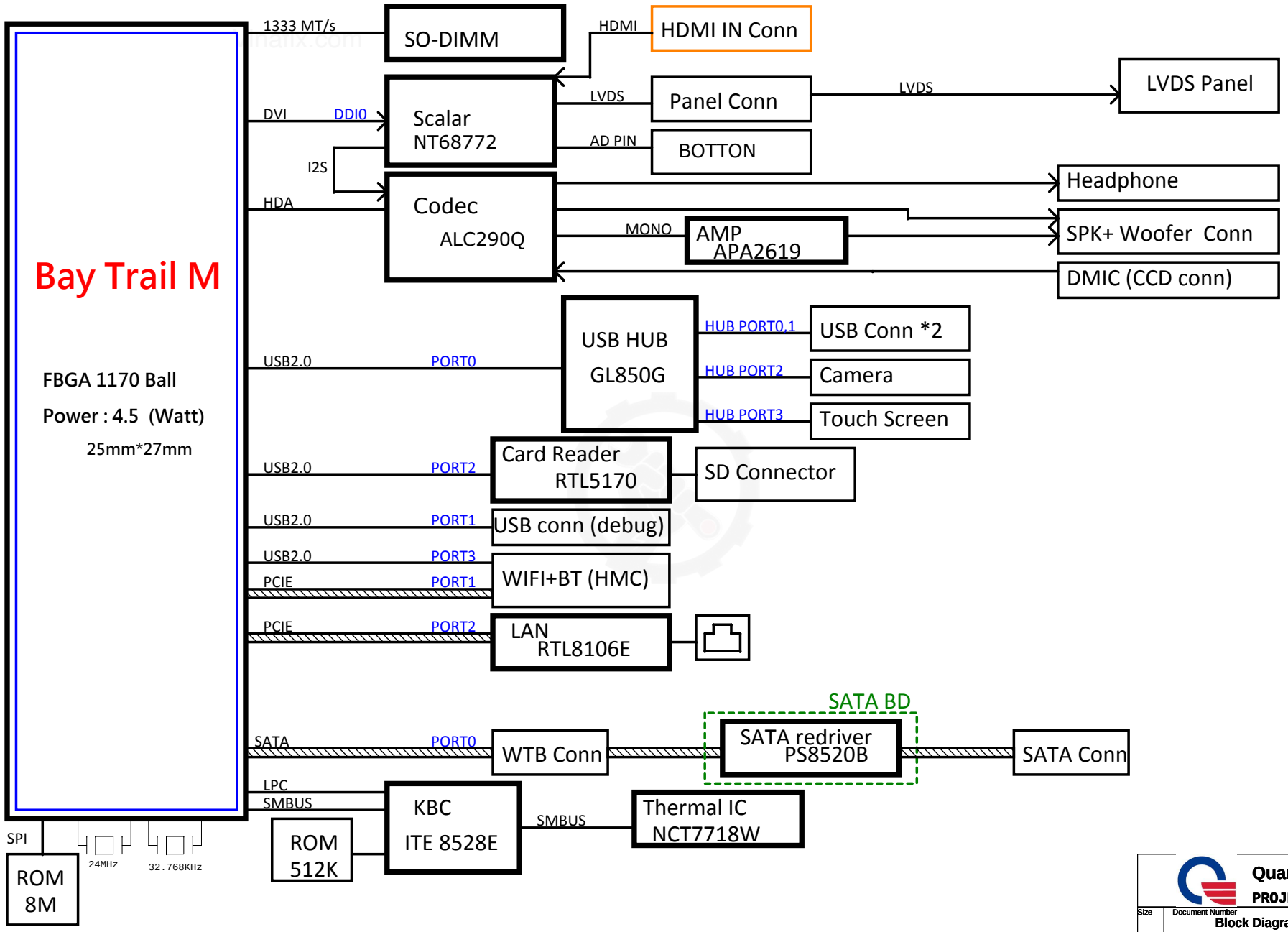
Foxglove BLOCK DIAGRAM



Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	Block Diagram	A00

Date: Friday, March 28, 2014 Sheet 1 of 48

USB 2.0	Port Assignment
USBP0	USB HUB
USBP1	USB CONN
USBP2	CARDREADER
USBP3	BT

PCIE Master	Port Assignment
PCIE 0	WLAN/BT
PCIE 1	LAN
PCIE 2	(NC)
PCIE 3	(NC)

SATA Master	Port Assignment
SATA0	HDD
SATA1	NC

USB 3.0	Port Assignment
USBP0	NC

Display Port	Port Assignment
DDI0	DVI
DDI1	NC

USB HUB	Port Assignment
USBP1	Touch Screen
USBP2	Camera Front
USBP3	Connector 1
USBP4	Connector 1

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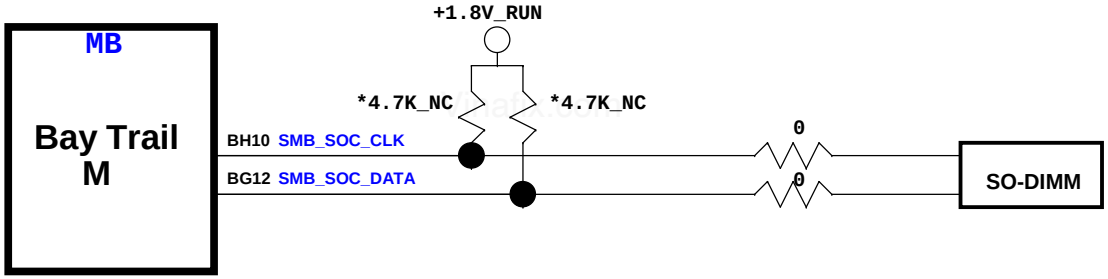
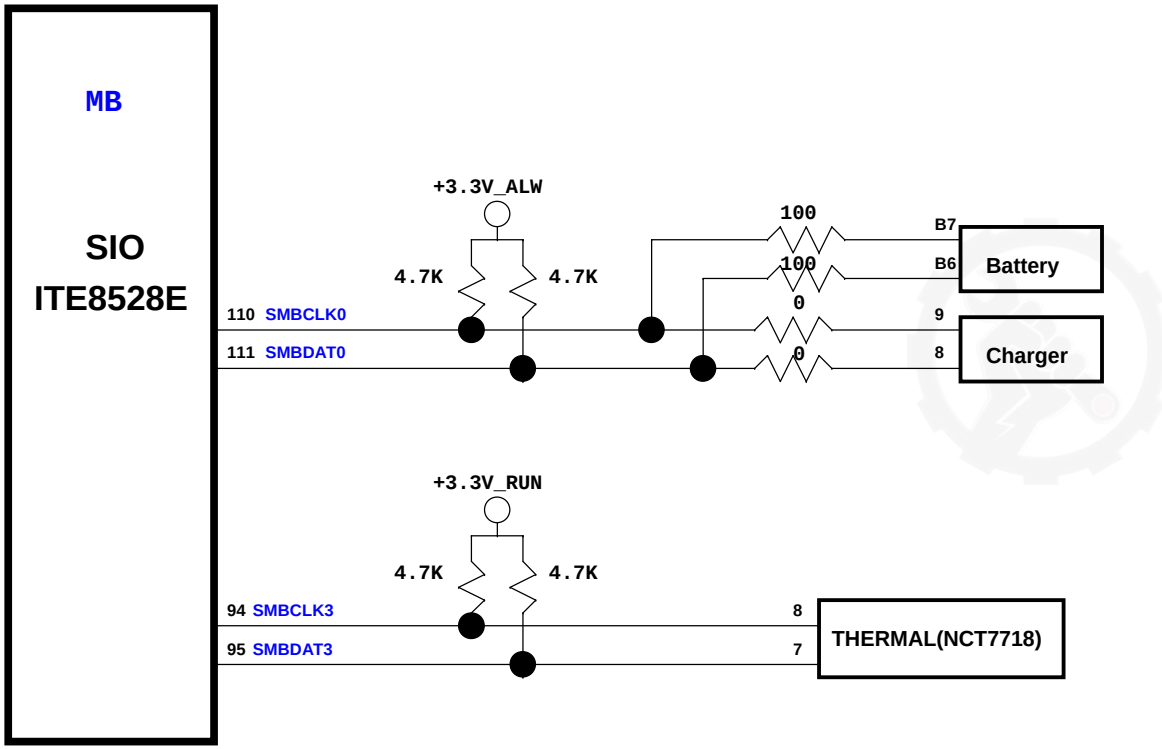
Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	PORT ASSIGNMENT	A00

