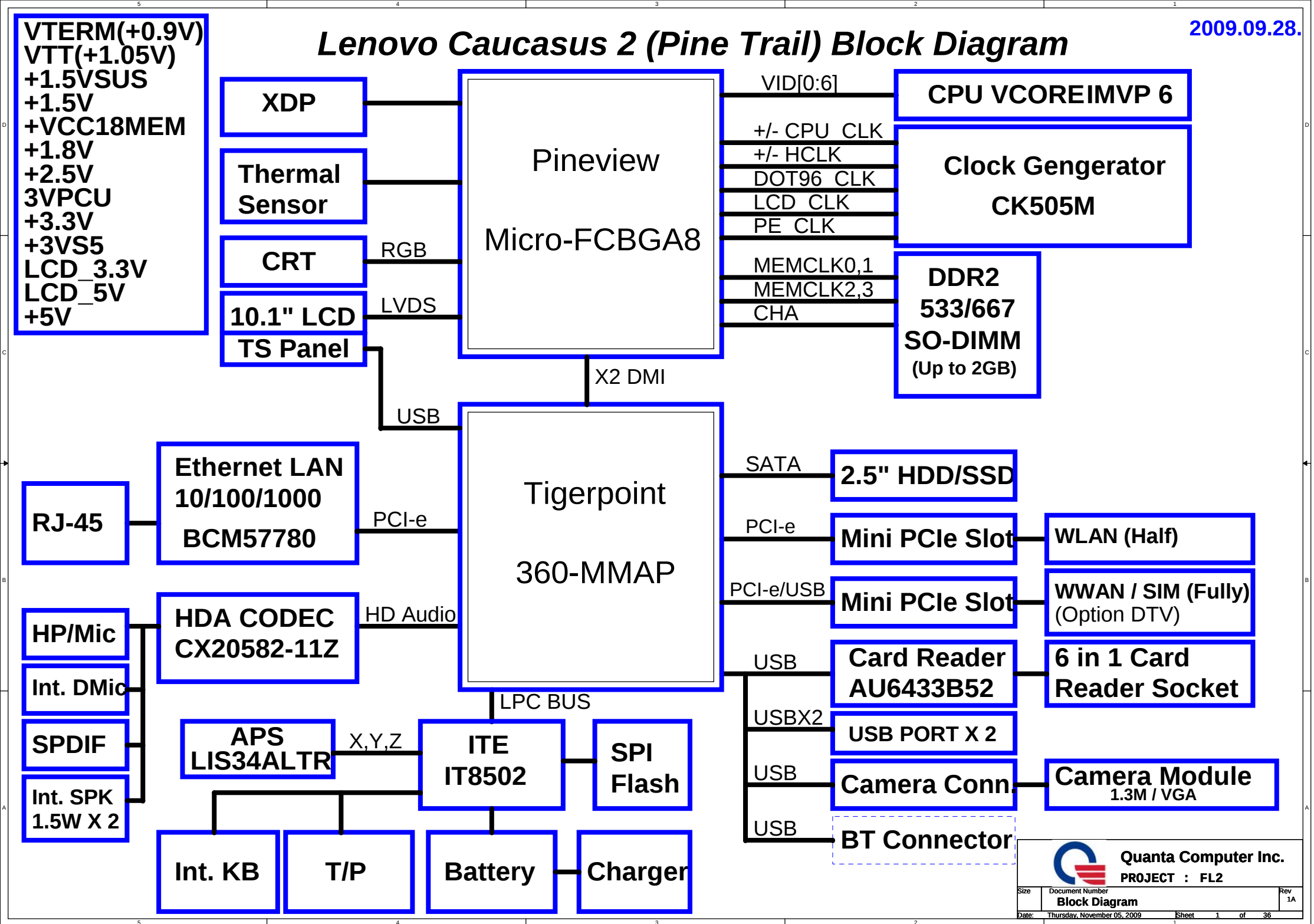
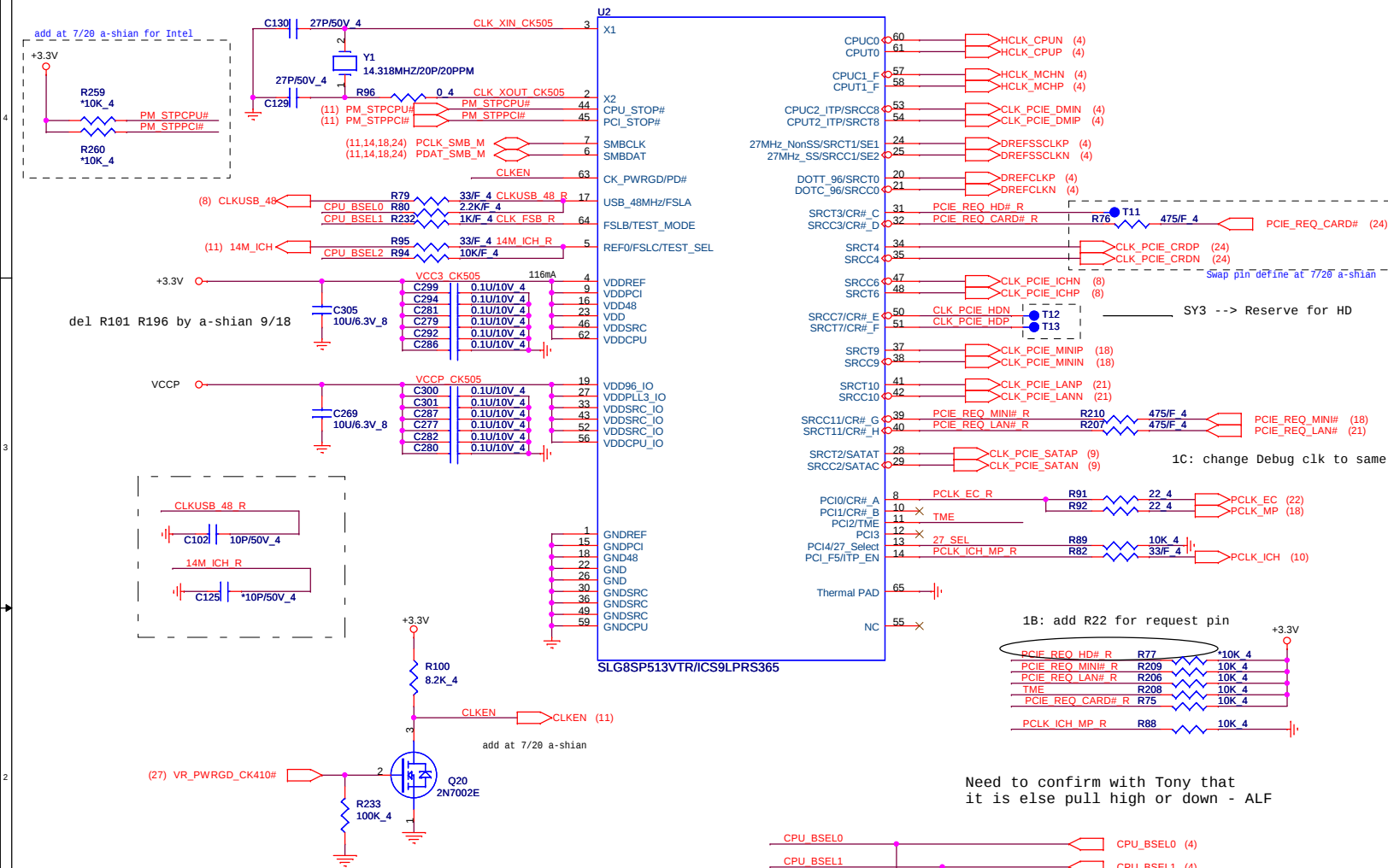


Lenovo Caucasus 2 (Pine Trail) Block Diagram



[illegible][illegible][illegible]

