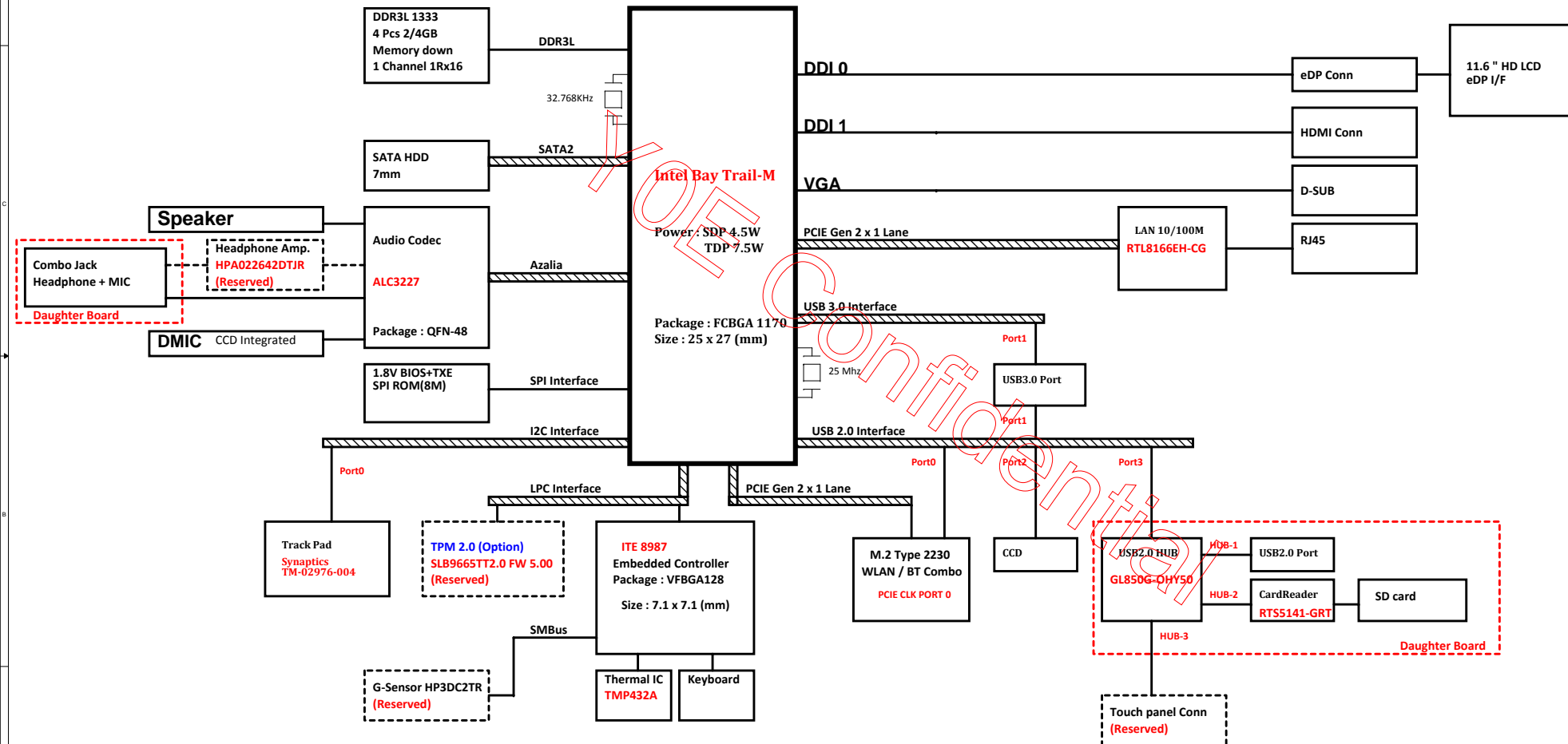
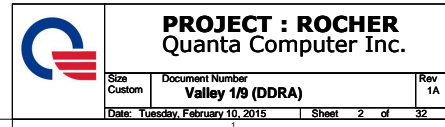


# HP Rocher 1.0 RFQ

## Intel Bay Trail-M Platform Block Diagram



[www.vinafix.com](http://www.vinafix.com)



UBB		VLV_M_D ?	
AY45	DRAM1_MA_00	DRAM1_DQ_00	BG38
BB47	DRAM1_MA_11	DRAM1_DQ_11	BC40
AW47	DRAM1_MA_22	DRAM1_DQ_22	BA42
BB43	DRAM1_MA_33	DRAM1_DQ_33	BD42
BB89	DRAM1_MA_44	DRAM1_DQ_44	BC38
BC45	DRAM1_MA_55	DRAM1_DQ_55	BD36
BB43	DRAM1_MA_66	DRAM1_DQ_66	BF42
BF60	DRAM1_MA_77	DRAM1_DQ_77	BC44
BC52	DRAM1_MA_88	DRAM1_DQ_88	BF32
BE62	DRAM1_MA_99	DRAM1_DQ_99	BE32
AY48	DRAM1_MA_1010	DRAM1_DQ_1010	BG36
BE70	DRAM1_MA_1111	DRAM1_DQ_1111	BG37
BD40	DRAM1_MA_1212	DRAM1_DQ_1212	BG33
BA47	DRAM1_MA_1313	DRAM1_DQ_1313	BG37
BH43	DRAM1_MA_1414	DRAM1_DQ_1414	BH38
BH50	DRAM1_MA_1515	DRAM1_DQ_1515	BH36
		DRAM1_DQ_1616	AT36
BD38	DRAM1_DM_00	DRAM1_DQ_1717	AV40
BH36	DRAM1_DM_11	DRAM1_DQ_1818	AT40
BC36	DRAM1_DM_22	DRAM1_DQ_1919	AK36
BH42	DRAM1_DM_33	DRAM1_DQ_2020	AV36
AT37	DRAM1_DM_44	DRAM1_DQ_2121	AV42
AM42	DRAM1_DM_55	DRAM1_DQ_2222	AV40
AK30	DRAM1_DM_66	DRAM1_DQ_2323	BJ41
AK52	DRAM1_DM_77	DRAM1_DQ_2424	BG41
AV48	DRAM1_RAS	DRAM1_DQ_2525	BJ45
AV48	DRAM1_CAS	DRAM1_DQ_2626	BH46
BB89	DRAM1_WE	DRAM1_DQ_2727	BG40
AY47		DRAM1_DQ_2828	BH40
AY44	DRAM1_BS_00	DRAM1_DQ_2929	BH48
BF52	DRAM1_BS_11	DRAM1_DQ_3030	BH47
AT44	DRAM1_BS_22	DRAM1_DQ_3131	AV52
		DRAM1_DQ_3232	AV51
AT44	DRAM1_CS_0	DRAM1_DQ_3333	AV52
AT45	DRAM1_CS_2	DRAM1_DQ_3434	AP51
		DRAM1_DQ_3535	AW51
		DRAM1_DQ_3636	AW53
		DRAM1_DQ_3737	AR51
BG47	DRAM1_CKE_00	DRAM1_DQ_3838	AR53
BE48	RESERVED_BE48	DRAM1_DQ_3939	AP47
BD46	DRAM1_CKE_22	DRAM1_DQ_4040	AP45
BE48	RESERVED_BE48	DRAM1_DQ_4141	AK40
		DRAM1_DQ_4242	AM41
AP41	DRAM1_ODT_0	DRAM1_DQ_4343	AP48
AT42	DRAM1_ODT_2	DRAM1_DQ_4444	AP50
		DRAM1_DQ_4545	AK42
AV50		DRAM1_DQ_4646	AK40
AV48	DRAM1_CKP_0	DRAM1_DQ_4747	AM45
	DRAM1_CKN_0	DRAM1_DQ_4848	AM47
		DRAM1_DQ_4949	AF48
AT50	DRAM1_CKP_2	DRAM1_DQ_5050	AF50
AT48	DRAM1_CKN_2	DRAM1_DQ_5151	AM48
		DRAM1_DQ_5252	AM50
AT41	DRAM1_DRAMRST	DRAM1_DQ_5353	AK44
		DRAM1_DQ_5454	AK45
		DRAM1_DQ_5555	AM52
		DRAM1_DQ_5656	AL51
		DRAM1_DQ_5757	AG53
		DRAM1_DQ_5858	AG51
		DRAM1_DQ_5959	AL53
		DRAM1_DQ_6060	AK51
		DRAM1_DQ_6161	AF52
		DRAM1_DQ_6262	AF51
		DRAM1_DQ_6363	
		DRAM1_DQSP_00	BF40
		DRAM1_DQSN_00	BD40
		DRAM1_DQSP_11	BC35
		DRAM1_DQSN_11	BH34
		DRAM1_DQSP_22	BA36
		DRAM1_DQSN_22	AV36
		DRAM1_DQSP_33	BH44
		DRAM1_DQSN_33	BG43
		DRAM1_DQSP_44	AV52
		DRAM1_DQSN_44	AK42
		DRAM1_DQSP_55	AP44
		DRAM1_DQSN_55	AK47
		DRAM1_DQSP_66	AK48
		DRAM1_DQSN_66	BH52
		DRAM1_DQSP_77	AL51
		DRAM1_DQSN_77	

VLV\_M\_D/BGA  
REV = 1.15

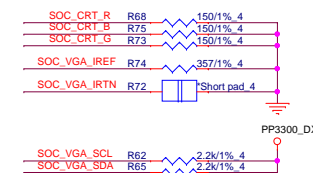
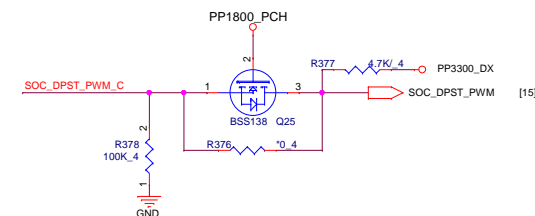
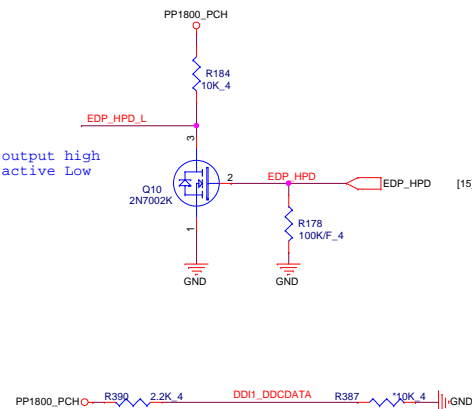
2 OF 13

?