Date: Friday, March 28, 2014 Sheet 2 of 48





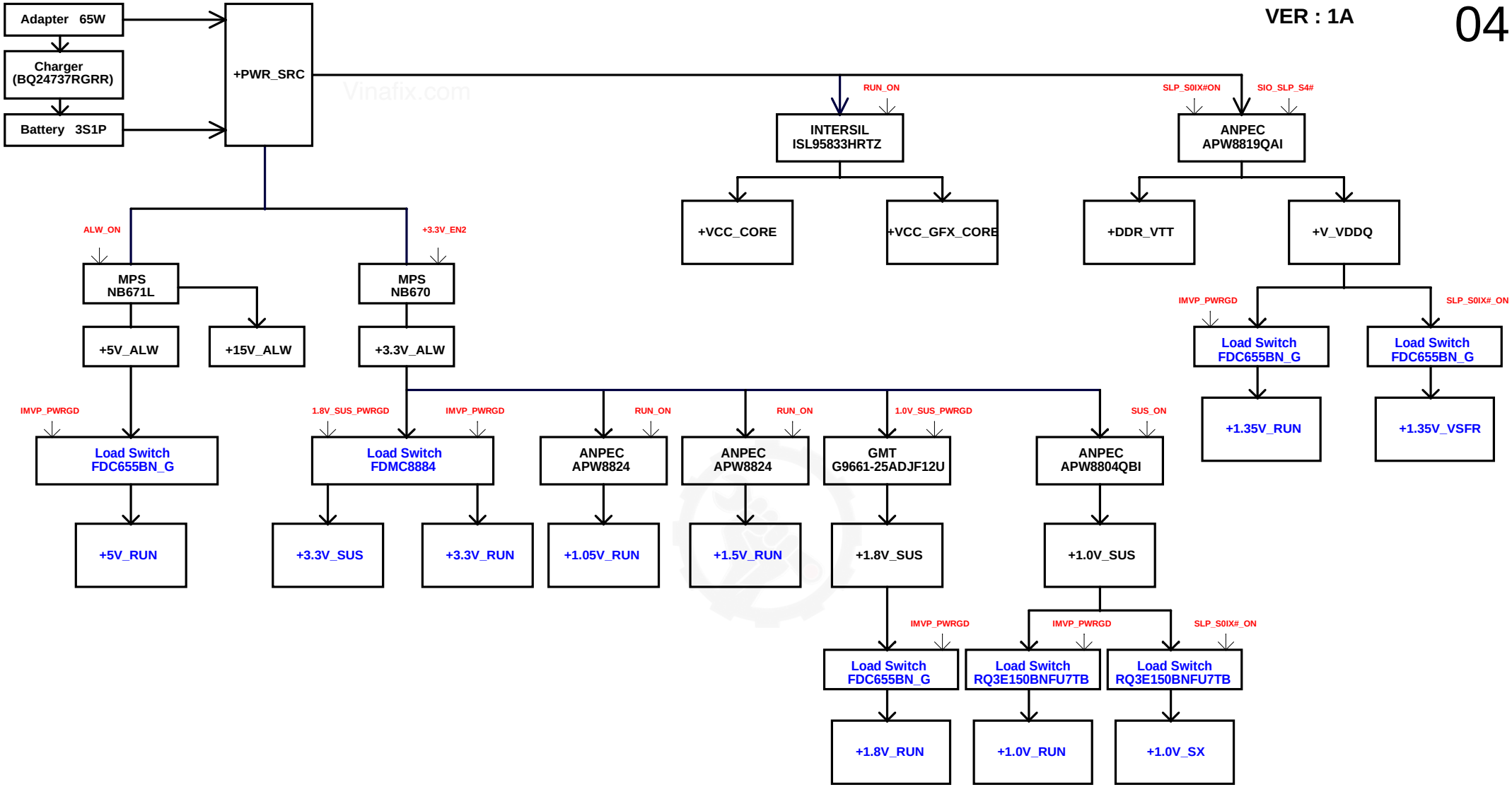
	Function	IC	Address
SMBUS	Thermal IC	NCT7718	1001100xb (98h)
	Charge IC	BQ24737RGRR	00010010 (0x12h)
	Battery	Battery	00010110 (0X16h)

Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	SMBUS	A00
Date: Friday, March 28, 2014	Sheet 3 of 48	

VER : 1A

04



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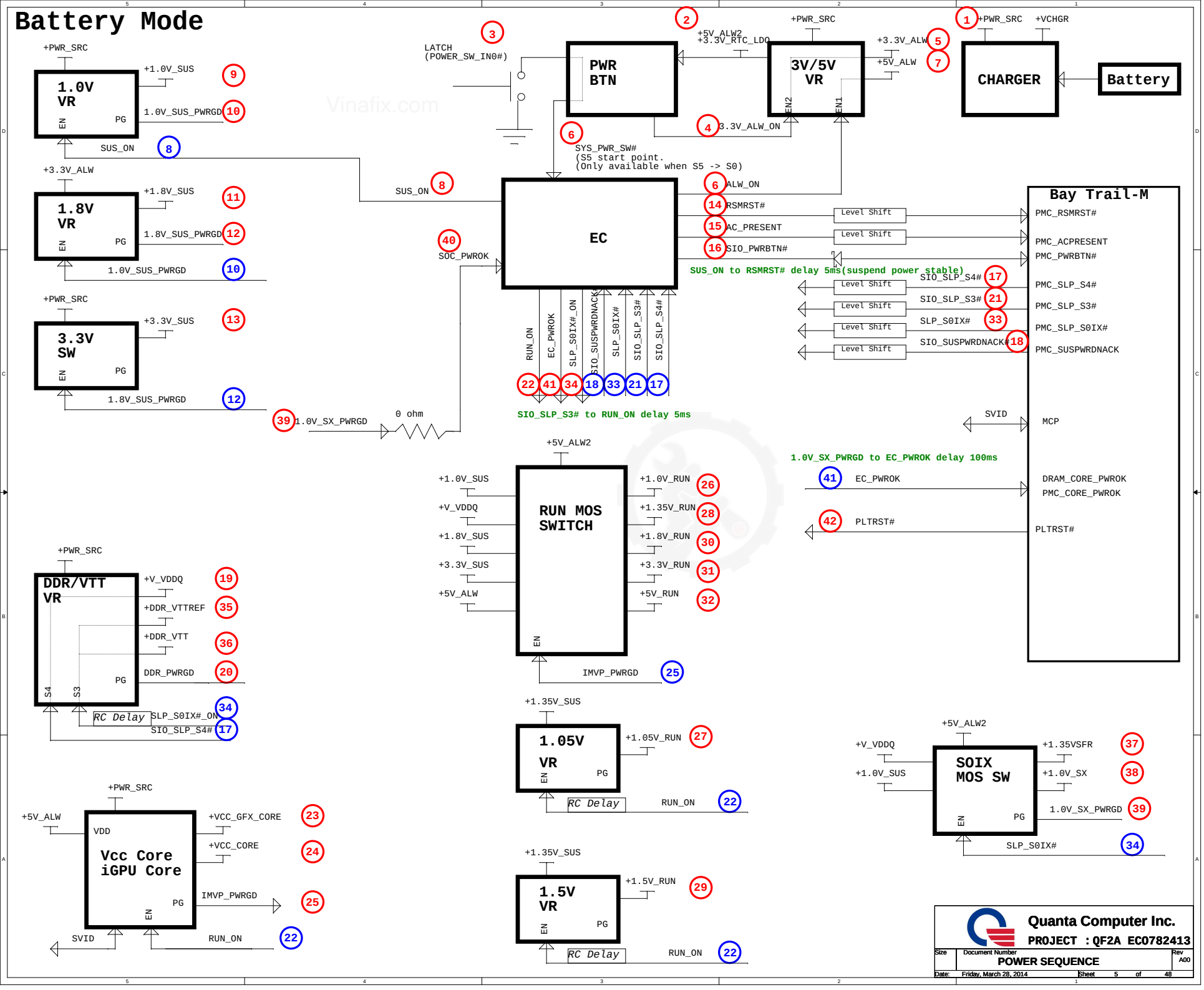
Quanta Computer Inc.

