

Diamond-3 Intel Calpella Platform with UMA GFX

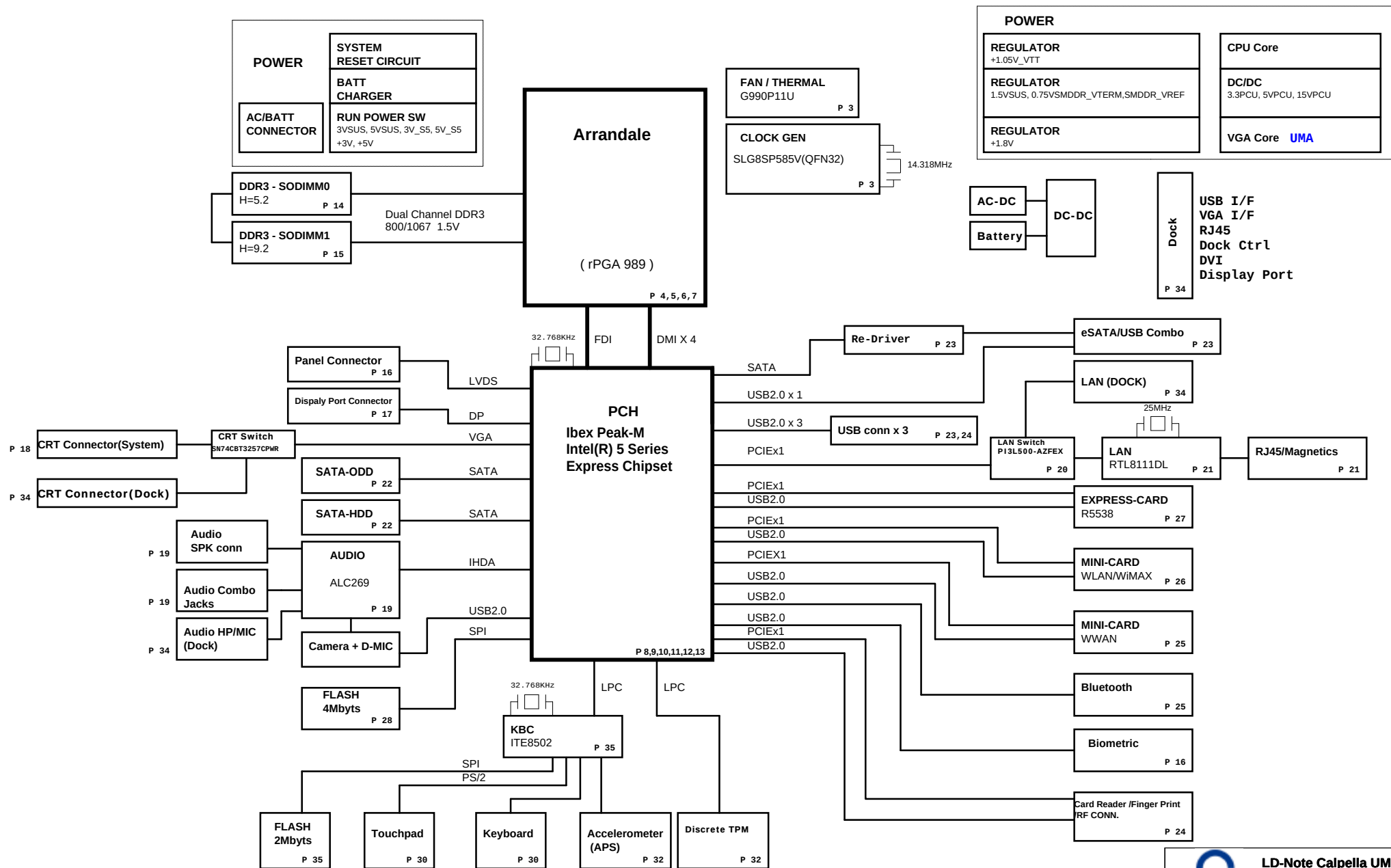


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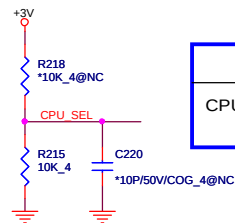
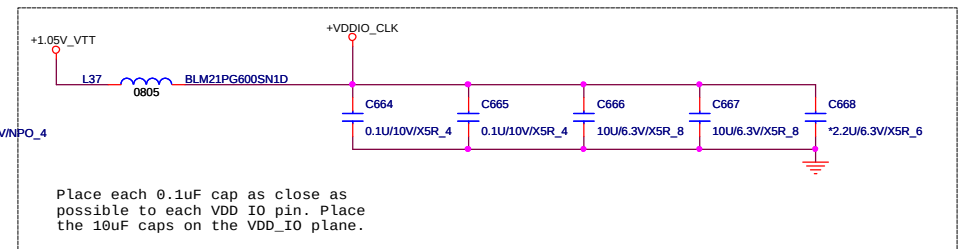
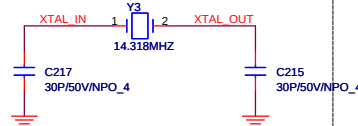
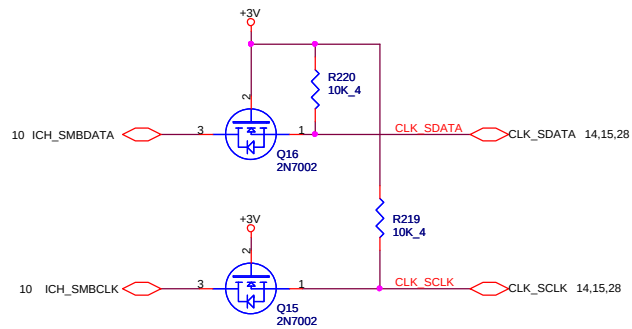
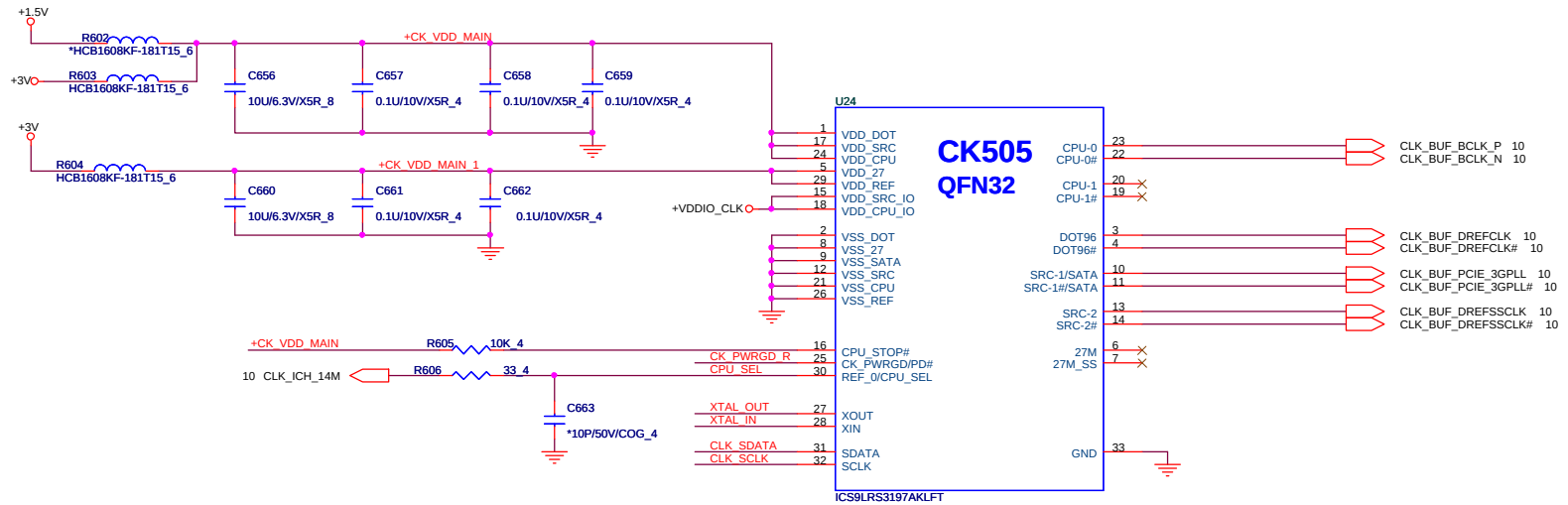
Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
VIN	10V~+20V	16,36,37,38,39,40,41,42	MAIN POWER		S0~S5
+3VRTC	+3.0V~+3.3V	9,12,34	RTC		S0~S5
3VPCU	+3.3V	9,16,20,23,28,32,34,36,37,40,42	ITE8502 POWER	3V5V_EN	S0~S5
5VPCU	+5V	36,37,38,39,40,42	DC/DC POWER IC SOURCE	3V5V_EN	S0~S5
+15V	+15V	16,31,36,38,39,40	LARGE POWER	3V5V_EN	S0~S5
LANVCC	+3.3V	20,36	LAN POWER	LAN_ON	
5V_S5	+5V	12,22,23,36	PCH SUS POWER	S5_ON	S0~S3
3V_S5	+3.3V	8,9,10,11,12,36	Sys Management,PCH Resume Well, Intel HD Audio,USB,WLAN,WIMAX POWER	S5_ON	S0~S3
5VSUS	+5V	16,32,36,41,42	SLP_S4# CTRLD POWER	SUSON	S0~S3
3VSUS	+3.3V	8,23,27,34,36,42	SLP_S4# CTRLD POWER	SUSON	S0~S3
1.5VSUS	+1.5V	4,6,12,14,15,36,38,39	DDR3 SODIMM POWER	SUSON	S0~S3
0.75VSMDDR_VTERM	+0.75V	14,15,36,38	DDR3 SODIMM REFERENCE POWER	MAINON	S0
+5V	+5V	8,12,16,17,18,19,21,28,30,34,36,37	SLP_S3# CTRLD POWER	MAINON	S0
+3V	+3.3V	3,4,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26,27,29,30,31,32,33,34,36,37,38,39,40,41,42,43	SLP_S3# CTRLD POWER	MAINON	S0
+1.8V	+1.8V	6,12,26,36,42	LVDS,NVM POWER	MAINON	S0
+1.5V	+1.5V	12,24,25,27,38,39	Mini PCIe,Express Card POWER	MAIND	S0
+1.05V_VTT	+1.05V	3,4,6,8,10,11,12,36,39,41,43	AuBurndale VTT POWER/PCH CORE POWER	MAINON	S0
+VCC_GFX_CORE		6,36,42	VGA CORE POWER	GFXVR_EN	S0
VCC_CORE		6,36,41	CPU CORE POWER	VRON	S0
LCDVCC	+3.3V	16	LCD Power	ENVDD	S0
+5V_ODD	+5V	21	ODD Power	MAINON#	S0
+5V_HDD	+5V	21	HDD Power	MAINON#	S0
BAT-V	+10V~+17V	37	MAIN BATTERY	CHG_PBATT	S0~S5

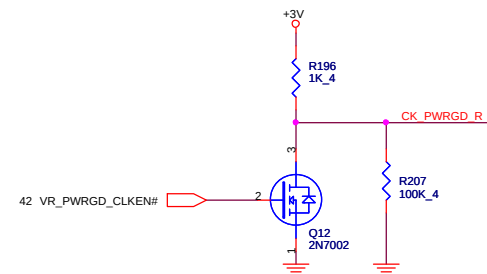


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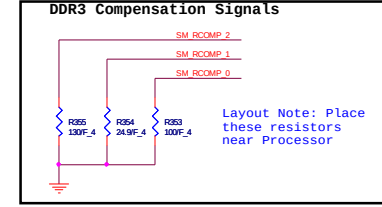
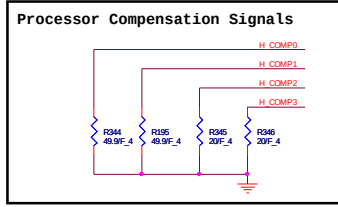
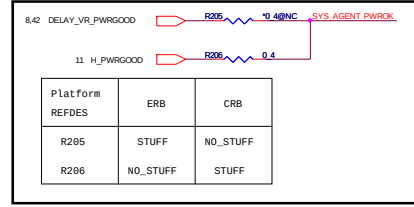
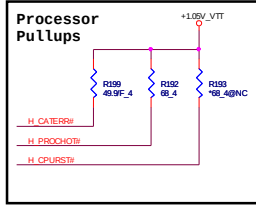
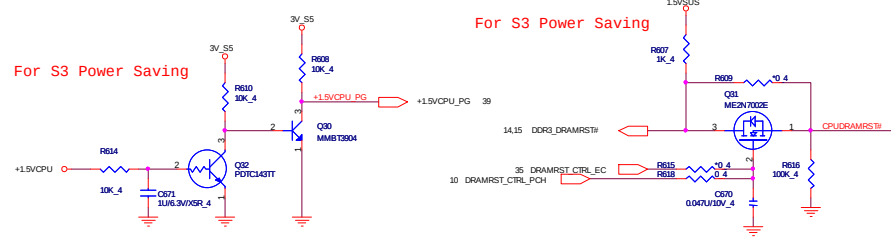
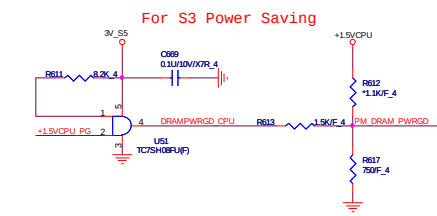
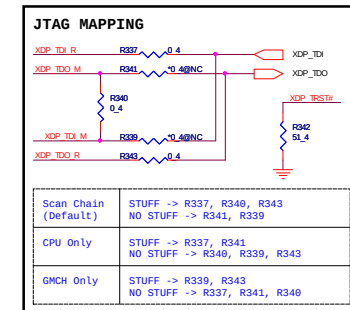
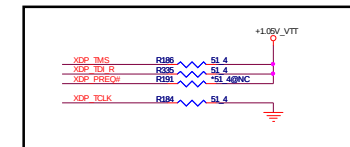
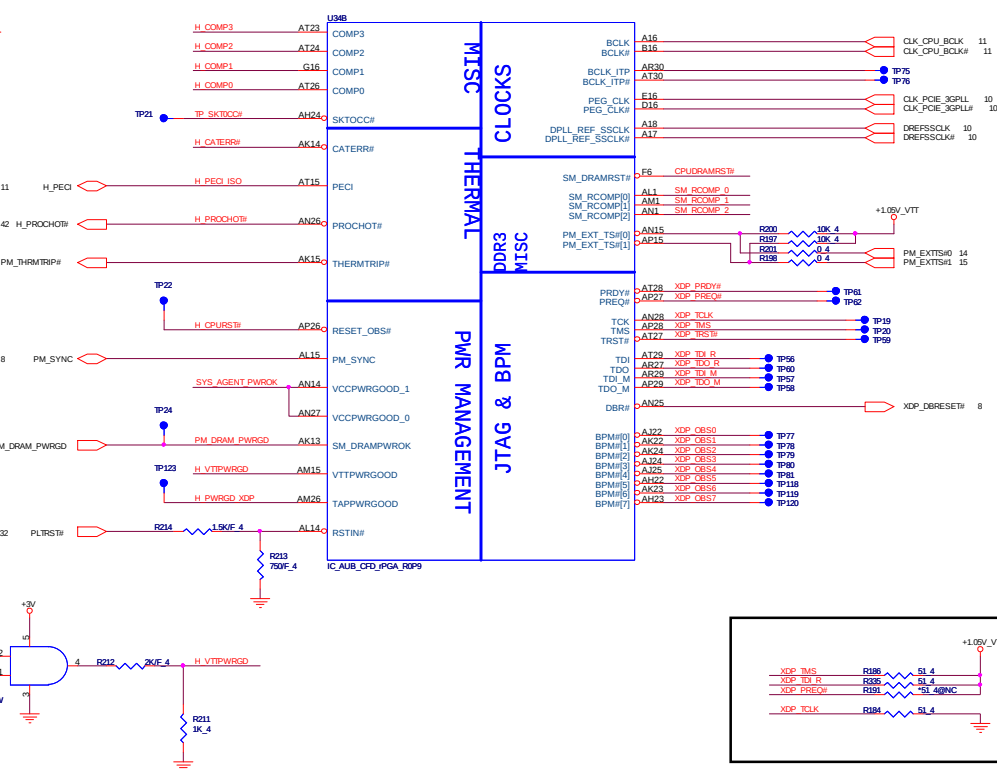
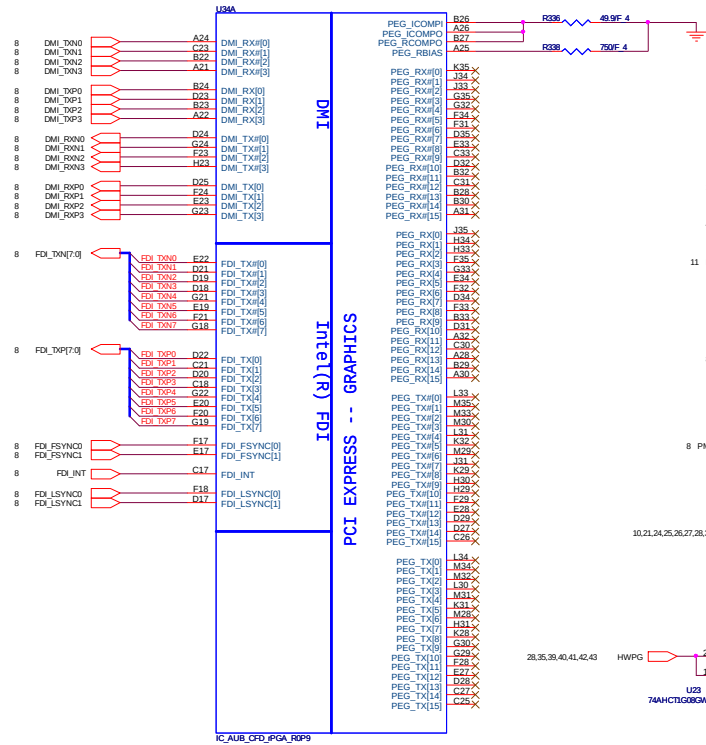
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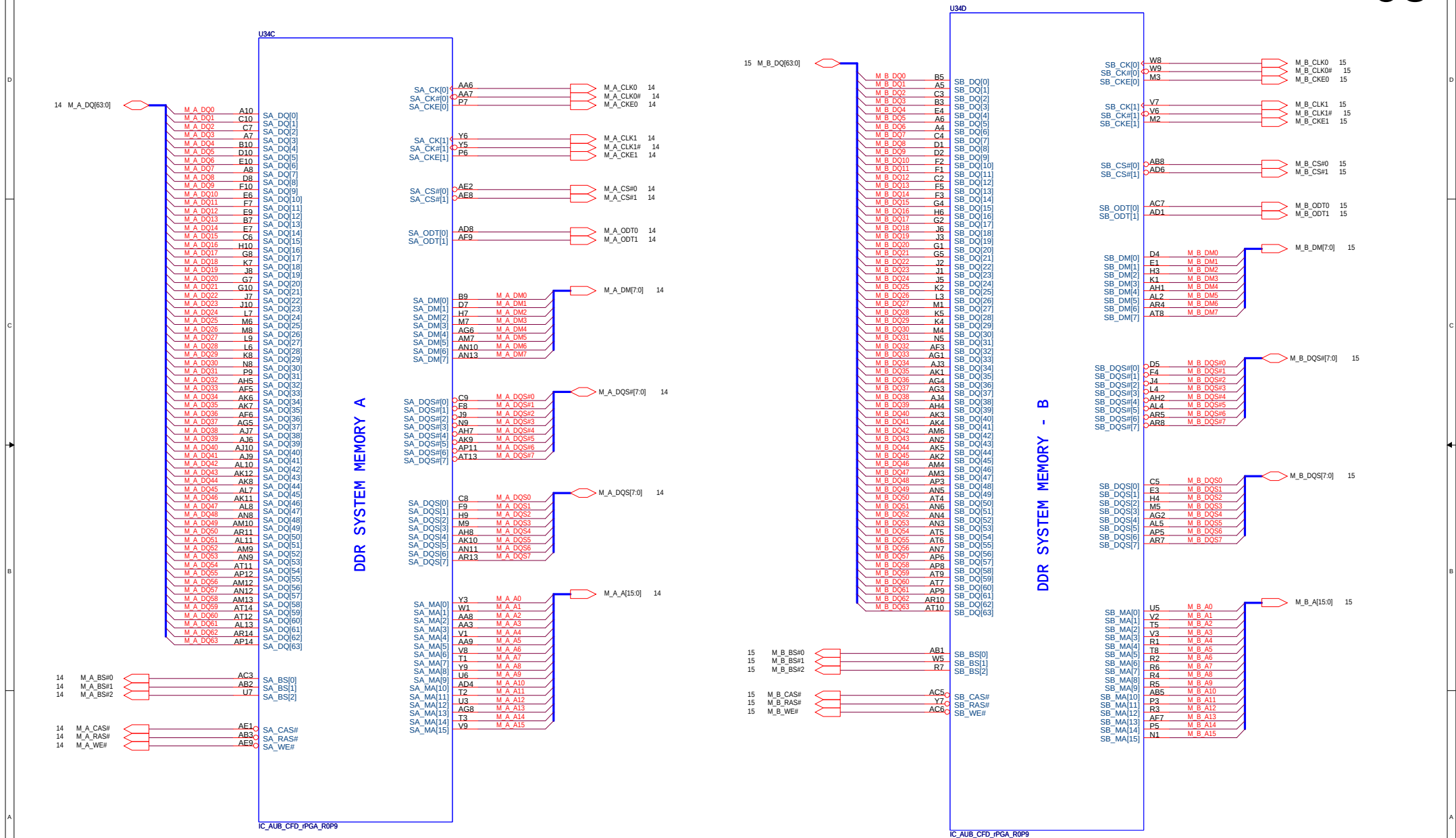
	0	1
CPU_SEL	CPU0/1=133MHz (default)	CPU0/1=100MHz