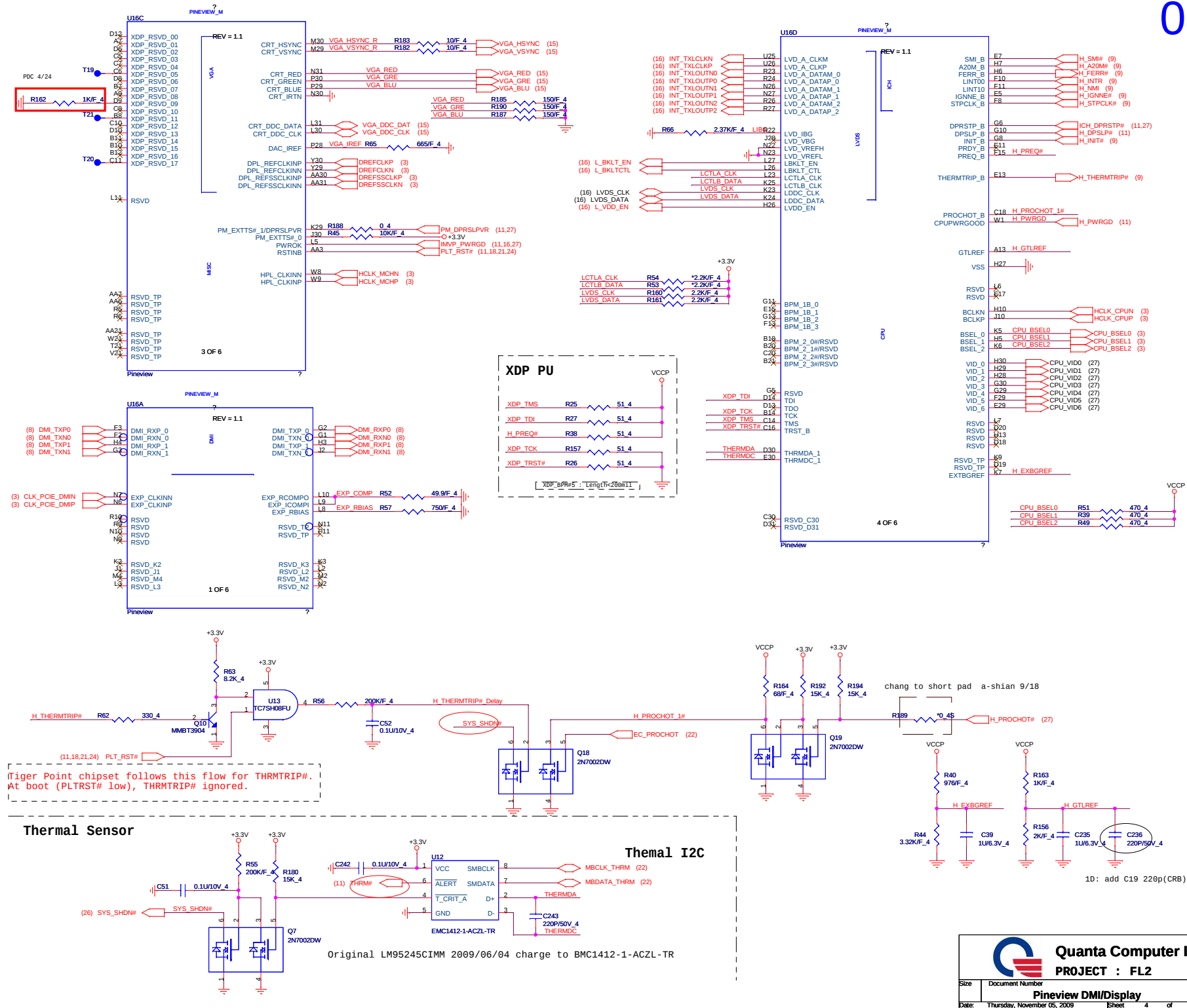


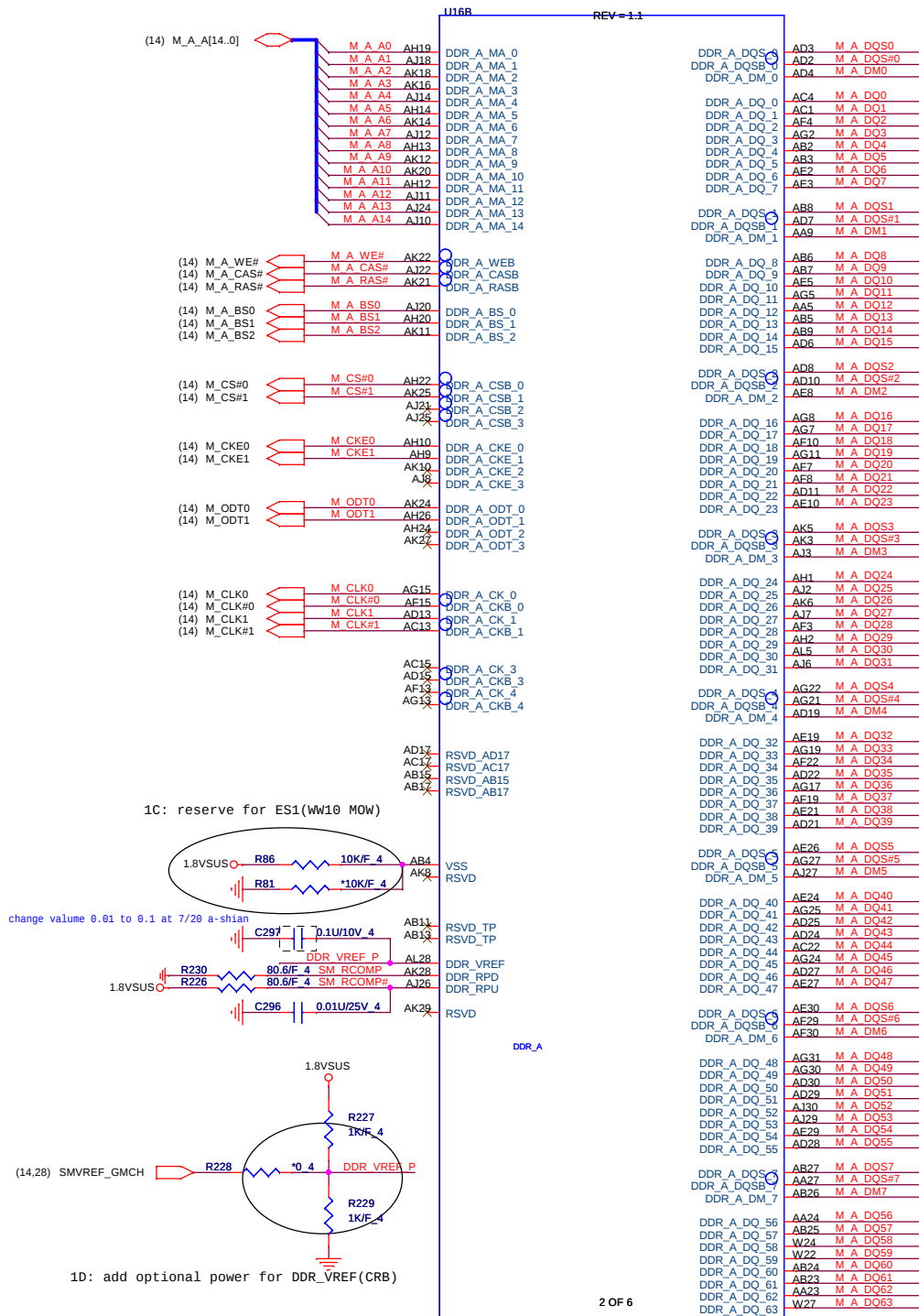
CLK REQ Mapping	REQ Mapping
CR#_C	SRC_0 or SRC_2
CR#_D	LCCLK or SRC_4
CR#_E	SRC_6
CR#_F	SRC_8
CR#_G	SRC_9
CR#_H	SRC_10

27 Select PIN13	PIN 20/21	PIN 24/25
* 0	DOT_96 / DOT_96#	LCCLK / LCCLK#
1	SRC_0 / SRC_0#	27M / 27M_SS

ITP_EN(PIN14)	PIN53/54
* 0	SRC8#/SRC8
1	ITP/ITP#

FSC BSEL2	FSB BSEL1	FSA BSEL0	CPU	SRC	PCI	REF	USB	DOT	Spread %
0	0	0	266.66	100	33.33	14.318	48	96	0.5 Down
0	0	1	133.33	100	33.33	14.318	48	96	0.5 Down
0	1	0	200.00	100	33.33	14.318	48	96	0.5 Down
0	1	1	166.66	100	33.33	14.318	48	96	0.5 Down
1	0	0	333.33	100	33.33	14.318	48	96	0.5 Down
1	0	1	100.00	100	33.33	14.318	48	96	0.5 Down
1	1	0	400.00	100	33.33	14.318	48	96	0.5 Down
1	1	1	RESERVED						



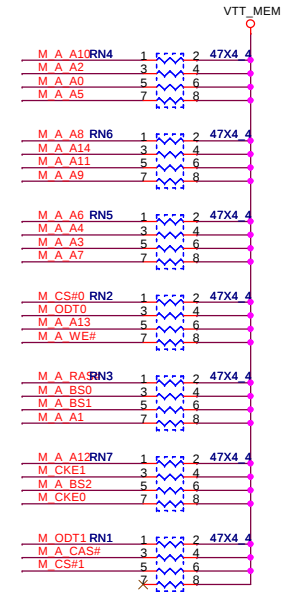


M_A_DQ[63..0] (14)

M_A_DM[7..0] (14)

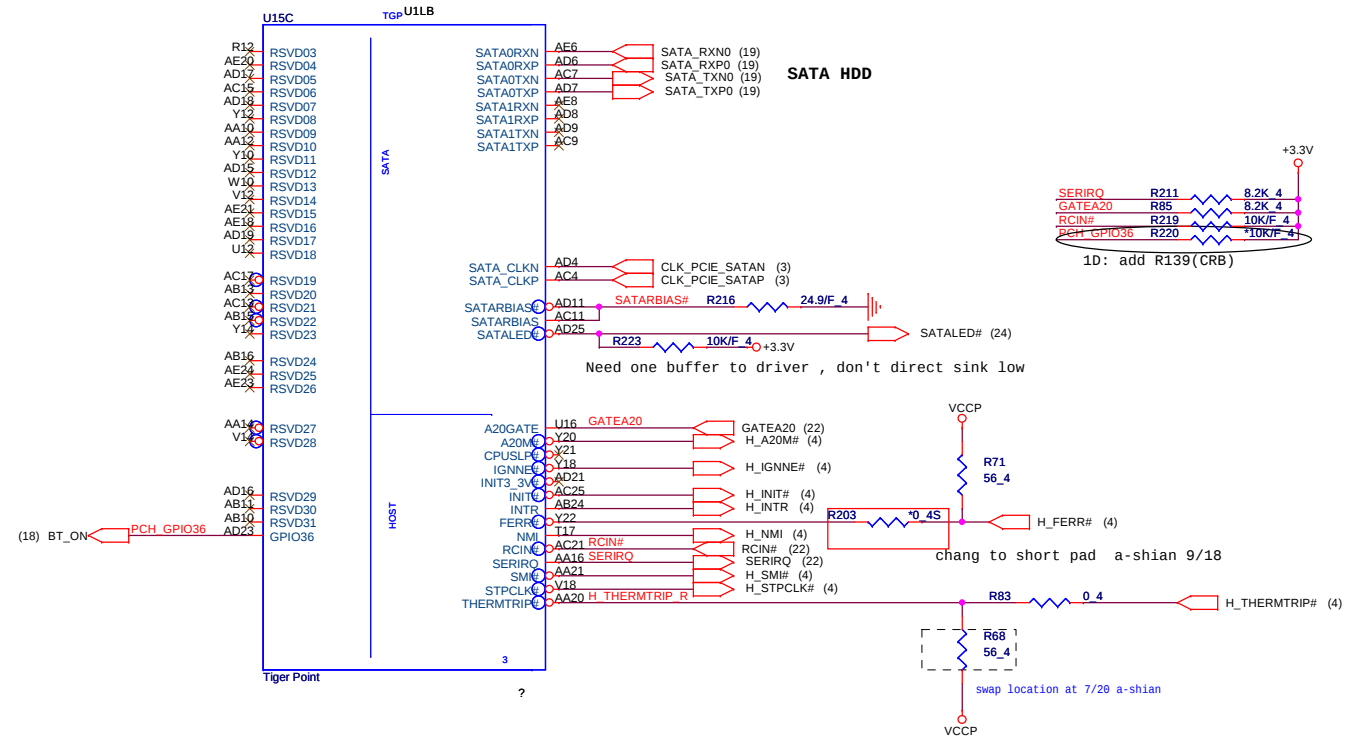
M_A_DQS[7..0] (14)

M_A_DQS#(7..0) (14)

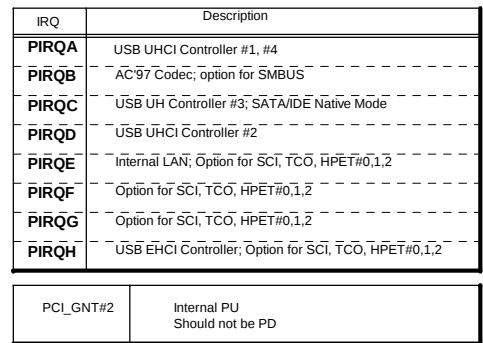






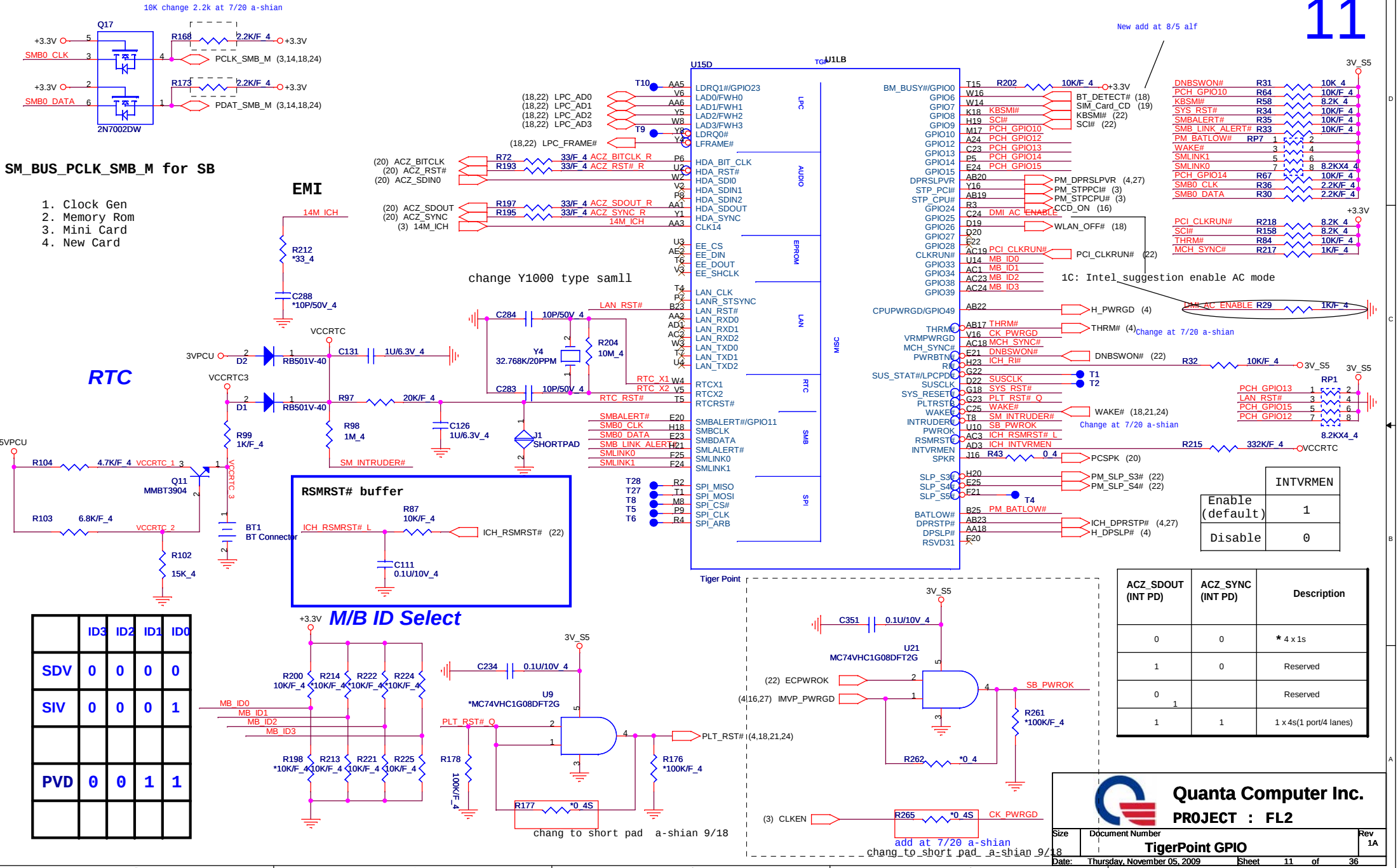


Quanta Computer Inc.
PROJECT : FL2



PCH_GPIO17 (INT PU)	PCH_GPIO48 (INT PU)	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC (Default)