PROJECT : QF2A ECO782413

Size	Document Number	Rev
	Power Block Diagram	A00

Date: Friday, March 28, 2014 Sheet 4 of 48

Battery Mode



Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	POWER SEQUENCE	A00

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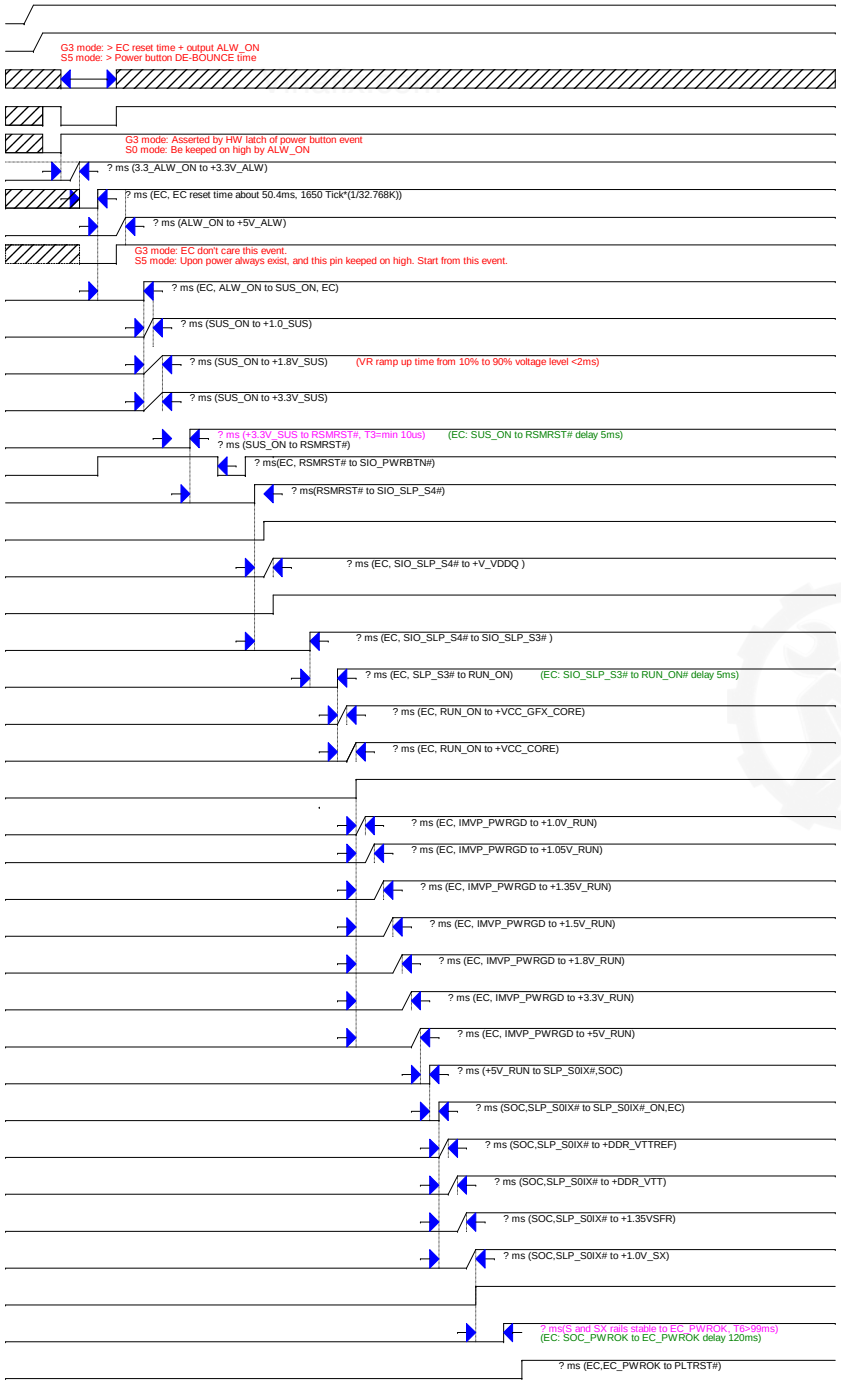
ZM6 Power Sequence (G3 to S0)

Bay Trail-M EDS 512177, Rev1.2



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: G3 to S0	Rev: A00
Date: Friday, March 28, 2014	Sheet 6 of 48	

DRAM: V1P35U (+V_VDDQ_VR)

U5A

[19] M_A_A0 M_A_A0 K45 DRAM0_MA_00
[19] M_A_A1 M_A_A1 H47 DRAM0_MA_11
[19] M_A_A2 M_A_A2 L41 DRAM0_MA_22
[19] M_A_A3 M_A_A3 H44 DRAM0_MA_33
[19] M_A_A4 M_A_A4 H50 DRAM0_MA_44
[19] M_A_A5 M_A_A5 G53 DRAM0_MA_55
[19] M_A_A6 M_A_A6 H49 DRAM0_MA_66
[19] M_A_A7 M_A_A7 D50 DRAM0_MA_77
[19] M_A_A8 M_A_A8 G52 DRAM0_MA_88
[19] M_A_A9 M_A_A9 E52 DRAM0_MA_99
[19] M_A_A10 M_A_A10 K48 DRAM0_MA_1010
[19] M_A_A11 M_A_A11 E51 DRAM0_MA_1111
[19] M_A_A12 M_A_A12 F47 DRAM0_MA_1212
[19] M_A_A13 M_A_A13 J51 DRAM0_MA_1313
[19] M_A_A14 M_A_A14 B49 DRAM0_MA_1414
[19] M_A_A15 M_A_A15 B50 DRAM0_MA_1515

[19] M_A_DM0 M_A_DM0 G36 DRAM0_DM_00
[19] M_A_DM1 M_A_DM1 B36 DRAM0_DM_11
[19] M_A_DM2 M_A_DM2 F38 DRAM0_DM_22
[19] M_A_DM3 M_A_DM3 B42 DRAM0_DM_33
[19] M_A_DM4 M_A_DM4 P51 DRAM0_DM_44
[19] M_A_DM5 M_A_DM5 V42 DRAM0_DM_55
[19] M_A_DM6 M_A_DM6 Y50 DRAM0_DM_66
[19] M_A_DM7 M_A_DM7 Y52 DRAM0_DM_77