ARRANDALE PROCESSOR (CLK,MISC,JTAG)



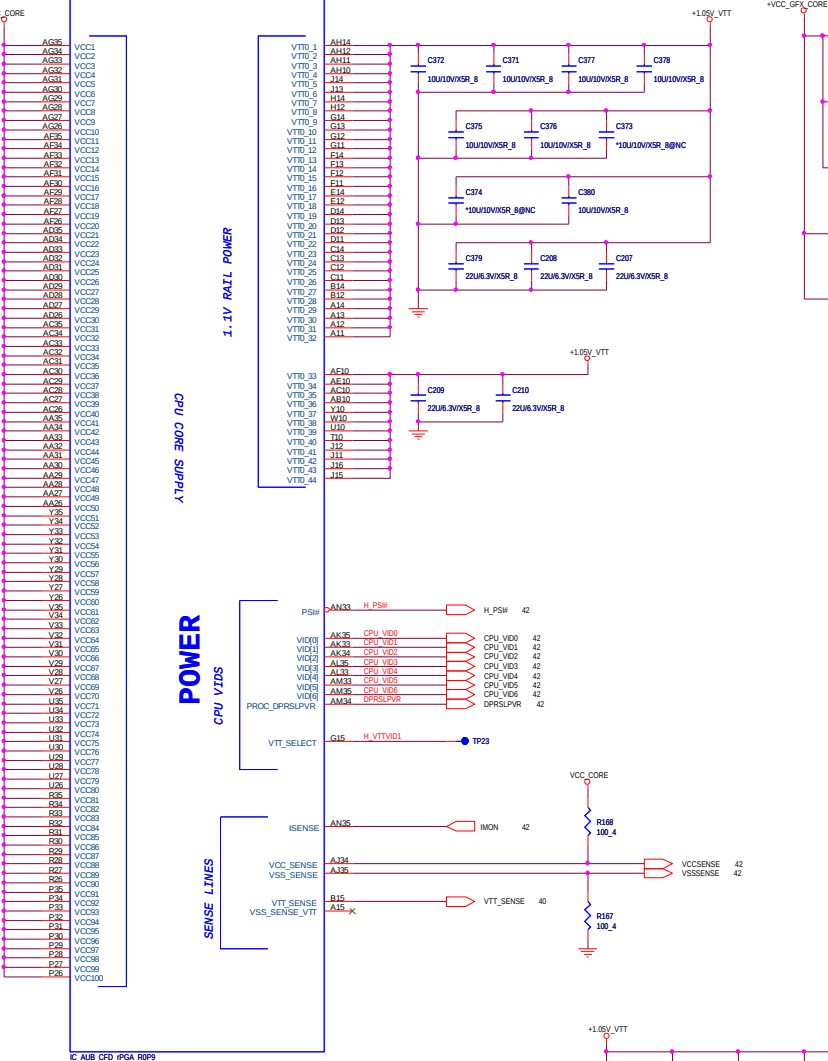
ARRANDALE PROCESSOR (DDR3)



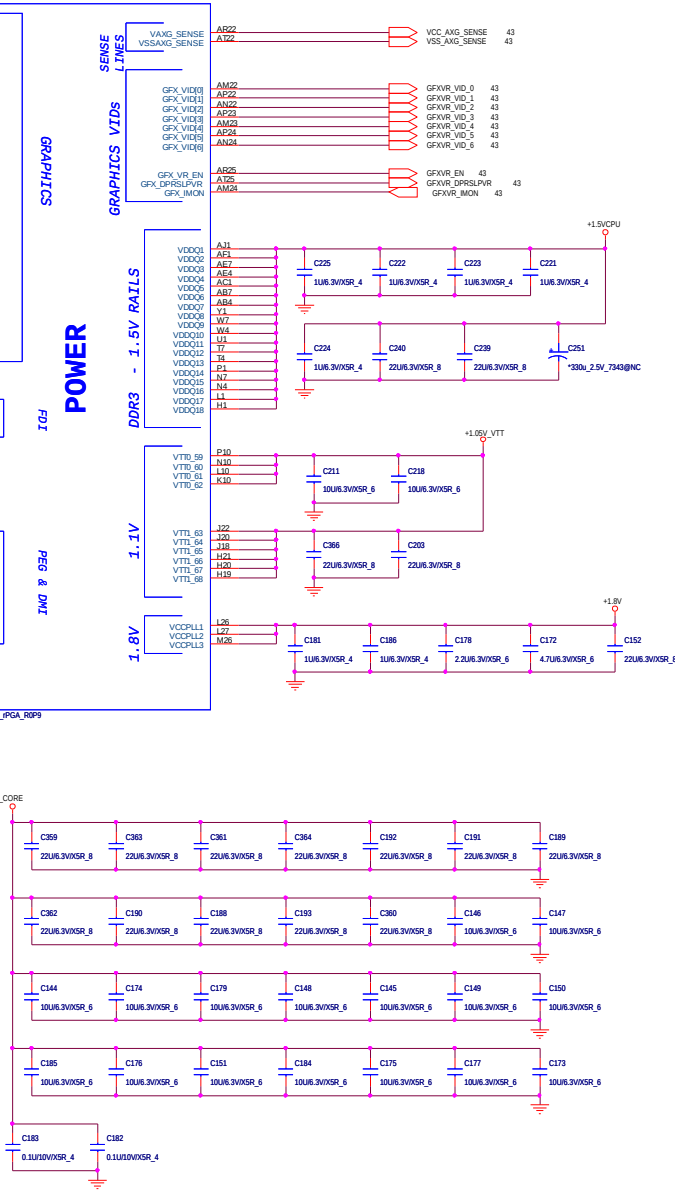
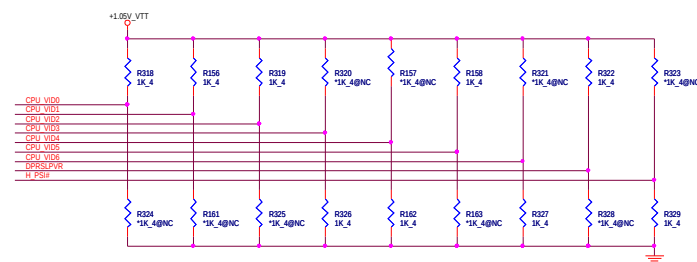
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CPU Core Power

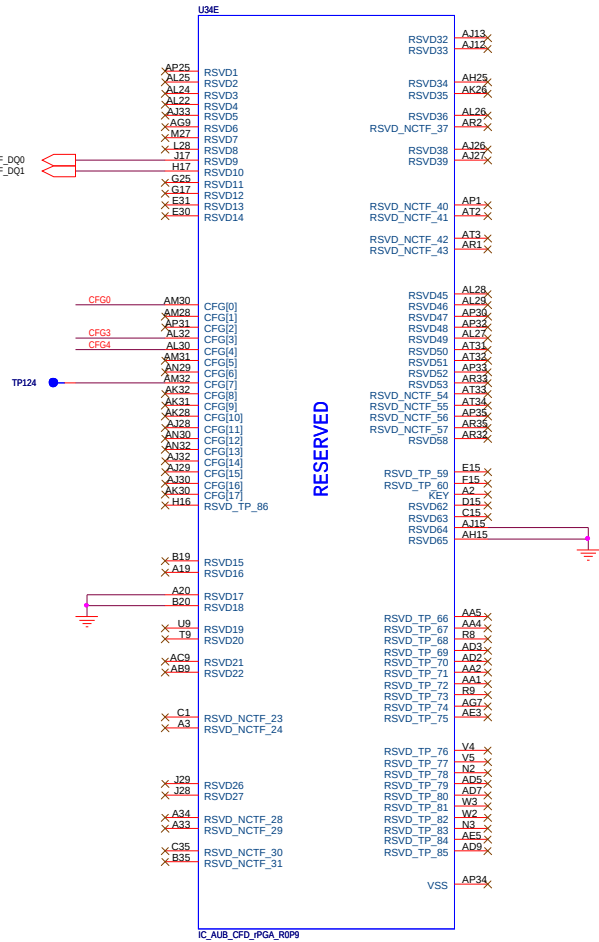
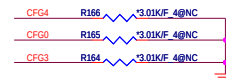
ARRANDALE PROCESSOR (GRAPHICS POWER)



AUBURNDALE PROCESSOR (POWER)

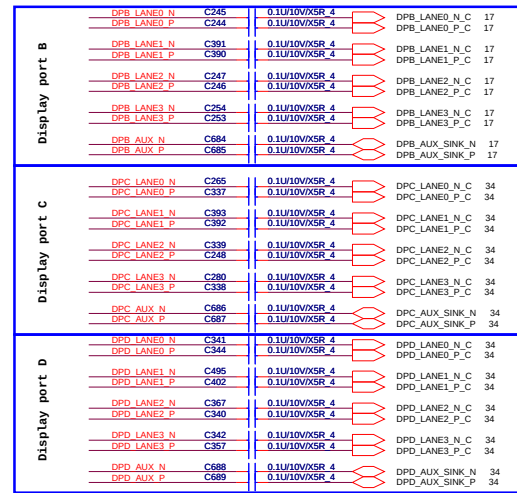
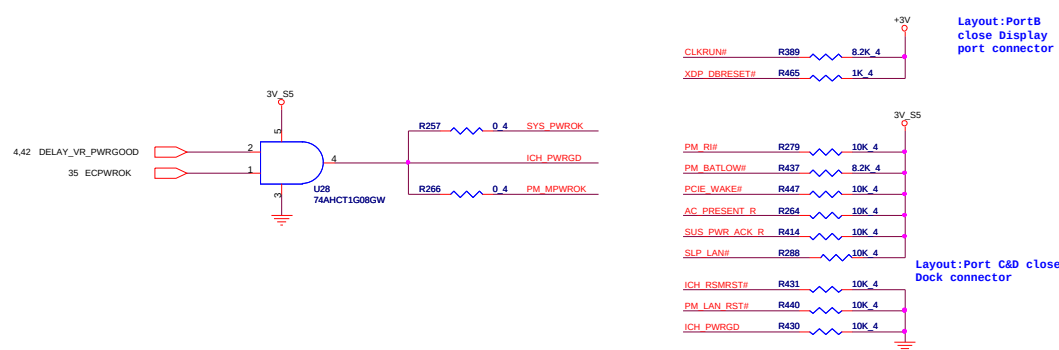
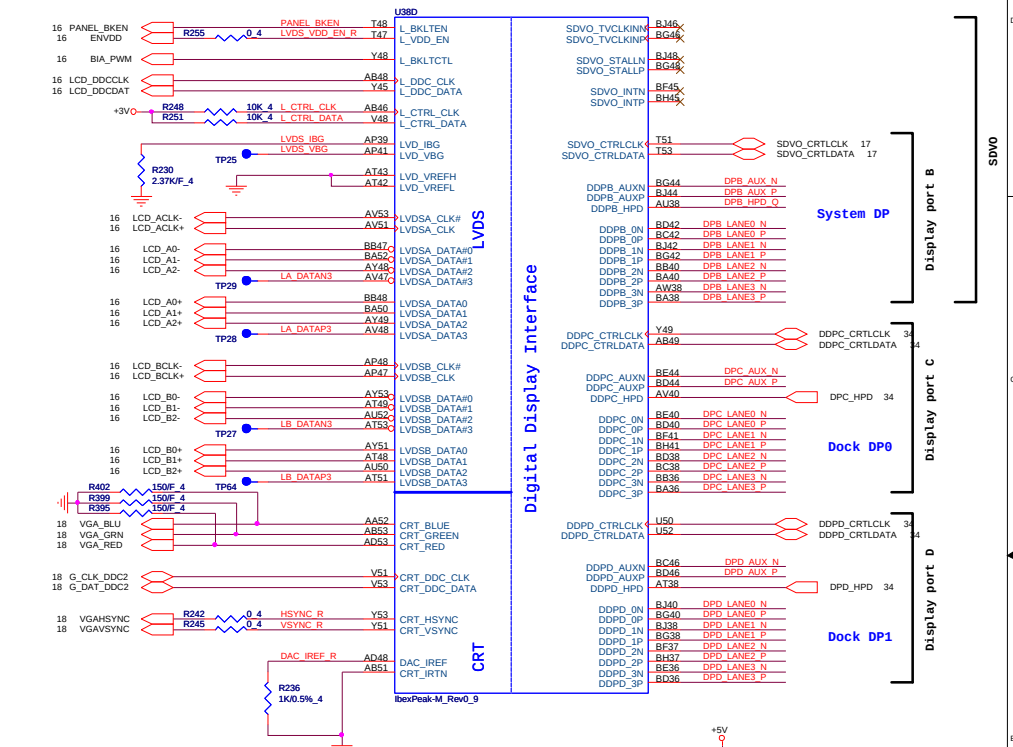


ARRANDALE PROCESSOR(RESERVED, CFG)



	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Display Port	Enabled; An external Display port device is connected to the Embedded Display port
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed

IBEX PEAK-M (LVDS, DDI)



12,35 +3VRTC
16,21,24,33,34,35,37,38,41,43 3VPCU
4,8,10,11,12,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29,31,32,33,34,35,37,39,40,41,42 +3V
4,8,10,11,12,23,26,28,37 3V_S5
3,4,6,8,10,11,12,37,40,42,43 +1.05V_VTT

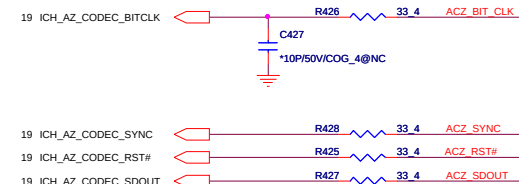
RTC Circuitry

CMOS Settings	J2
Clear CMOS	1-2
Save CMOS	1-X (Default)

TPM Settings	J3
Clear ME RTC registers	1-2
Save ME RTC registers	1-X (Default)

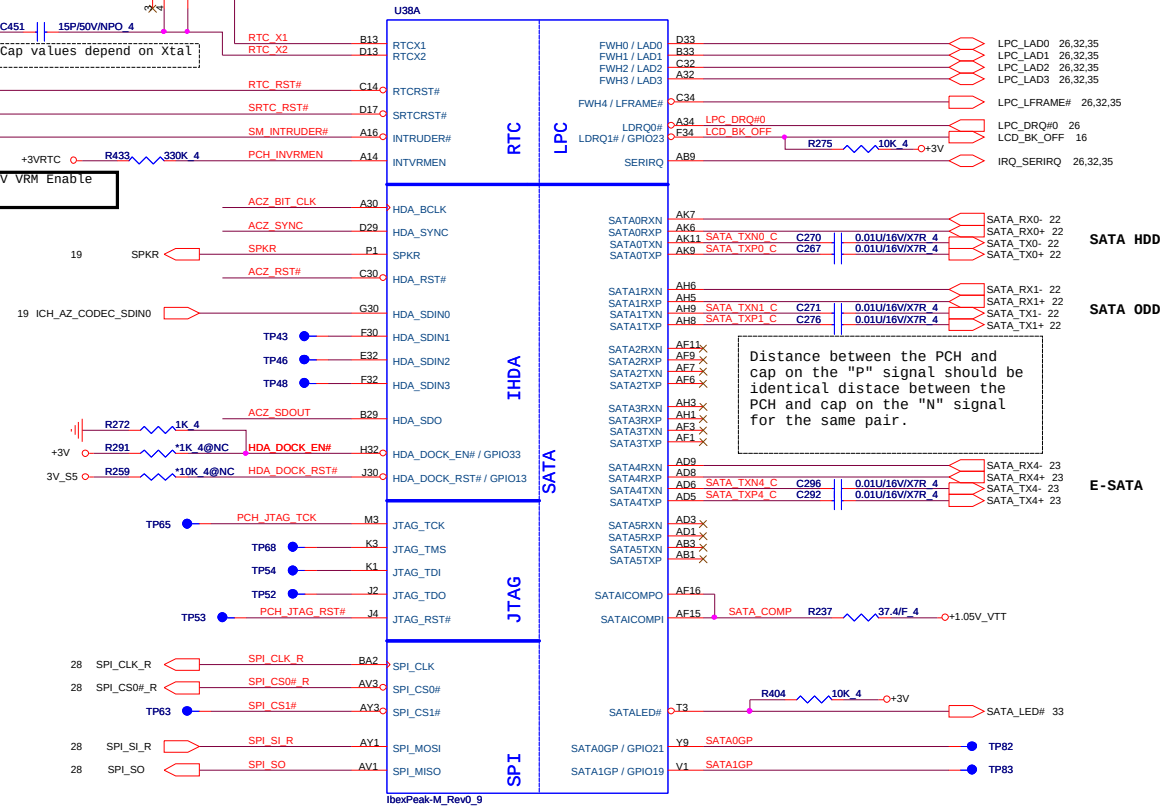
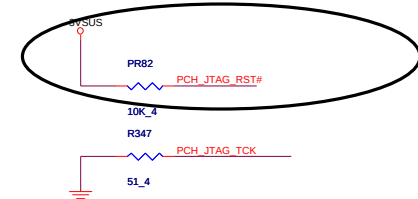
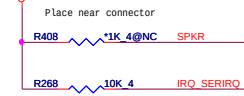
IBEX PEAK-M (HDA, JTAG, SATA)