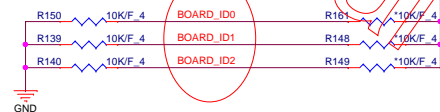


**PROJECT : ROCHER**  
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Valley 2/9 (DDR3)	1A
Date: Tuesday, February 10, 2015	Sheet 3 of 32	



Need to discuss with BIOS



BOARD_ID0	BOARD_ID1	BOARD_ID2	
0	0	0	NO TPM
1	0	0	TPM
0	1	0	

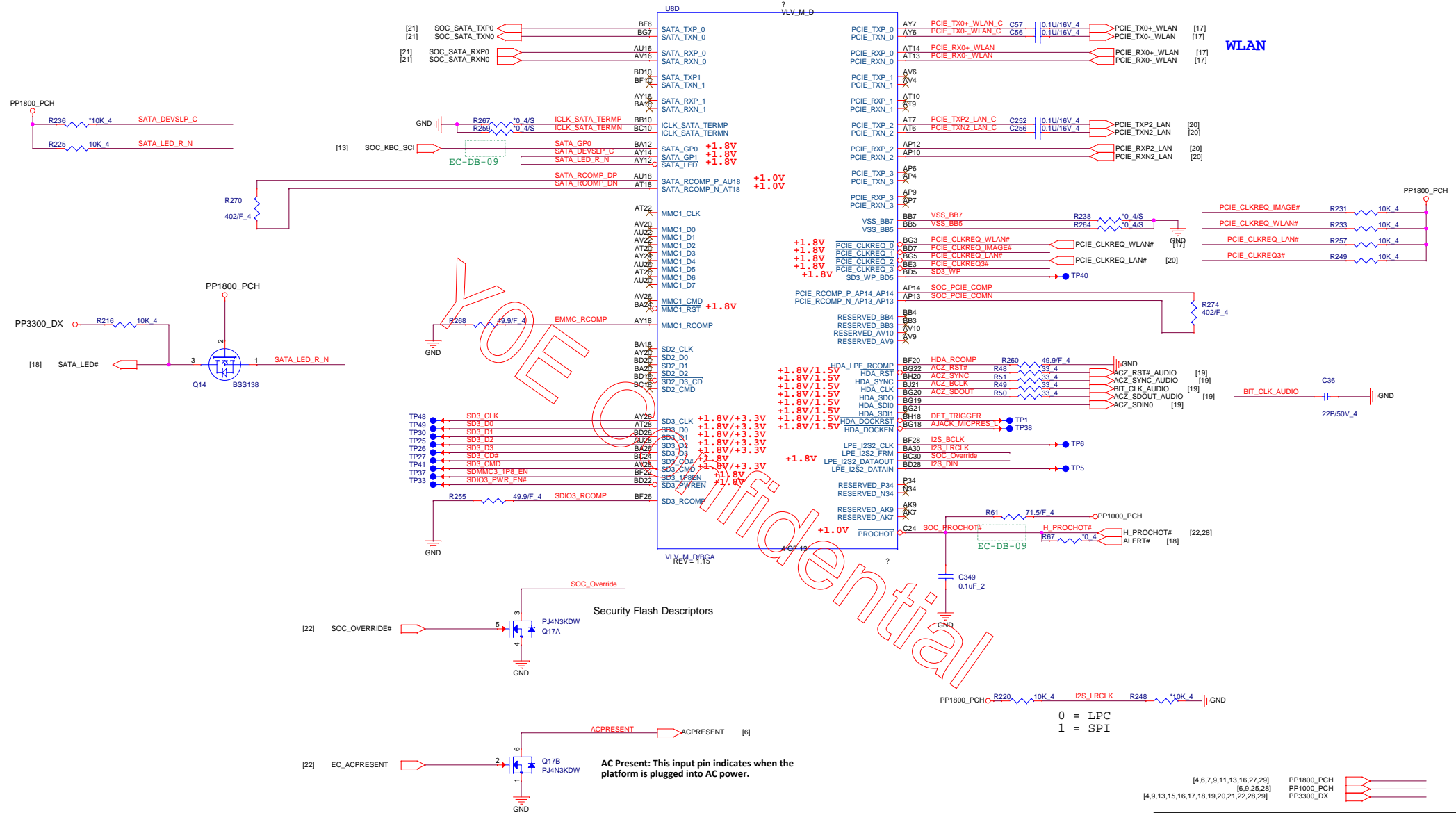
[5,6,7,9,11,13,16,27,29] PP1800\_PCH

[5,9,13,15,16,17,18,19,20,21,22,28,29] PP3300\_DX

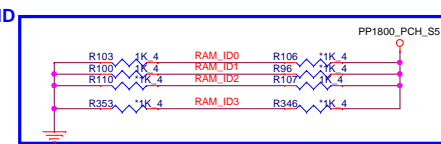


**PROJECT : ROCHER**  
Quanta Computer Inc.

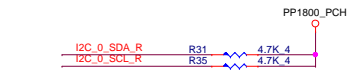
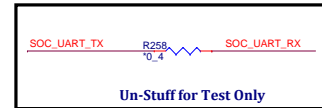
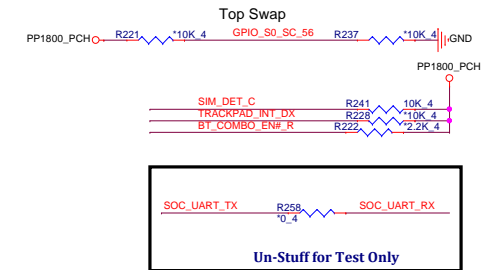
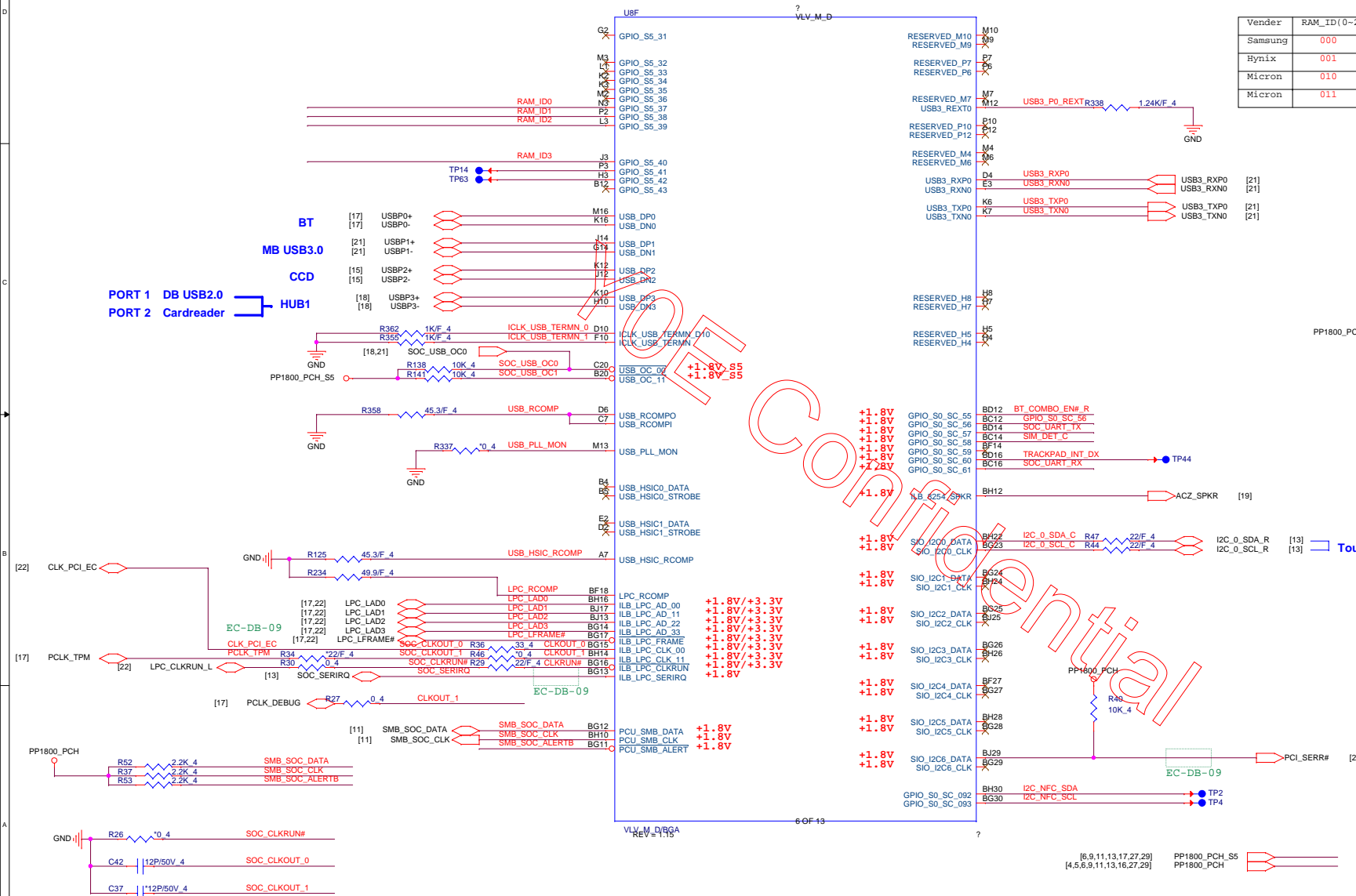
Size Custom	Document Number <b>Valley 3/9 (Display)</b>	Rev 1
Date: Tuesday, February 10, 2015		Sheet 4 of 32





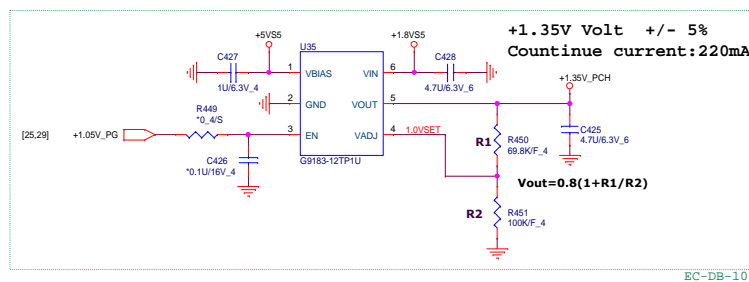
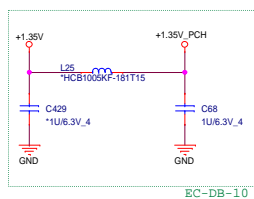
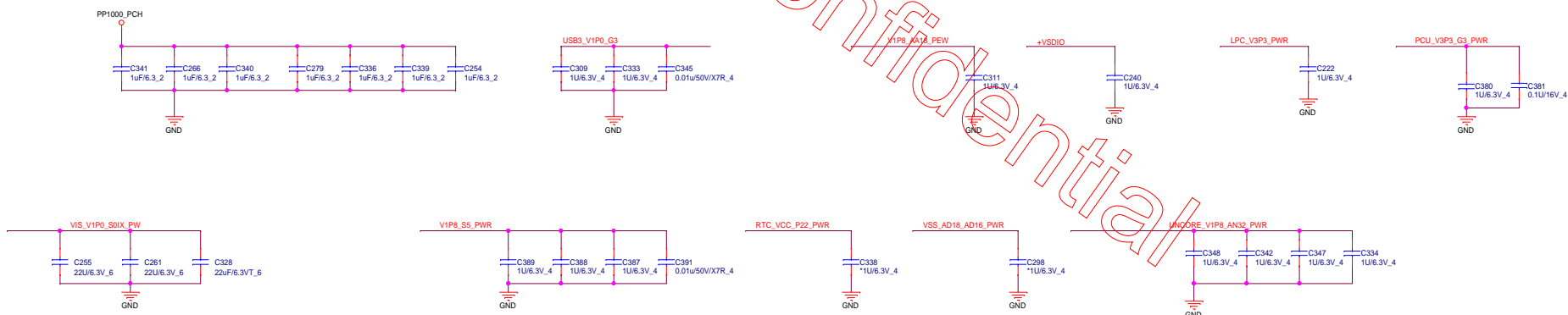
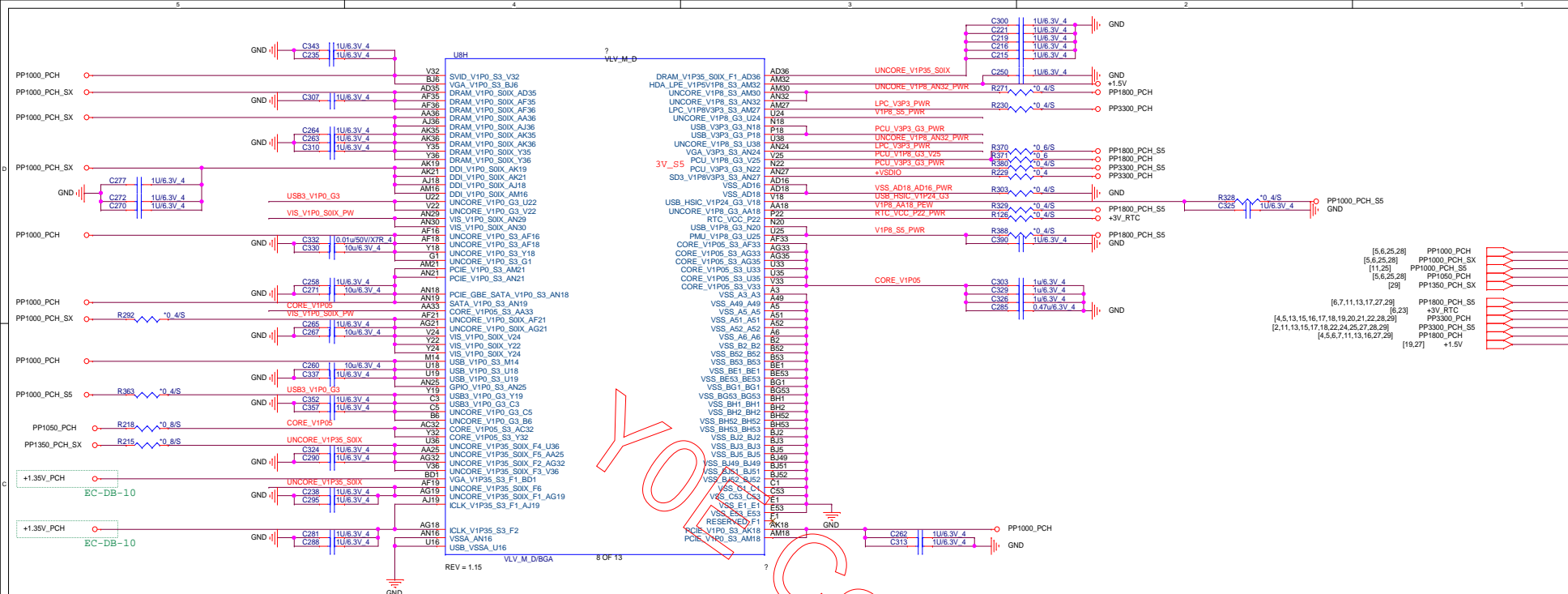