[19] M_A_RAS# M_A_RAS# M45 DRAM0_RAS
[19] M_A_CAS# M_A_CAS# M44 DRAM0_CAS
[19] M_A_WE# M_A_WE# H51 DRAM0_WE

[19] M_A_BS0 M_A_BS0 K47 DRAM0_BS_00
[19] M_A_BS1 M_A_BS1 K44 DRAM0_BS_11
[19] M_A_BS2 M_A_BS2 D52 DRAM0_BS_22

[19] M_A_CS#0 M_A_CS#0 P44 DRAM0_CS_0
[19] M_A_CS#1 M_A_CS#1 P45 DRAM0_CS_2

[19] M_A_CKE0 M_A_CKE0 C47 DRAM0_CKE_00
D48 RESERVED_D48
[19] M_A_CKE1 M_A_CKE1 F44 DRAM0_CKE_22
E46 RESERVED_E46

[19] DRAM_ODT0 DRAM_ODT0 T41 DRAM0_ODT_0
[19] DRAM_ODT2 DRAM_ODT2 P42 DRAM0_ODT_2

[19] M_A_CLKP0 M_A_CLKP0 M50 DRAM0_CKP_0
[19] M_A_CLKN0 M_A_CLKN0 M48 DRAM0_CKN_0

[19] M_A_CLKP1 M_A_CLKP1 P50 DRAM0_CKP_2
[19] M_A_CLKN1 M_A_CLKN1 P48 DRAM0_CKN_2

[19] DDR3_DRAMRST# DDR3_DRAMRST# P41 DRAM0_DRAMRST

CPU_VREF AF44 DRAM_VREF

R20 1 2 100K/F_4 ICLK_DRAM_1 AH42 ICLK_DRAM_TERM_1
R17 1 2 100K/F_4 ICLK_DRAM_2 AF42 ICLK_DRAM_TERMN_AF42

DRAM_PWROK AD42
VCCA_PWROK AB42 DRAM_VDD_S4_PWROK
DRAM_CORE_PWROK

DDR3_RCOMP0 AD44
DDR3_RCOMP1 AF45 DRAM_RCOMP_00
DDR3_RCOMP2 AD45 DRAM_RCOMP_11
DRAM_RCOMP_22

AF40 RESERVED_AF40
AF41 RESERVED_AF41
AD40 RESERVED_AD40
AD41 RESERVED_AD41

1 OF 13

VLV_M_D/BGA
REV = 2.0

DRAM0_DQ_00 M36 M_A_DQ0 [19]
DRAM0_DQ_11 J36 M_A_DQ1 [19]
DRAM0_DQ_22 P40 M_A_DQ2 [19]
DRAM0_DQ_33 M40 M_A_DQ3 [19]
DRAM0_DQ_44 P36 M_A_DQ4 [19]
DRAM0_DQ_55 N36 M_A_DQ5 [19]
DRAM0_DQ_66 K40 M_A_DQ6 [19]
DRAM0_DQ_77 K42 M_A_DQ7 [19]
DRAM0_DQ_88 B32 M_A_DQ8 [19]
DRAM0_DQ09_C32 C32 M_A_DQ9 [19]
DRAM0_DQ_1010 C36 M_A_DQ10 [19]
DRAM0_DQ_1111 A37 M_A_DQ11 [19]
DRAM0_DQ_1212 C33 M_A_DQ12 [19]
DRAM0_DQ_1313 A33 M_A_DQ13 [19]
DRAM0_DQ_1414 C37 M_A_DQ14 [19]
DRAM0_DQ_1515 B38 M_A_DQ15 [19]
DRAM0_DQ_1616 F36 M_A_DQ16 [19]
DRAM0_DQ_1717 G38 M_A_DQ17 [19]
DRAM0_DQ_1818 F42 M_A_DQ18 [19]
DRAM0_DQ_1919 J42 M_A_DQ19 [19]
DRAM0_DQ_2020 G40 M_A_DQ20 [19]
DRAM0_DQ_2121 C38 M_A_DQ21 [19]
DRAM0_DQ_2222 G44 M_A_DQ22 [19]
DRAM0_DQ_2323 D42 M_A_DQ23 [19]
DRAM0_DQ_2424 A41 M_A_DQ24 [19]
DRAM0_DQ_2525 C41 M_A_DQ25 [19]
DRAM0_DQ_2626 A45 M_A_DQ26 [19]
DRAM0_DQ_2727 B46 M_A_DQ27 [19]
DRAM0_DQ_2828 C40 M_A_DQ28 [19]
DRAM0_DQ_2929 B40 M_A_DQ29 [19]
DRAM0_DQ_3030 B48 M_A_DQ30 [19]
DRAM0_DQ_3131 B47 M_A_DQ31 [19]
DRAM0_DQ_3232 K52 M_A_DQ32 [19]
DRAM0_DQ_3333 K51 M_A_DQ33 [19]
DRAM0_DQ_3434 T52 M_A_DQ34 [19]
DRAM0_DQ_3535 T51 M_A_DQ35 [19]
DRAM0_DQ_3636 L51 M_A_DQ36 [19]
DRAM0_DQ_3737 L53 M_A_DQ37 [19]
DRAM0_DQ_3838 R51 M_A_DQ38 [19]
DRAM0_DQ_3939 R53 M_A_DQ39 [19]
DRAM0_DQ_4040 T47 M_A_DQ40 [19]
DRAM0_DQ_4141 T45 M_A_DQ41 [19]
DRAM0_DQ_4242 Y40 M_A_DQ42 [19]
DRAM0_DQ_4343 V41 M_A_DQ43 [19]
DRAM0_DQ_4444 T48 M_A_DQ44 [19]
DRAM0_DQ_4545 T50 M_A_DQ45 [19]
DRAM0_DQ_4646 Y42 M_A_DQ46 [19]
DRAM0_DQ_4747 AB40 M_A_DQ47 [19]
DRAM0_DQ_4848 V45 M_A_DQ48 [19]
DRAM0_DQ_4949 V47 M_A_DQ49 [19]
DRAM0_DQ_5050 AD48 M_A_DQ50 [19]
DRAM0_DQ_5151 AD50 M_A_DQ51 [19]
DRAM0_DQ_5252 V48 M_A_DQ52 [19]
DRAM0_DQ_5353 V50 M_A_DQ53 [19]
DRAM0_DQ_5454 AB44 M_A_DQ54 [19]
DRAM0_DQ_5555 Y45 M_A_DQ55 [19]
DRAM0_DQ_5656 V52 M_A_DQ56 [19]
DRAM0_DQ_5757 W51 M_A_DQ57 [19]
DRAM0_DQ_5858 AC53 M_A_DQ58 [19]
DRAM0_DQ_5959 AC51 M_A_DQ59 [19]
DRAM0_DQ_6060 W53 M_A_DQ60 [19]
DRAM0_DQ_6161 Y51 M_A_DQ61 [19]
DRAM0_DQ_6262 AD52 M_A_DQ62 [19]
DRAM0_DQ_6363 AD51 M_A_DQ63 [19]

J38
DRAM0_DQSP_00 K38 M_A_DQSP0 [19]
DRAM0_DQSN_00 C35 M_A_DQSN0 [19]
DRAM0_DQSP_11 B34 M_A_DQSP1 [19]
DRAM0_DQSN_11 D40 M_A_DQSN1 [19]
DRAM0_DQSP_22 F40 M_A_DQSP2 [19]
DRAM0_DQSN_22 B44 M_A_DQSN2 [19]
DRAM0_DQSP_33 C43 M_A_DQSP3 [19]
DRAM0_DQSN_33 N53 M_A_DQSN3 [19]
DRAM0_DQSP_44 M52 M_A_DQSP4 [19]
DRAM0_DQSN_44 T42 M_A_DQSN4 [19]
DRAM0_DQSP_55 T44 M_A_DQSP5 [19]
DRAM0_DQSN_55 Y47 M_A_DQSN5 [19]
DRAM0_DQSP_66 Y48 M_A_DQSP6 [19]
DRAM0_DQSN_66 AB52 M_A_DQSN6 [19]
DRAM0_DQSP_77 AA51 M_A_DQSN7 [19]
DRAM0_DQSN_77

+V_VDDQ
R215 4.7K/F_4
CPU_VREF
R216 4.7K/F_4
C209 0.1U/16V_4
close to SoC AF44
close to SoC

#add for SO-DIM

The DRAM_RCOMP[2:0] signals should be referenced to either Vss or Vdd planes (avoid referencing to noisy planes)

R18 23.2/F_4
R213 29.4/F_4
R16 162/F_4
close to SoC

+3.3V_SUS
+V_VDDQ
R205 4.7K_4_NC
R212 10K_4
The circuit is pointless.
DDR_PWRGD [41]
SR211 1 2 DRAM_PWROK *SR_0402
[16,32,41] SIO_SLP_S4#
Q13 *PJ4N3KDW_NC
C198 *0.1U/16V_4_NC
PJ4N3KDW: Vth=0.8~1.5V

+3.3V_SUS
+V_VDDQ
R206 4.7K_4
R214 10K_4
Si0x power ok ,Dram_core_pwrok high.
VCCA_PWROK
C197 *0.1U/16V_4_NC
[11,32,36] EC_PWROK
Q14 PJ4N3KDW
C203 *0.1U/16V_4_NC
PJ4N3KDW: Vth=0.8~1.5V

Quanta Computer Inc.
PROJECT : QF2A EC0782413
Size
Document Number
Bay Trail M (Memory 0,1)
Rev A00
Date: Friday, March 28, 2014
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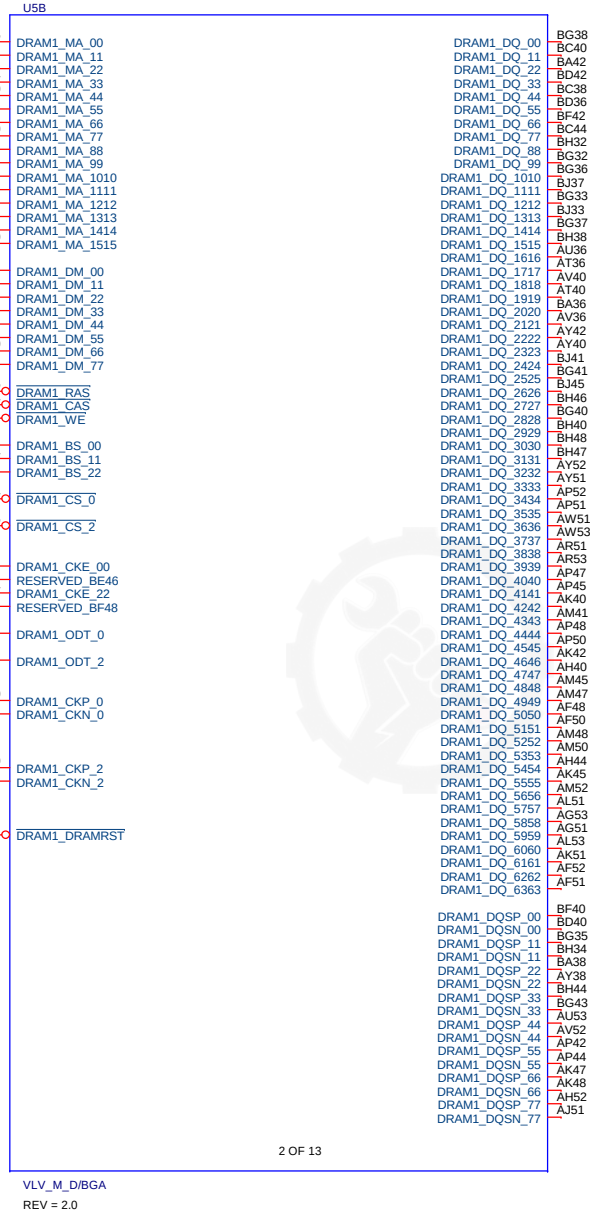

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Bay Trail M (Memory 0,1)	Rev: A00
Date: Friday, March 28, 2014	Sheet 8 of 48	

DDIx TX/AUX: V1P0Sx (+1.0V_SX)
DDIx HPD/DDC/VDDEN/BKLT: V1P8S (+1.8V_RUN)