INTVRMEN - Integrated SUS 1.1V VRM Enable
High - Enable Internal VRs



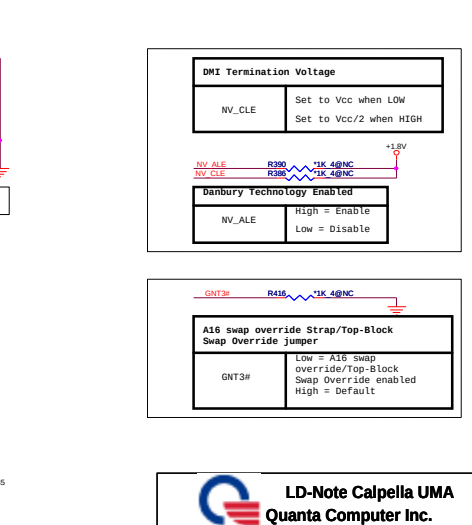
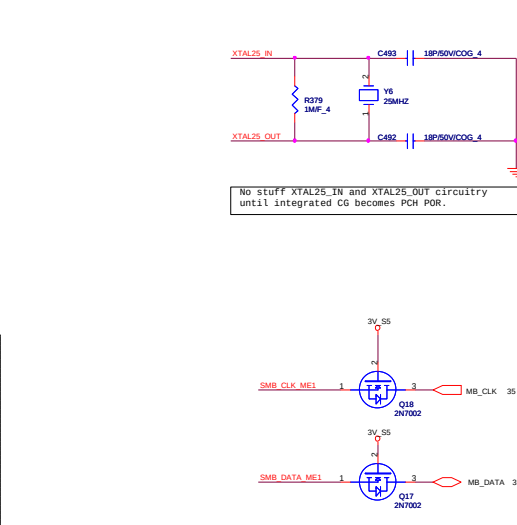
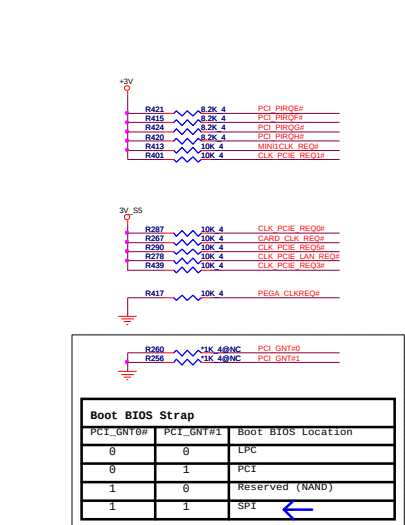
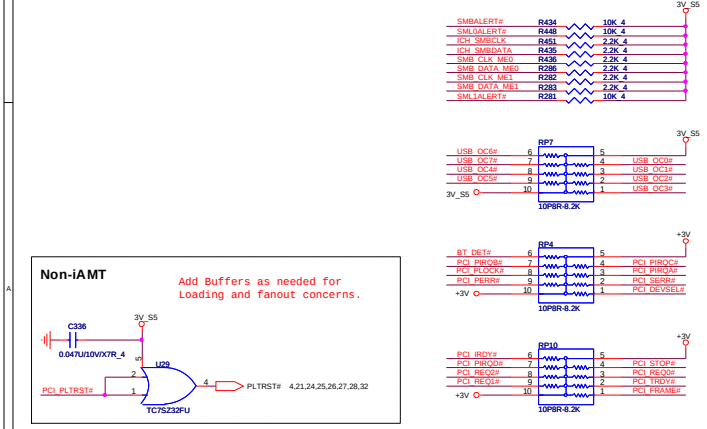
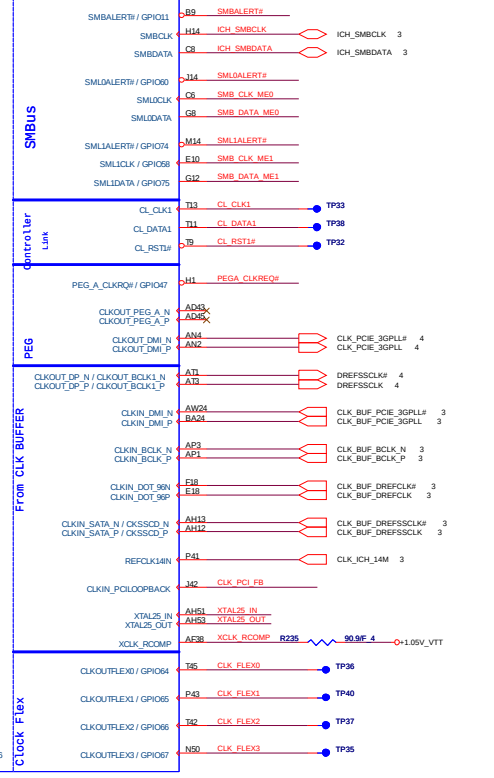
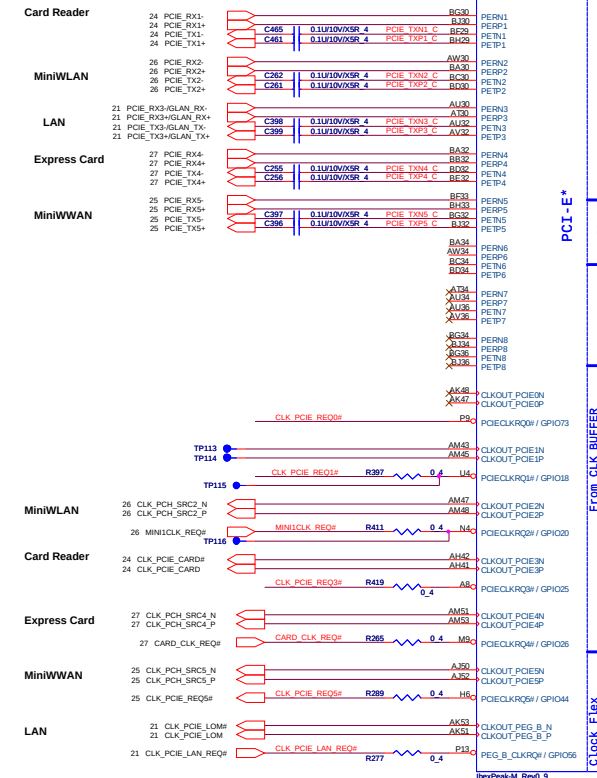
Place all series terms close to PCH except for SDIN input lines, which should be close to source. Placement of R651, R652, R650 & R653 should equal distance to the T split trace point. Basically, keep the same distance from T for all series termination resistors.

No Reboot Strap



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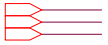
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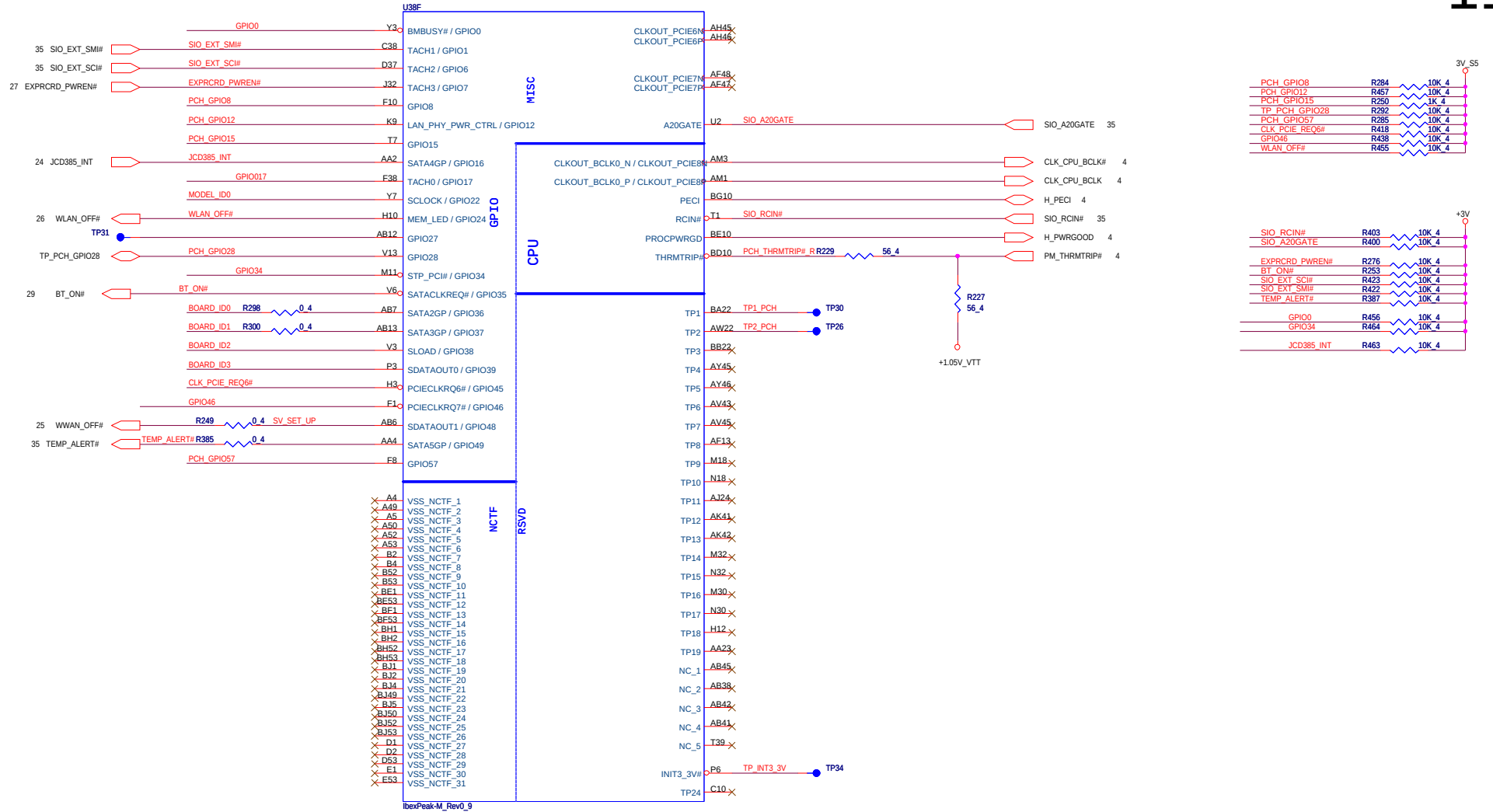
Boot BIOS Strap		
PCI_GNT#	PCI_GNT#1	Boot BIOS Location
0	0	LPC
0	1	PCI
1	0	Reserved (NAND)
1	1	SPI

IBEX PEAK-M (GPIO, VSS_NCTF, RSVD)

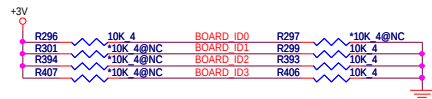
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4,8,9,10,12,23,26,28,37
+3V
3V_SS
+1.05V_VTT



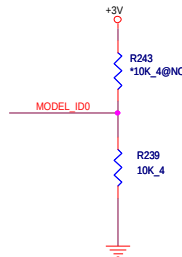
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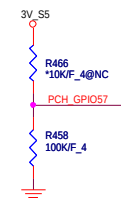
Board ID For Function	ID3 GPIO39	ID2 GPIO38	ID1 GPIO37	ID0 GPIO36
SDV	0	0	0	0
SIV	0	0	0	1
SIT	0	0	1	0
SVT	0	0	1	1
SOVP	0	1	0	0



Model ID	MODEL_ID0
14"	0
15"	1



TPM physical presence	
PCH_GPIO57	Low: Default

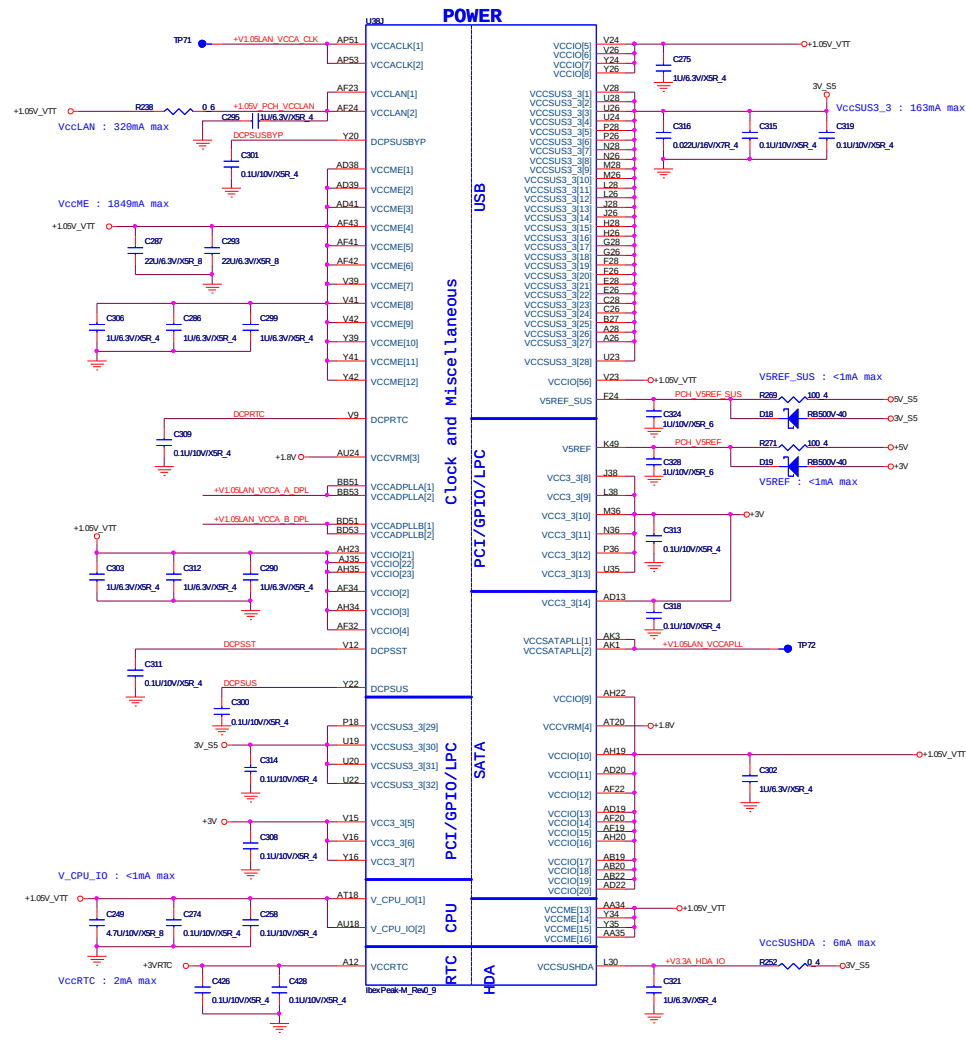
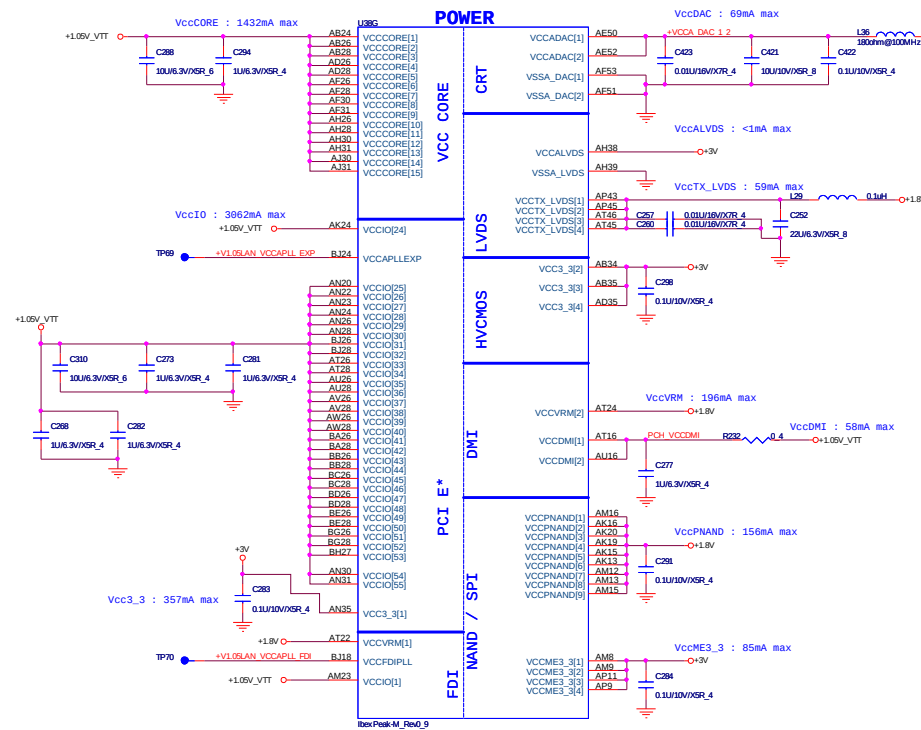