PCH_A16WP (INT PU)	Low = A16 swap override enabled High = Default
-----------------------	---



SM_BUS_PCLK_SMB_M for SB

- 1. Clock Gen
- 2. Memory Rom
- 3. Mini Card
- 4. New Card

EMI

RTC

RSMRST# buffer

M/B ID Select

	ID3	ID2	ID1	ID0
SDV	0	0	0	0
SIV	0	0	0	1
PVD	0	0	1	1

New add at 8/5 alf

change Y1000 type samll

1C: Intel suggestion enable AC mode

ACZ_SDOUT (INT PD)	ACZ_SYNC (INT PD)	Description
0	0	* 4 x1s
1	0	Reserved
0	1	Reserved
1	1	1 x4s(1 port/4 lanes)



Quanta Computer Inc.
PROJECT : FL2

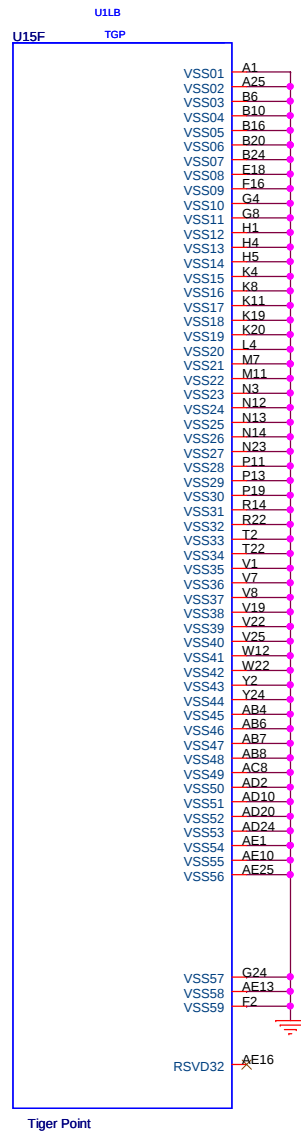
Size	Document Number	Rev 1A
TigerPoint GPIO		
Date: Thursday, November 05, 2009	Sheet 11 of 36	

chang to short pad a-shian 9/18

add at 7/20 a-shian

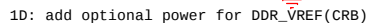
chang to short pad a-shian 9/18

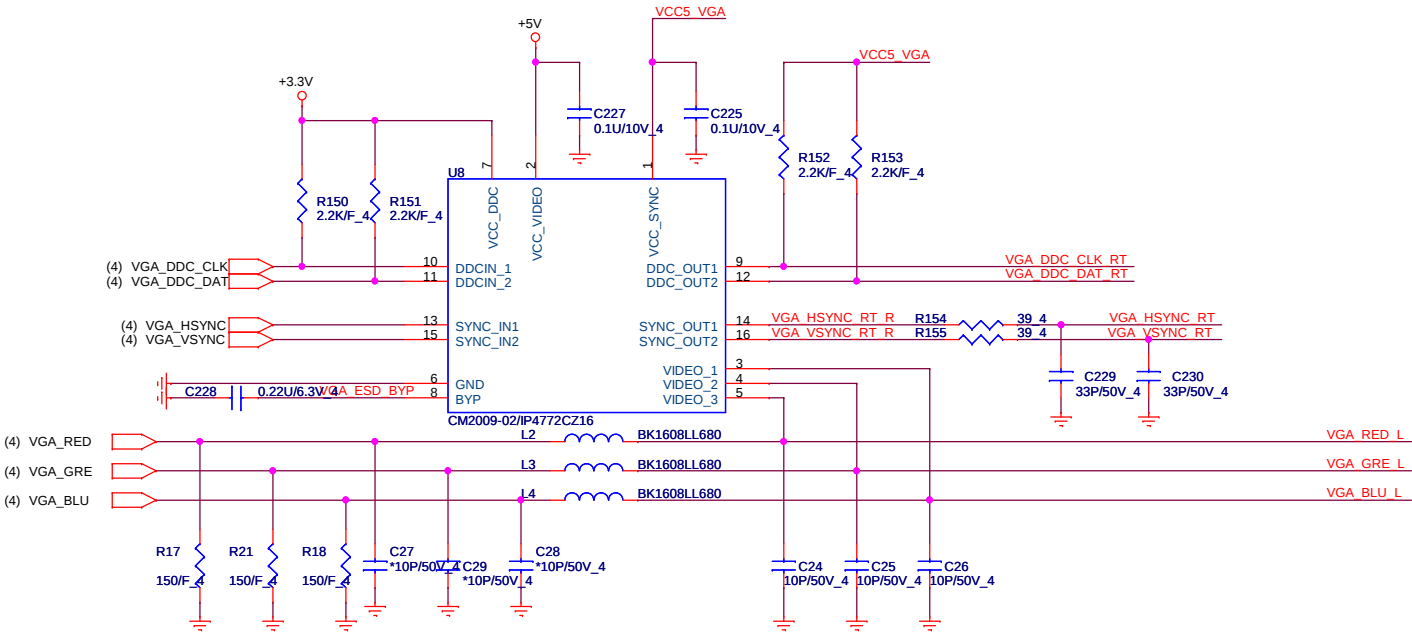




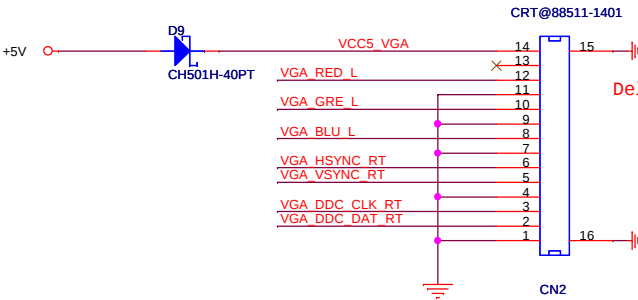


(H=5.2)



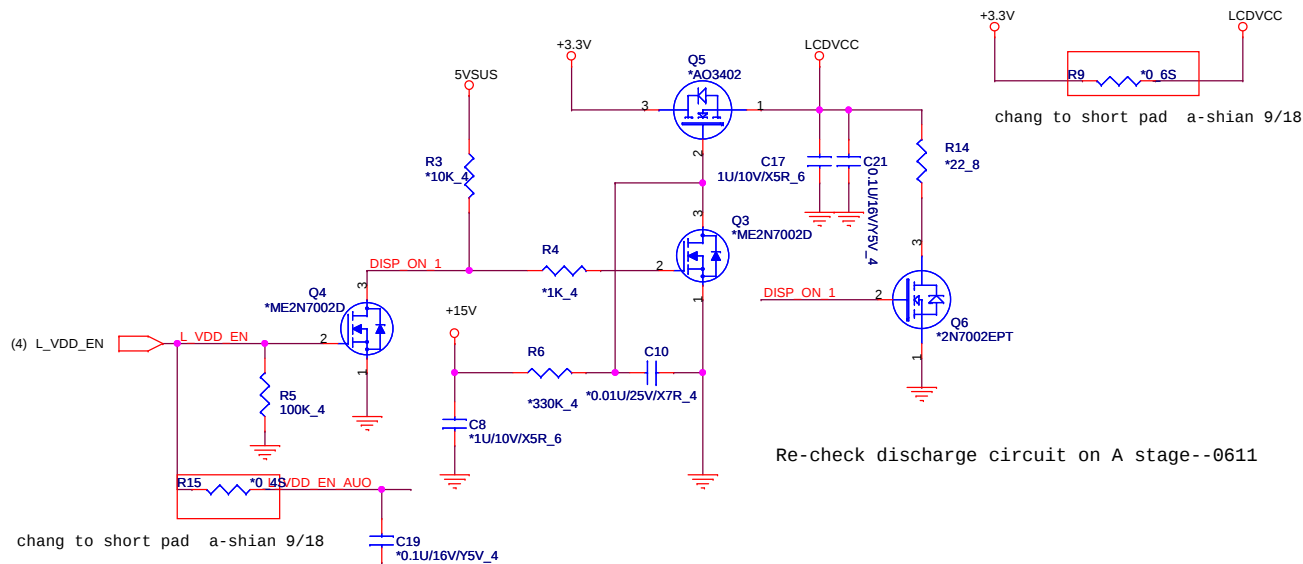


VCC5_VGA(5V+-10%)
Current limit <1A
VCC5<55mA
Current limit ~ 350mA

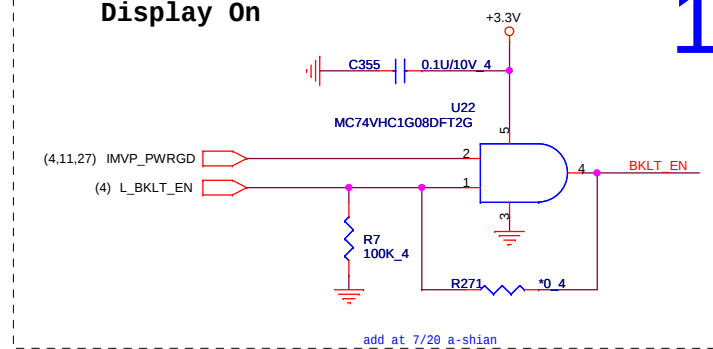


LVDS

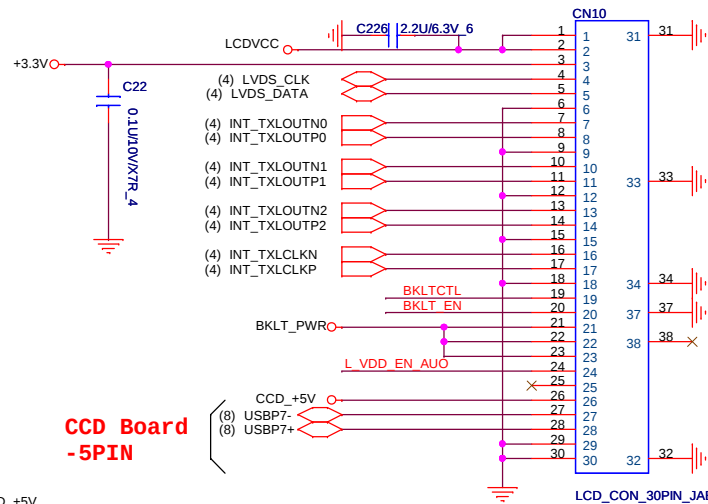
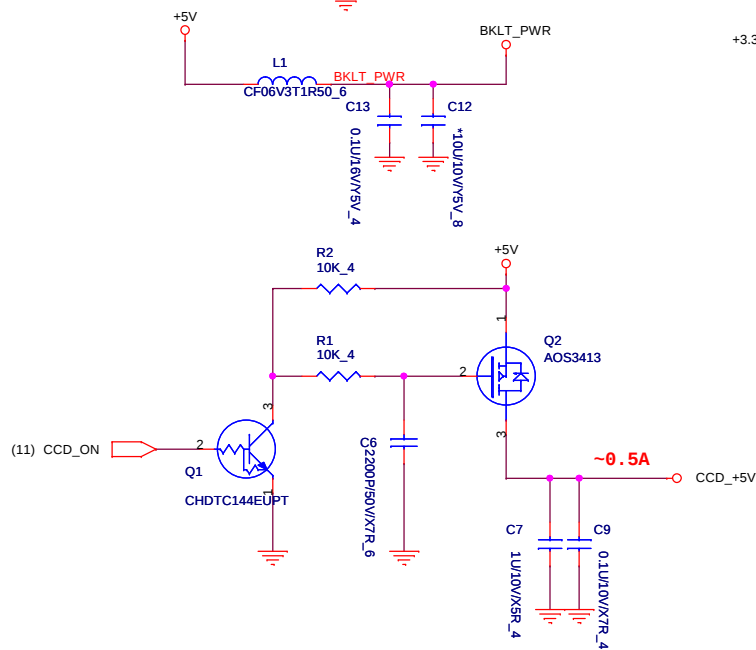
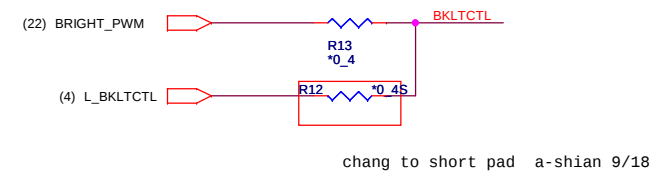
LVDS Enable