U5C

+1.8V_RUN
R33 2.2K_4 DDI0_DDCCLK
R226 2.2K_4 DDI0_DDCDATA

HW Strap:DDI0 Detect DDI0_DDCDATA	
PU	1 = DDI0 detected
PD	0 = DDI0 not detected(Default)

[21] DVI_TXP2 AV3 DDI0_TXP_0
[21] DVI_TXN2 AV2 DDI0_TXN_0
[21] DVI_TXP1 AT2 DDI0_TXP_1
[21] DVI_TXN1 AT3 DDI0_TXN_1
[21] DVI_TXP0 AR3 DDI0_TXP_2
[21] DVI_TXN0 AR1 DDI0_TXN_2
[21] DVI_CLKP AP3 DDI0_TXP_3
[21] DVI_CLKN AP2 DDI0_TXN_3

AL3 DDI0_AUXP
AL1 DDI0_AUXN

[21] DVI_HPD# D27 DDI0_HPD

[21] DDI0_DDCDATA DDI0_DDCDATA C26 DDI0_DDCDATA
[21] DDI0_DDCCLK DDI0_DDCCLK C28 DDI0_DDCCLK

TP6 DDI0_VDDEN B28 DDI0_VDDEN
TP5 DDI0_BL C27 DDI0_BKLTEN
TP25 DDI0_BKTCTL B26 DDI0_BKLTCTL

R249 402/F_4 SOC_DDI0_RCOMP AK13 DDI0_RCOMP
SOC_DDI0_RCOMP_P AK12 DDI0_RCOMP_P
AM14 RESERVED_AM14
AM13 RESERVED_AM13
R71 0_4 SOC_AM3 AM3 RESERVED_VSS0
R70 0_4 SOC_AM2 AM2 RESERVED_VSS1

T2 RESERVED_T2
T3 RESERVED_T3
AB3 RESERVED_AB3
AB2 RESERVED_AB2
Y3 RESERVED_Y3
Y2 RESERVED_Y2
W3 RESERVED_W3
W1 RESERVED_W1
V2 RESERVED_V2
V3 RESERVED_V3
R3 RESERVED_R3
R1 RESERVED_R1
AD6 RESERVED_AD6
AD4 RESERVED_AD4
AB9 RESERVED_AB9
AB7 RESERVED_AB7
Y4 RESERVED_Y4
Y6 RESERVED_Y6
V4 RESERVED_V4
V6 RESERVED_V6
A29 RESERVED_A29
C29 RESERVED_C29
AB14 RESERVED_AB14
B30 GPIO_S0_NC12
C30 RESERVED_C30

+1.8V_RUN
R28 *10K_4_NC
R31 10K_4
GPIO_S0_NC13
GPIO_S0_NC14
GPIO_S0_NC12
TP3
TP4

3 OF 13

VLV_M_D/BGA
REV = 2.0

DDI1_TXP_0 AG3
DDI1_TXN_0 AG1
DDI1_TXP_1 AF3
DDI1_TXN_1 AF2
DDI1_TXP_2 AD3
DDI1_TXN_2 AD2
DDI1_TXP_3 AC3
DDI1_TXN_3 AC1

DDI1_AUXP AK3
DDI1_AUXN AK2

DDI1_HPD K30

DDI1_DDCDATA P30 HDMI_OUT_SDA
DDI1_DDCCLK G30 HDMI_OUT_SCL

DDI1_VDDEN N30
DDI1_BKLTEN J30
DDI1_BKLTCTL M30

RESERVED_AH14 AH14
RESERVED_AH13 AH13
RESERVED_AF14 AF14
RESERVED_AF13 AF13
RESERVED_VSS2 AH3 VSS_AH3 R75 0_4
RESERVED_VSS3 AH2 VSS_AH2 R74 0_4

VGA_RED BA3
VGA_BLUE AY2
VGA_GREEN BA1
VGA_IREF AW1
VGA_IRTN AY3

VGA_HSYNC BD2
VGA_VSYNC BF2

VGA_DDCCLK BC1 VGA_DDCCLK 4 3
VGA_DDCDATA BC2 VGA_DDCDATA 2 1
RP6
2.2KX2

RESERVED_T7 T7
RESERVED_T9 T9
RESERVED_AB13 AB13
RESERVED_AB12 AB12
RESERVED_Y12 Y12
RESERVED_Y13 Y13
RESERVED_V10 V10
RESERVED_V9 V9
RESERVED_T12 T12
RESERVED_T10 T10
RESERVED_V14 V14
RESERVED_V13 V13
RESERVED_T14 T14
RESERVED_T13 T13
RESERVED_T6 T6
RESERVED_T4 T4
RESERVED_P14 P14

RESERVED_K34 K34
RESERVED_D32 D32
RESERVED_N32 N32
RESERVED_J34 J34
RESERVED_K28 K28
RESERVED_F28 F28
RESERVED_F32 F32
RESERVED_D34 D34
RESERVED_J28 J28
RESERVED_D28 D28
RESERVED_M32 M32
RESERVED_F34 F34

#Delete HDMI circiut

+1.8V_RUN
HDMI_OUT_SDA R221 *2.2K_4_NC
HDMI_OUT_SCL R222 *2.2K_4_NC

HW Strap:DDI1 Detect DDI1_DDCDATA	
PU	1 = DDI1 detected
PD	0 = DDI1 not detected(Default)

PDG page 135.

Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	Bay Trail M (DISPLAY)	A00

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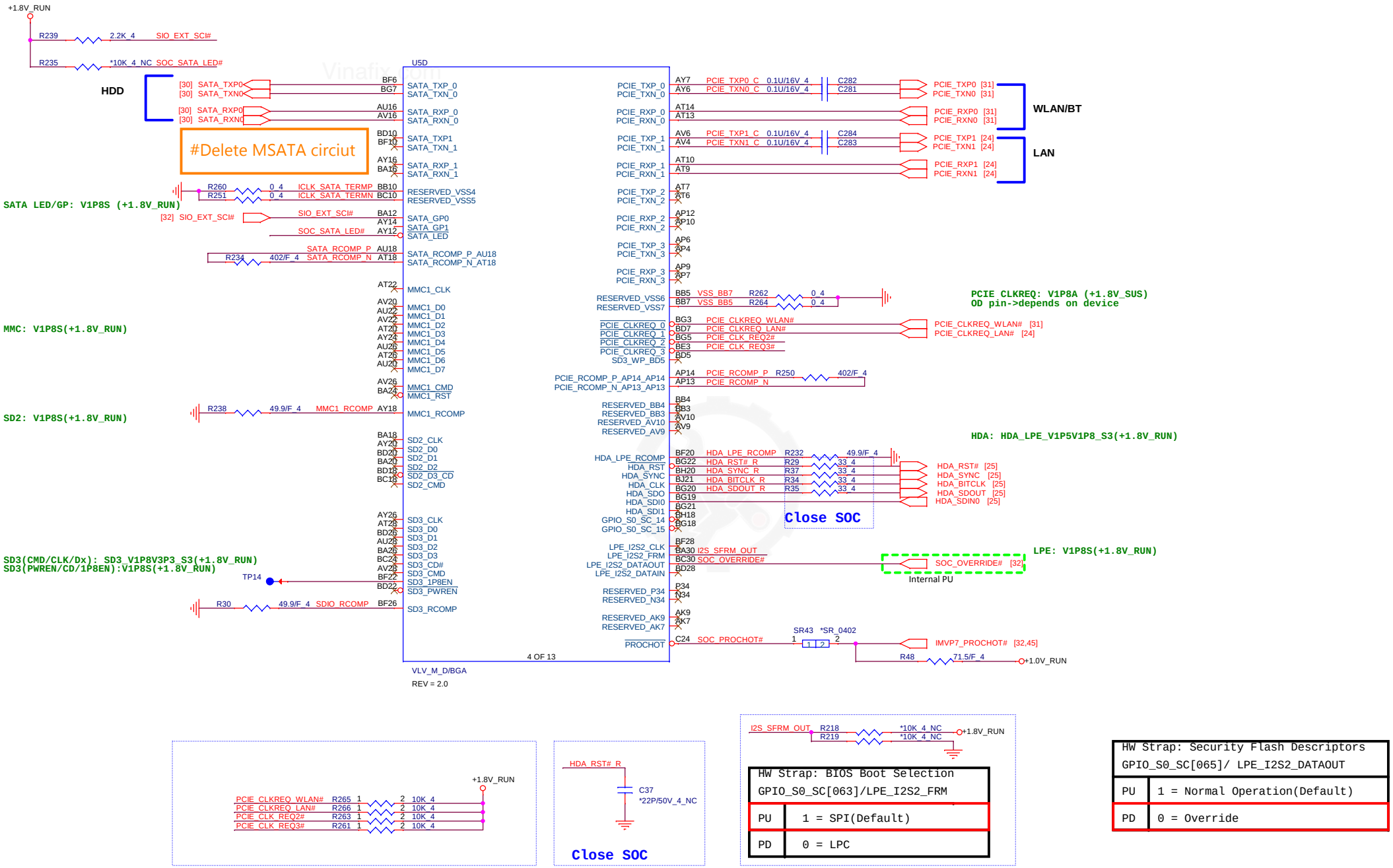
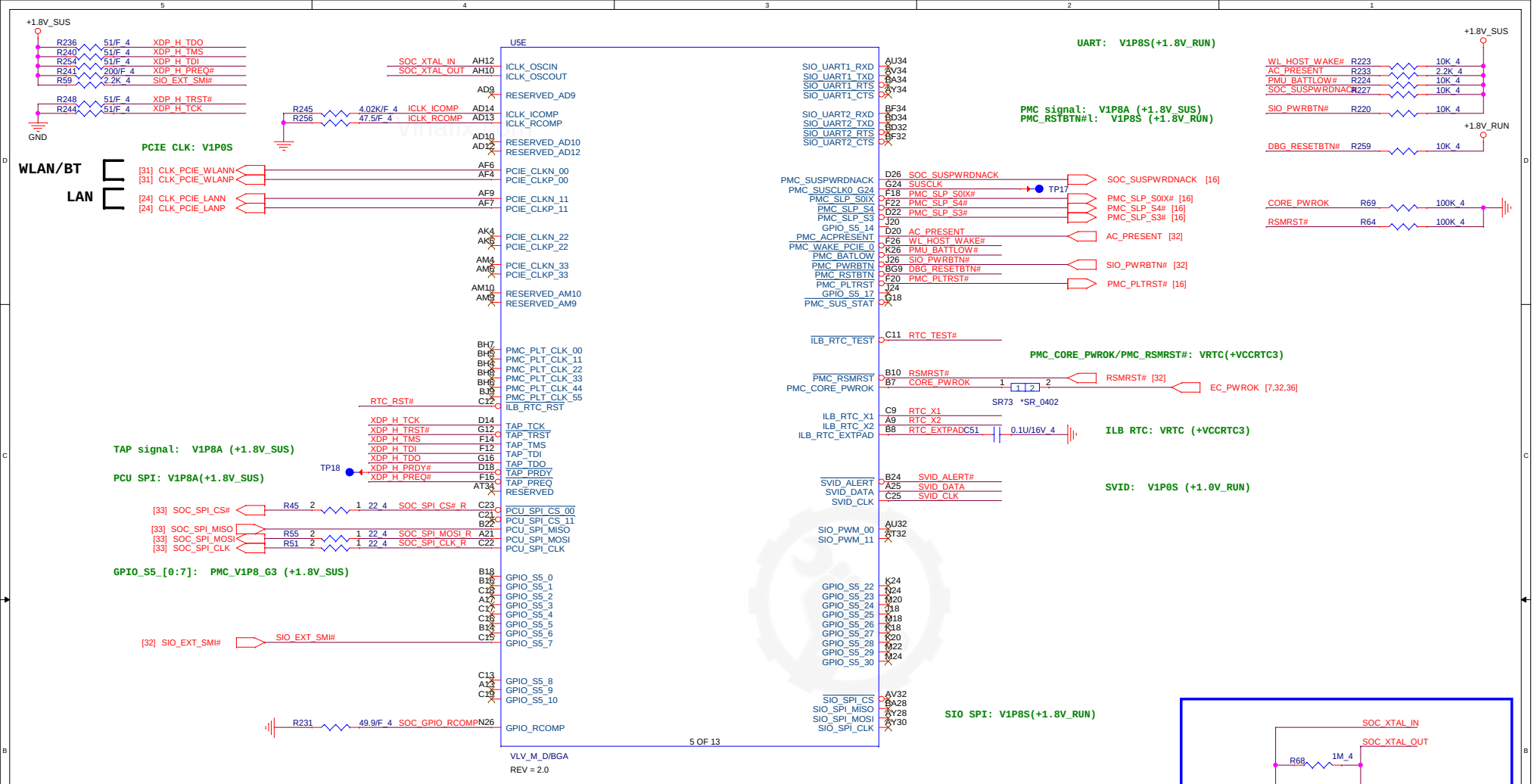


Quanta Computer Inc.

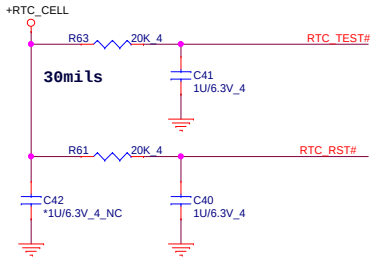
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	Bay Trail M (SATA&PCIE)	A00

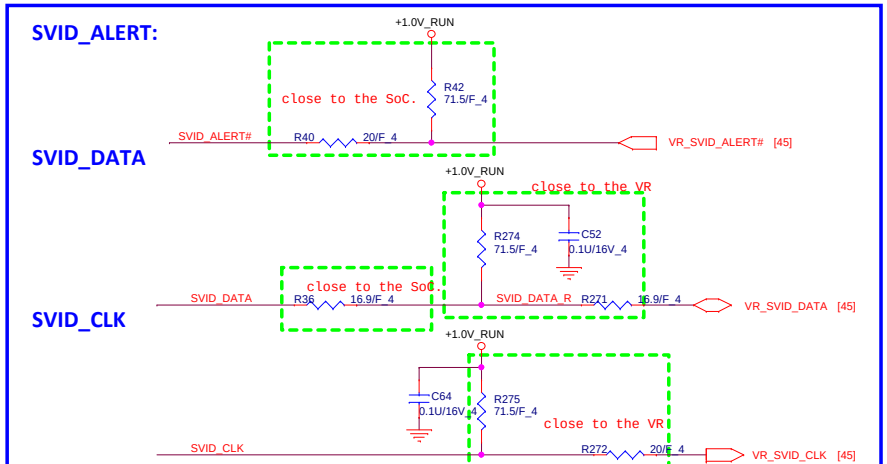
Date: Friday, March 28, 2014 Sheet 10 of 48



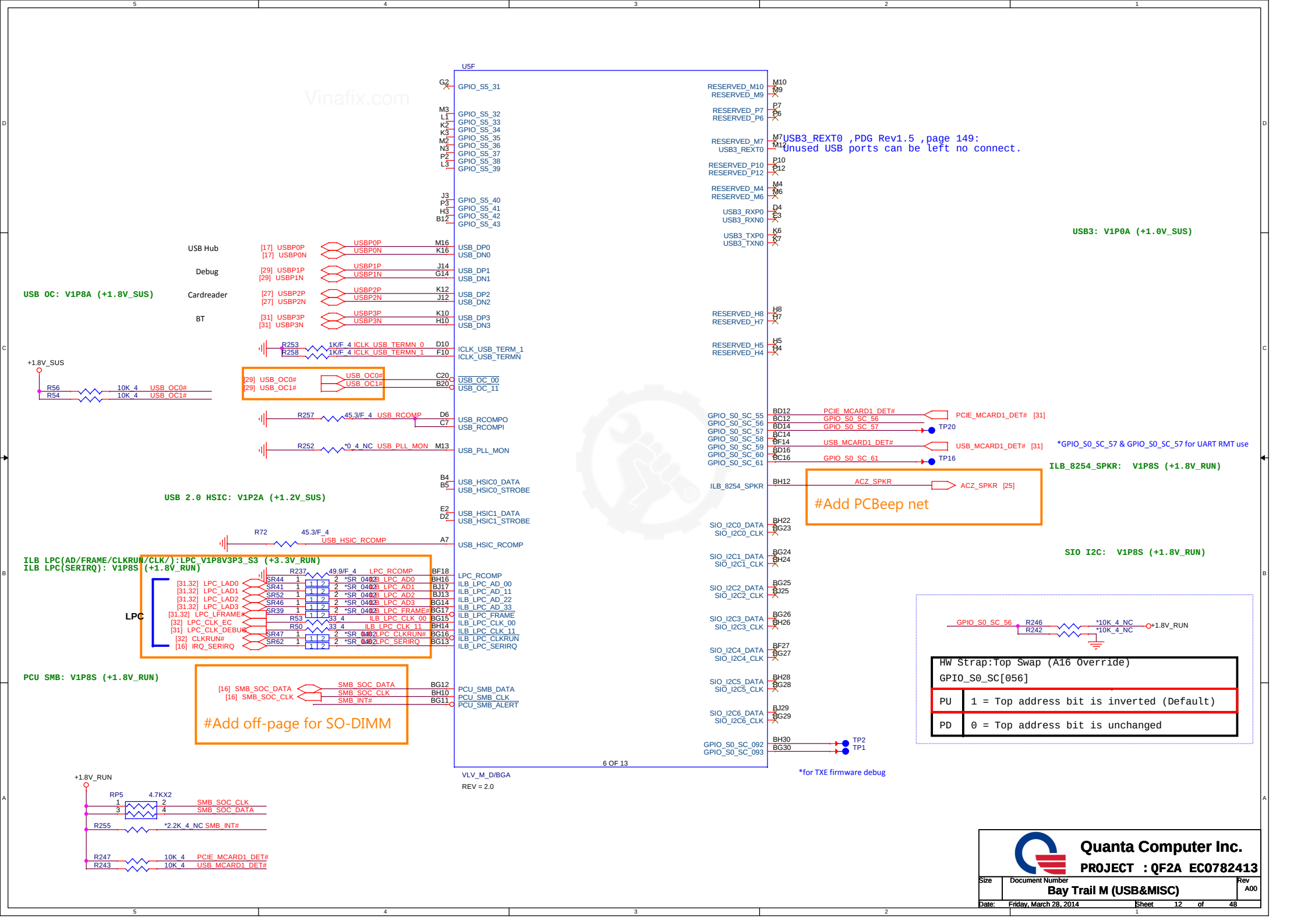
RTC Circuitry (RTC) (non Rechargable BATT)