SV_SET_UP	1-X High = Strong (Default)
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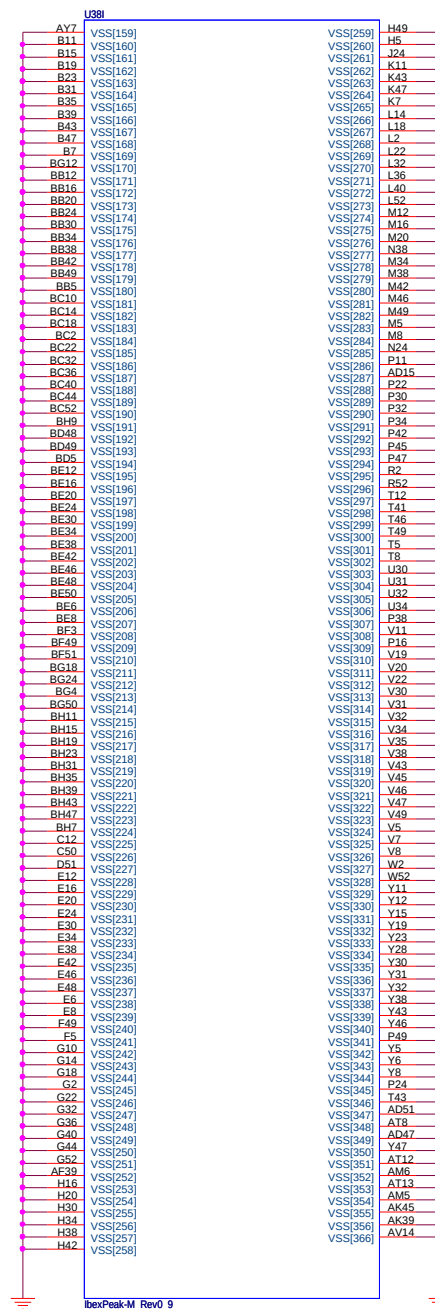
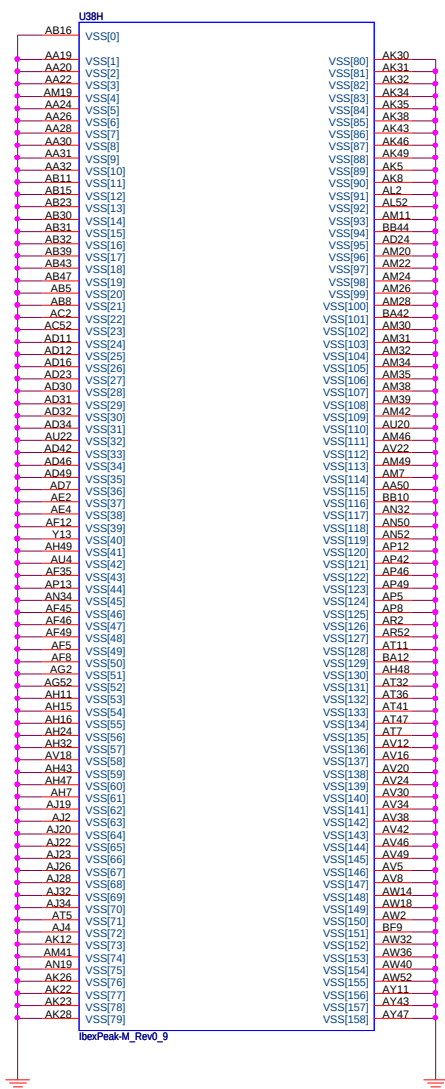
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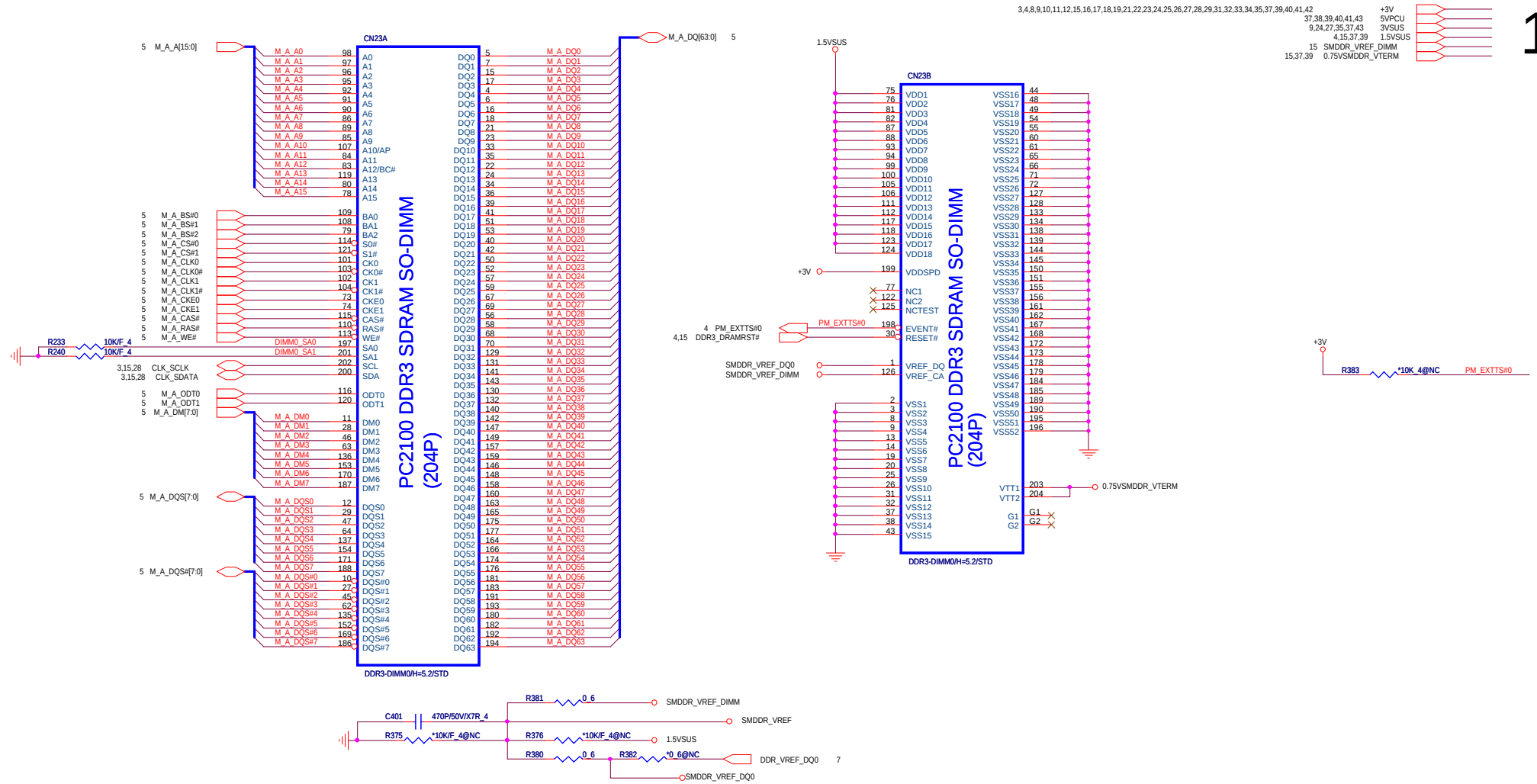
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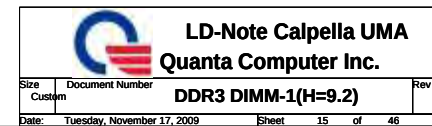


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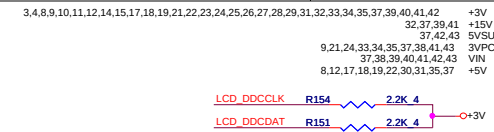
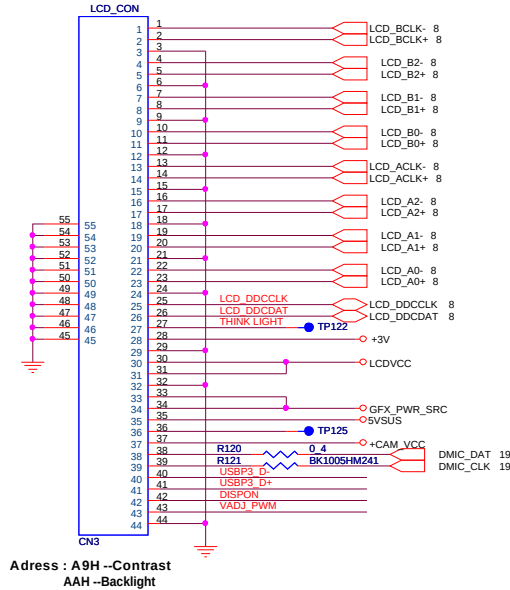
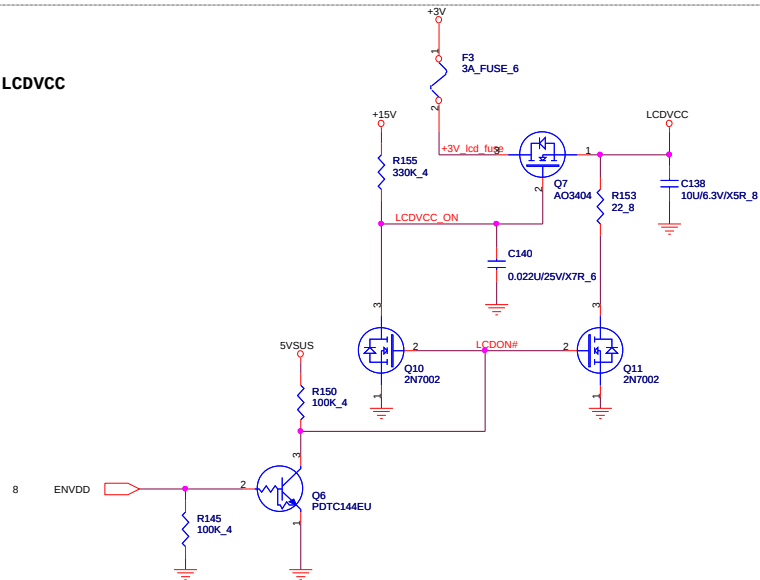
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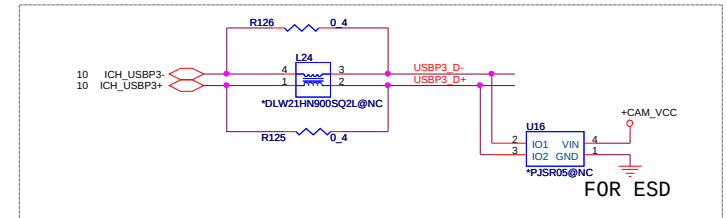
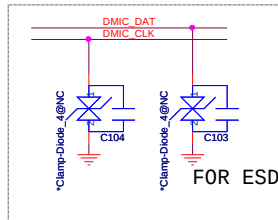
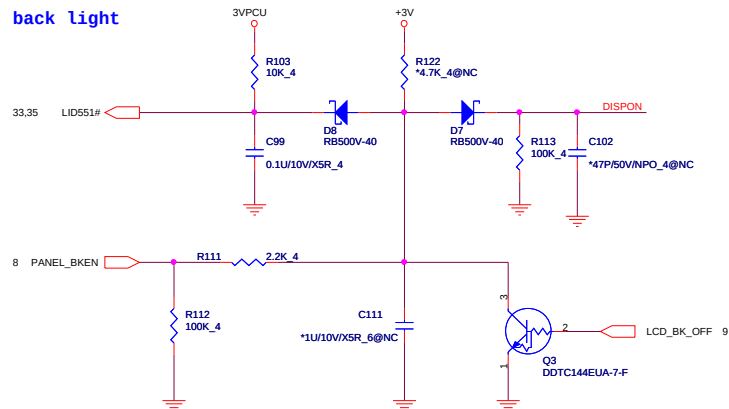




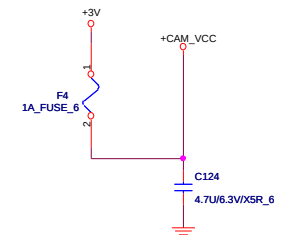
LCDVCC



back light



CAMERA VCC Control

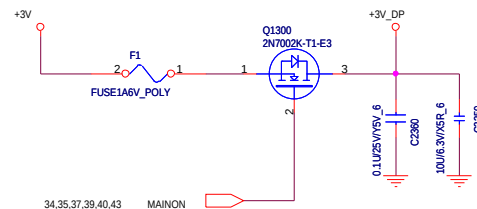
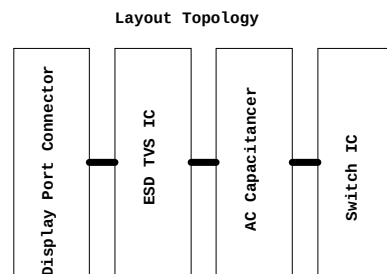
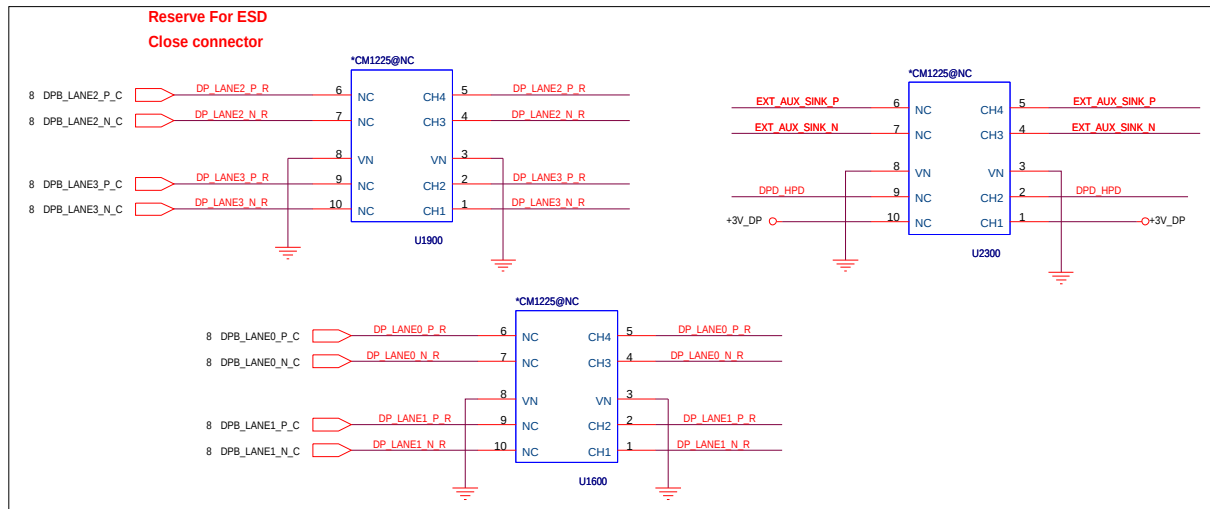
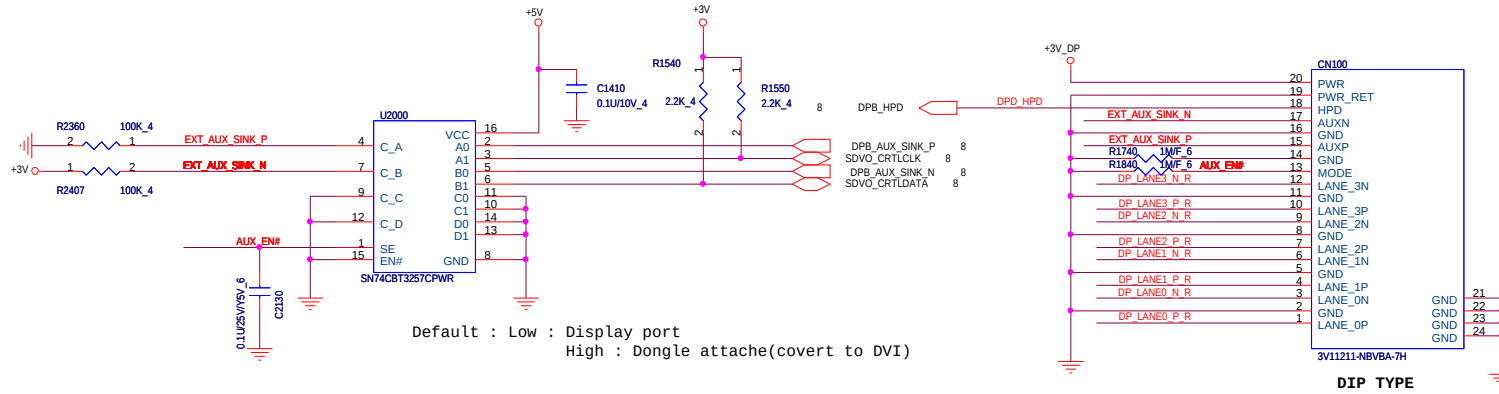


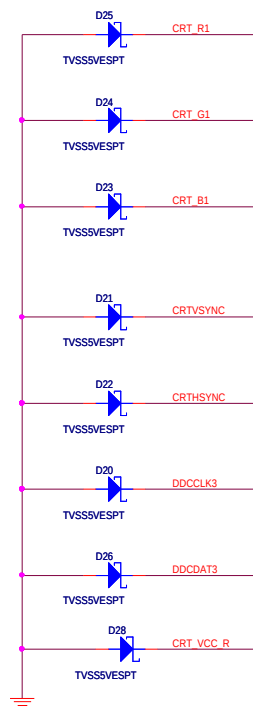
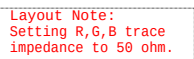
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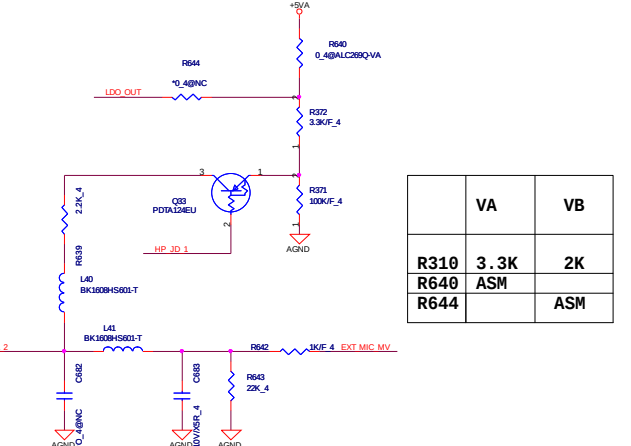
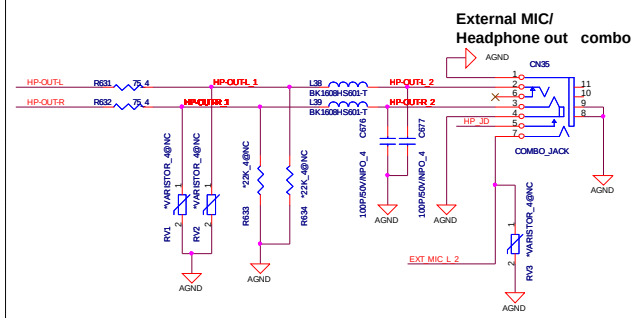
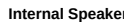
Display Port

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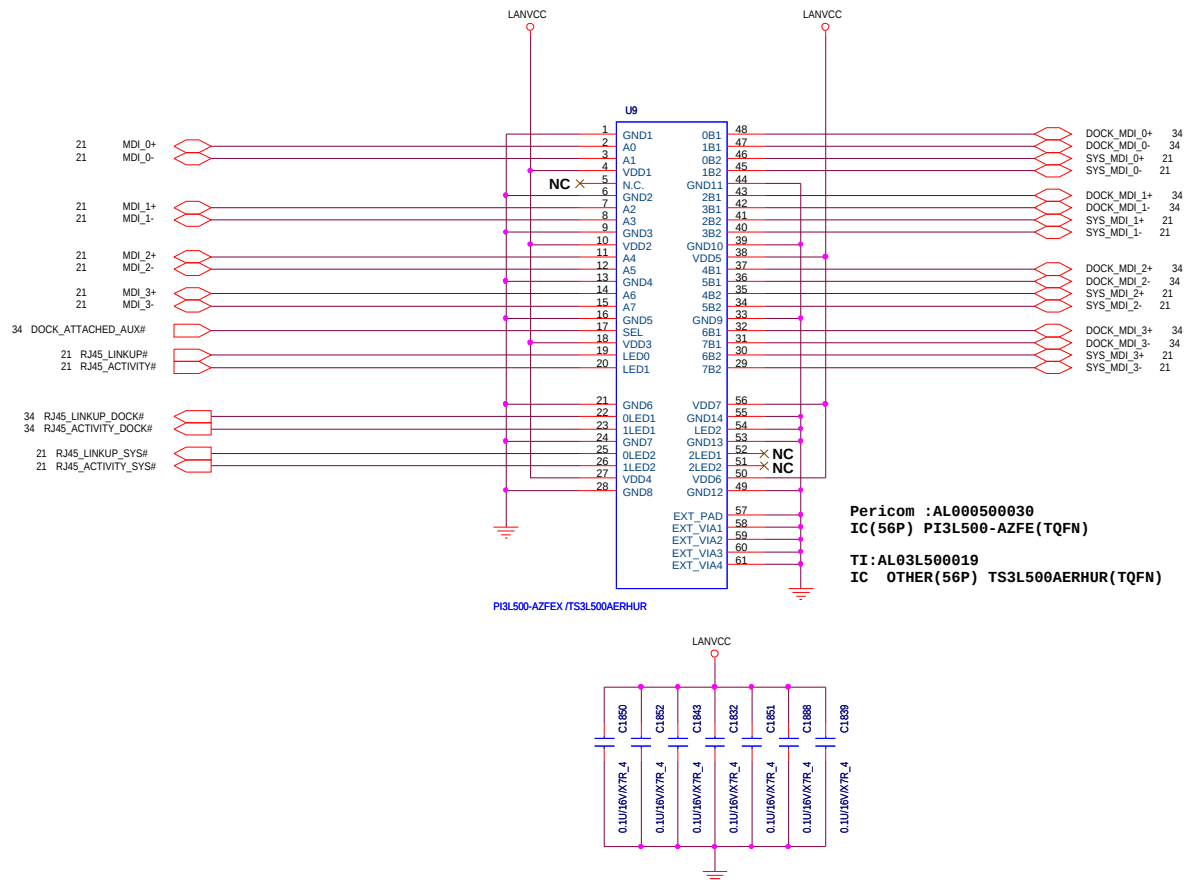