Display On



Backlight Control



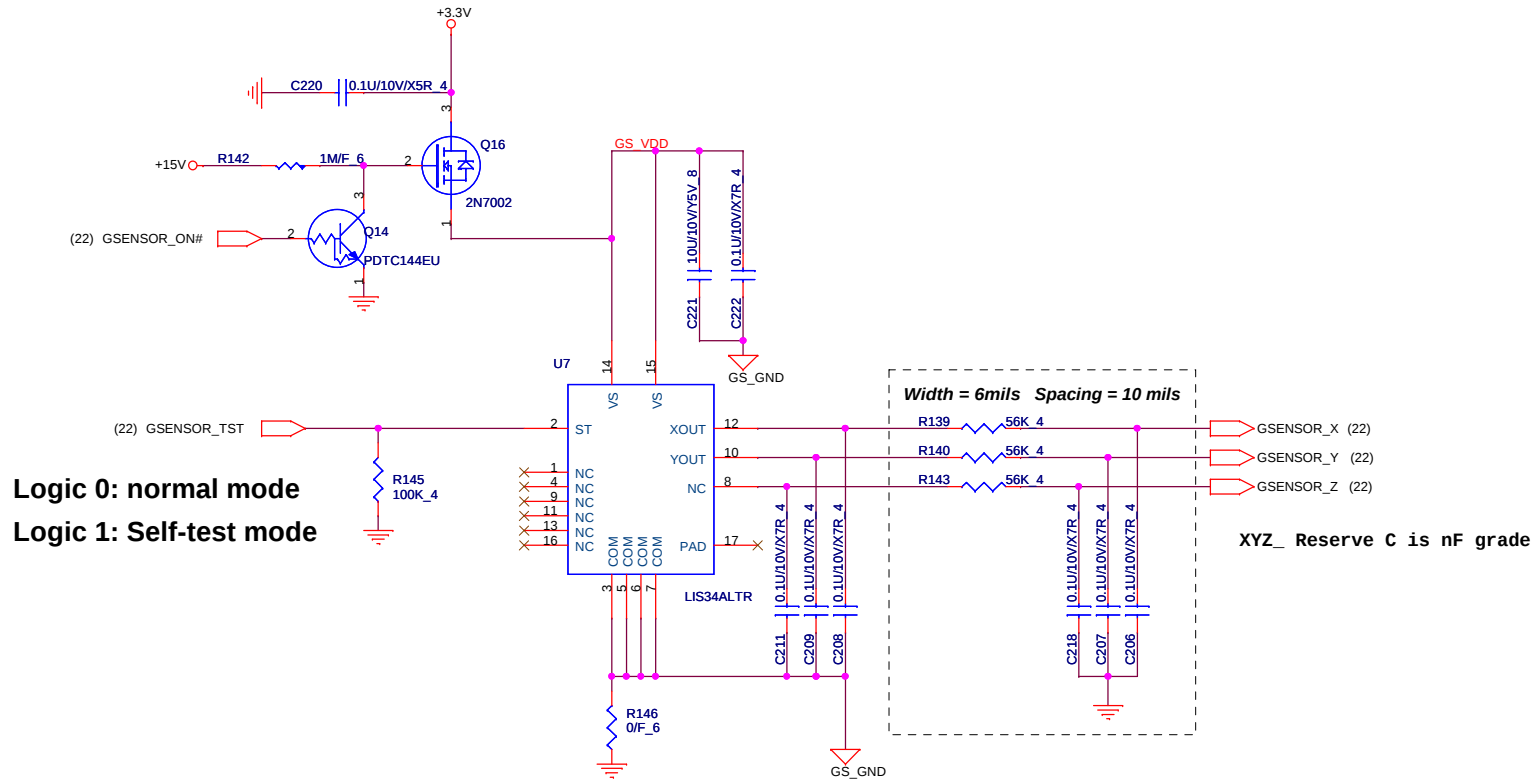
**LVDS (10.1")
(1024x600,
1366x768)**

OK -alf
change to JAE -0601

2009/06/04 reverse for layout

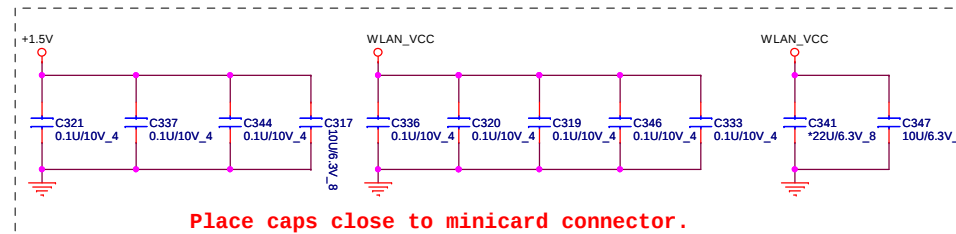
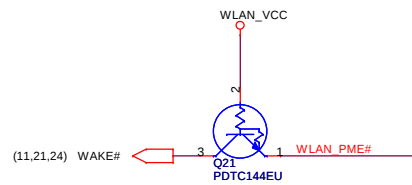
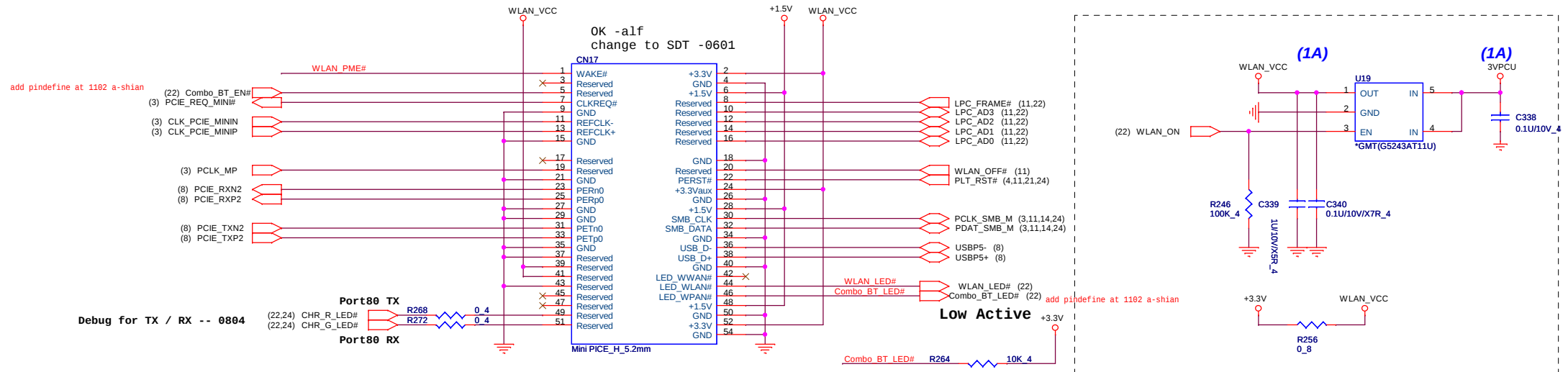
 Quanta Computer Inc. PROJECT : FL2		
Size	Document Number	Rev
	LVDS	1A
Date:	Thursday, November 05, 2009	Sheet 16 of 36

G-SENSOR (3-Axial)

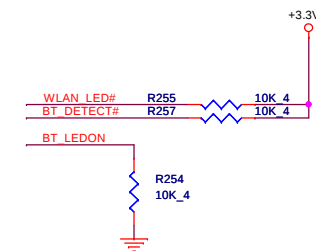
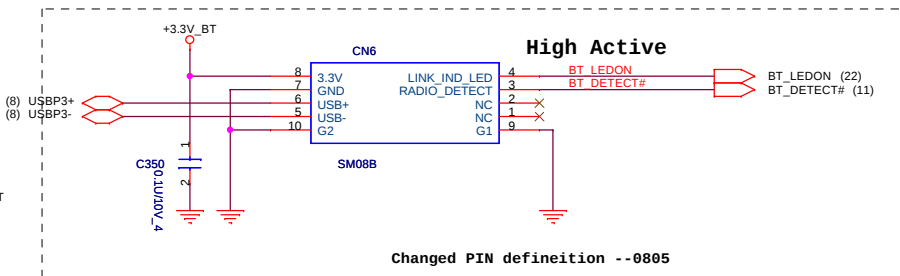
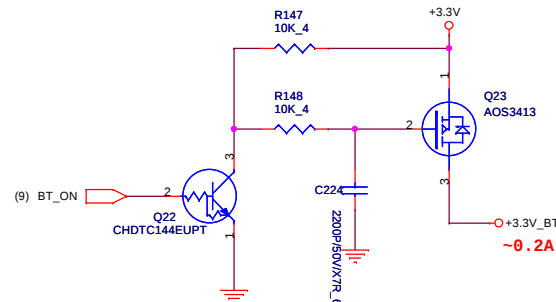


3G MiniCard WLAN connector Mini Card Version1.2

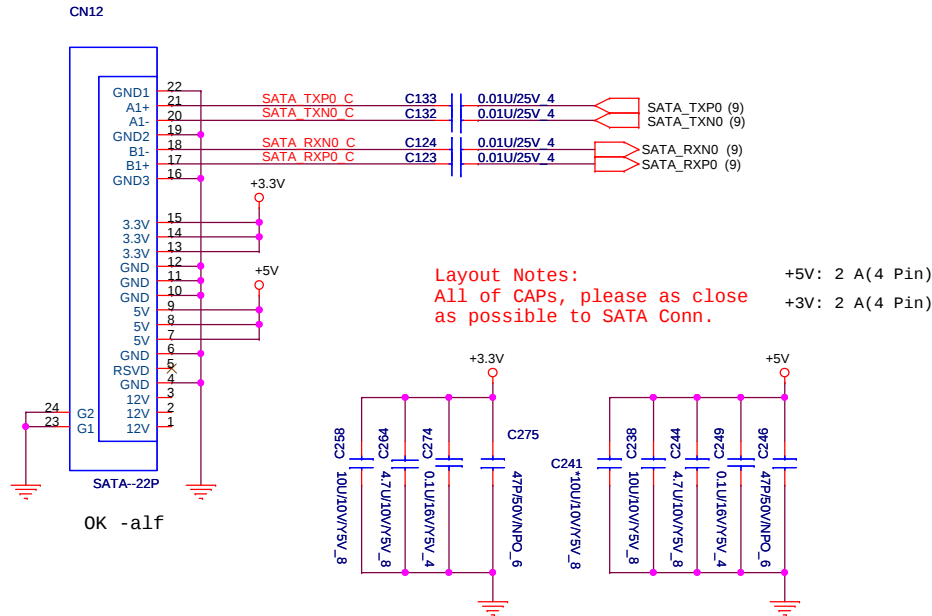
+3.3V Max 1.1A / +1.5V Max 375mA



Bluetooth

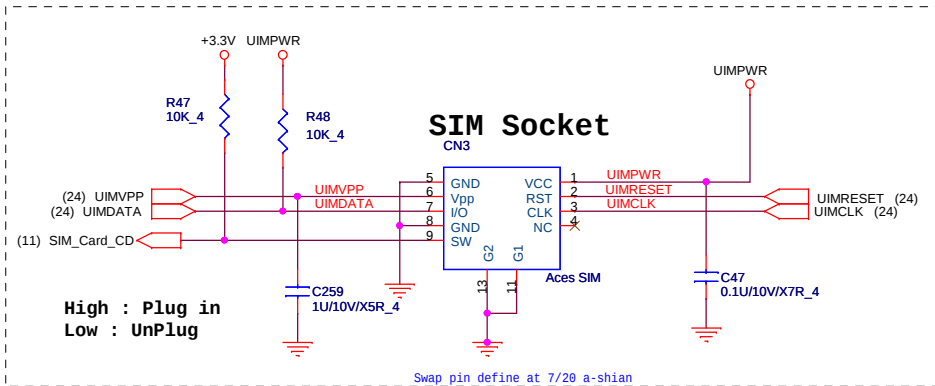


SATA CONNECTOR

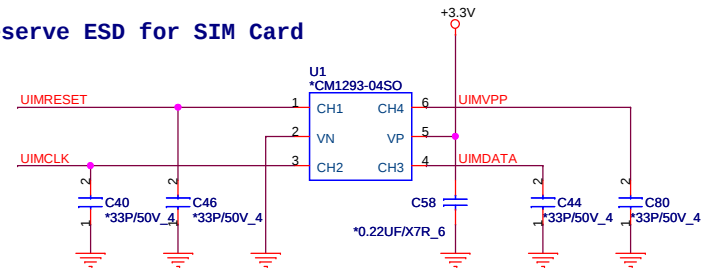


SIM Card CONNECTOR

Layout Notes for SIM Card
SIM Power (UIMPWR) trace more then 20mil

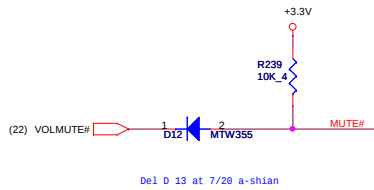


Reserve ESD for SIM Card



Quanta Computer Inc.
PROJECT : FL2

Size	Document Number	Rev
	SATA / SIM Card	1A
Date:	Thursday, November 05, 2009	Sheet 19 of 36