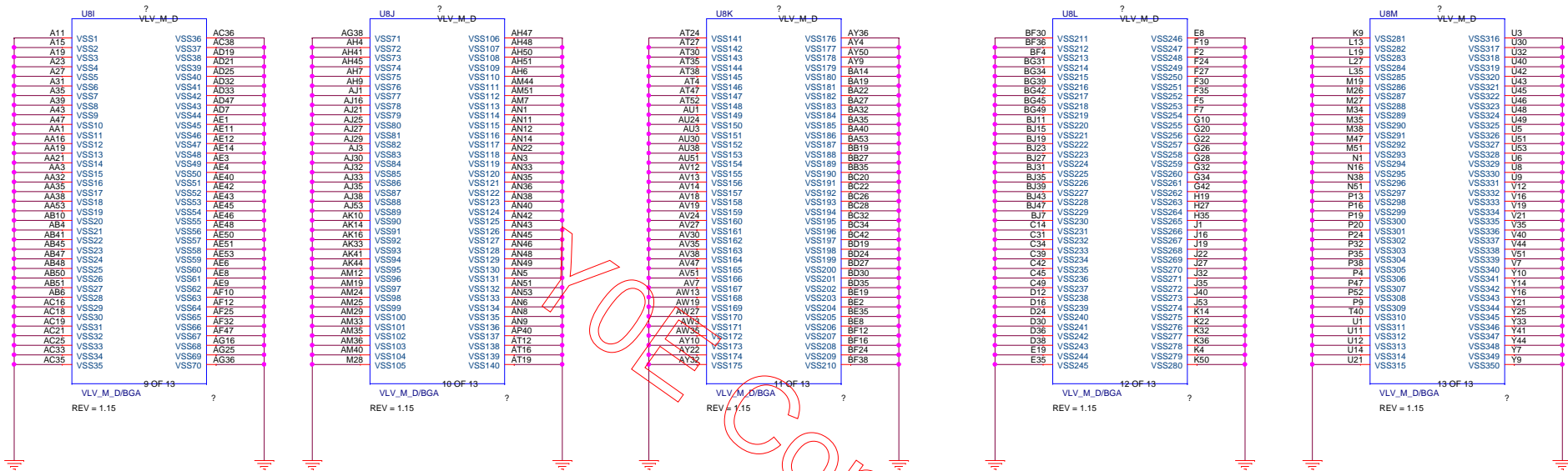
Vender	RAM_ID(0-2)	TOP B/S PN	Mfr. PN	Channel	Size
Samsung	000	AKD5PGST508	K4B4G1646Q-HYK0	1CH	2GB
Hynix	001	AKD5PGSTW14	H5TC4G63CFR-PBA	1CH	2GB
Micron	010	AKD5PGSTL06	MT41K256M16HA-125:E	1CH	2GB
Micron	011	AKD5PGSTL18	MT41K256M16LY-107:N	1CH	2GB











**PROJECT : ROCHER**  
Quanta Computer Inc.

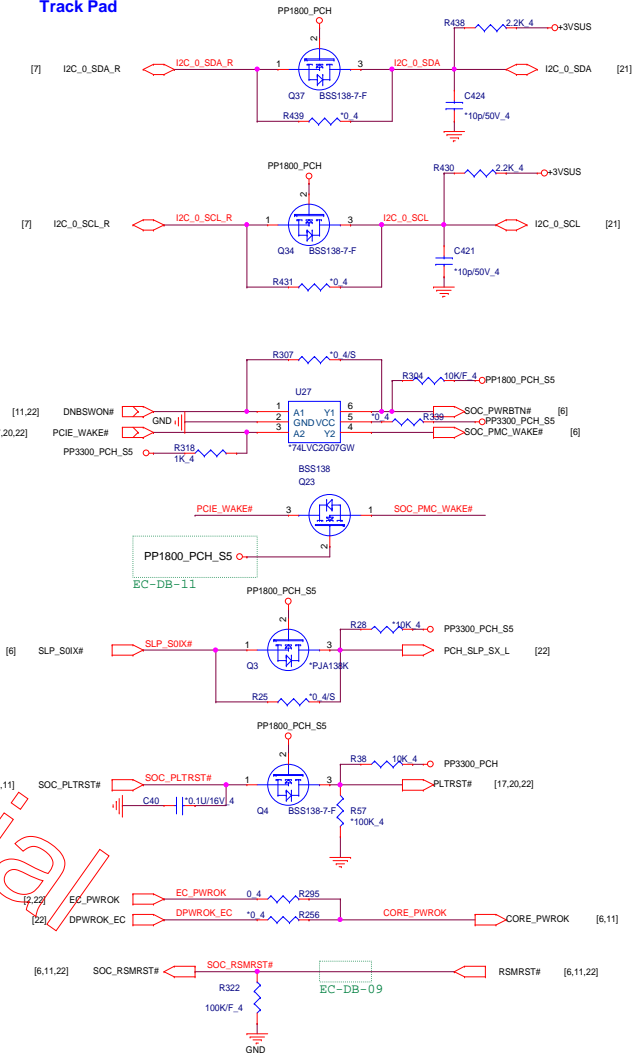
Size	Document Number	Rev
Custom	Valley 9/9 (GND)	1A
Date: Tuesday, February 10, 2015	Sheet 10 of 32	



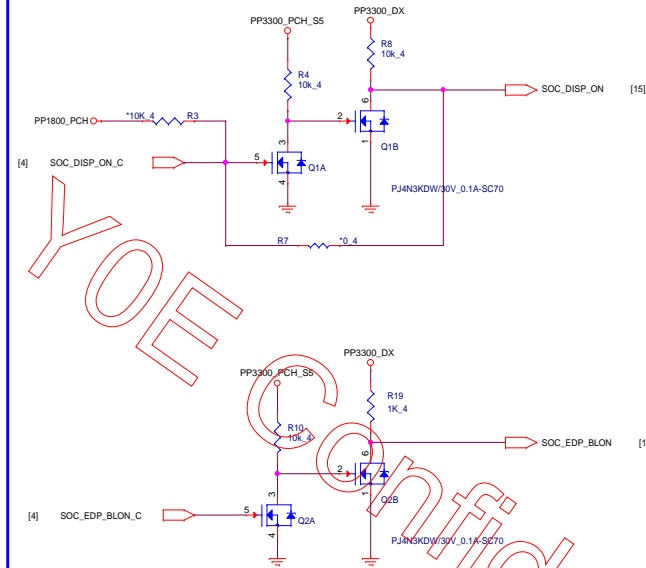


[6,7,9,11,17,27,29] PP1800\_PCH\_S5  
 [2,9,11,15,17,18,22,24,25,27,28,29] PP3300\_PCH\_S5  
 [4,5,6,7,9,11,16,27,29] PP1800\_PCH  
 [4,5,9,15,16,17,18,19,20,21,22,28,29] PP3300\_PCH  
 [4,5,9,15,16,17,18,19,20,21,22,28,29] PP3300\_DX  
 [7,26,29] +3VSUS  
 [2,8,12,26,29] PP1350

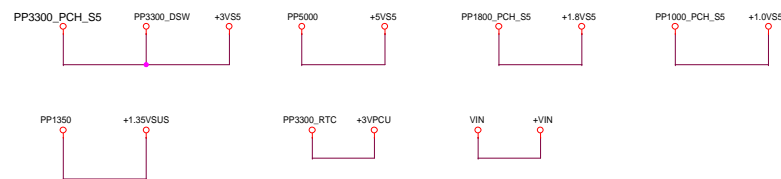
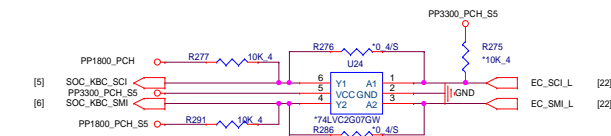
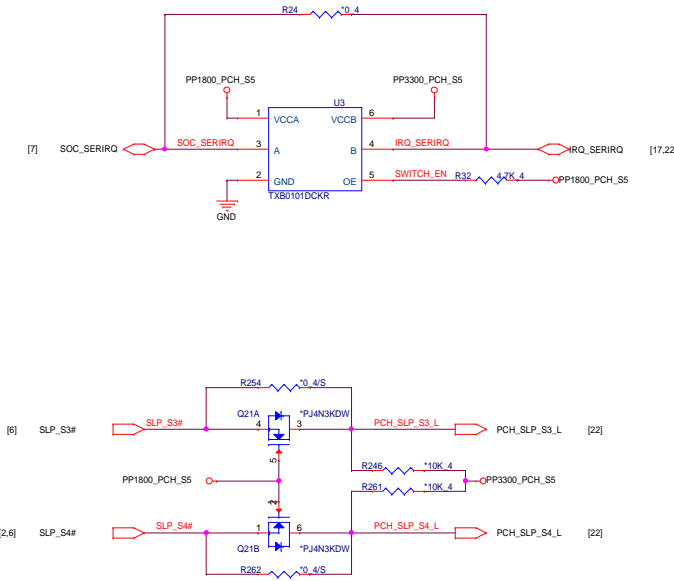
## Track Pad



## eDP control pin (For eDP)



YOF Confidential

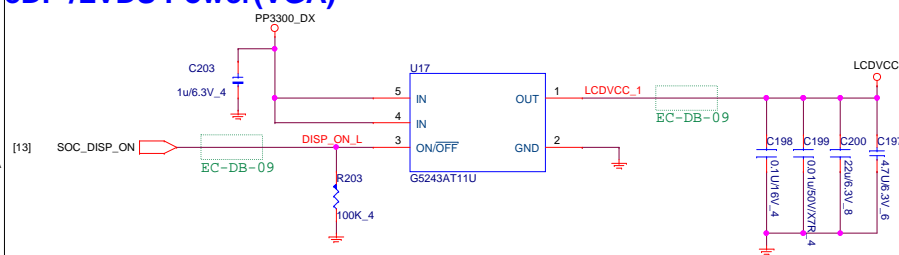


PP1000\_PCH\_SX PP1000\_PCH PP1050\_PCH +1.05V  
 Combine +1.0VSX,+1.0V,+1.05V  
 power rail for cost saving