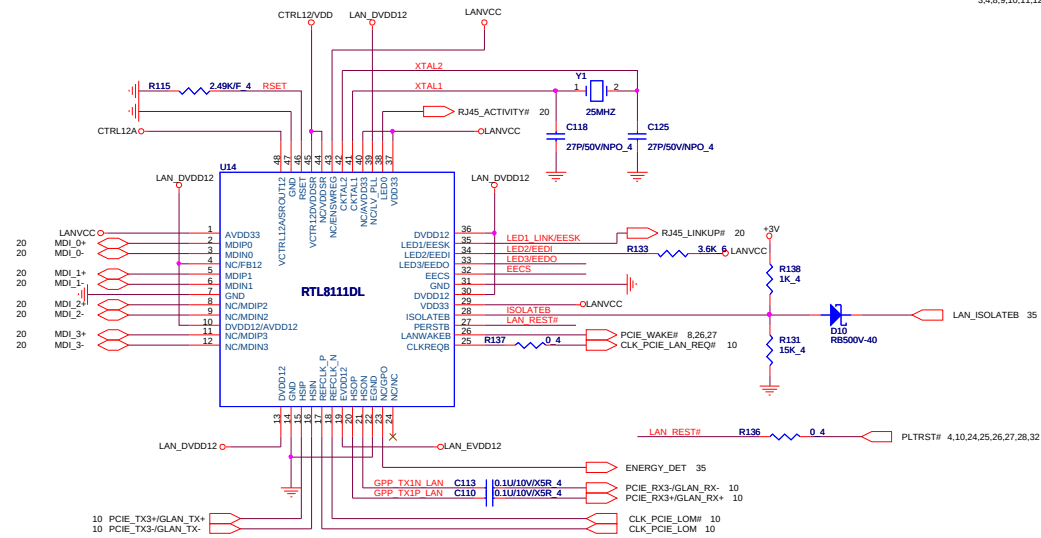
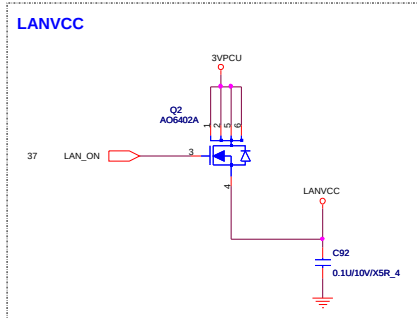
SEL	FUNCTION(COM)
LOW	IN_x0
HIGH	IN_x1



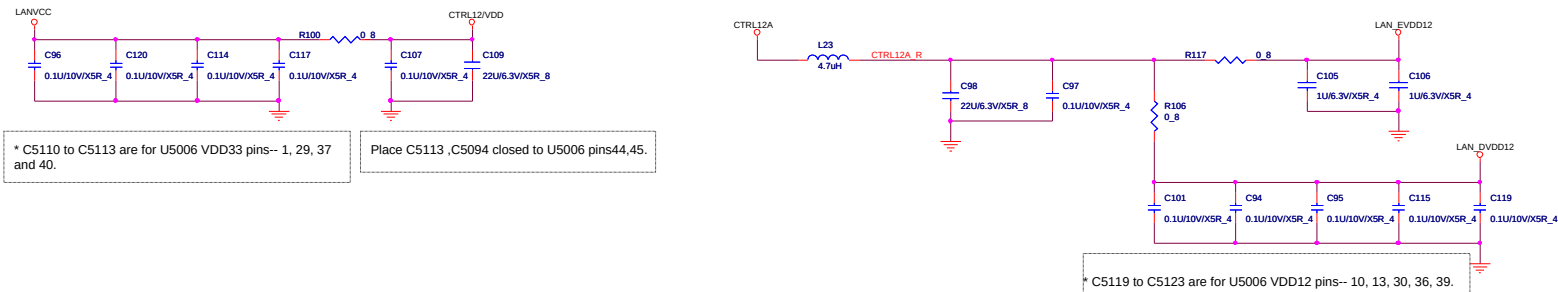
	VA	VB
R310	3.3K	2K
R640	ASM	
R644		ASM



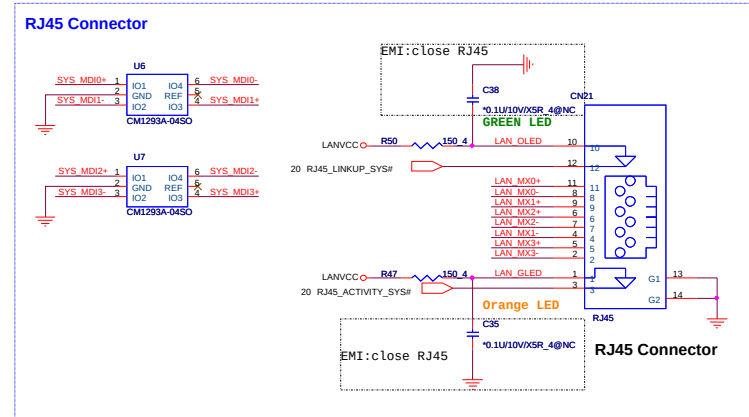
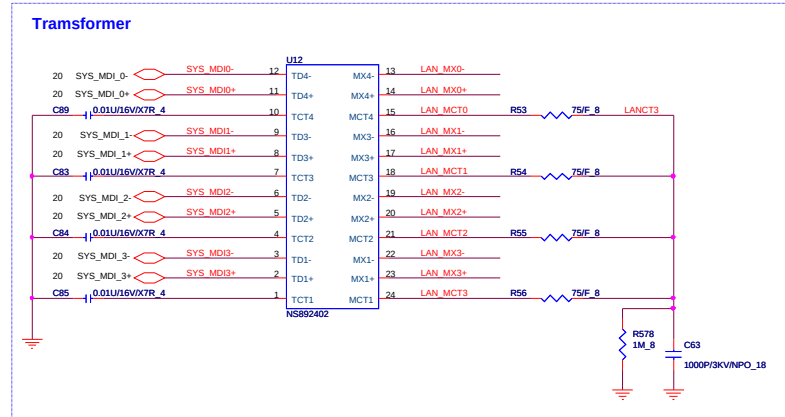
Pericom :AL000500030
 IC(56P) P13L500-AZFE(TQFN)
 TI:AL03L500019
 IC OTHER(56P) TS3L500AERHUR(TQFN)



* C5116 and C5273 are for U5006 EVDD12 pin 19.



Layout: All termination signal should have 20 mil trace

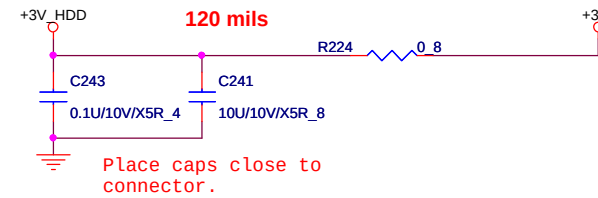
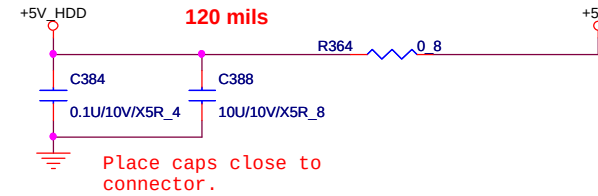
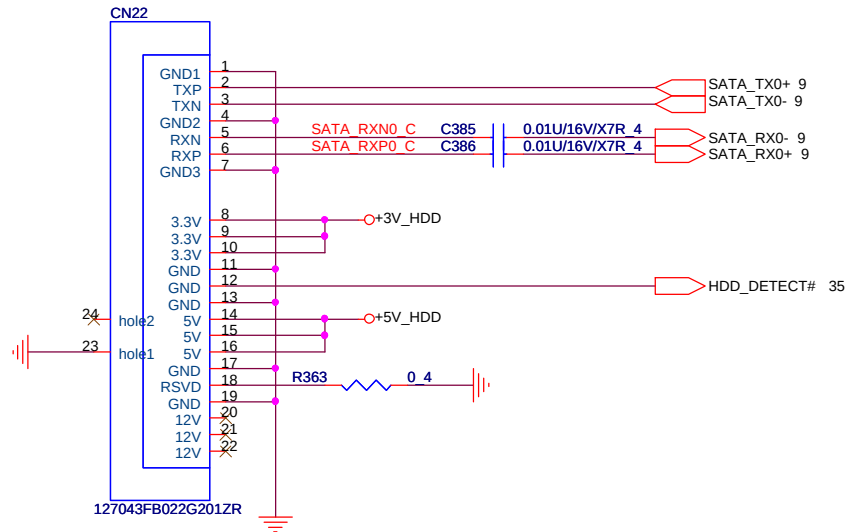


SATA Connector.

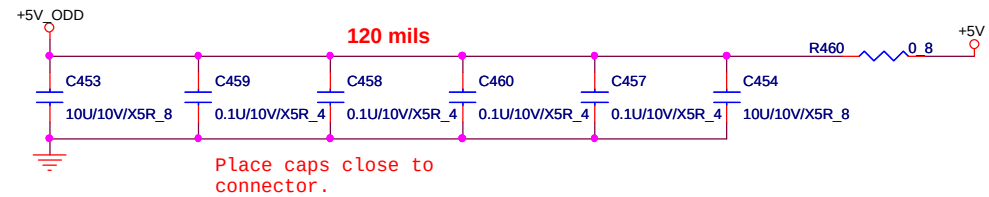
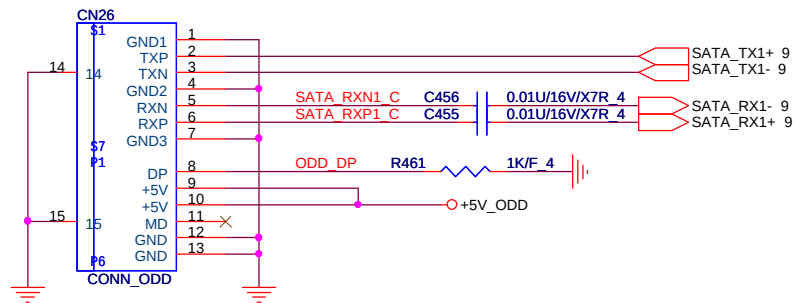
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8,12,17,18,19,30,31,35,37
+5V
+3V

22



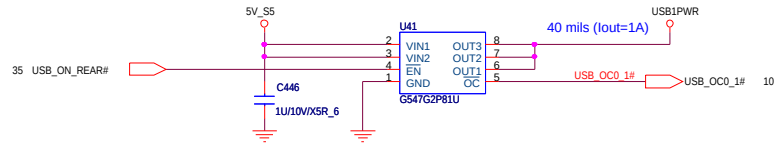
ODD Connector



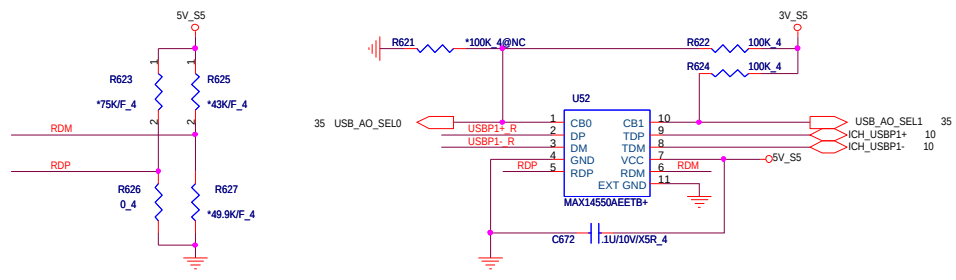
LD-Note Calpella UMA
Quanta Computer Inc.

Size Custom	Document Number SATA (HDD&CD_ROM)	Rev
Date: Tuesday, November 17, 2009	Sheet 22 of 46	

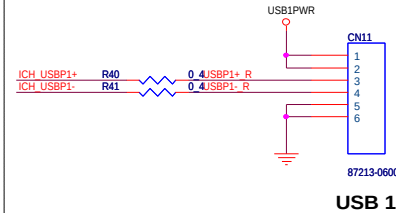
USBX1



Support Black-berry function

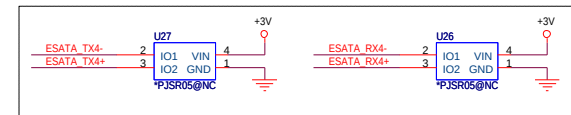
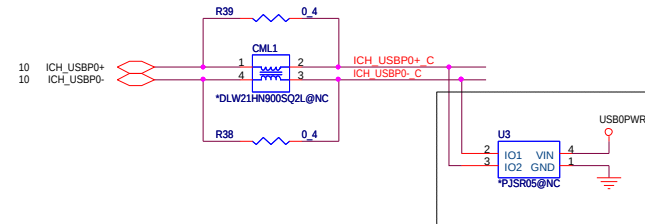
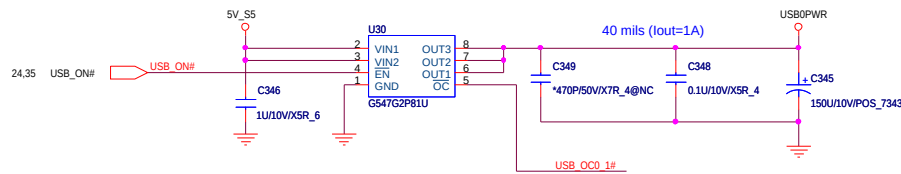


USB X1----> Wire to board conn

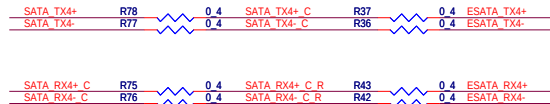
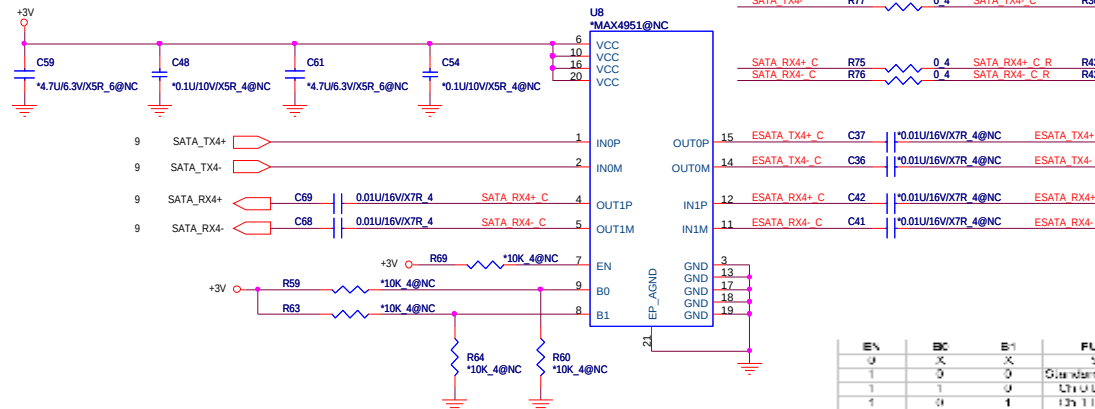


	w/ AOU3	w/o AOU3
R40	NO ASM	ASM
R41	NO ASM	ASM
U52	ASM	NO ASM
R622	ASM	NO ASM
R624	ASM	NO ASM
R626	ASM	NO ASM
C676	ASM	NO ASM

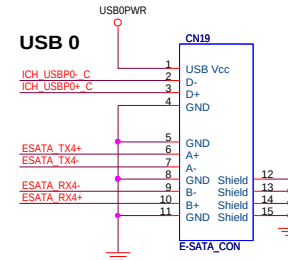
USB + E-SATA



E-SATA RE-DRIVER

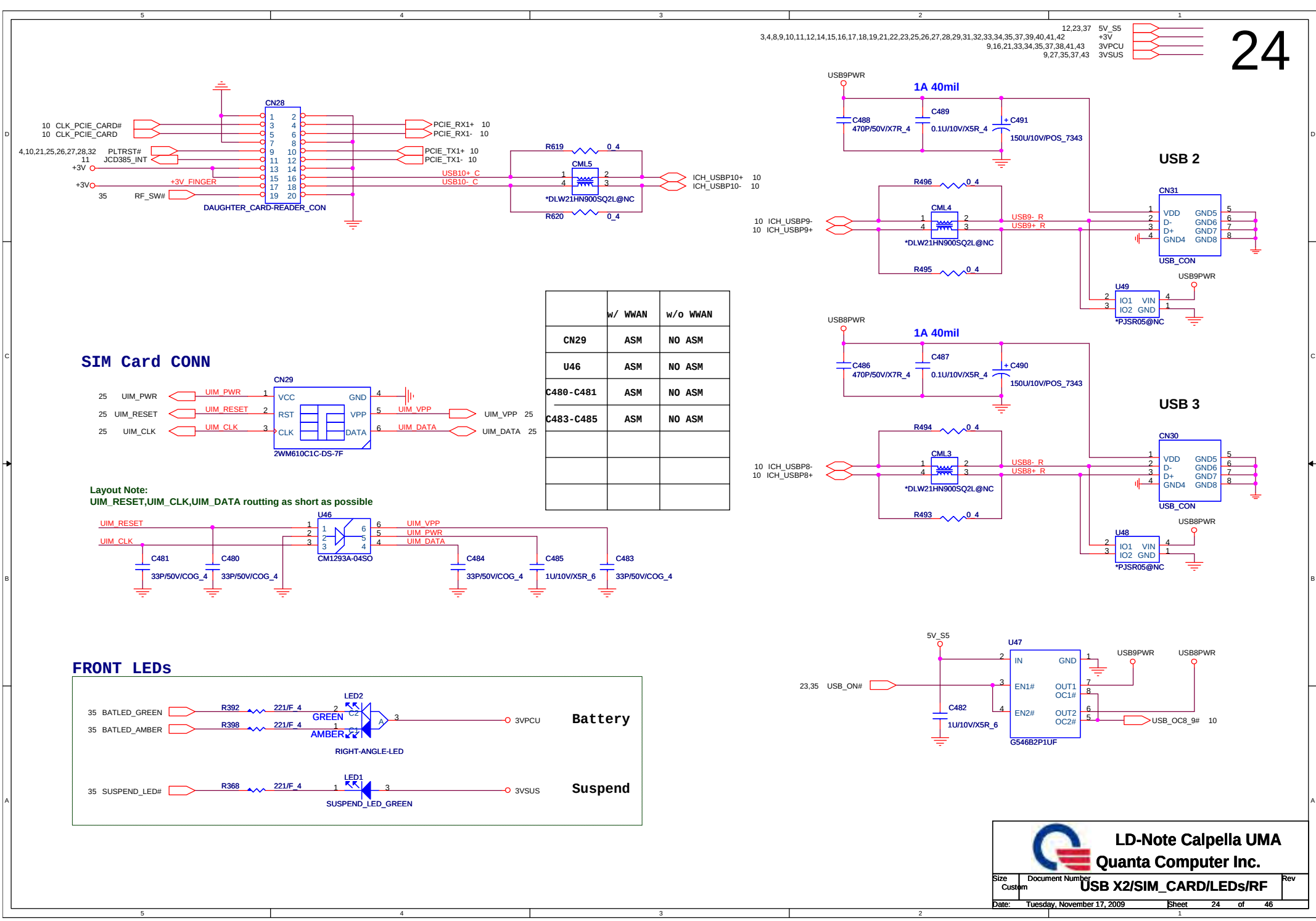


EN	BC	B1	FUNCTION
0	X	X	Standby
1	0	0	Standard SATA Output
1	1	0	Ch 0 Boost Output
1	0	1	Ch 1 Boost Output
1	1	1	Ch 0,1 Boost Output

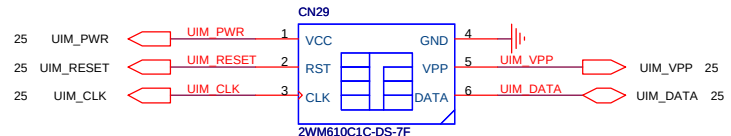


LD-Note Calpella UMA
Quanta Computer Inc.