OK -ALF

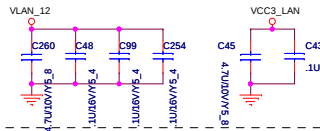
C348 a-shian

Change footprint for ME at 97/22

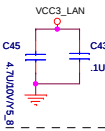
Quanta Computer Inc. PROJECT : FL2		
Size	Document Number	Rev
	AUDIO CODEC (CX20582-10Z)	1A
Date:	Thursday, November 05, 2009	Sheet 20 of 36

Layout Notes for LAN Core Power

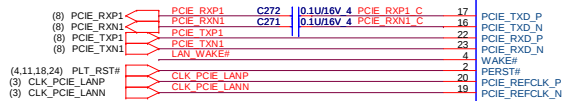
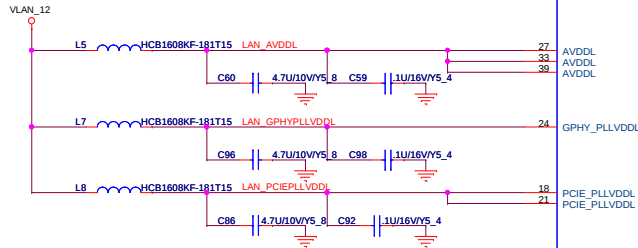
Core Power Decoupling



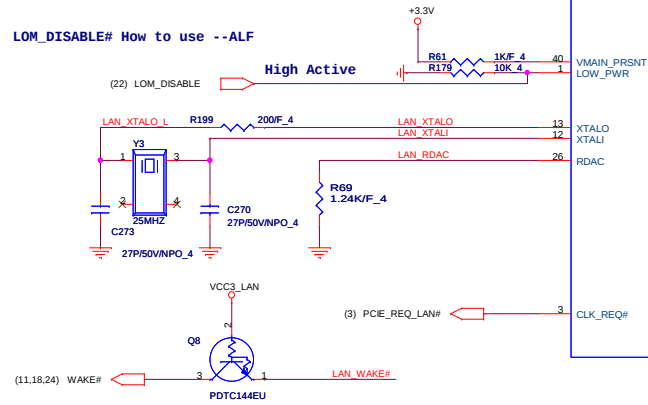
VDDIO Power Decoupling



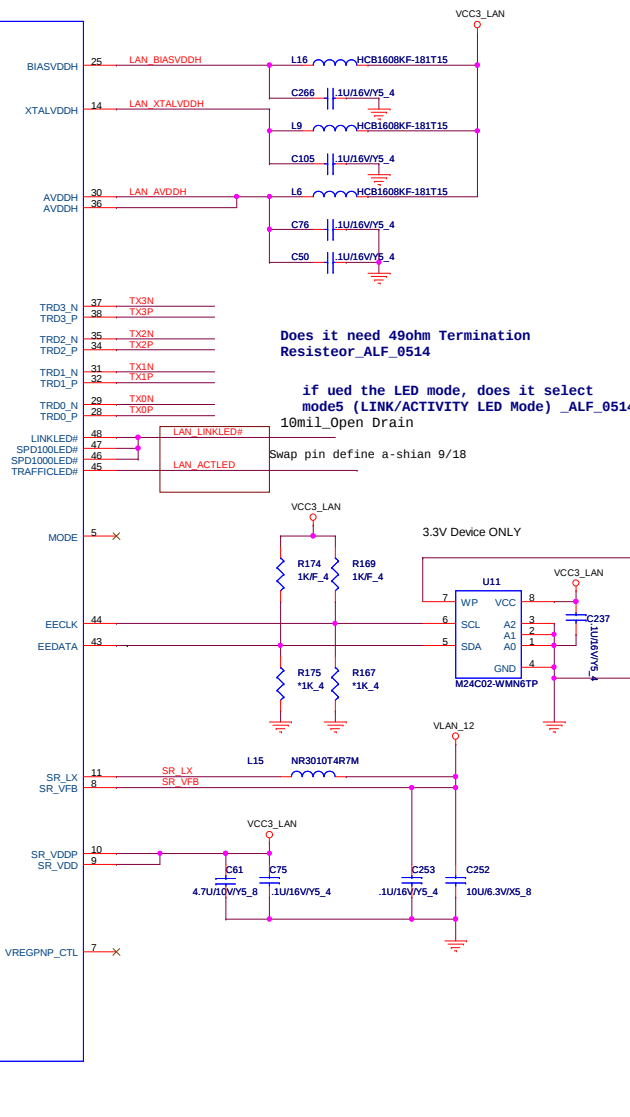
BCM57780
7mm x 7mm
48-Pin QFN



LOM_DISABLE# How to use --ALF



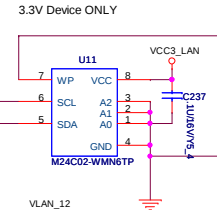
Package Body



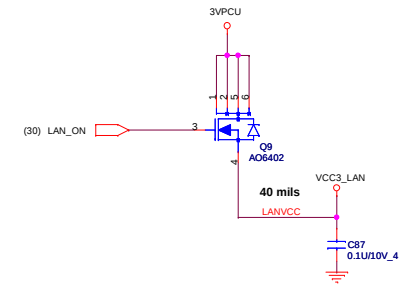
Does it need 490hm Termination
Resistor ALF_0514

if ued the LED mode, does it select
mode5 (LINK/ACTIVITY LED Mode) _ALF_0514
10mil Open Drain

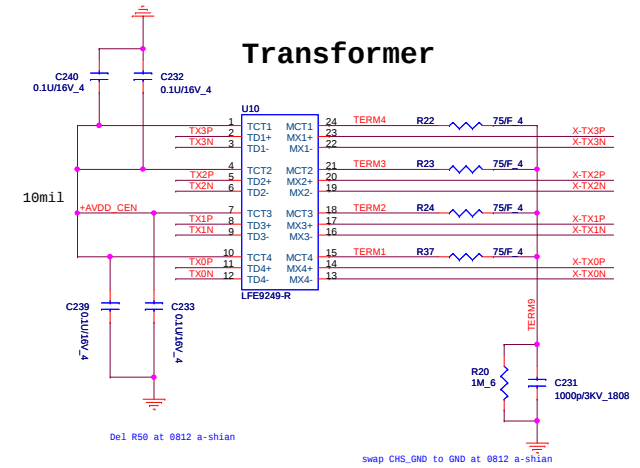
Swap pin define a-shian 9/18



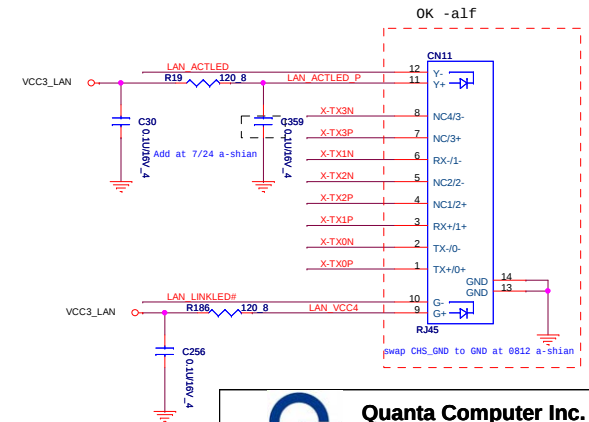
LAN Power



Transformer

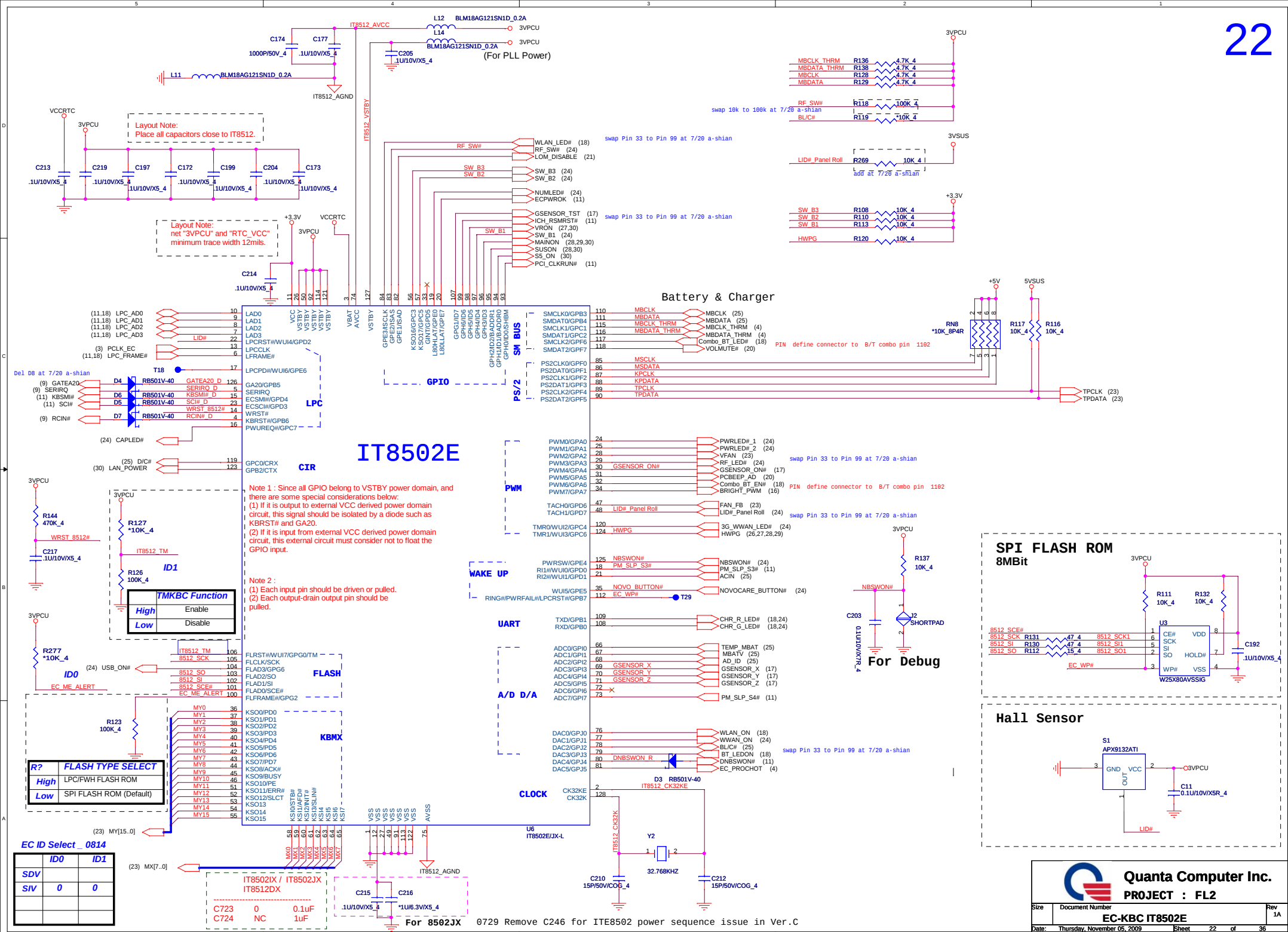


RJ45

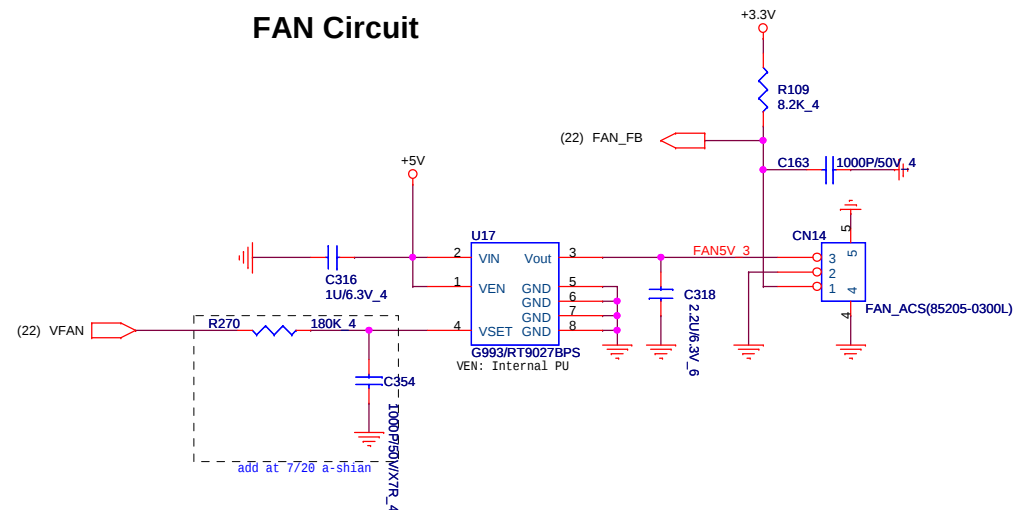
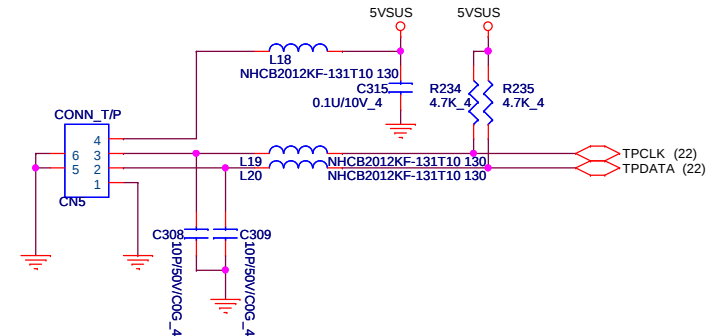