PP1350\_PCH\_SX PP1350\_PCH +1.35V  
 Combine +1.35VSFR,+1.35V  
 power rail for cost saving

2014/11/11 remove eDP to LVDS converter

YOE Confidential



[22] EMU\_LID

EC-DB-09

PN\_BLOW

D1 MEK500V-40

BLON\_CON

C206 222P/50V

R209 100K/F\_4

[13] SOC\_EDP\_BLOW

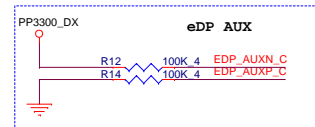
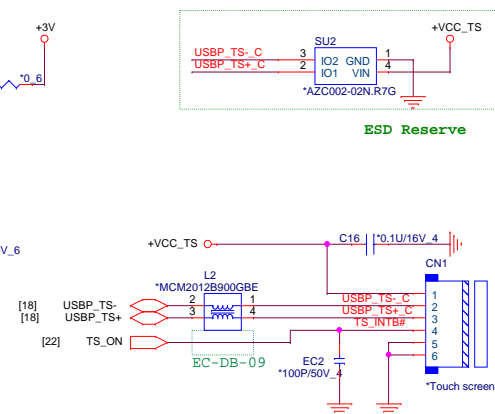
R16 1K/F\_4

R15 100K/F\_4

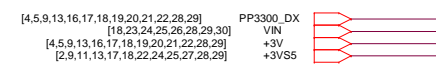
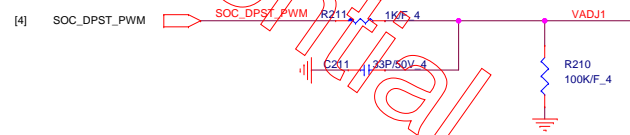
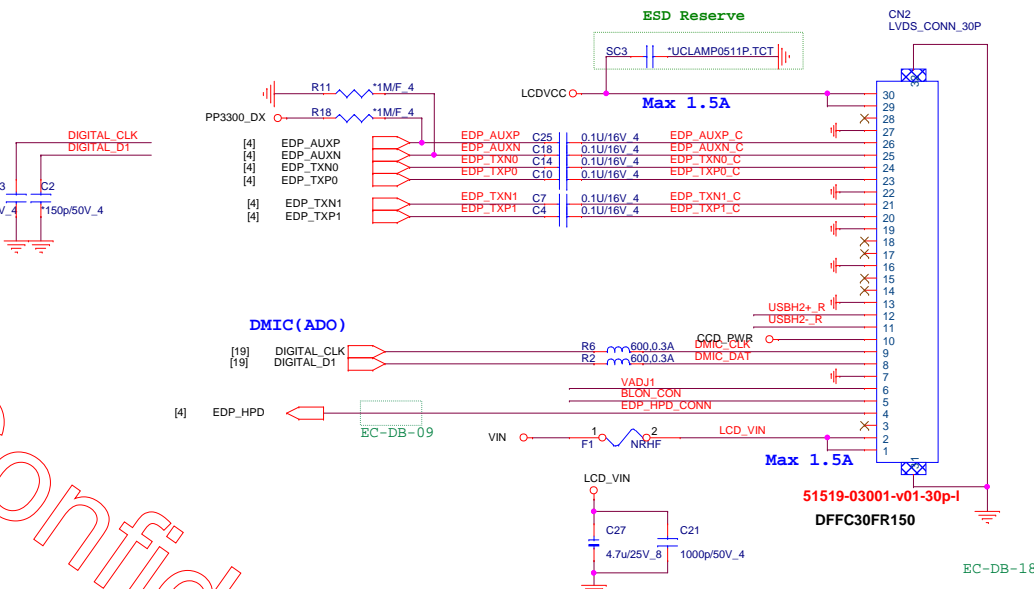
SC9 UCAAMP051PCT

ESD Reserve

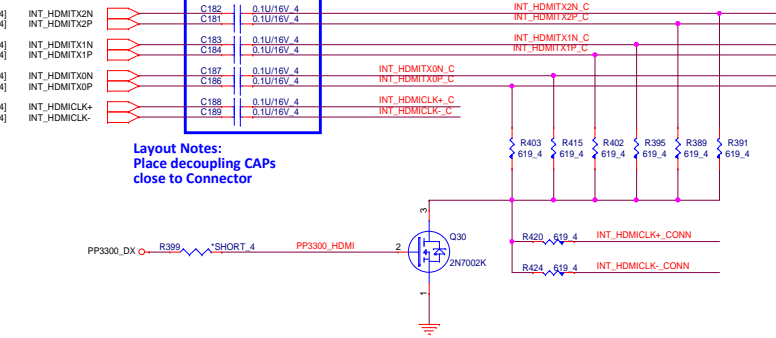
ESD\_Receiver



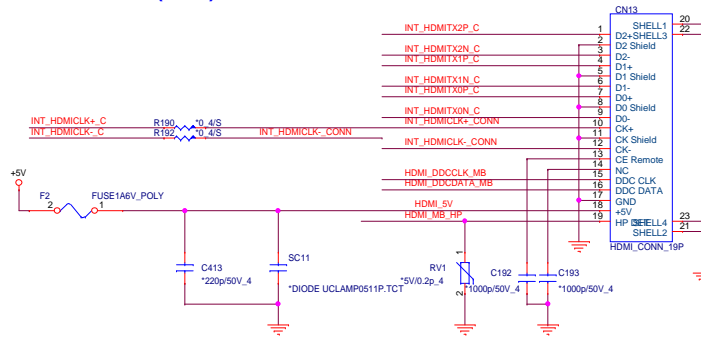
**eDP/LVDS**  
**Need New LCD Cable**



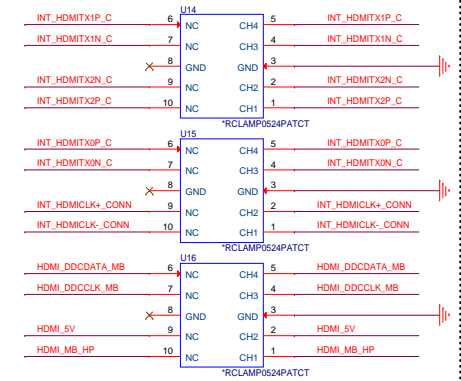
### HDMI Cost Reduced level shift (HDM)



## HDMI connector (HDM)



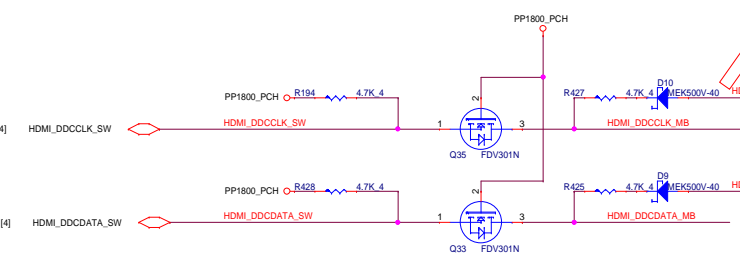
ESD 靠近HDMI CONNECTOR(CN9)



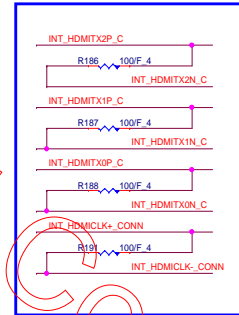
For ESD

Layout note: Place close to HDMI Conn

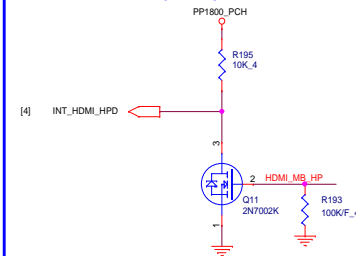
## HDMI DDC (HDM)



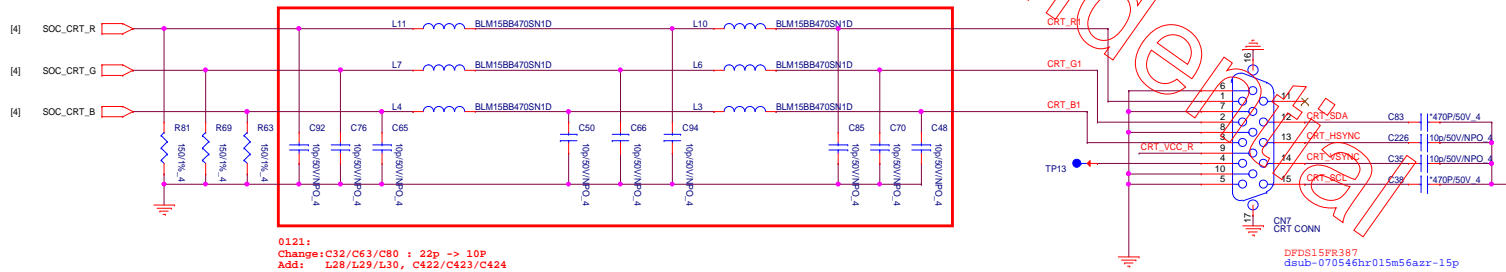
## EMI



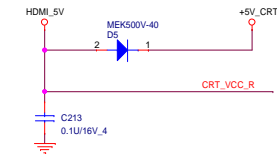
## HDMI-detect (HDM)



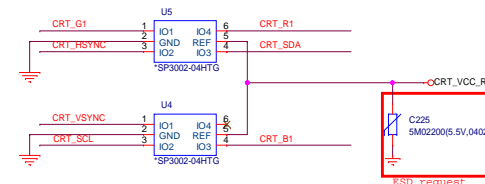
```
Layout Note:
Setting R,G,B trace
impedance to 50 ohm.
```



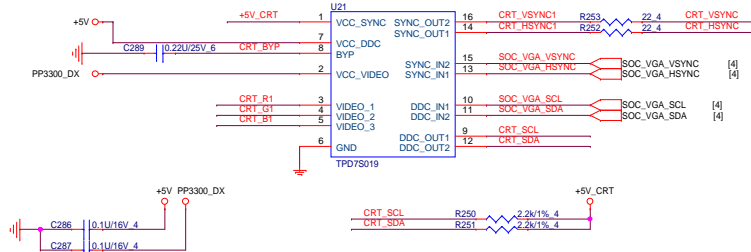
0121:  
Change:C32/C63/C80 : 22p -> 10P  
Add: L28/L29/L30, C422/C423/C424