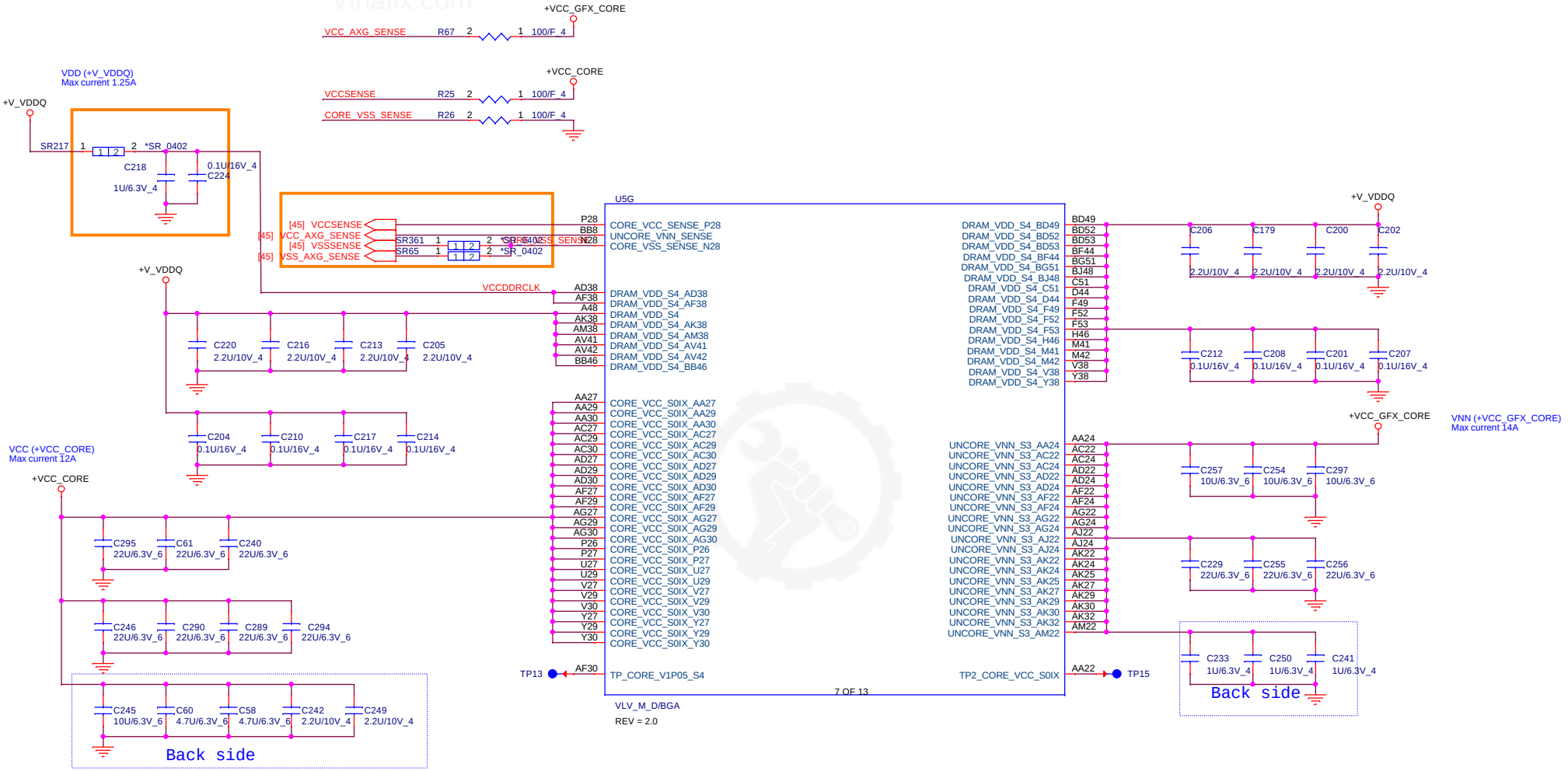
+RTC_VCC to RTC_TEST# de-assertion
Min :9 ms



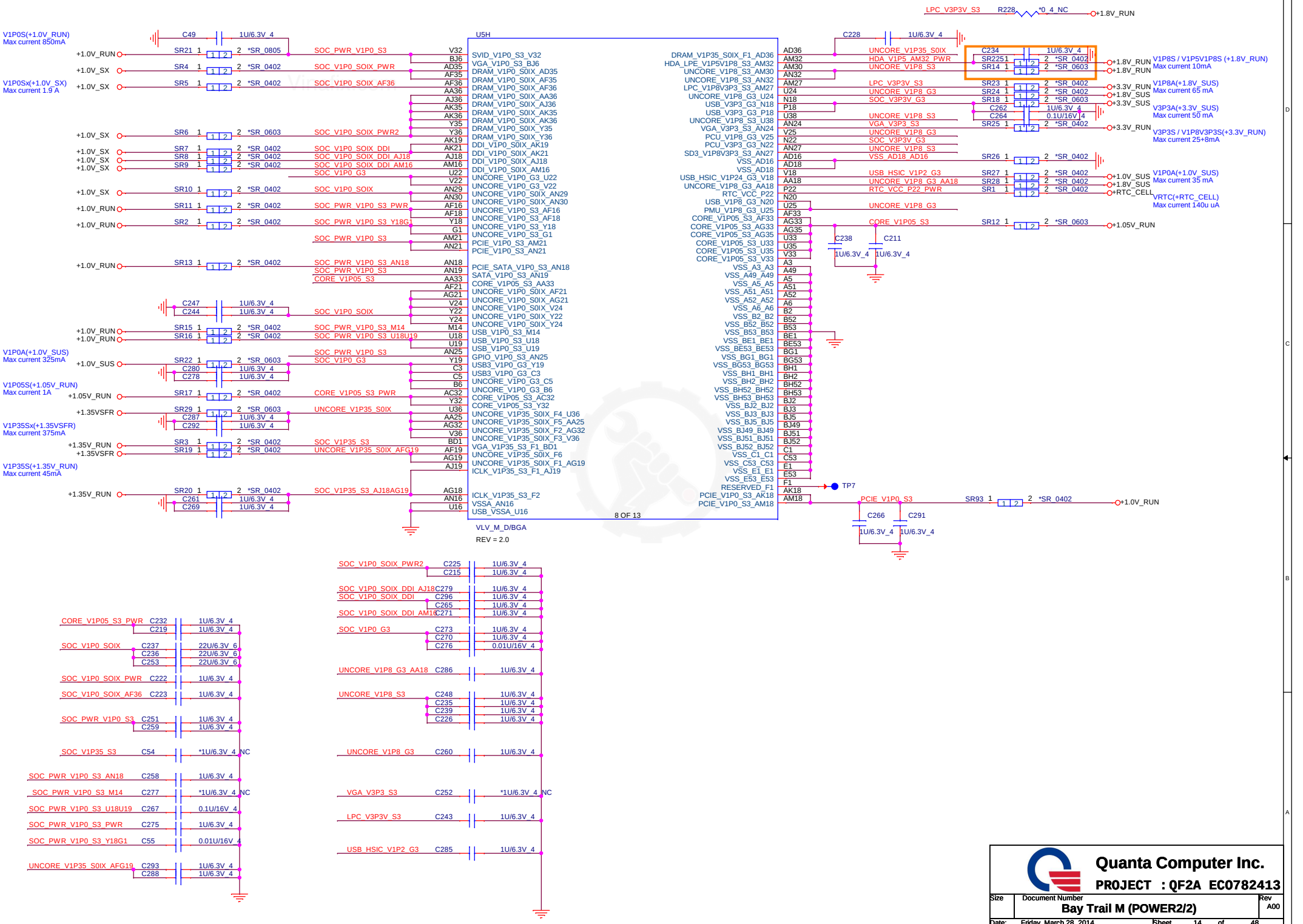
Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Bay Trail M (CLK&PMC)	Rev: A00
Date: Friday, March 28, 2014	Sheet 11 of 48	