Quanta Computer Inc.
PROJECT : FL2

Size Document Number Rev 1A
Date Thursday, November 05, 2009 Sheet 21 of 36



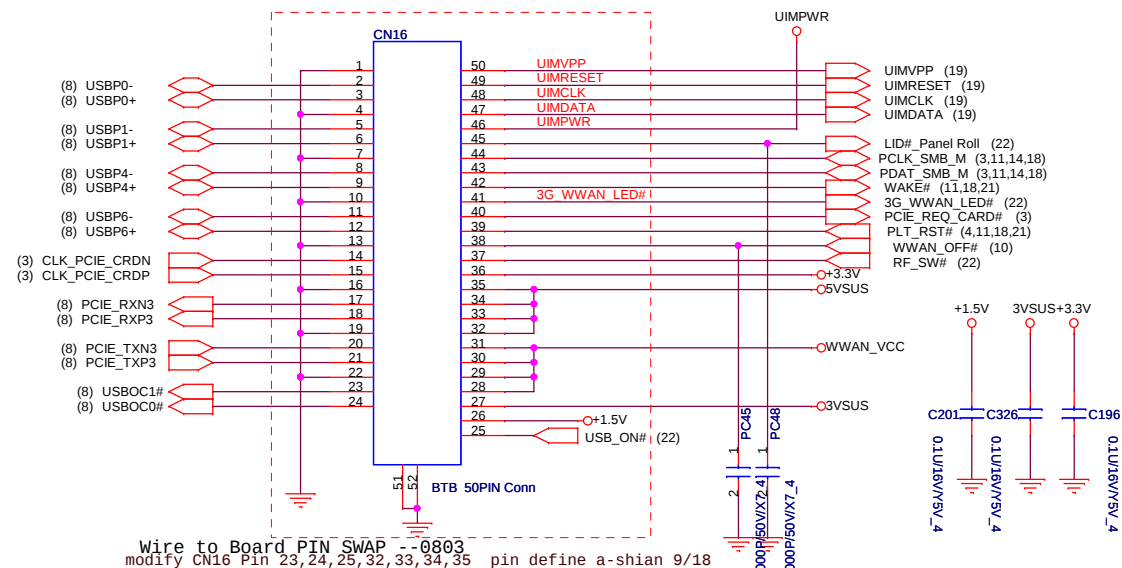
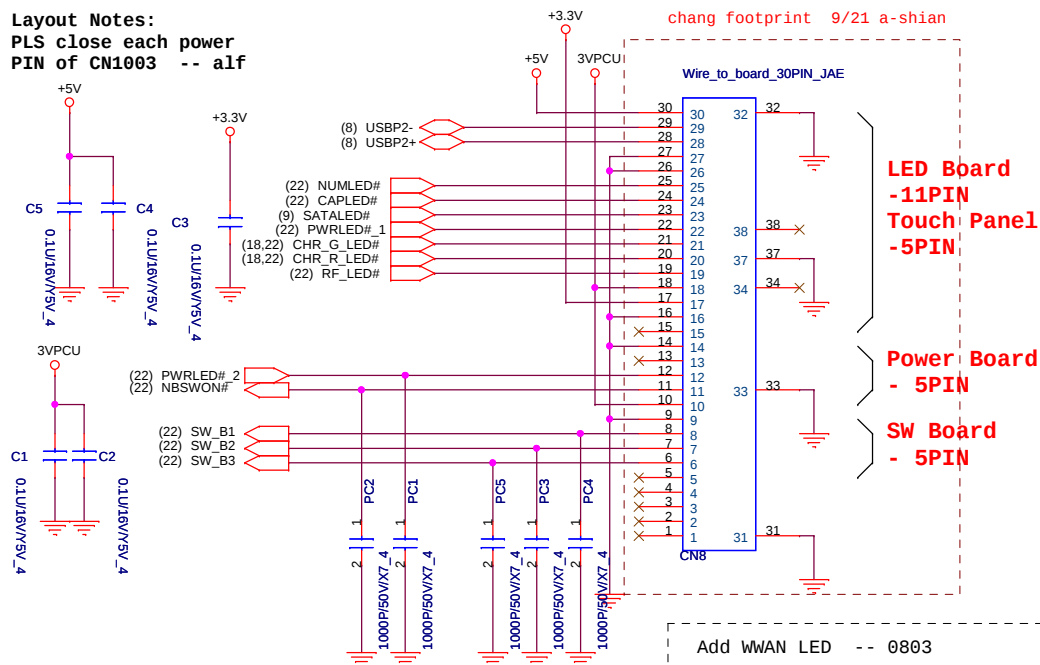
revers 6/6 for mechanism



Size	Document Number	Rev
	KB / TP / FAN	1A
Date:	Thursday, November 05, 2009	Sheet 23 of 36

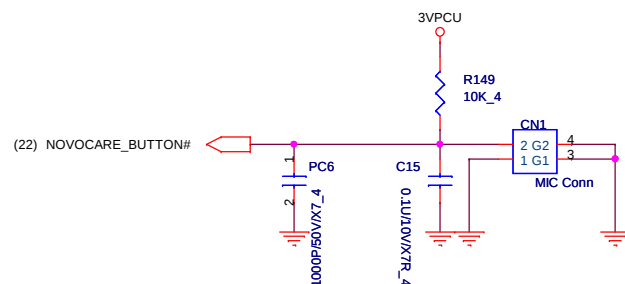
Card Reader to MB wire

Layout Notes:
PLS close each power
PIN of CN1003 -- alf



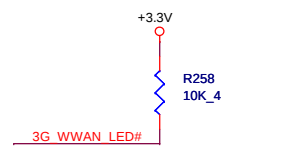
Function Board

NOVO BUTTON#



Add WWAN LED -- 0803

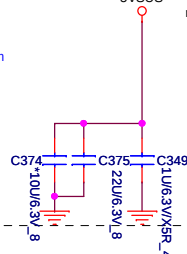
WWAN LED PULL UP



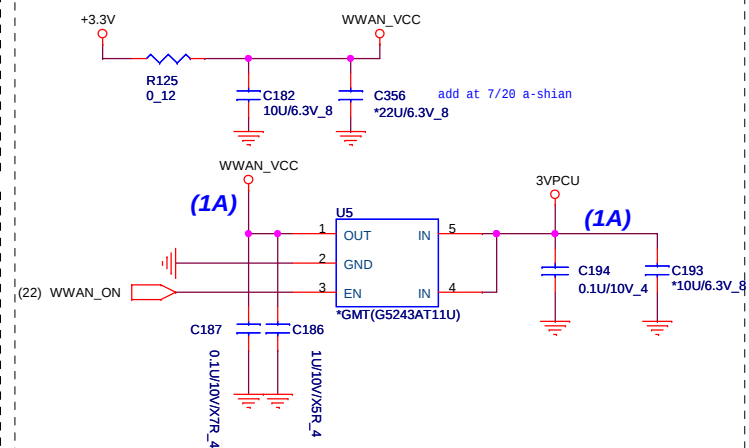
USB Power

move U20 to CRT board a-shian 9/18

Del R258 at 7/20 a-shian

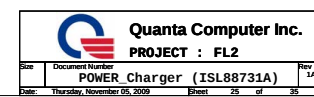


EC - Reserve Power Control for WWAN -- 0205



Quanta Computer Inc.
PROJECT : FL2

Size	Document Number	Rev
	Small Board	1A
Date:	Thursday, November 05, 2009	Sheet 24 of 36

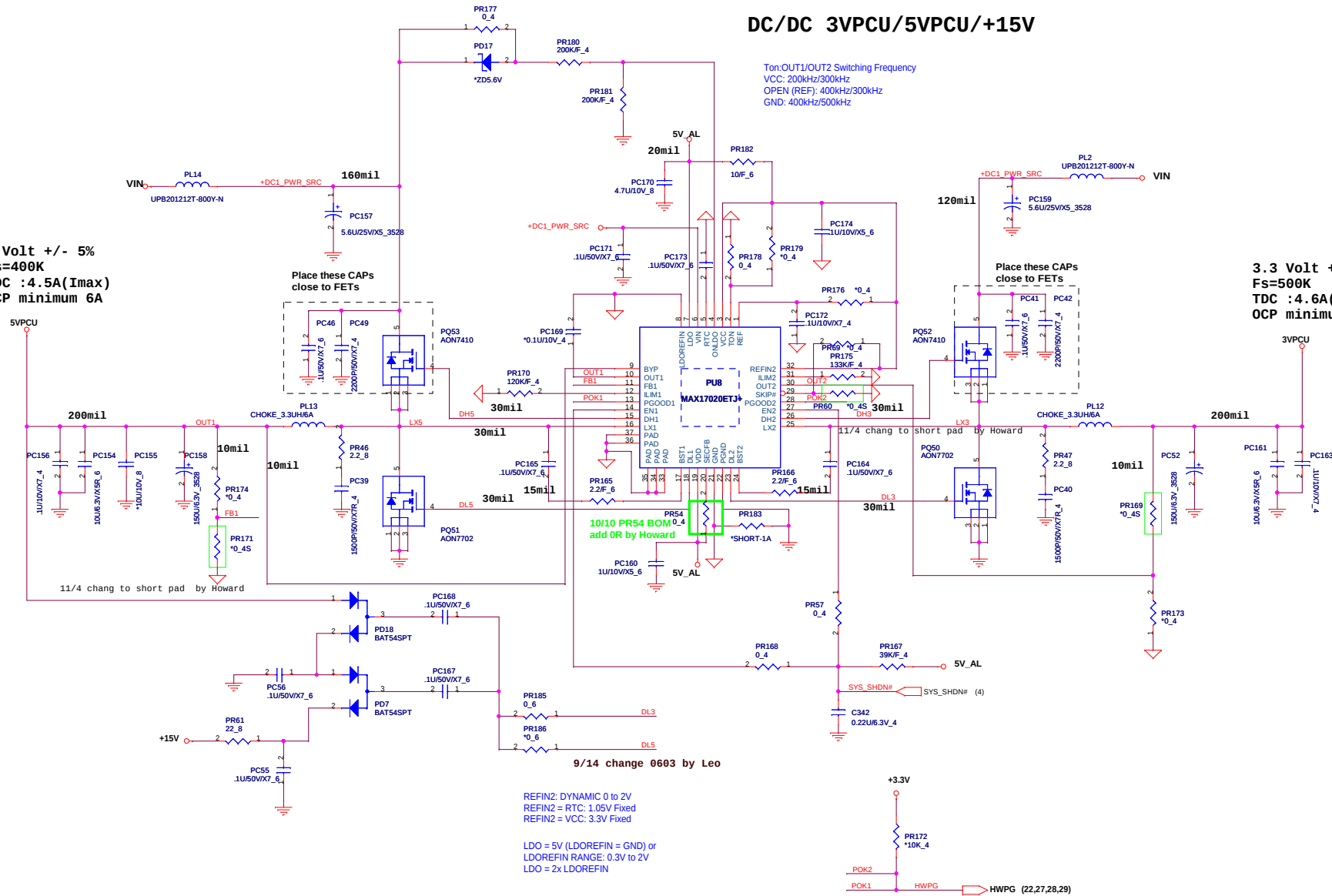


DC/DC 3VPCU/5VPCU/+15V

Ton:OUT1/OUT2 Switching Frequency
VCC: 200kHz/300kHz
OPEN (REF): 400kHz/300kHz
GND: 400kHz/500kHz