## ESD PROTECTION



ESD request



[4,5,9,13,15,17,18,19,20,21,22,28,29]  
[4,5,6,7,9,11,13,27,29]  
[17,19,2

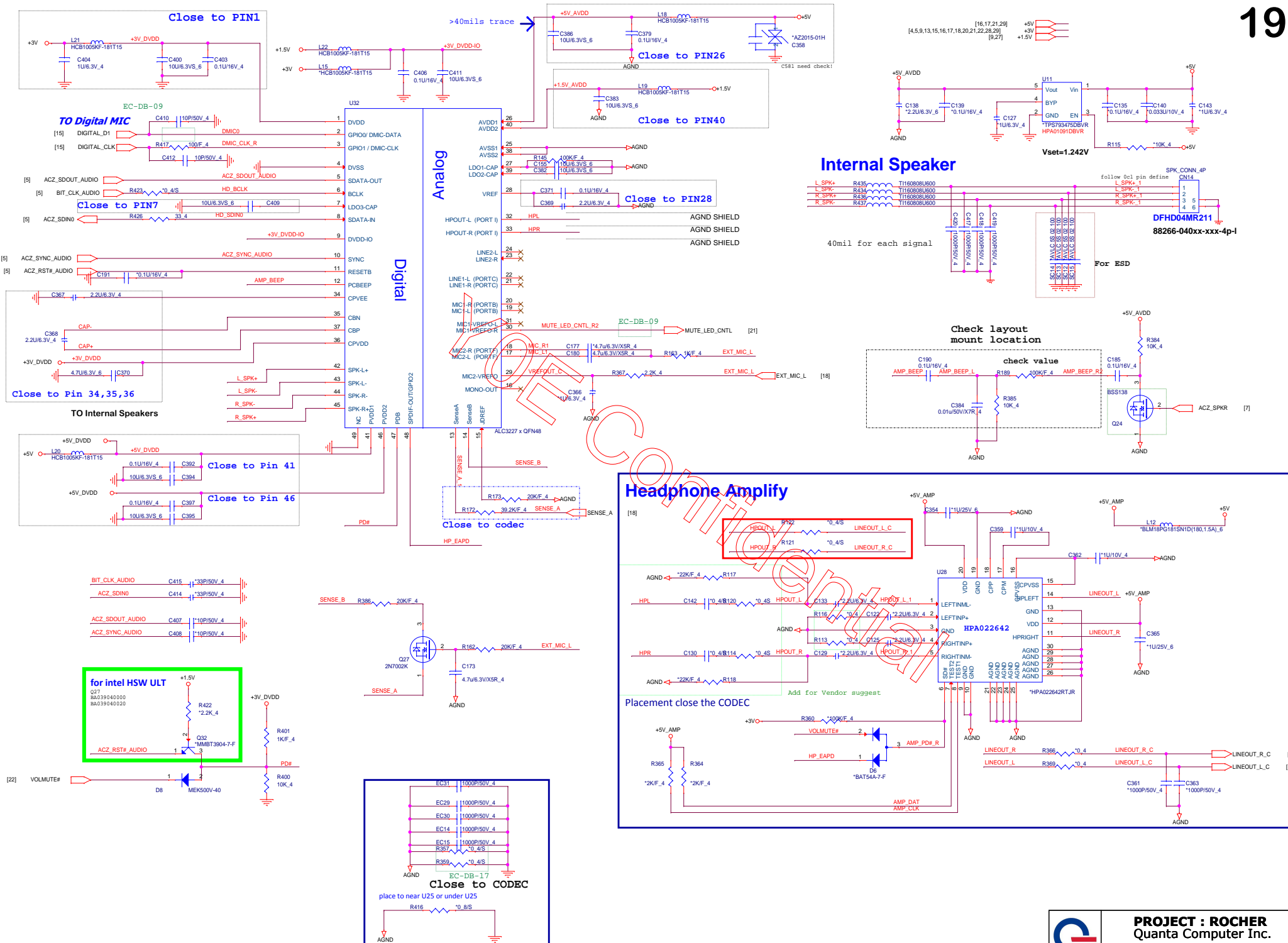
PP3300\_DX  
PP1800\_PCH  
+5V

+5V

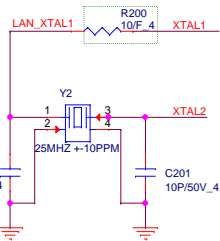






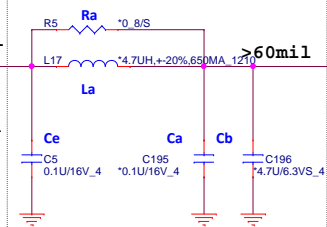


For EMI 0 ~ 22 ohm



Power trace Layout 宽度 &gt; 60mil

>60mil  
Trace < 30 mil  
Width > 60 mil



For GbE  
Stuff La, Ca, Cb

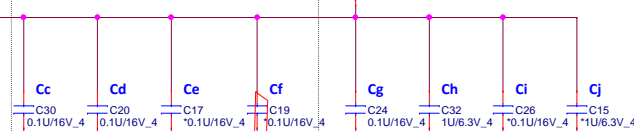
For 10/100  
NA: La, Ca, Cb  
STUFF: Ra, Ce

For GbE

\* Place Cc, Cd, Ce, Cf  
close to each VDD10 pin-- 3, 22, 8, 30

For 10/100 NA, Ce, Cf

\* Place Ce, Cf  
close to each VDD10 pin-- 8, 30 only,



For GbE

\* Place Cg and Gh close to each VDD10 pin-- 22

For 10/100

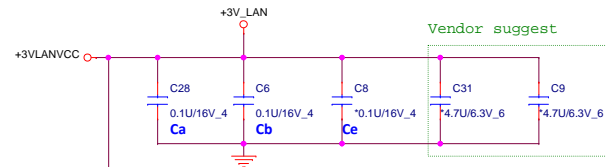
\* Place Ci and Cj close to each VDD10 pin-- 30

For 10/100

\* Stuff Cb and Ce only, close to each VDD33 pin-- 23, 32

For GIGA

\* Stuff Ca and Cb only, close to each VDD33 pin-- 11, 32



Vendor suggest

\* Place Cc and Cd close to each VDD33 pin-- 23

For GIGA

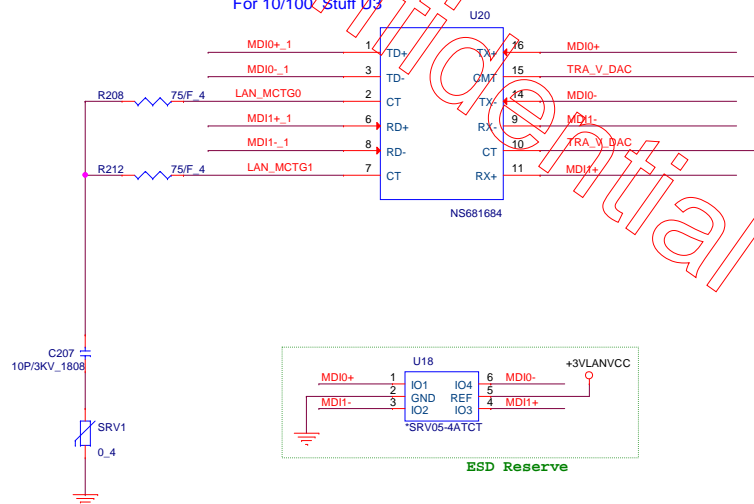
Stuff Cc, Cd

For 10/100

NA: Cc, Cd

Remove For Not Using SWR mode

For GbE Stuff U3, U4  
For 10/100 Stuff U3



ESD Reserve

For GiGA

BOT: GST5009B LF, DB0206LAN00

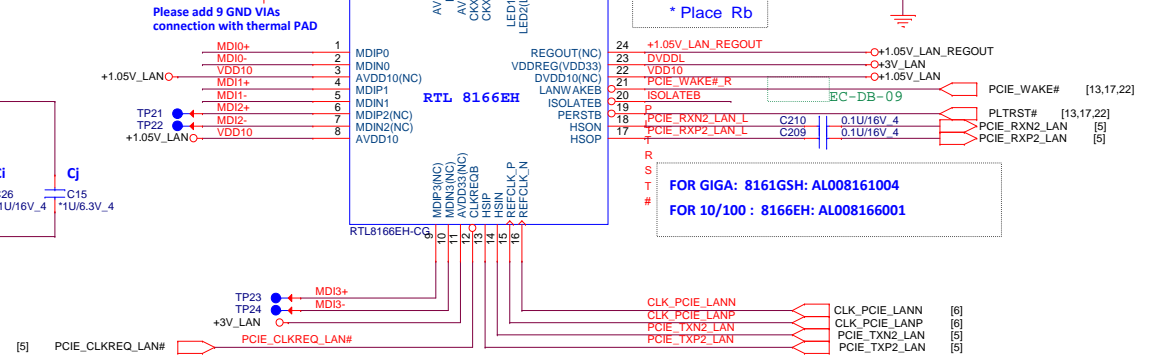
FCE: NS892407, DB0LL1LAN00

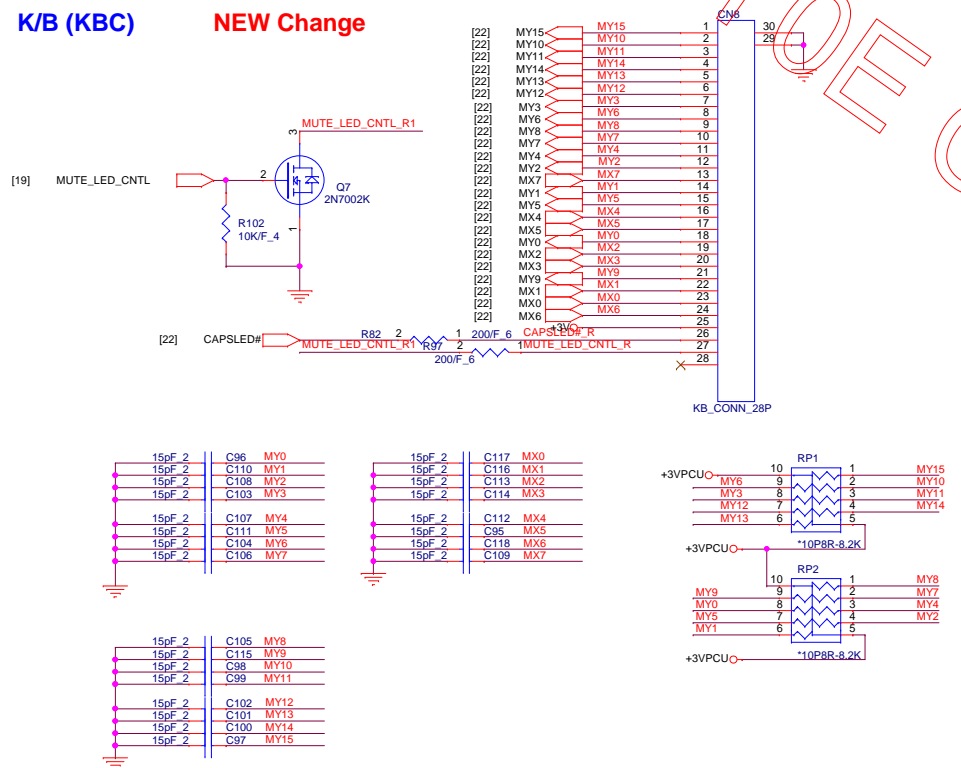
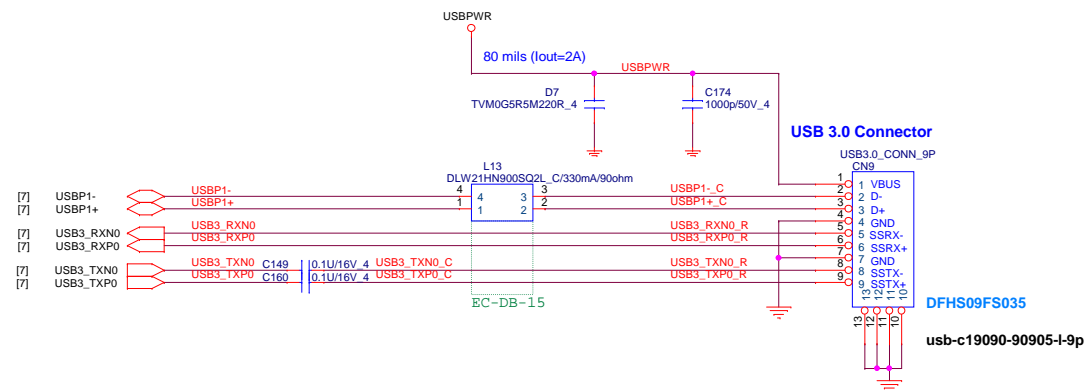
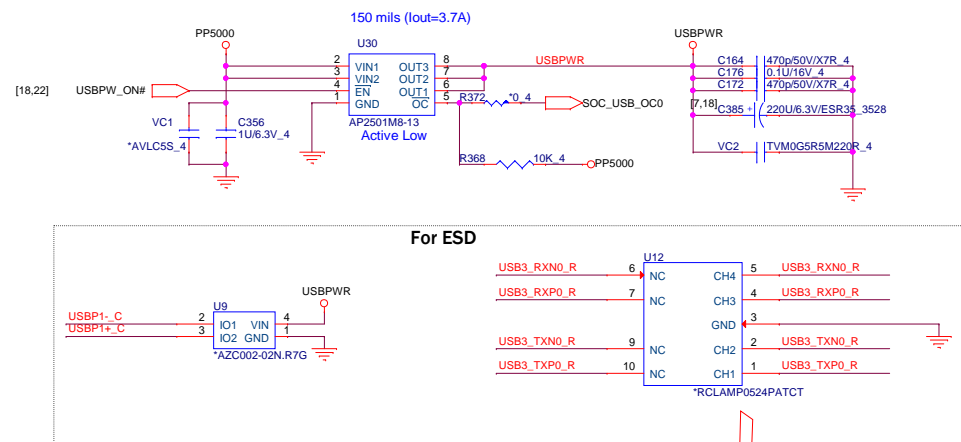
For 10/100

