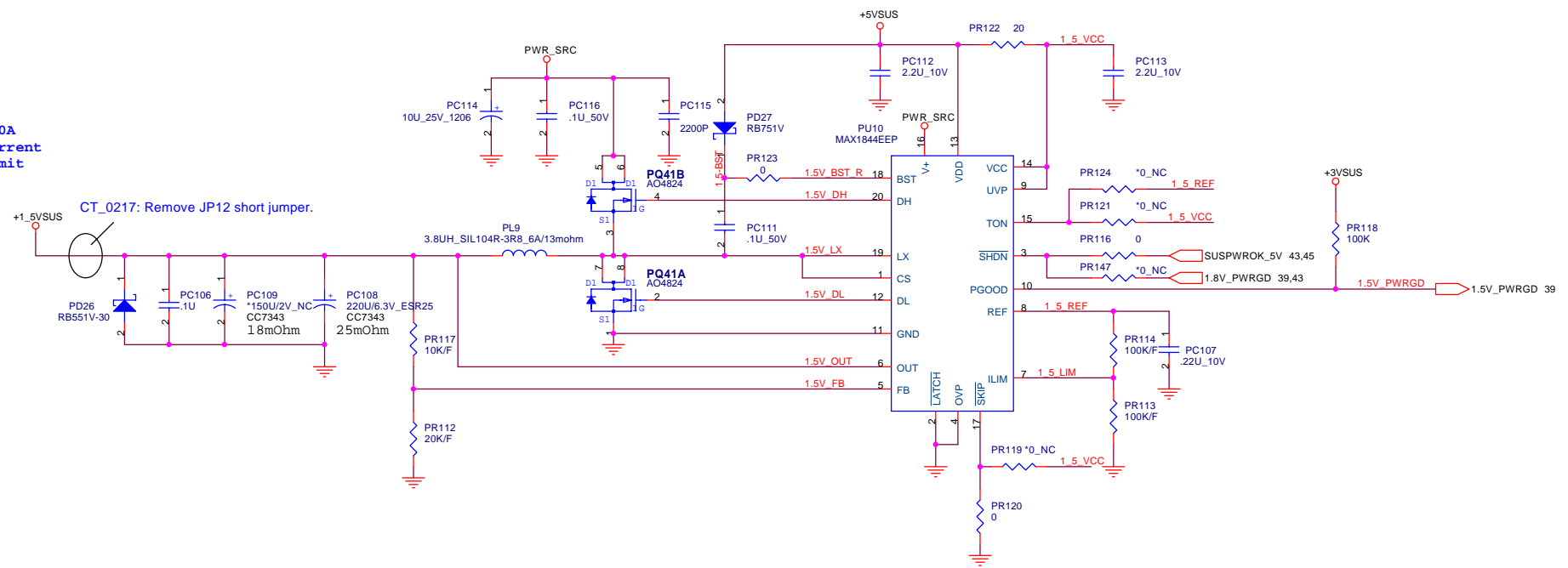
CT_1126: The current limit set up
 $10\mu\text{A} \times \text{PR53} / \text{PQ16 Rds ON}(6\text{m}\Omega) = \text{Current limit}$

CT_0217: Remove JP5 short jumper.

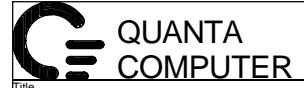
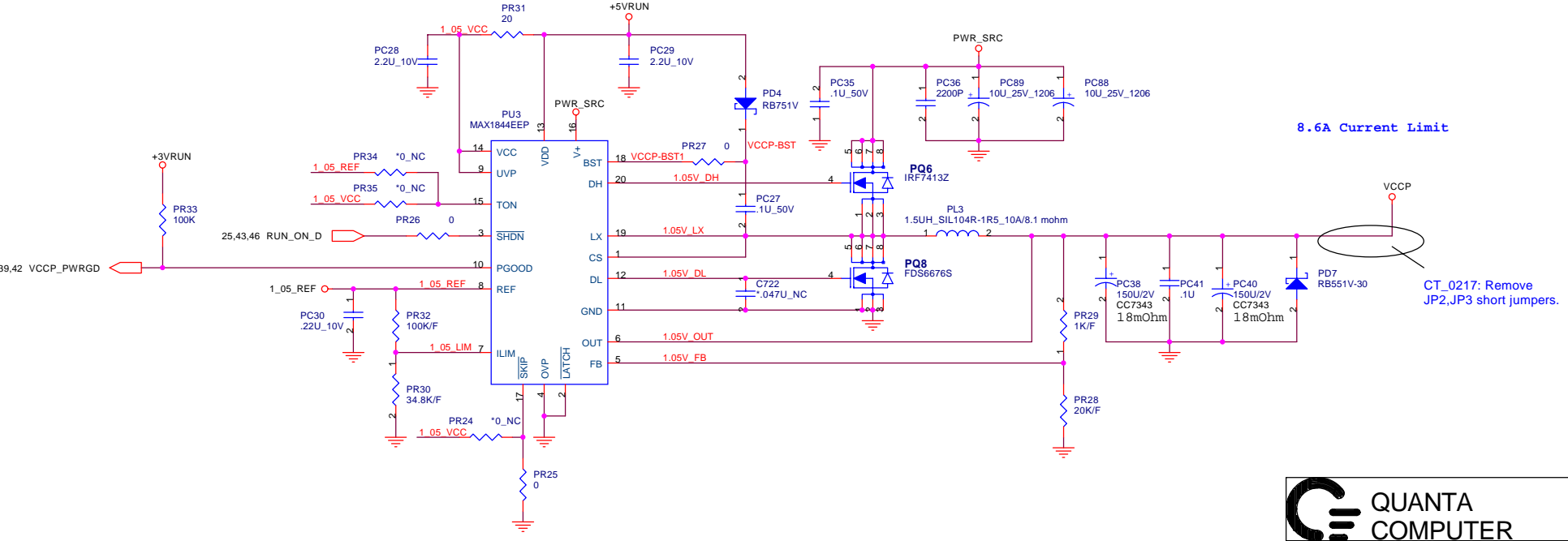
QUANTA
COMPUTER