5 Volt +/- 5%
Fs=400K
TDC :4.5A(Imax)
OCP minimum 6A

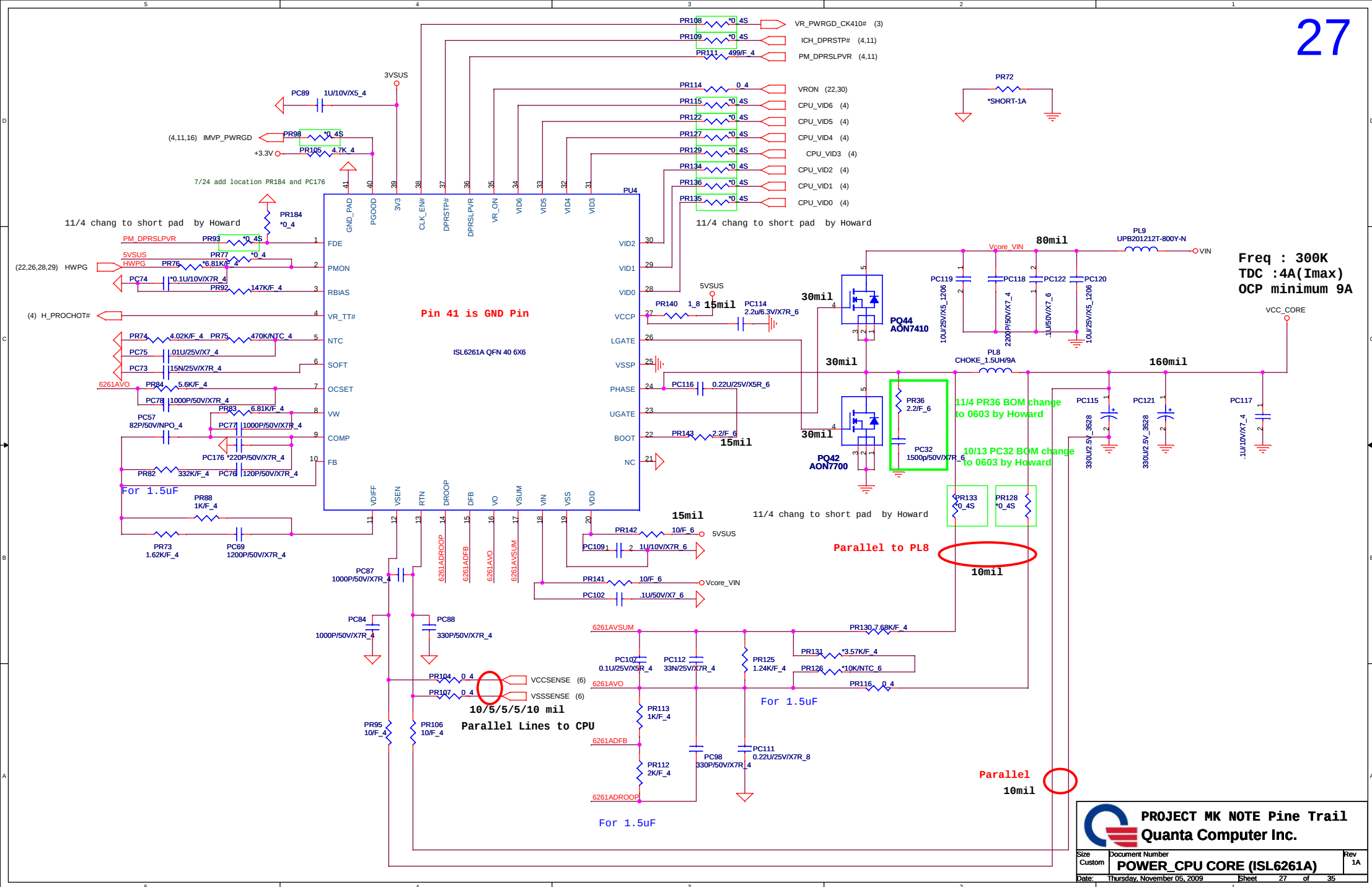
3.3 Volt +/- 5%
Fs=500K
TDC :4.6A(Imax)
OCP minimum 6A

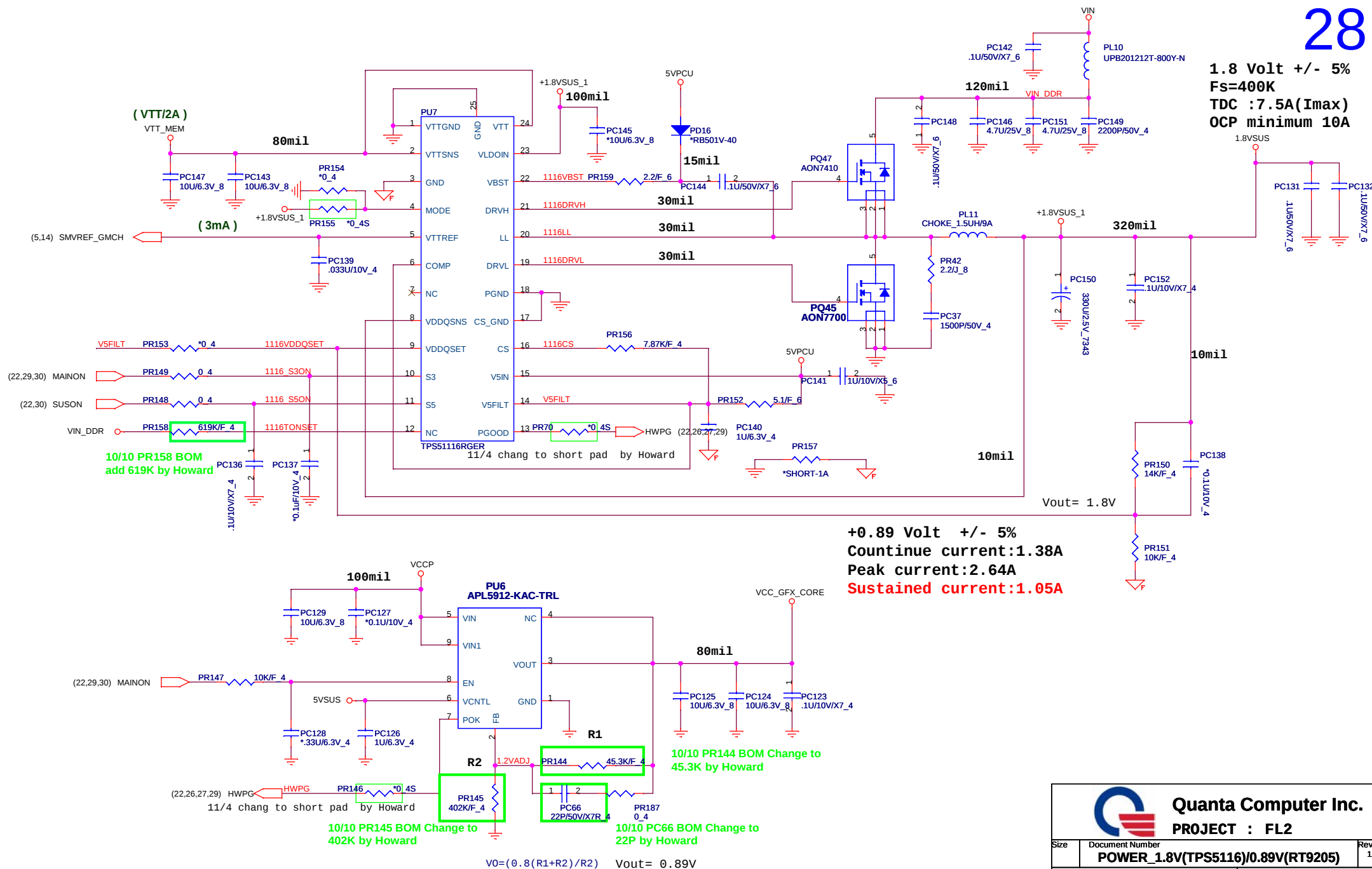


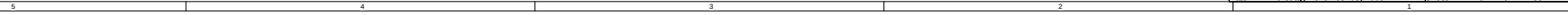
REFIN2: DYNAMIC 0 to 2V
REFIN2 = RTC: 1.05V Fixed
REFIN2 = VCC: 3.3V Fixed

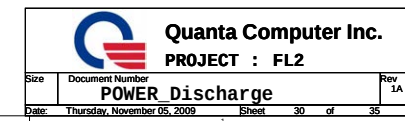
LDO = 5V (LDOREFIN = GND) or
LDOREFIN RANGE: 0.3V to 2V
LDO = 2x LDOREFIN

POK1 HWPG HWPG (22,27,28,29)