BOT: TST1284R LF DB0EL5LAN00

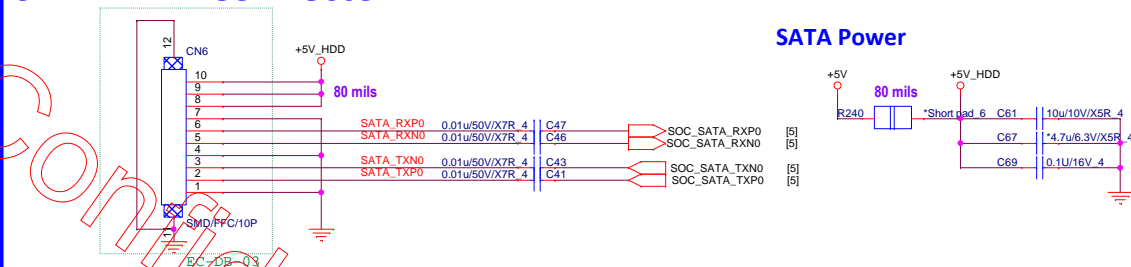
FCE: NS892408, DB0EF7LAN01

Please add 9 GND VIAs  
connection with thermal PAD

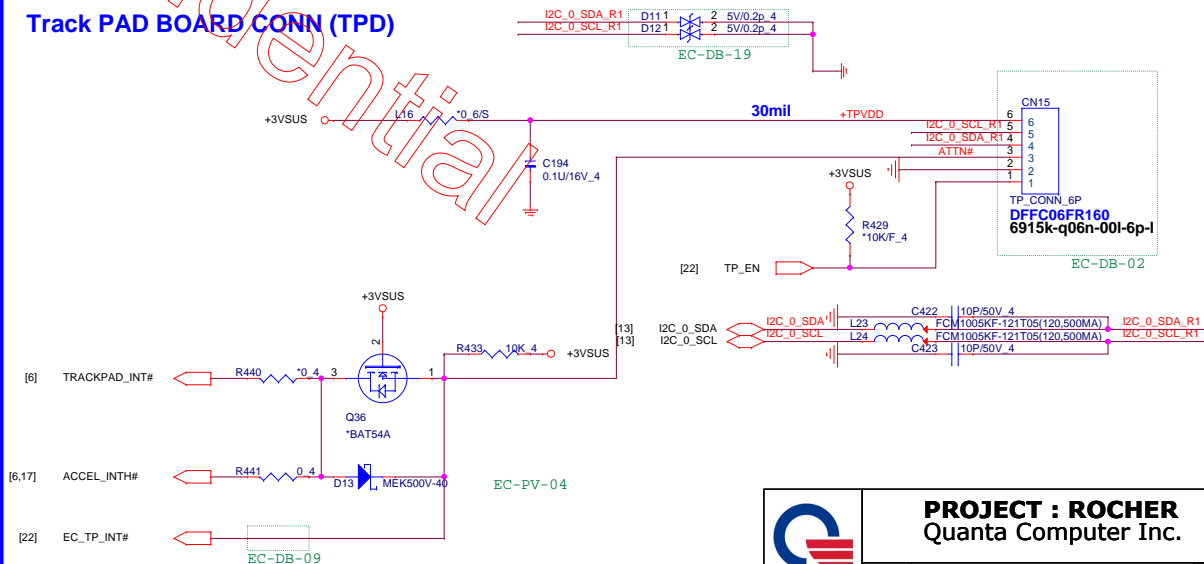


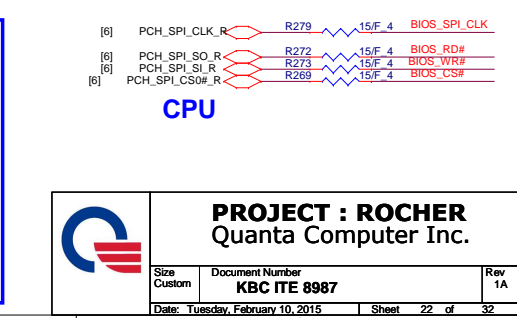
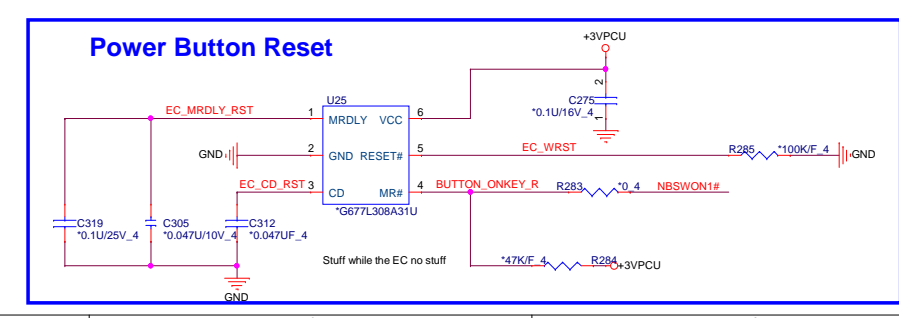
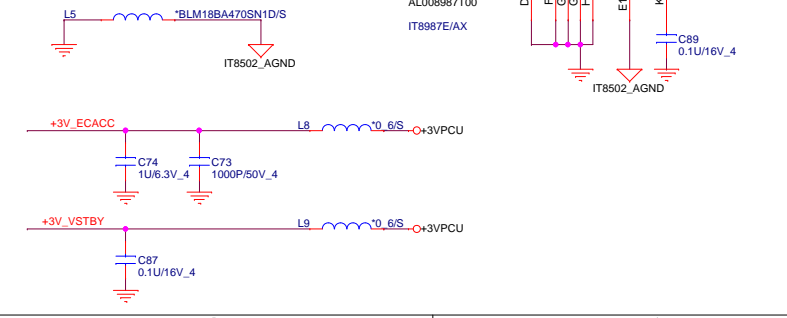
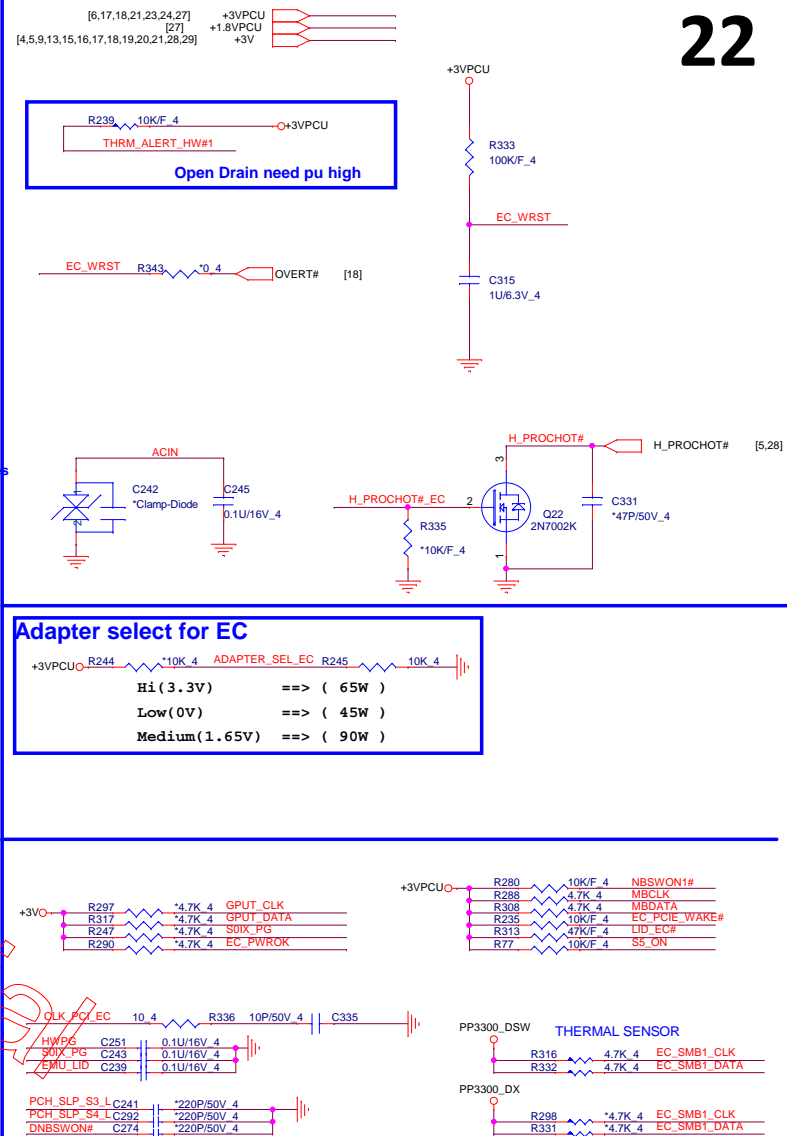
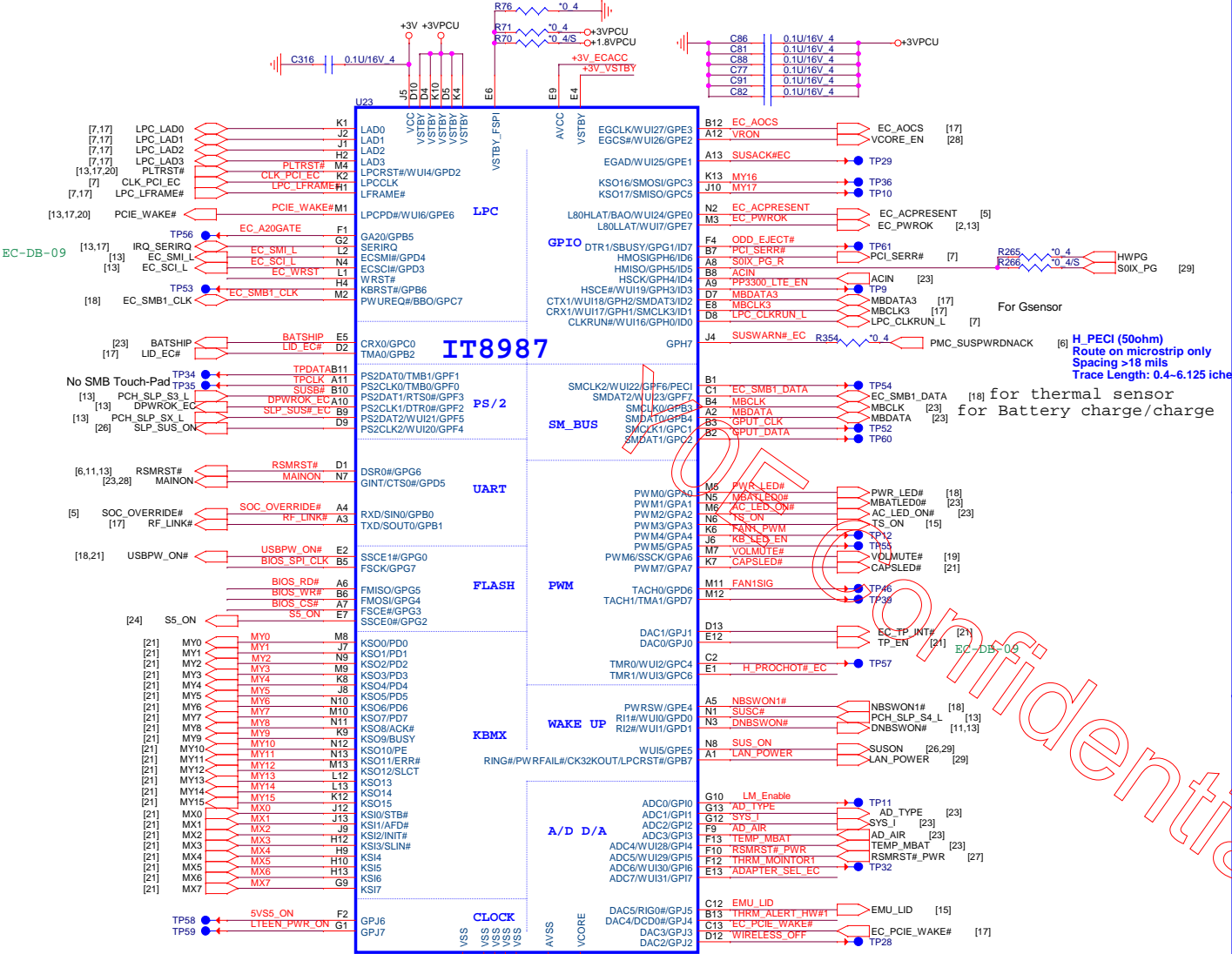