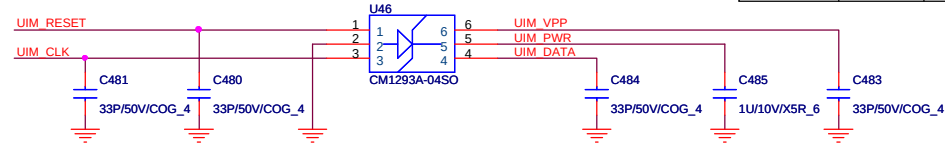
Size	Document Number	Rev
Custom	USB X1/USB+ESATA	
Date:	Tuesday, November 17, 2009	Sheet 23 of 46



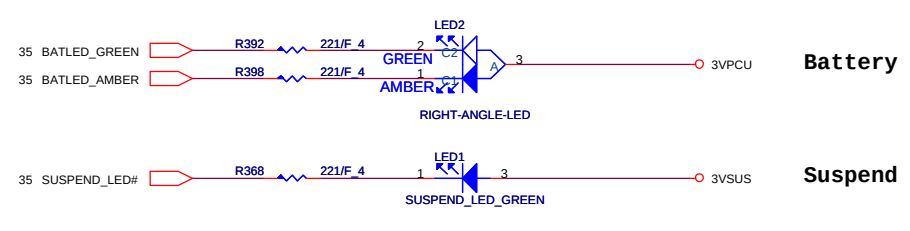
SIM Card CONN



Layout Note:
UIM_RESET, UIM_CLK, UIM_DATA routing as short as possible



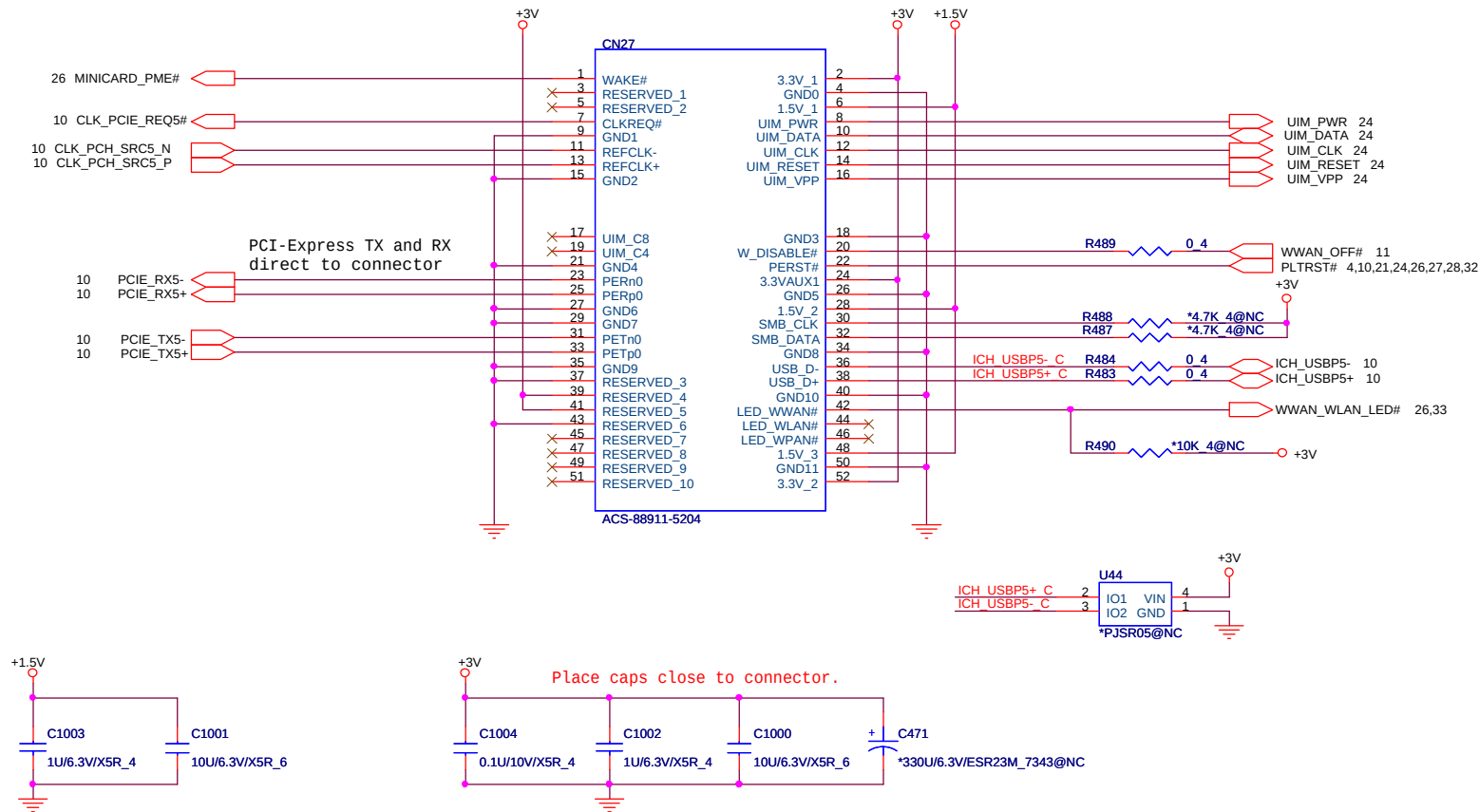
FRONT LEDs



	w/ WWAN	w/o WWAN
CN29	ASM	NO ASM
U46	ASM	NO ASM
C480 - C481	ASM	NO ASM
C483 - C485	ASM	NO ASM

MiniCard WWAN connector

25

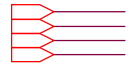


	w/ WWAN	w/o WWAN
CN27	ASM	NO ASM
R489	ASM	NO ASM
R484	ASM	NO ASM
R483	ASM	NO ASM
C1000~C1004	ASM	NO ASM

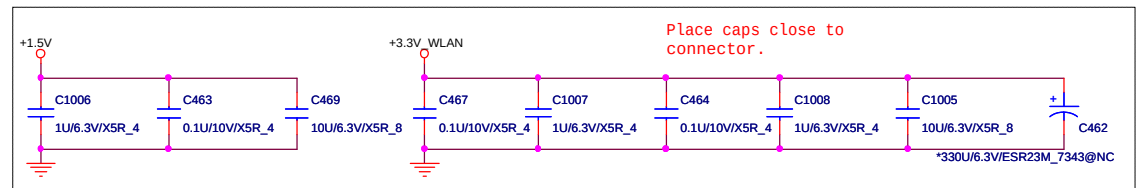
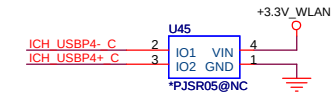
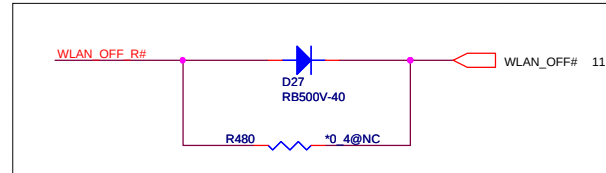
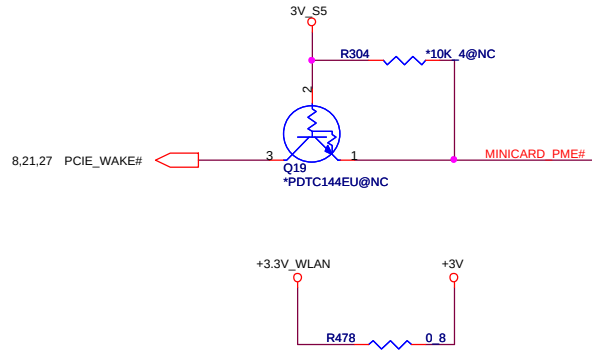
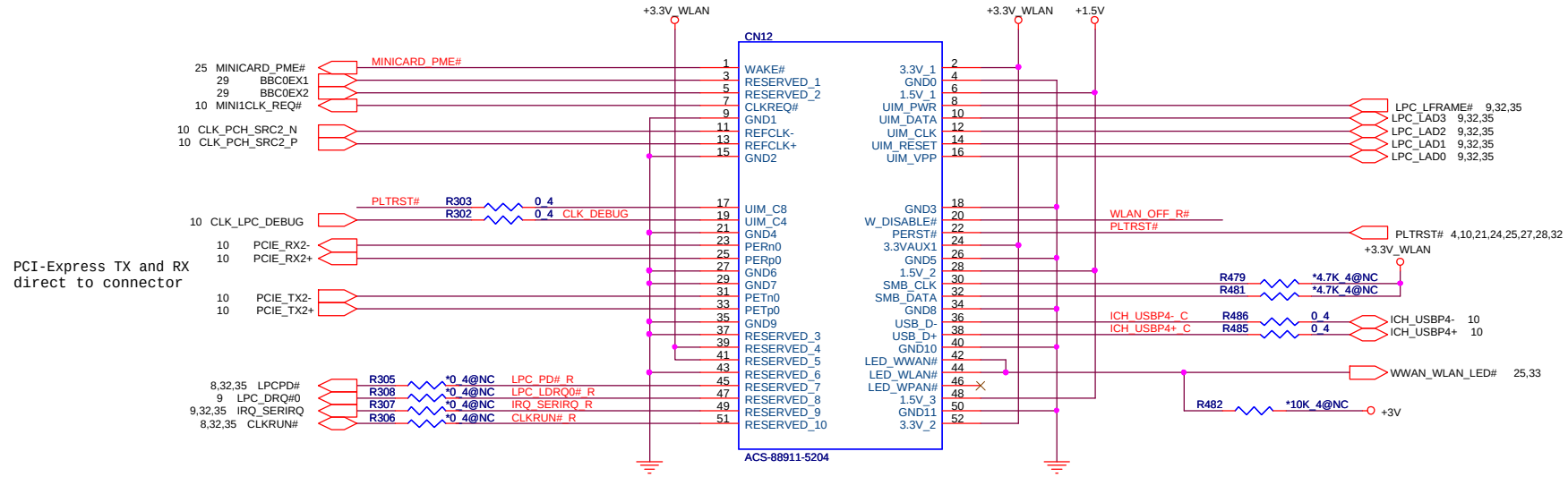
MiniCard WLAN/WiMAX connector

3,4,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,27,28,29,31,32,33,34,35,37,39,40,41,42
 9,16,21,24,33,34,35,37,38,41,43
 16,37,38,39,40,41,42,43

+3V
 +1.5V
 3VPCU
 VIN

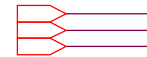


26

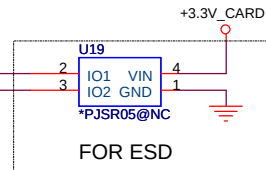
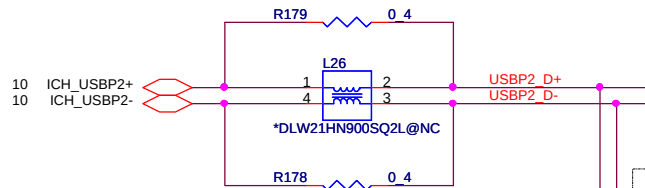


Express Card

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+3V
3,25,26,39
+1.5V
9,24,35,37,43
3VSUS

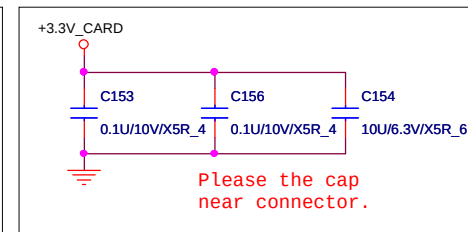
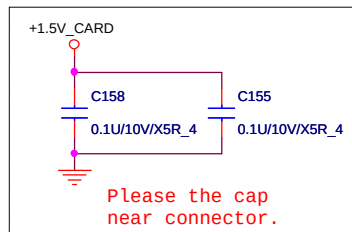
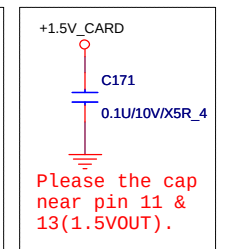
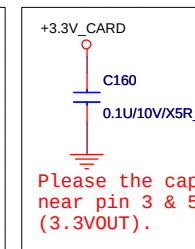
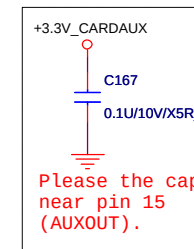
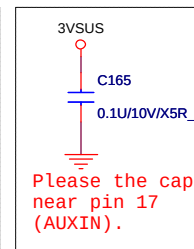
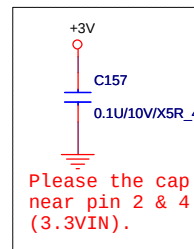
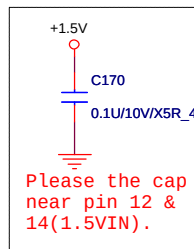
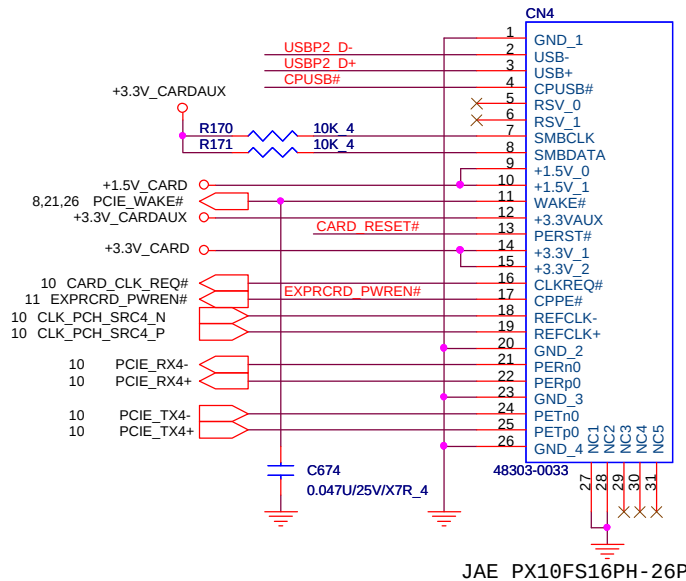
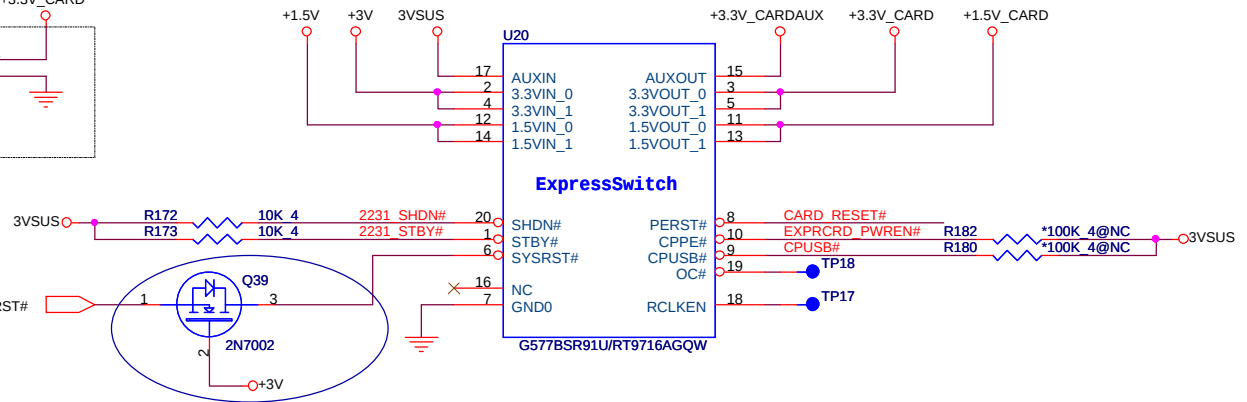


27



+1.5V_CARD Max. 650mA, Average 500mA.
+3V_CARD Max. 1300mA, Average 1000mA.

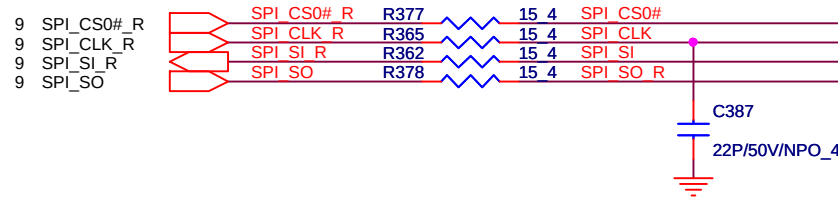
20090928
avoid current leakage



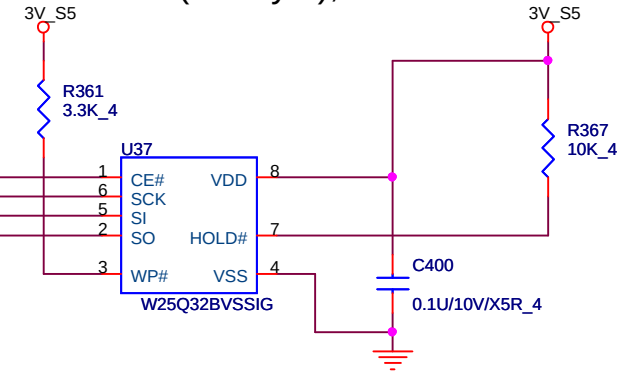
iTPM ENABLE/DISABLE



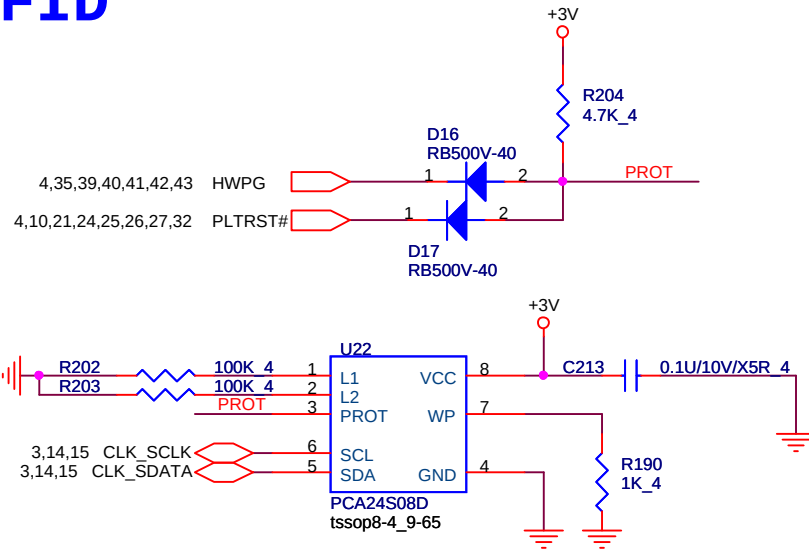
iTPM Function	R366
Enable	1K
Disable	NC



For PCH
32Mbit (4M Byte), SPI



RFID



**LD-Note Calpella UMA
Quanta Computer Inc.**

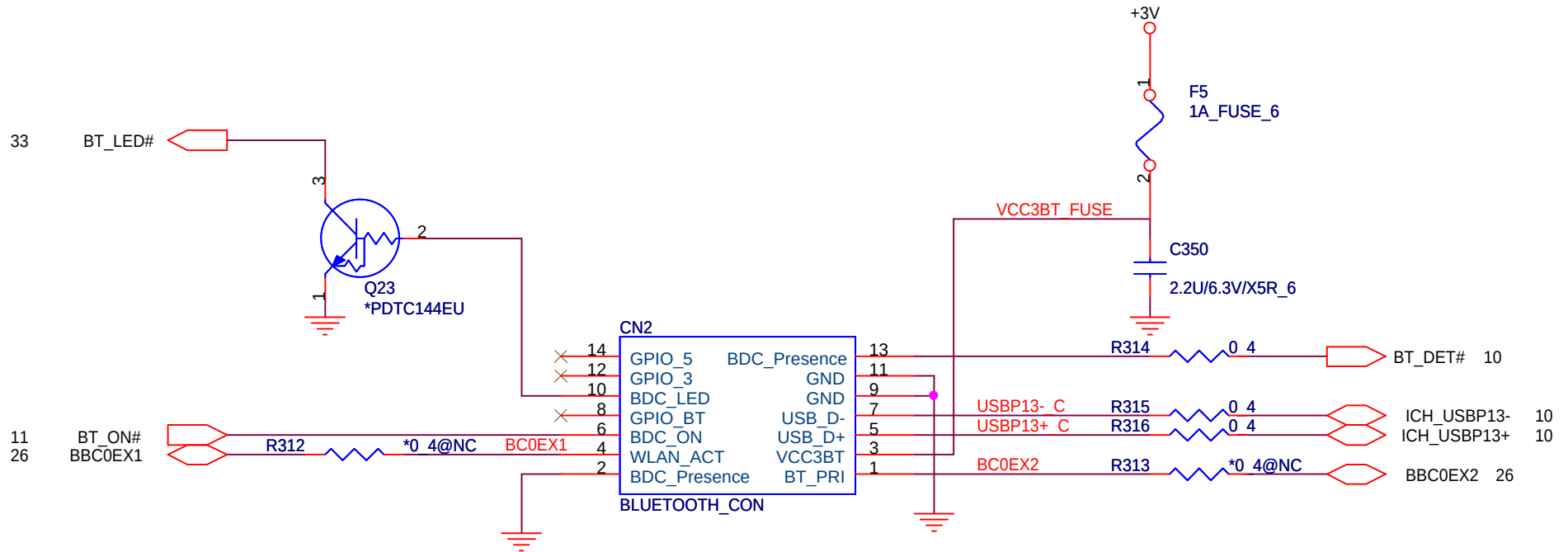
Size Custom	Document Number iTPM & RFID EEPROM	Rev
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BLUETOOTH

3,4,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,26,27,28,31,32,33,34,35,37,39,40,41,42

+3V

29

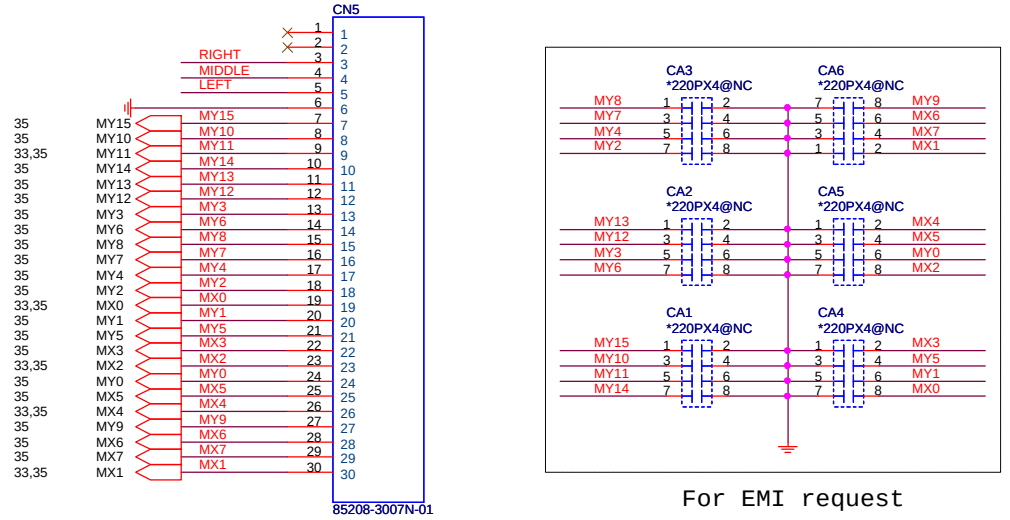


LD-Note Calpella UMA
Quanta Computer Inc.