Title		
1.8V,0.9V		
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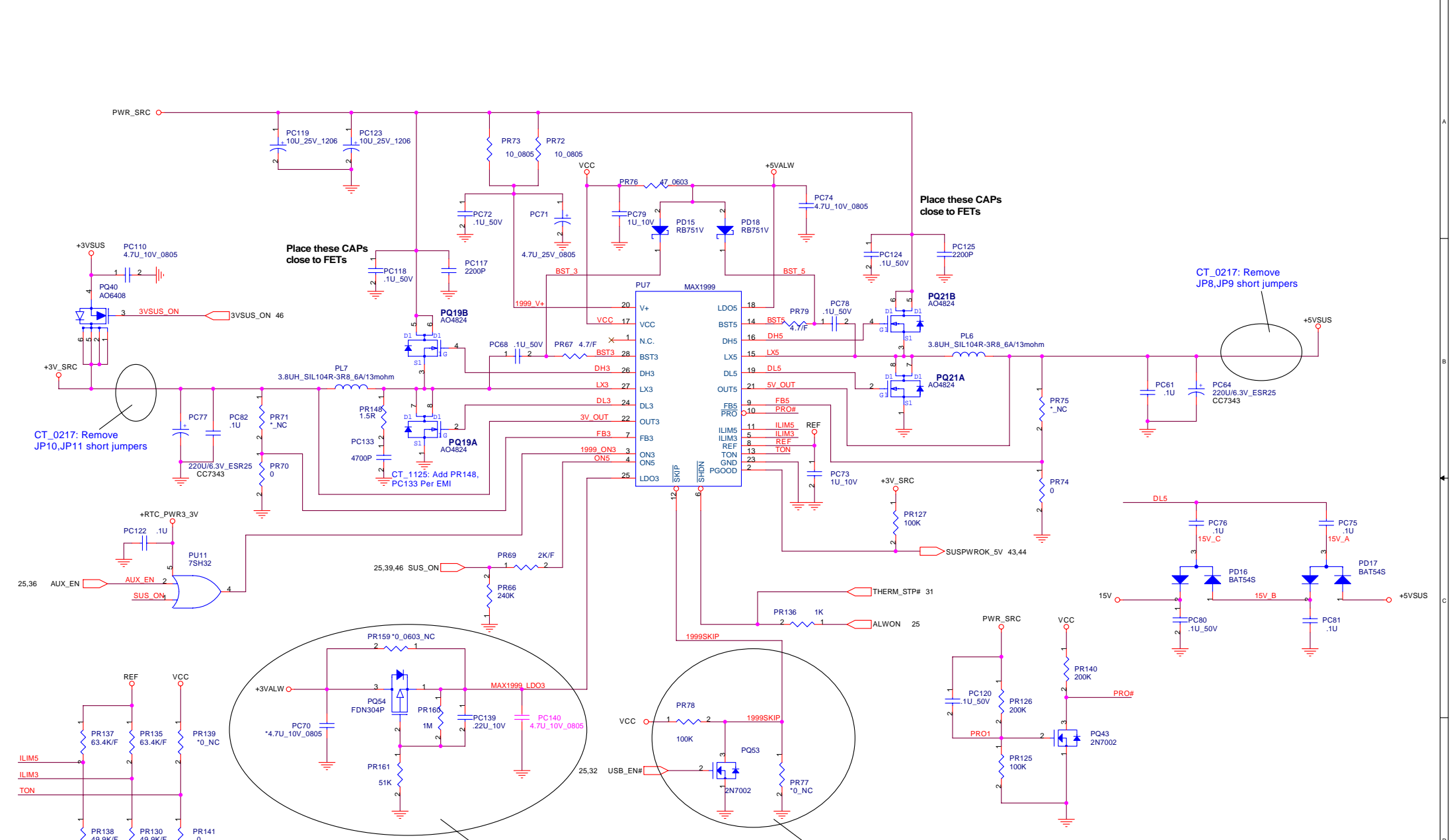
5.0A
Current
Limit



8.6A Current Limit



Title		
1.5V, 1.05V		
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Place these CAPs close to FETs

Place these CAPs close to FETs

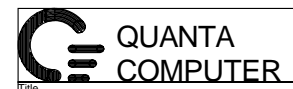
CT_0217: Remove JP8,JP9 short jumpers

CT_0217: Remove JP10,JP11 short jumpers

CT_1125: Add PR148, PC133 Per EMI

CT_0321: Add PC139, PC140, PR160, PR161, PQ54 for soft start of +3VALW.
 CT_0329: Depop PC70 4.7U. Change PC140 from .22U to 4.7U.

CT_0314: Pop PR78 and PQ53. Leave PR77 N.C.



Title 3VALW.5V.3V. power on		
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