## SATA HDD Connector



**Track PAD BOARD CONN (TPD)**

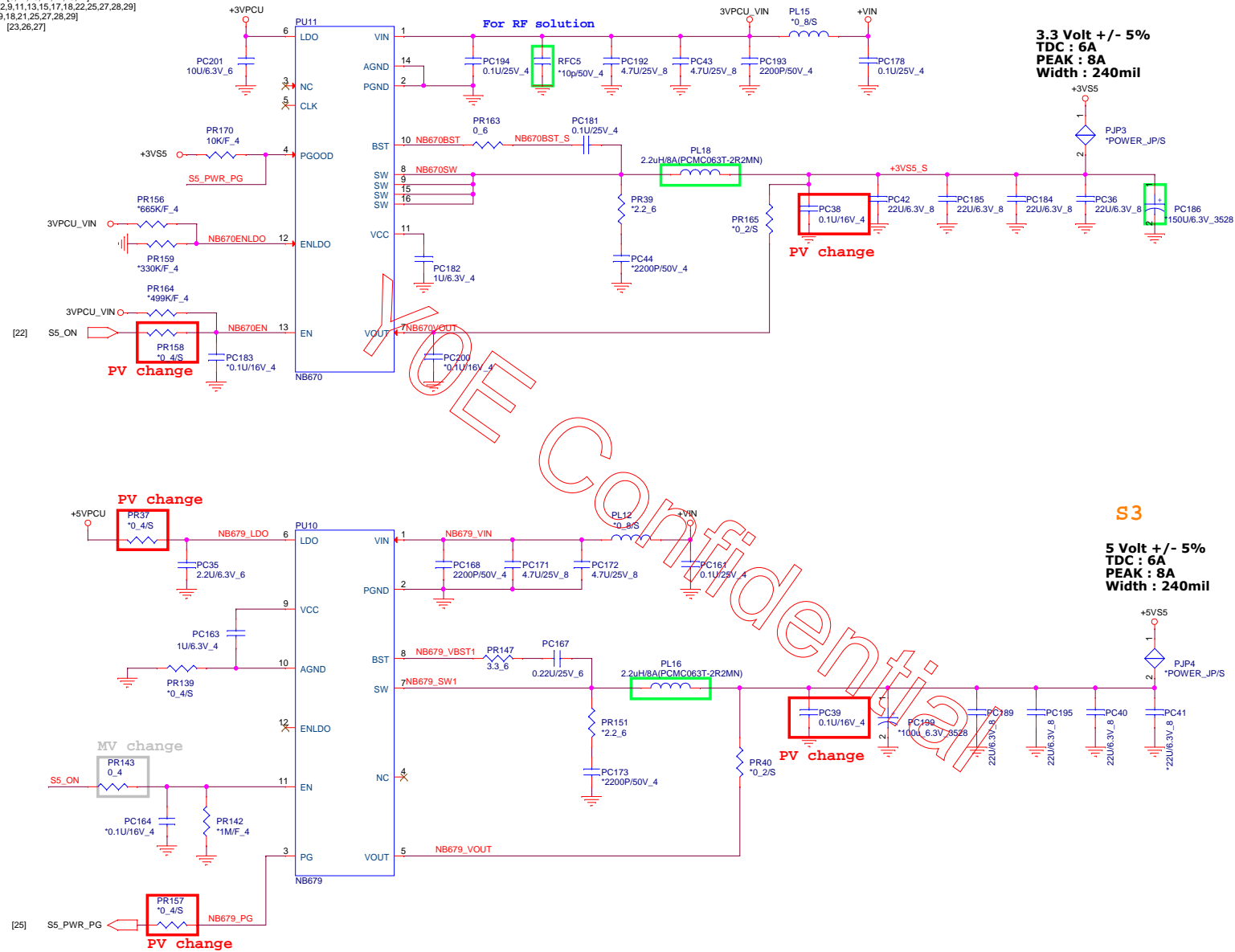




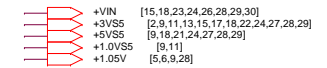
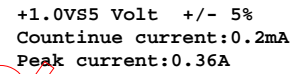
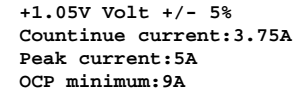


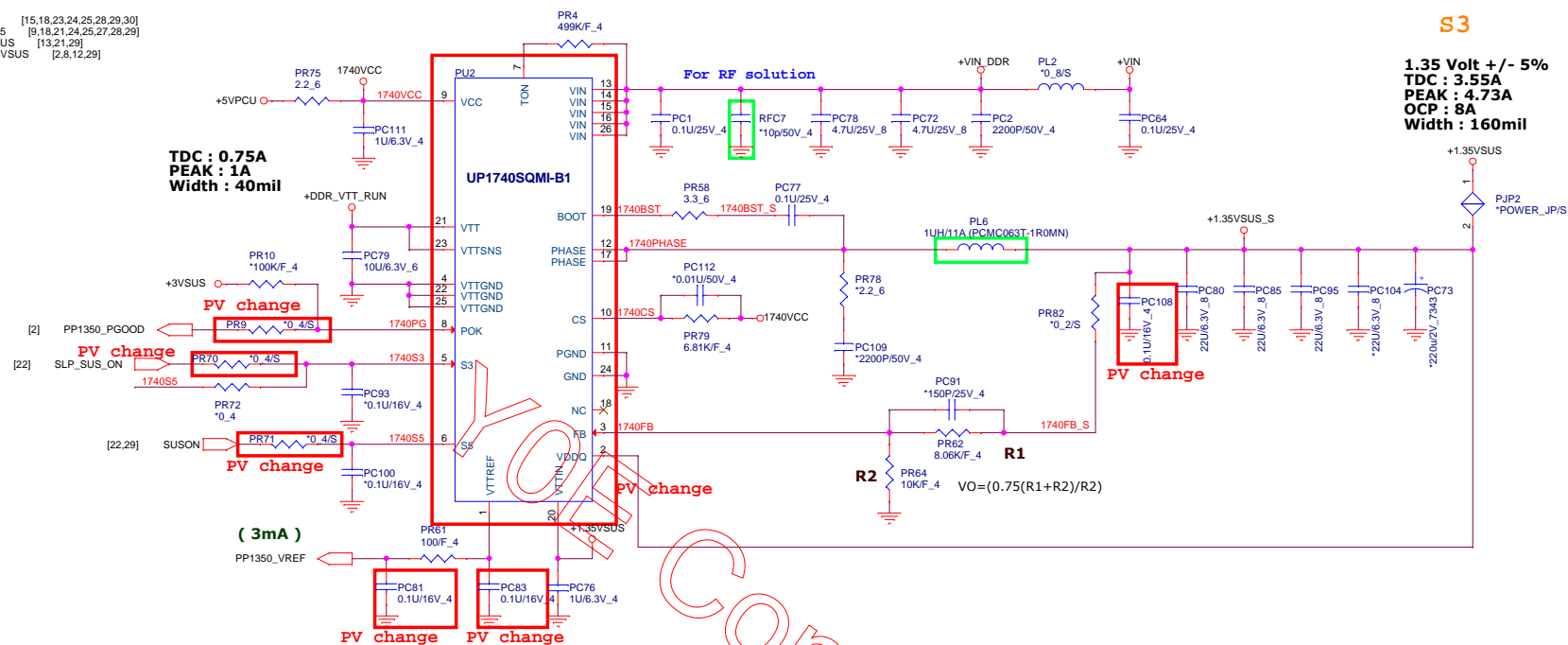
**45/65W DC\_JACK**

+VIN [15,18,23,25,26,28,29,30]  
 +3VPCU [6,17,18,21,22,23,27]  
 +3VS5 [2,9,11,13,15,17,18,22,25,27,28,29]  
 +5VS5 [9,18,21,25,27,28,29]  
 +5VPCU [23,26,27]