Size Custom	Document Number B/T	Rev
Date: Tuesday, November 17, 2009	Sheet 29 of 46	

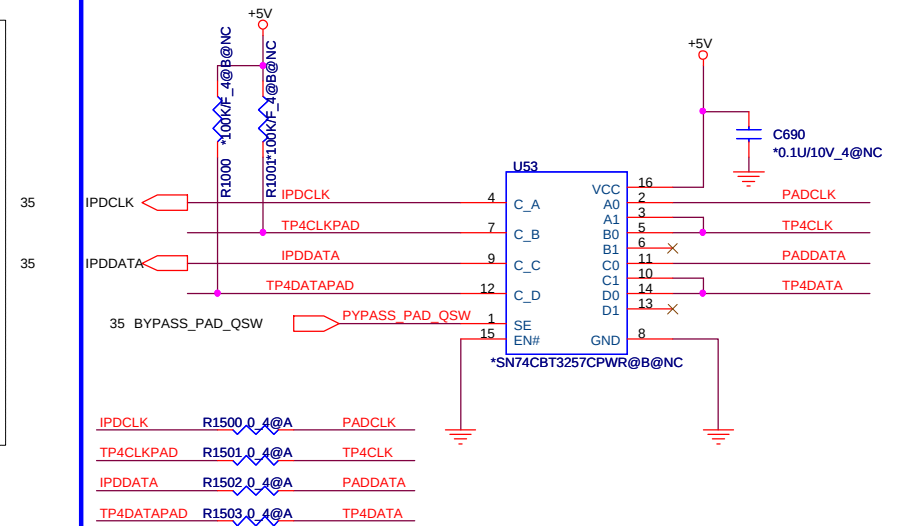
KEYBOARD

KEYBOARD connector

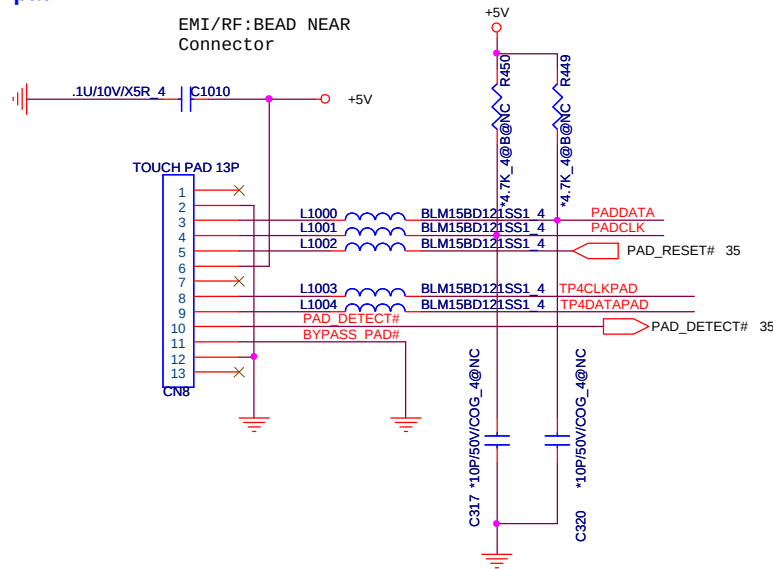


Touch pad/Track point Switch

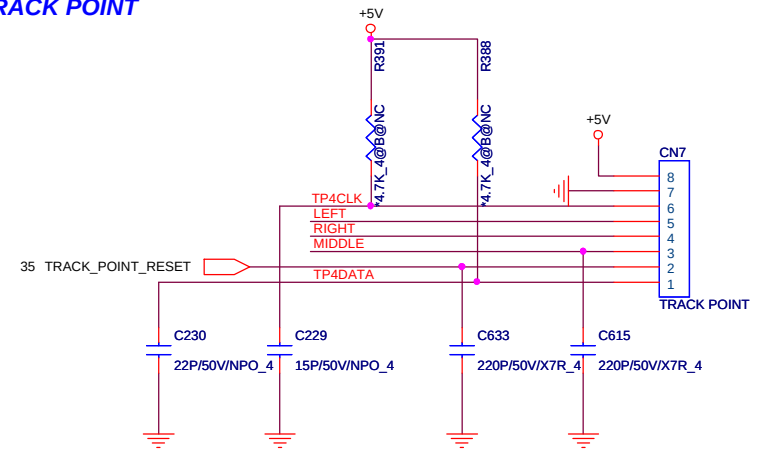
30



Touch pad



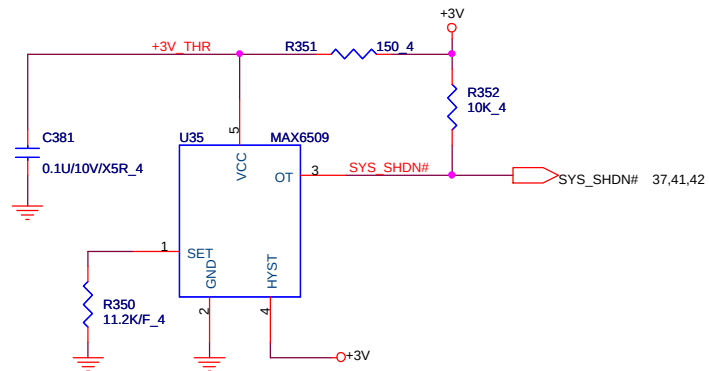
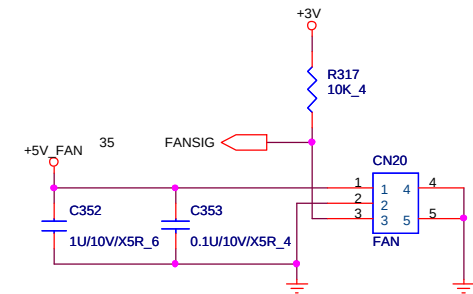
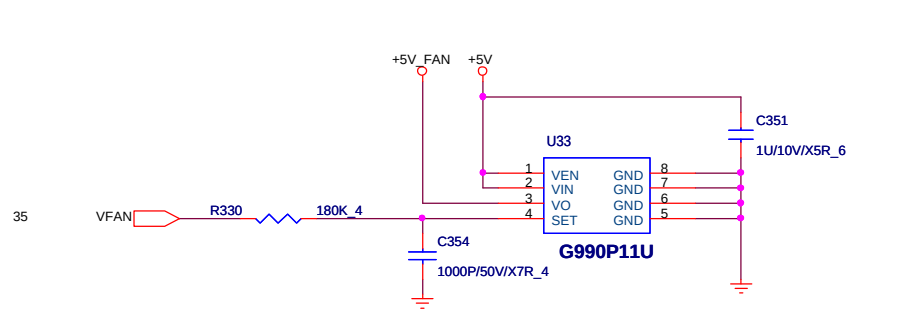
TRACK POINT



FAN CONTROL

3,4,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29,32,33,34,35,37,39,40,41,42 +3V
8,12,17,18,19,22,30,35,37 +5V

31

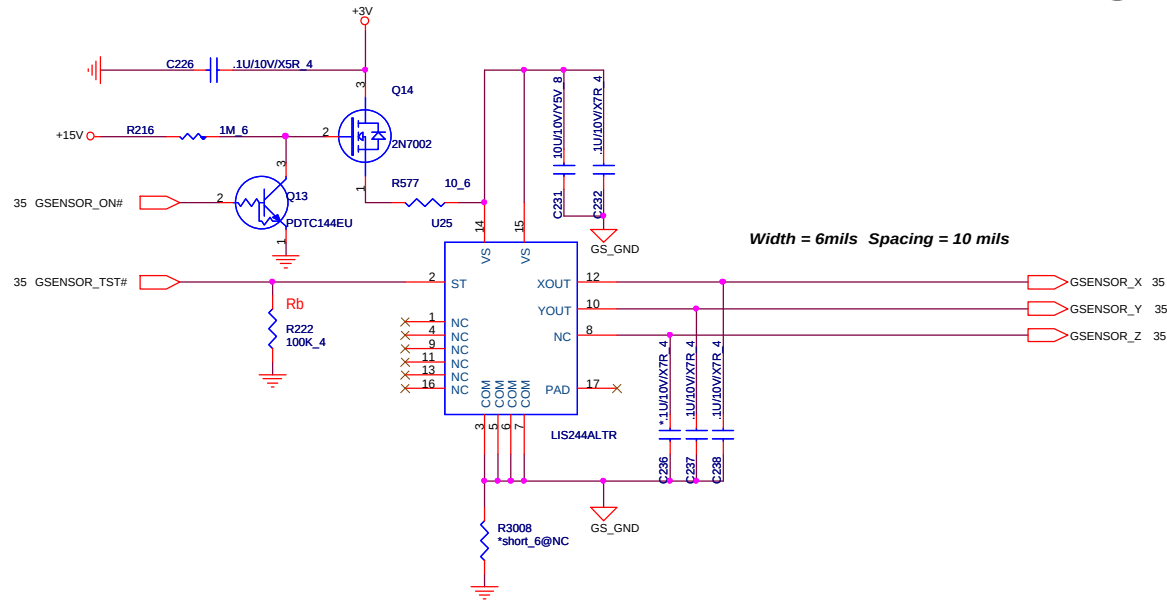


LD-Note Calpella UMA
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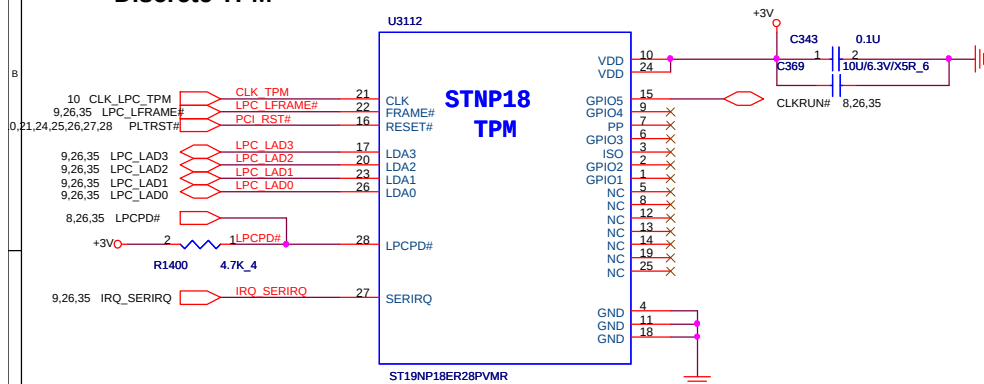
Size Custom	Document Number FAN & THERMAL	Rev
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G-SENSOR (2-Axial)

32



Discrete TPM



supplier P/N:ST19NP18ER28PVMR
Quanta P/N:AL19NP18K13
F/P:tssop28-6_4-65-1_2h

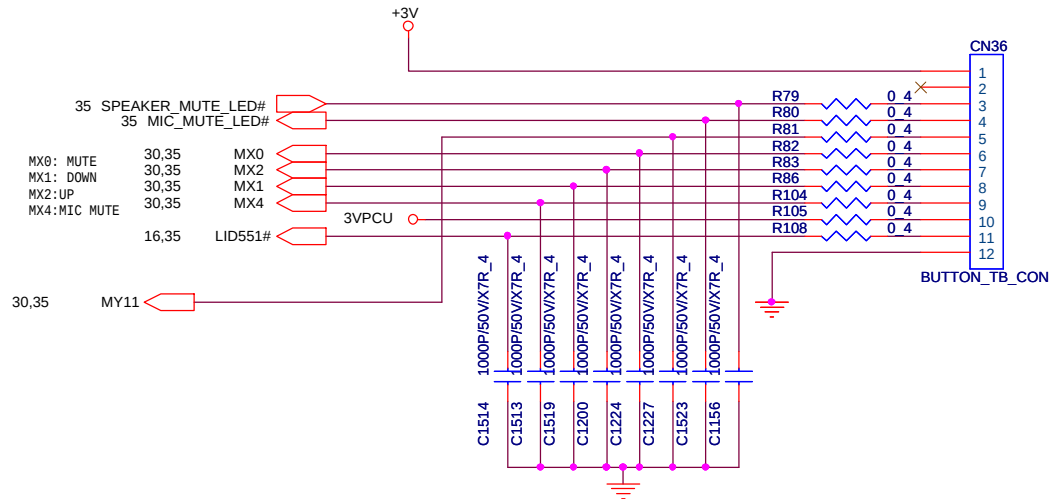


G-Note Montevina
Quanta Computer Inc.

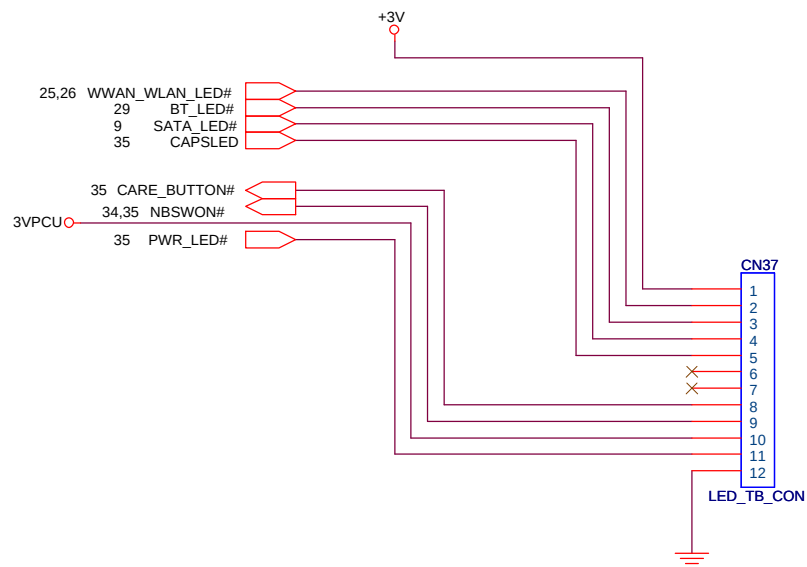
Daughter Boards for LEDs & Ports

33

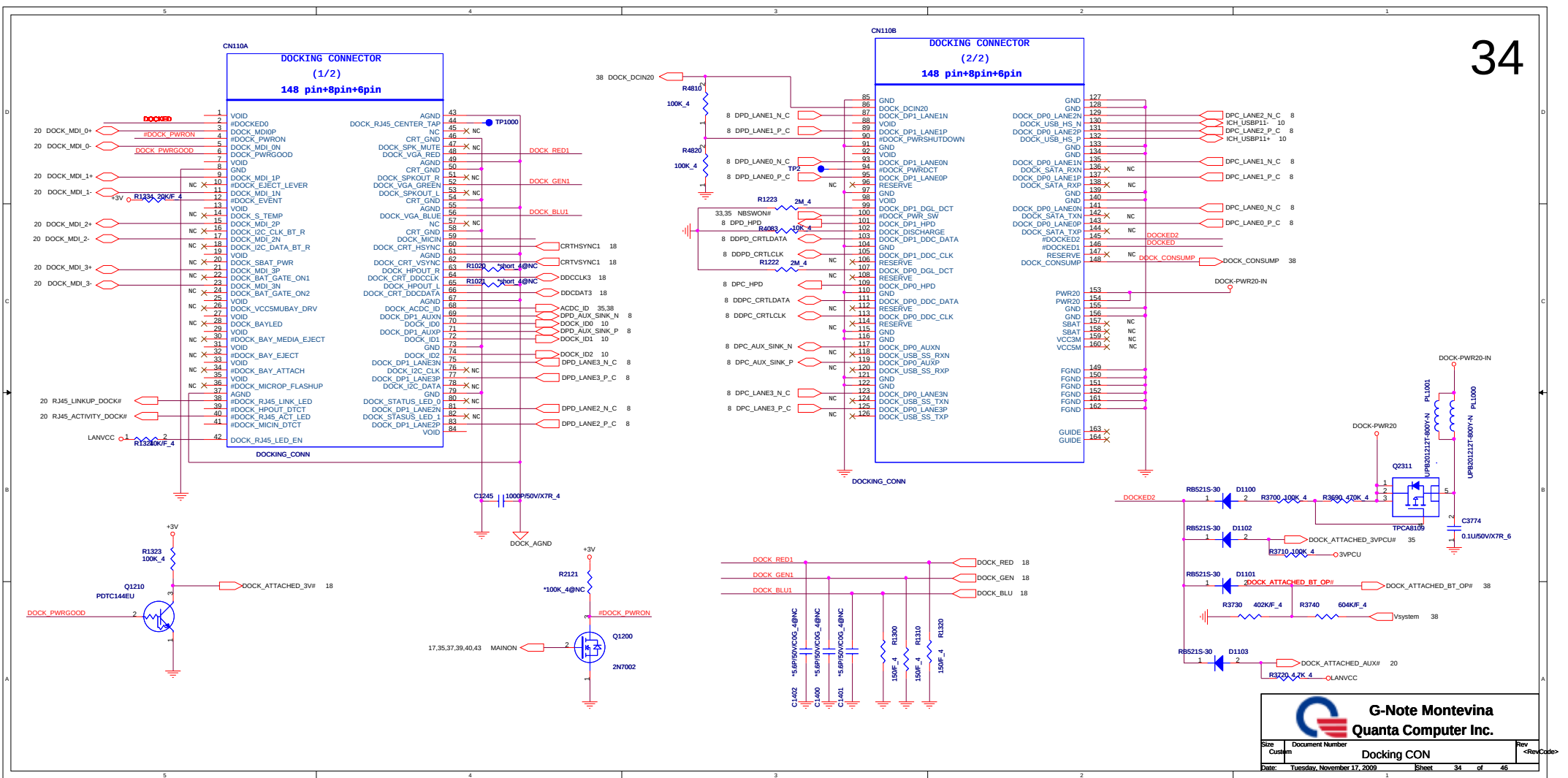
FFC TO KBD LEFT SIDE CONNECTOR

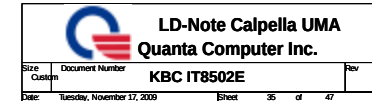


FFC TO LED RIGHT SIDE CONNECTOR



G-Note Montevina
Quanta Computer Inc.