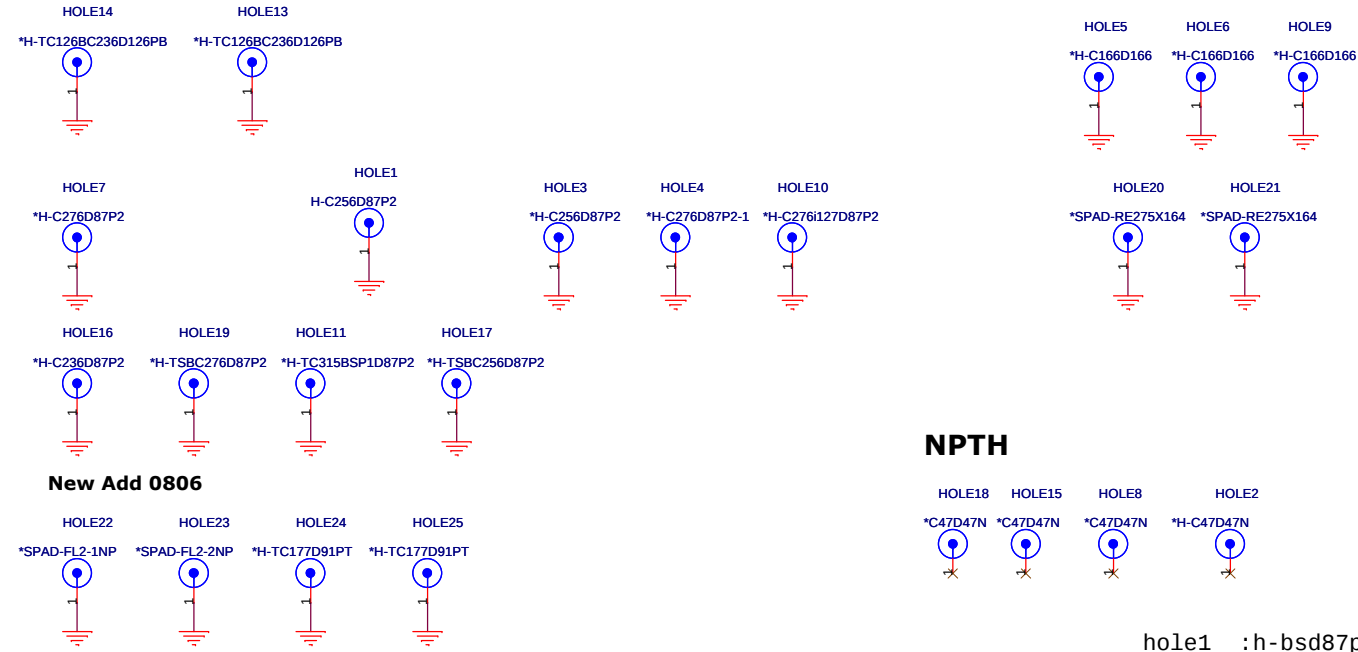






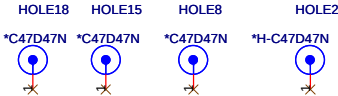


Screw Hole



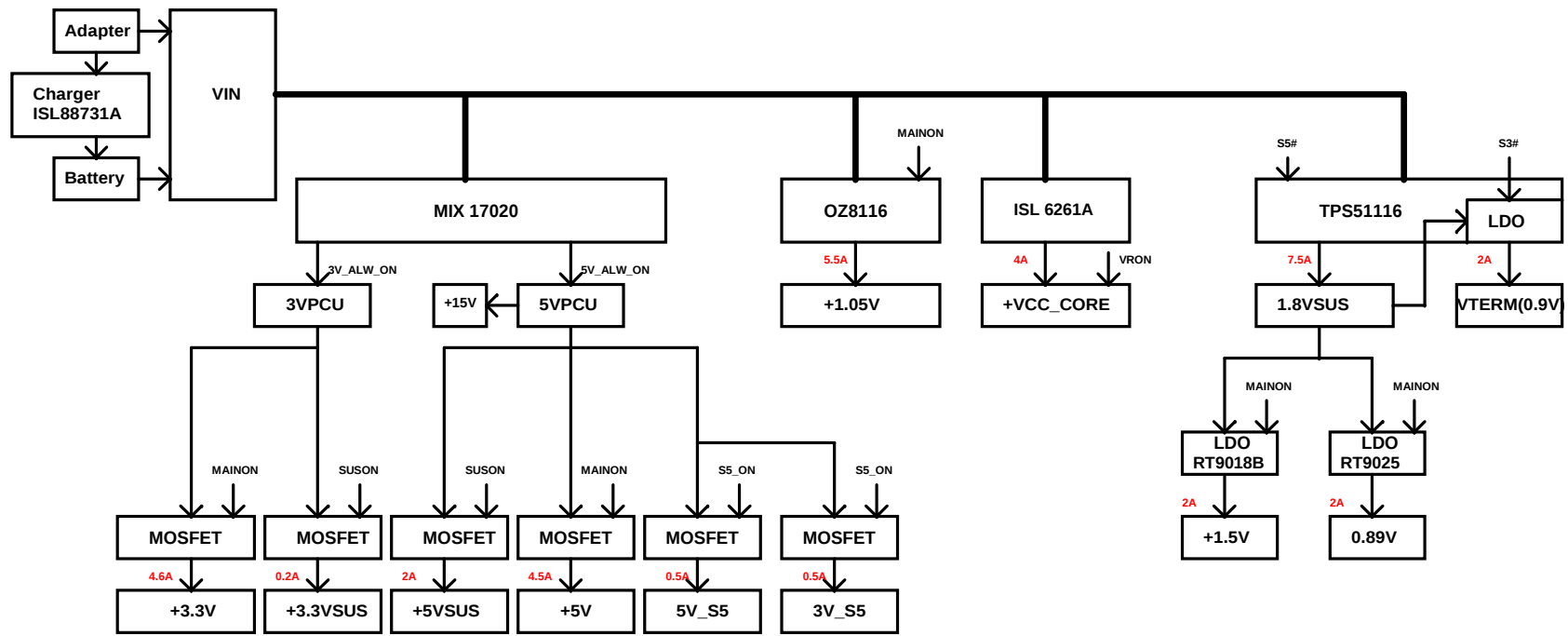
New Add 0806

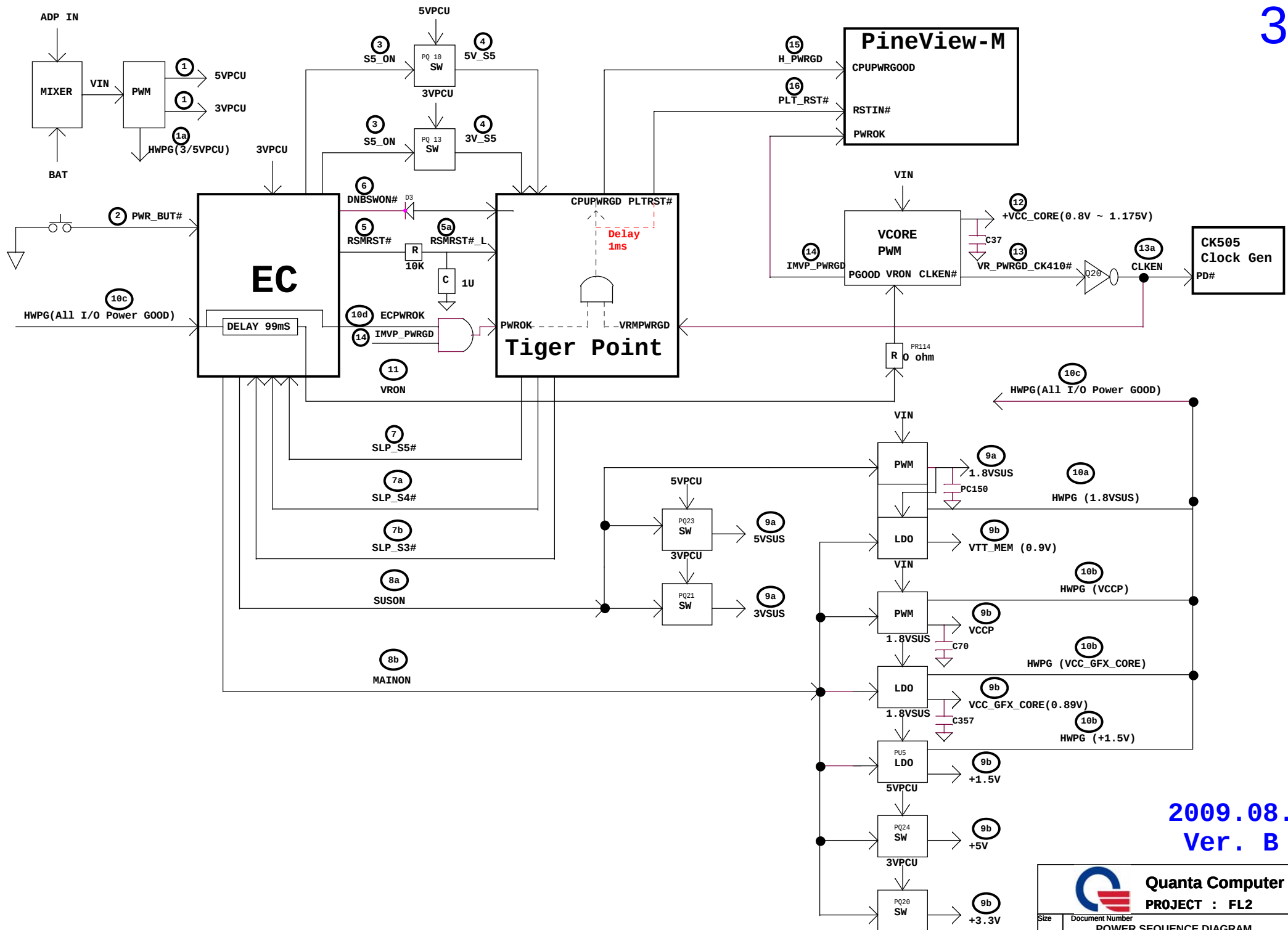
NPTH



hole1 :h-bsd87pb
hole2, del
hole4, hole3, hole10, : h-c87d87n
hole16: h-c236d87p2
hole19: h-tsbcd87p2
hole11:h-bsp1d87pb
hole12 :del
hole17:h-bsd87pt

Decoupling Cap





2009.08.03
Ver. B

MODEL :		REV:	CHANGE LIST:	MODEL : FL2 MB								
FL2 MotherBoard	1A	FIRST RELEASE ON 2009/05/11			PAGE	FROM	To					
		Page 00 --> 1.			1	1A						
	2B	1. Add pull up resistor 10K on PM_SETCPU# and PM_STPPC# 2. Swap Clock GEN pin 31 to 32 3. Swap Clock GEN pin 50,51 to pin 35,34 4. Add off page symbol on CLKEN line 5. Change C297 Volume 0.01uF->0.1uF 6. Add capacitor 22uF (C352,C353) and 0.01uF(C360) on VCC_CORE 7. Swap capacitor 10uF to 22uF (C36) 8. Add capacitor 22uF(C357),0.01uF(C358) on VCC_GFX_CORE 9. Swap 0R(R73) to 600R @100MHZ(L24) Bead 10 Add 0.01uF (C361) on 1.8VSUS 11. Add 0.01uF (C362) on VCCP 12. Add 0.01uF (C363) on +1.8V 13. Swap R68 location to close chip 14 Add pull up resistor (R263) on WWAN_OFF# 15. Change R168 and R173 volume 10K-> 2.2K 16. Change sequence Add AND gate U21, C351, R261, R262 ,R264 ,R265 . 17. Add pull down resistor (R266, R267) on SA0 , SA1. 18. Improve backlight flash add U22,C355,R271 19. Modify SIM define (CN3) 20. Change audio VDD_IO voltage +1.5V->+3.3V 21. Del D13 on EAPD 22. Del D8 on SERIRQ 23. Swap EC ICH_RSMRST# (Pin33 -> Pin 99) 24. Add pull up resistor 10K (R269) on LID#_Panel Roll 25. Add 180K (R270) and 1000pF (C354) on FAN Circuit 26. Del R258 on USB_ON# 27. Add 22uF (C356) on WWAN_VCC 28. Del PR69 on HWP 29. Del PR89A and PD10 on VRON Lline 30. Add R273 on SPDIF line 31. Add R274 on ICH_AZ_CODEC_BITCLK 32. Add C102 (10p) in BOM 08/12 33. L10 10uH ->0R 08/12 34. R150,R151 3.9K ->2.2K08/12 35. R14,R3,Q4,Q6, del in BOM (reserve)08/12 36. Swap CN7 part number (DMIC)08/12 37. Reserve R70,R275,R276,R73,369,C370,C372,C371 and C343,C345,C368,C367 in audio function for EMI and ESD08/12 38. Reserve R274, PC177, R273 in audio function for EMI 08/13 39. Cancel CHS_GND in LAN function of RJ4508/13 40. Swap S1 part number (Hall sensor)08/13 41. Swap CN4 part number (Key board connector)08/13 42. Add C55,C62,C71,C79,C85,C95,C100,C104,C107,C109,C112,C114,C117,C121,C122,C291,C293,C295,C298,C302,C303,C304,C306,C307 for EMI in Keyboard connector08/13			2	1A						
	3C				1.Del R101,R196 OHM 09/22'09 2.R189,R90,R201,R159,R74,R191,R205,R83,R177,R265,R121,L17,R9,R125,R12,R256 Use short pad. 09/22'09 3.change CN9 footprint 09/22'09 4.modify CN16 pin define 09/22'09 5. move U20 to CRT board			3	1A			
4D	1.DEL 0R R275,R276,R70,R73 FOR audio output and DEL R221 for MB ID 2.ADD R222 for MB ID and ADD R264 10K 3.Change audio phone jack footprint CN13 4.DEL CN2 pin 2 Let it floating.							4	1A			
								5	1A			
								6	1A			
								7	1A			
								8	1A			
								9	1A			
								10	1A			
								11	1A			
								12	1A			
								13	1A			
								14	1A			
								15	1A			
								16	1A			
								17	1A			
								18	1A			
								19	1A			
								20	1A			
								21	1A			
					22	1A						
	23				1A							
	24				1A							
	25				1A							
	26				1A							
	27				1A							
	28				1A							
	29				1A							
	30				1A							
	31				1A							
	32				1A							
	33				1A							
	34				1A							
	35				1A							
	36				1A							
	37				1A							
	38				1A							
	39				1A							
					 Quanta Computer Inc. PROJECT : FL2 Size Document Number Rev 1A FL2 EC Record List_A Date: Thursday, November 05, 2009 Sheet 34 of 36							

MODEL :		REV :	CHANGE LIST :	MODEL : FL2 MB		
FL2 MotherBoard				PAGE	FROM	To
		1	1A			
		2	1A			
		3	1A			
		4	1A			
		5	1A			
		6	1A			
		7	1A			
		8	1A			
		9	1A			
		10	1A			
		11	1A			
		12	1A			
		13	1A			
		14	1A			
		15	1A			
		16	1A			
		17	1A			
		18	1A			
		19	1A			
		20	1A			
		21	1A			
		22	1A			
		23	1A			
		24	1A			
		25	1A			
		26	1A			
		27	1A			
		28	1A			
		29	1A			
		30	1A			
		31	1A			
		32	1A			
		33	1A			
		34	1A			
		35	1A			
		36	1A			
		37	1A			
		38	1A			
39	1A					



Quanta Computer Inc.
PROJECT : FL2

Size

Document Number

FL2 EC Record List_B

Date: Thursday, November 05, 2009

Rev

1A

Sheet 35 of 36