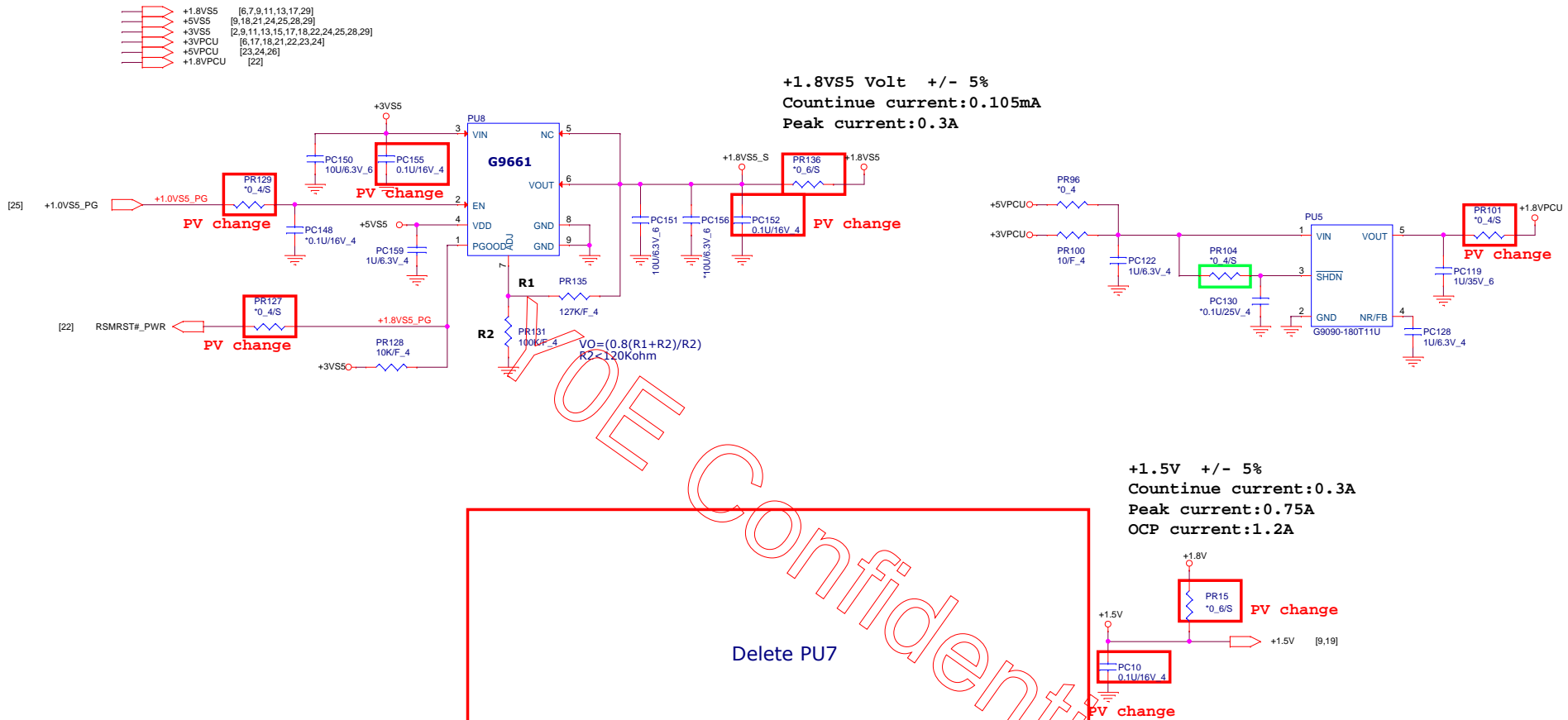


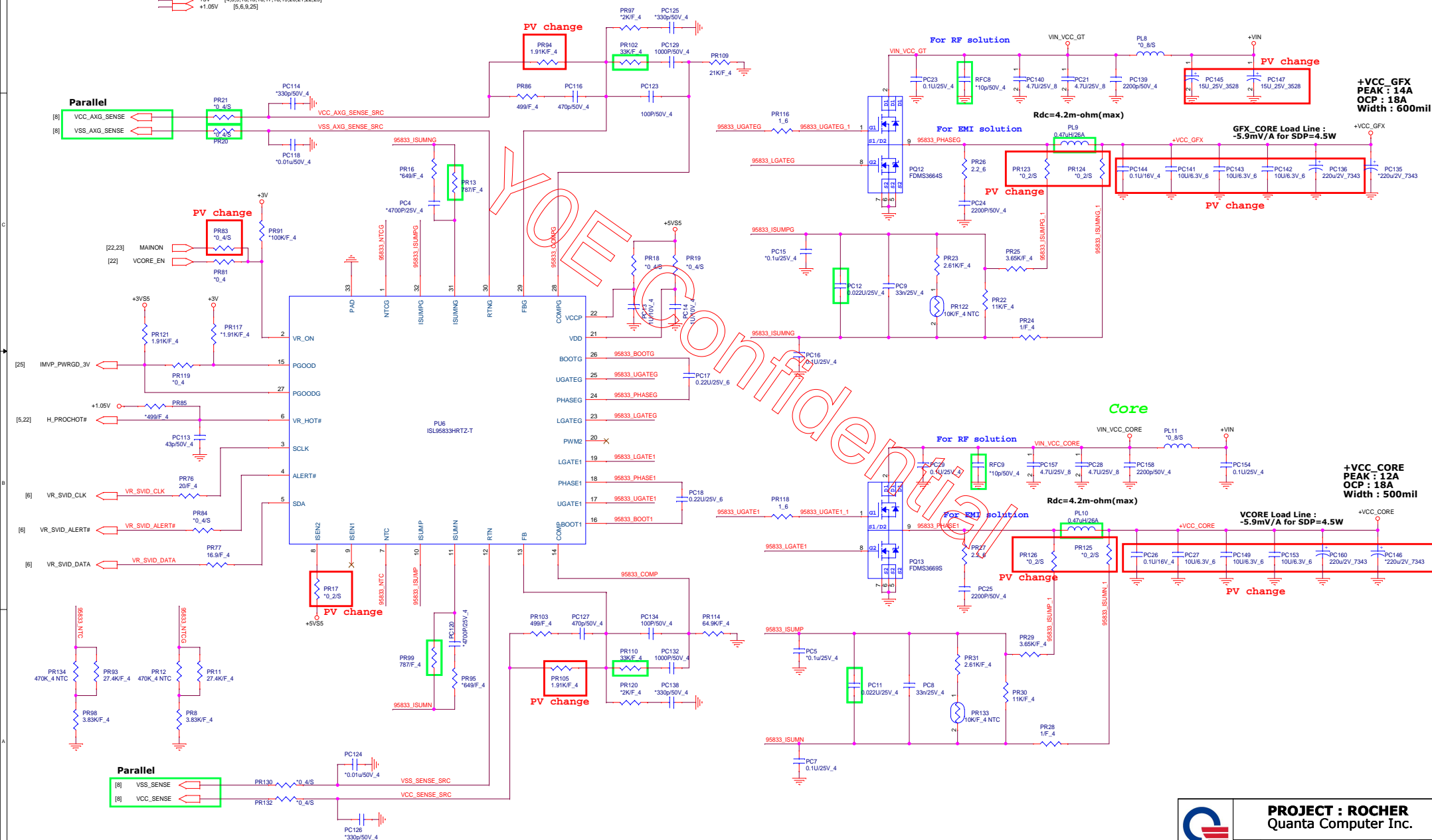




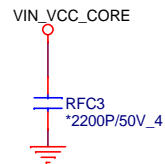
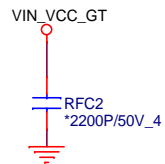
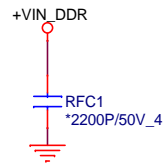
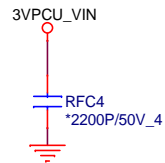


	S3	S5	+1.35VSUS	REF	VTT
S0	1	1	ON	ON	ON
S3 (main on off)	0	1	ON	ON	OFF
S4/S5	0	0	OFF	OFF	OFF





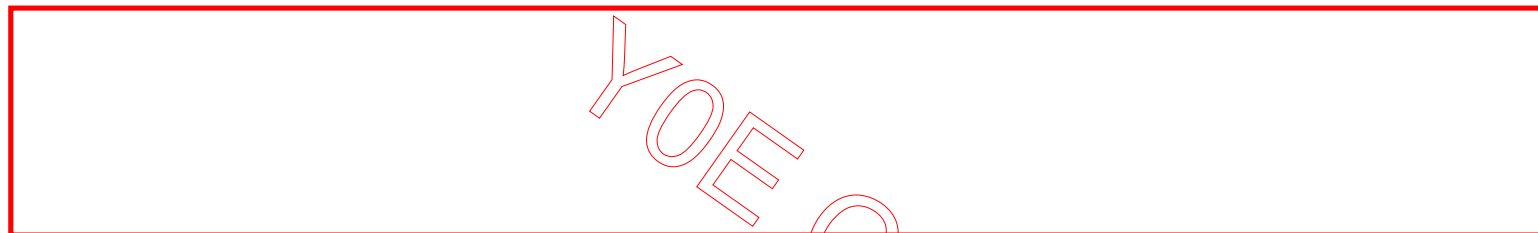




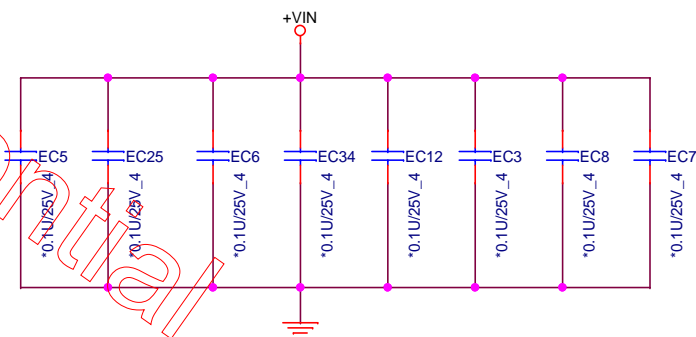
VIN\_VCC\_CORE VIN\_VCC\_CORE [28]

VIN\_VCC\_GT VIN\_VCC\_GT [28]

TOP



BOTTOM



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# Y0E Schematic EC Tracking Record A to C version(DB/PV Planar)

EC #	Page	Description	Part Affected
EC-DB-01	2,12	Reserve M_A_ODT1/M_A_CS#1/M_A_CKE1 signals and R442~R448 for DDP memory.	R442~R448
EC-DB-02	21	Change footprint and material of CN15 for SMT issue.	CN15
EC-DB-03	21	Change footprint and material of CN6 for ME change.	CN6
EC-DB-04	17	Change footprint and material of CN5 for ME change.	CN5
EC-DB-05	23~29	Change PR137,PR144,PR37,PR143,PR157,PR158,PR2,PR5,PR69,PR112,PR9,PR70,PR71,PR101,PR127,PR129,PR136,PR83, and PR68 from 0 ohm to short pad for power update.	PR137,PR144,PR37,PR143,PR157,PR158,PR2,PR5,PR69,PR112,PR9,PR70,PR71,PR101,PR127,PR129,PR136,PR83, and PR68
EC-DB-06	26	Change pin defined and footprint of PU2 for power update.	PU2
EC-DB-07	23~29	Change footprint of PR17,PR123,PR124,PR125, and PR126 for power update.	PR17,PR123,PR124,PR125, and PR126
EC-DB-08	28	Un-staff PC146 and staff PC160 for power update.	PC146 and PC160
EC-DB-09	2,5,6,7,11,13,15~22	Remove R143,R146,R223,R64,R151,R156,R158,R166,R129,R171,R375,R39,R394,R182,R185,R180,R412,R410,R312,R21,R90,R66,R315,R421,R373,R204,R432,R334,R243,R45,R33,R202,R197,R17,R20,R42,R56,R198,R1,R330, and R23 for test point coverage.	R143,R146,R223,R64,R151,R156,R158,R166,R129,R171,R375,R39,R394,R182,R185,R180,R412,R410,R312,R21,R90,R66,R315,R421,R373,R204,R432,R334,R243,R45,R33,R202,R197,R17,R20,R42,R56,R198,R1, and R23
EC-DB-10	9	Add +1.35V LDO (U35) and reserve L25 and C429 for CRT ripple issue.	U35,C427,R449,C426,C428,C425,R450,R451,C68,L25, and C429
EC-DB-11	13	Change connection of Q23.2 from PP1800_PCH to PP1800_PCH_S5 for WOL issue.	Q23
EC-DB-12	23	Pin9 and Pin10 of CN3 connect to GND for ESD suggestion.	CN3
EC-DB-13	27	Remove PU7, PR111, PR113, PC137, PR87, PC117, PR108, PR115, PL7, PR92, and PC6 for layout space.	PU7, PR111, PR113, PC137, PR87, PC117, PR108, PR115, PL7, PR92, and PC6
EC-DB-14	28	Staff PC145, PC147, PC135, PC27, PC149, and PC153 for power issue.	PC145, PC147, PC135, PC27, PC149, and PC153
EC-DB-15	6,21	Remove R293, R294, R119, R123, R133, and R142 for test point coverage.	R293, R294, R119, R123, R133, and R142
EC-DB-16	18	Un-staff R176 and R177, and staff L14 for EMI suggestion.	R176, R177, and L14
EC-DB-17	19	Change R357 and R359 from 0 ohm to short pad for cost saving.	R357 and R359
EC-DB-18	15	Change footprint and material of CN2 for ME change.	CN2
EC-DB-19	21	Staff D11 and D12 for ESD suggestion.	D11 and D12
EC-DB-20	20	Change footprint and material of CN4 for ME change.	CN4
EC-DB-21	28	Staff PC141,PC142,PC143,PC27,PC149, and PC153 for fixing overshoot issue.	PC141,PC142,PC143,PC27,PC149, and PC153
EC-DB-22	28	Change PR94 and PR105 from 1.78k ohm to 1.91k ohm for Vcore load line fine-tune.	PR94 and PR105

### ***Y0E Schematic EC Tracking Record C to MP version(PV/MV Planar)***

[illegible]

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