MiniCard WLAN

HOLE13
H-TC197BC142D102P2

HOLE14
H-TC197BC142D102P2

MiniCard WWAN

HOLE35
H-TC236BC102D64P2

HOLE36
H-TC236BC102D64P2

Hole for PCH support

HOLE34
H-BC197D118PB

HOLE33
H-BC197D118PB

Drink Hole

HOLE8
*O-GC8-2

Bluetooth nut

HOLE3
H-TC197D118PT

Hole for CPU support

HOLE29
*H-C142D142N@NC

HOLE31
*H-C142D142N@NC

HOLE30
*H-C142D142N@NC

HOLE32
*H-C142D142N@NC

VGA nut

HOLE27
*H-C276D87P2

HOLE28
O-GC8-1

HOLE26
H-TC236BC216D87P2

Boundary Hole

HOLE7
*H-C276D87P2

HOLE4
*H-C276D91P2

HOLE5
*H-C86D86N@NC

HOLE15
*H-TC236BC216D87P2H-C209D209N

HOLE10
*H-C276D91P2@NC

HOLE1
*H-C276D91P2@NC

HOLE9
*H-BC276D91P2

HOLE17
*H-C276D91P2@NC

HOLE2
*H-C276D91P2@NC

Break Hole

HOLE11
*o-gc4@NC

Boundary Hole

HOLE6
*H-TSHAPEBC276D91P2-1@NC

HOLE16
*H-C276D91P2@NC

HOLE25
*H-C276D91P2@NC

HOLE23
*H-C79D79N

HOLE21
*H-BC276D87PB

HOLE24
*H-C157D91P2@NC

K/B Control/B Nut

HOLE18
*H-TC189D122PT

Boundary Hole (ODD)

HOLE12
*H-C276D91P2@NC

PAD

GP2
*SPAD-SPE1NP

GP3
*SPAD-RE197X217NP

GP1
*RE236X494NP

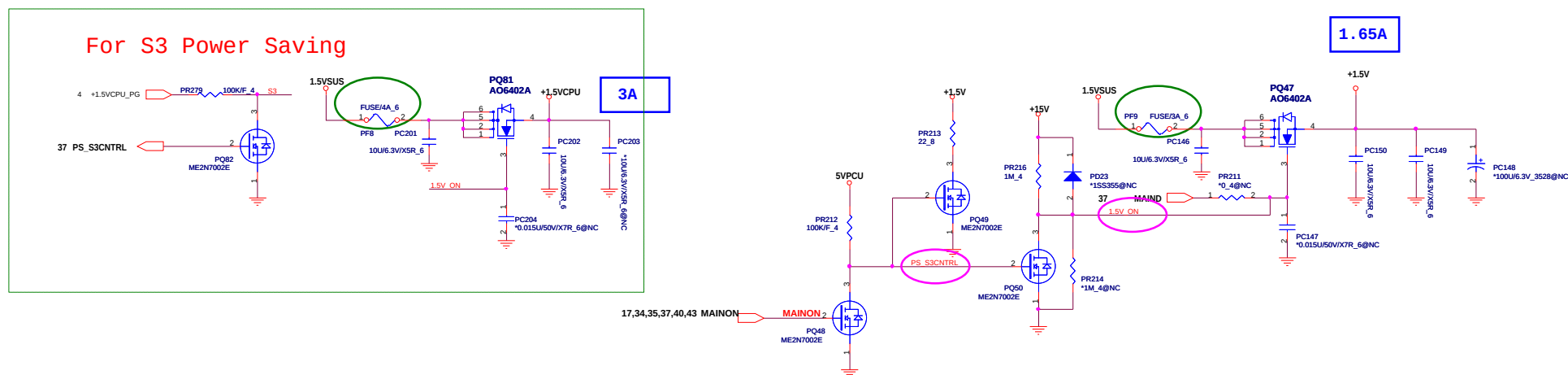
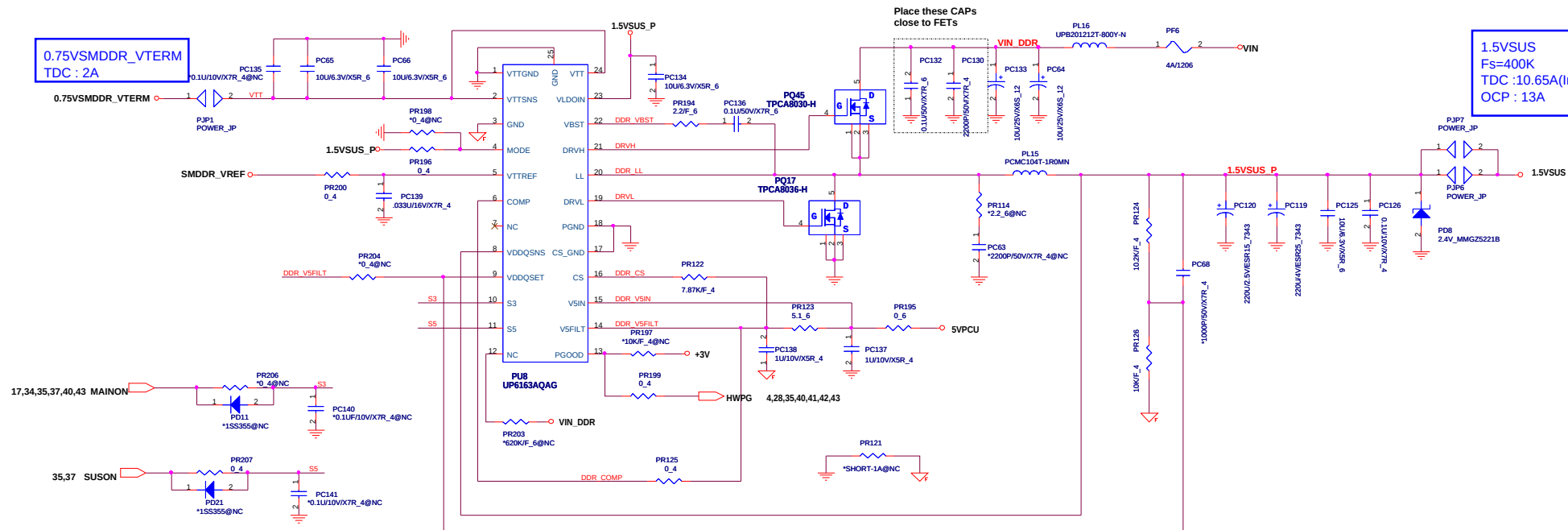
GP4
*RE270X220NP

HOLE19
O-GC2A-1

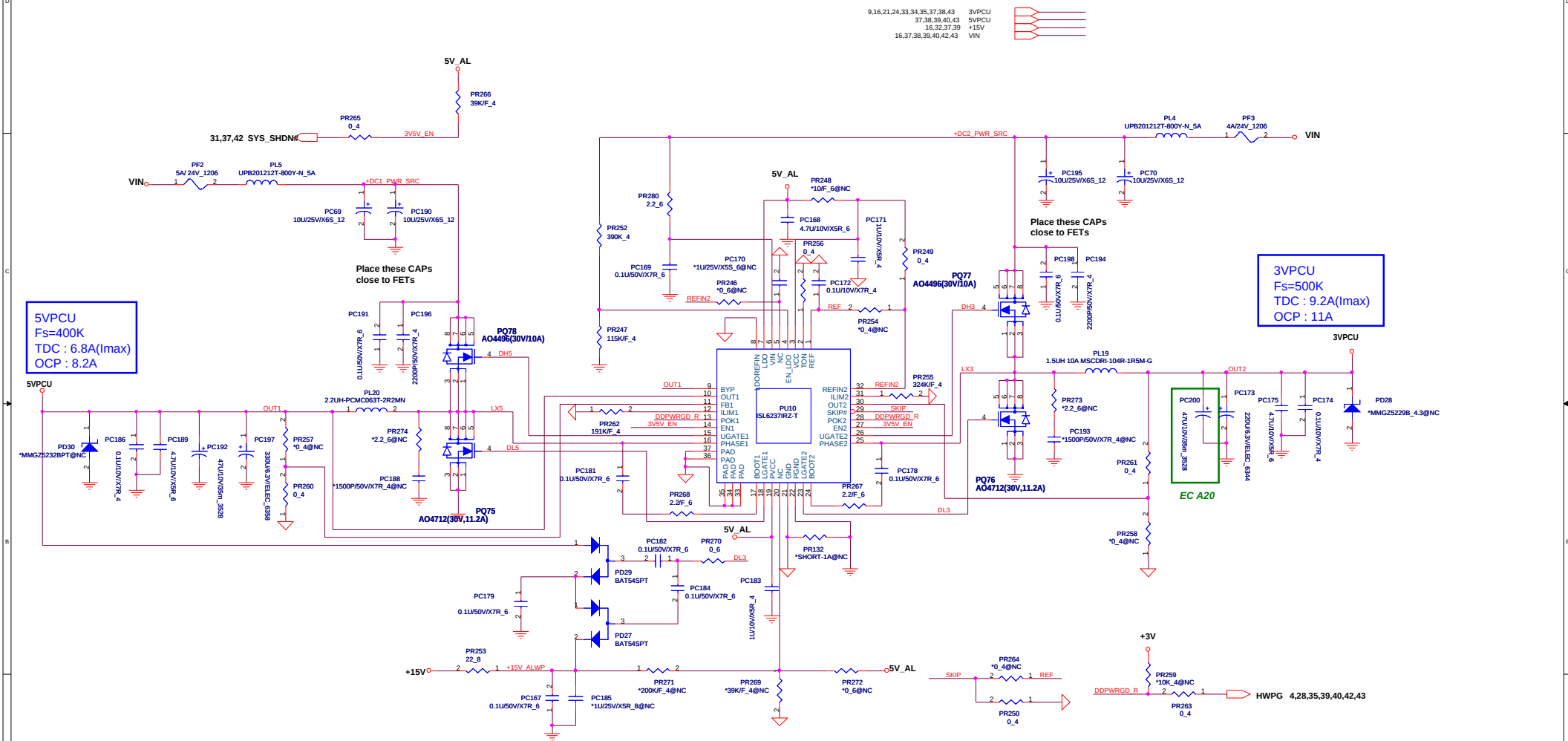
HOLE20
O-GC2A-2

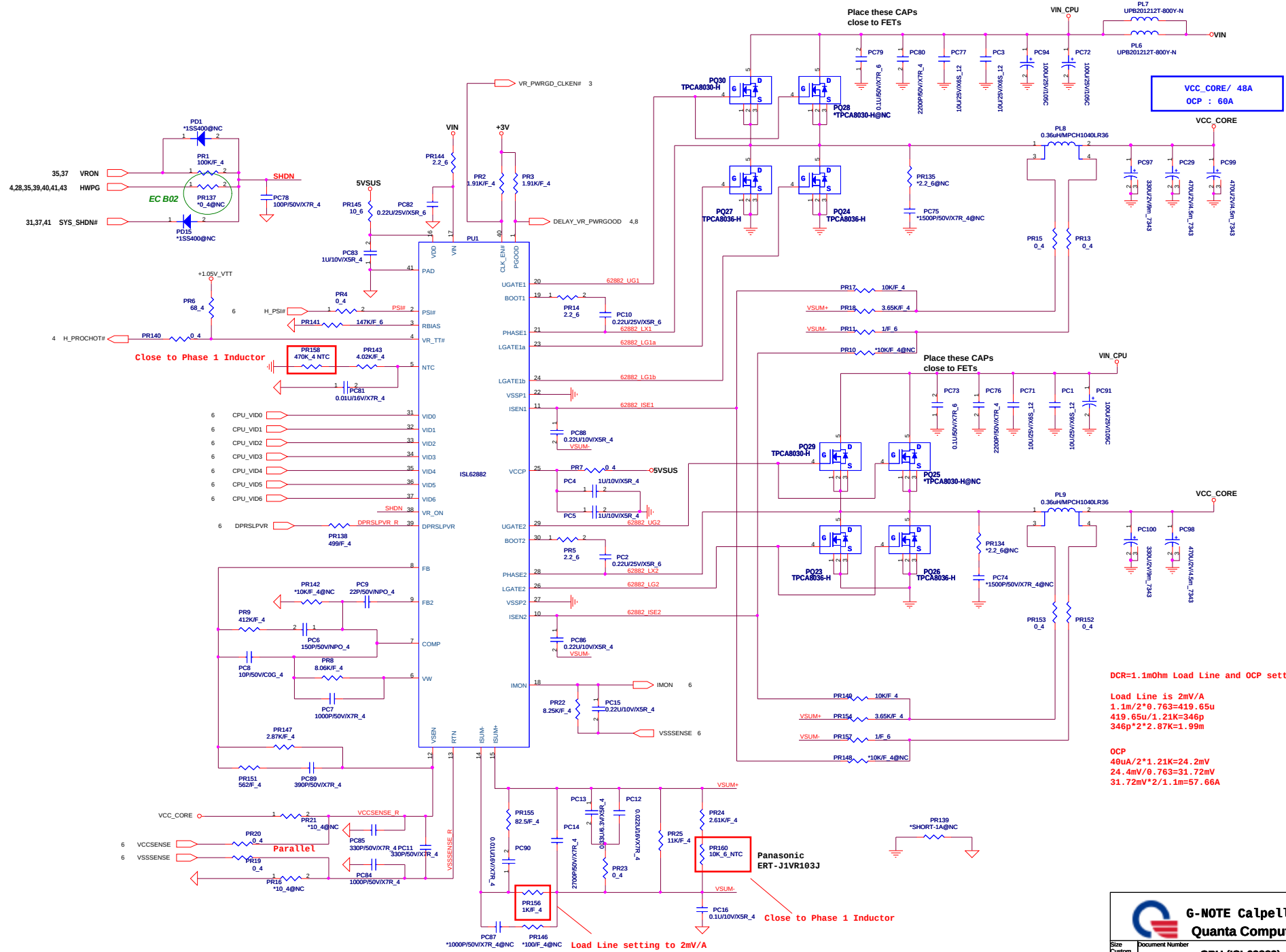
HOLE22
*H-TC181D93PT

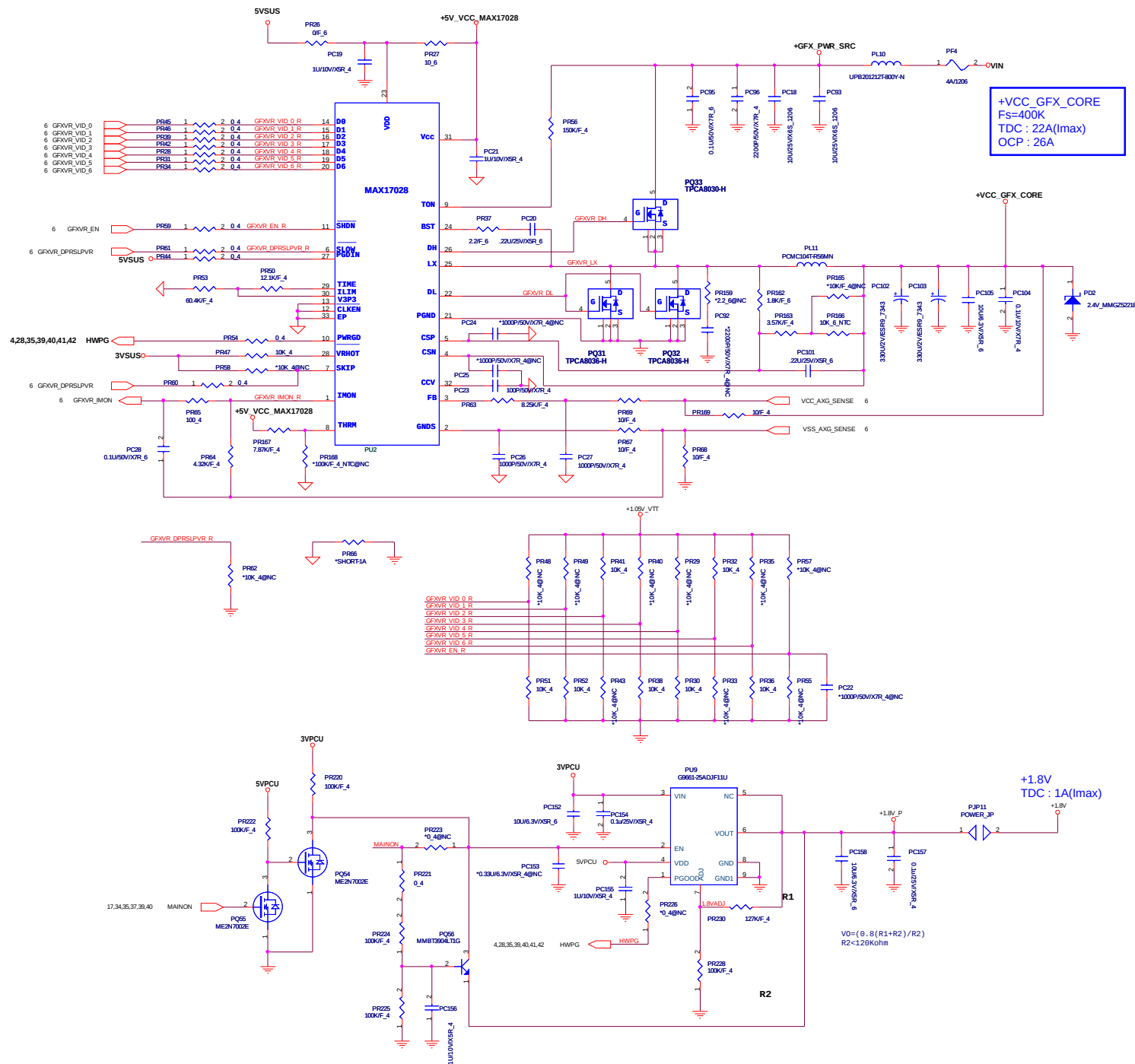
HOLE37
*H-TC189BC158D122P2











Revision History

Revision	Date	Phase	Change List	Release Schematic Date	Release Gerber File Date
1A		DV	Initial release		

Schematic Value Explanation Description :

RESISTOR

Value	F	4	6	8	12	1210	*	Description
*1K/F_4	1%	0402 (1005)					DE POP	1K ohm 1% SMD 0402 package and DE POP
1K_6	5%		0603 (1608)				POP	1K ohm 5% SMD 0603 package and POP
1K_8	5%			0805 (2125)			POP	1K ohm 5% SMD 0805 package and POP
1K_12	5%				1206 (3216)		POP	1K ohm 5% SMD 1206 package and POP
1K_1210	5%					1210 (3225)	POP	1K ohm 5% SMD 1210 package and POP

CAPACITOR

Value	Voltage	Material	6				*	Description
*0.1U/10V/X5R_4	10V	X5R	0402 (1005)				DE POP	0.1UF 10V X5R SMD 0402 package DE POP
1U/25V/X7R_6	25V	X7R	0603 (1608)				POP	0.1UF 25V X7R SMD 0603 package POP