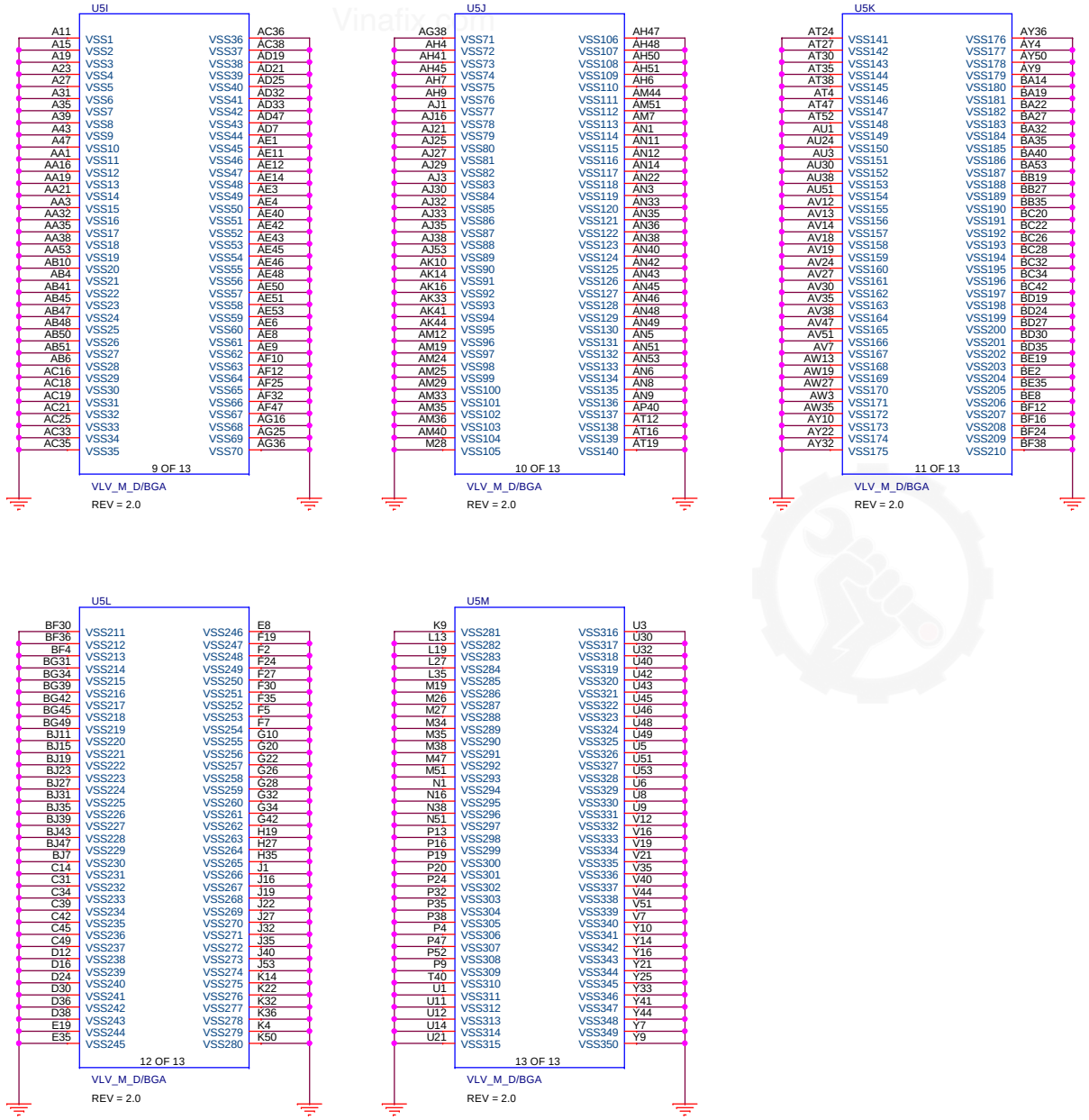


Quanta Computer Inc.	
PROJECT : QF2A EC0782413	
Size	Document Number: Bay Trail M (USB&MISC) — Rev: A00
Date: Friday, March 28, 2014	Sheet 12 of 48



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Bay Trail M (POWER1/2)	Rev: A00
Date: Friday, March 28, 2014	Sheet 13 of 48	


U5H
8 OF 13
VLV_M_D/BGA
REV = 2.0
V1P0S(+1.0V_RUN)
Max current 850mA
V1P0Sx(+1.0V_SX)
Max current 1.9 A
V1P0A(+1.0V_SUS)
Max current 325mA
V1P05S(+1.05V_RUN)
Max current 1A
V1P35Sx(+1.35VSFR)
Max current 375mA
V1P35S(+1.35V_RUN)
Max current 45mA
LPC_V3P3V_S3 R228 *0_4_NC +1.8V_RUN
V1P8S / V1P5V1P8S (+1.8V_RUN)
Max current 10mA
V1P8A(+1.8V_SUS)
Max current 65 mA
V3P3A(+3.3V_SUS)
Max current 50 mA
V3P3S / V1P8V3P3S(+3.3V_RUN)
Max current 25+8mA
V1P0A(+1.0V_SUS)
Max current 35 mA
VRTC(+RTC_CELL)
Max current 140u uA
TP7
Quanta Computer Inc.
PROJECT : QF2A EC0782413
Bay Trail M (POWER2/2)
Size
Document Number
Rev A00
Date: Friday, March 28, 2014
Sheet 14 of 48



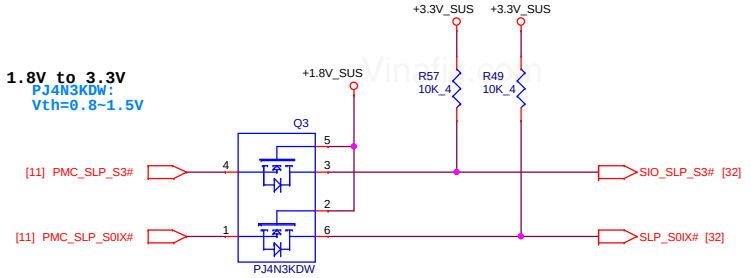
Quanta Computer Inc.

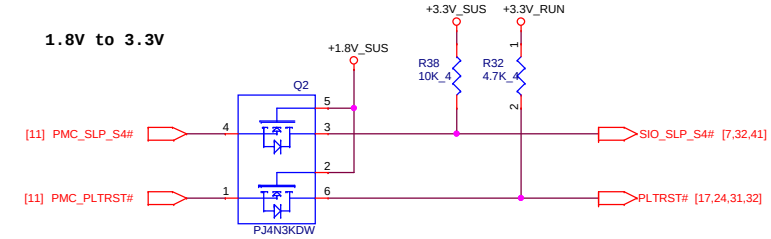
PROJECT : QF2A EC0782413

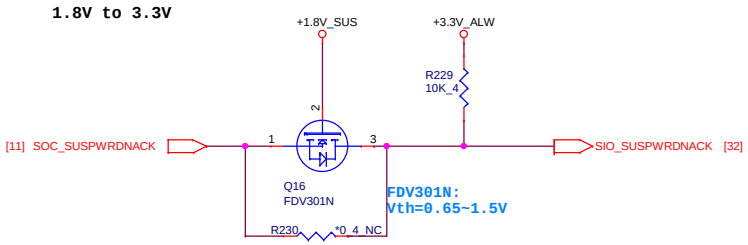
Size	Document Number	Rev
	Bay Trail M (GND)	A00

Date: Friday, March 28, 2014 Sheet 15 of 48

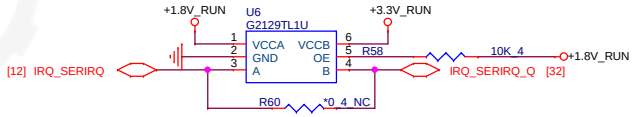
Co-layout:
If mount R736, R744, need NC R511, R512, Q37



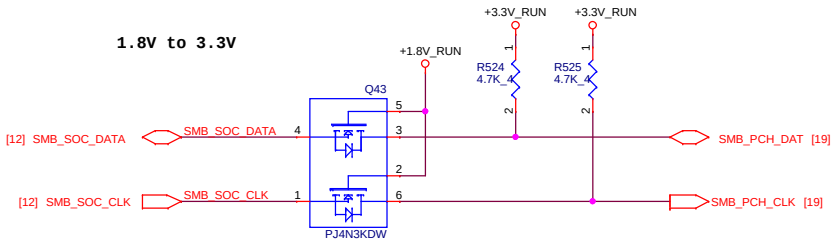




Co-layout:
If mount 0 ohm, need NC G2128TL1U and 10K.



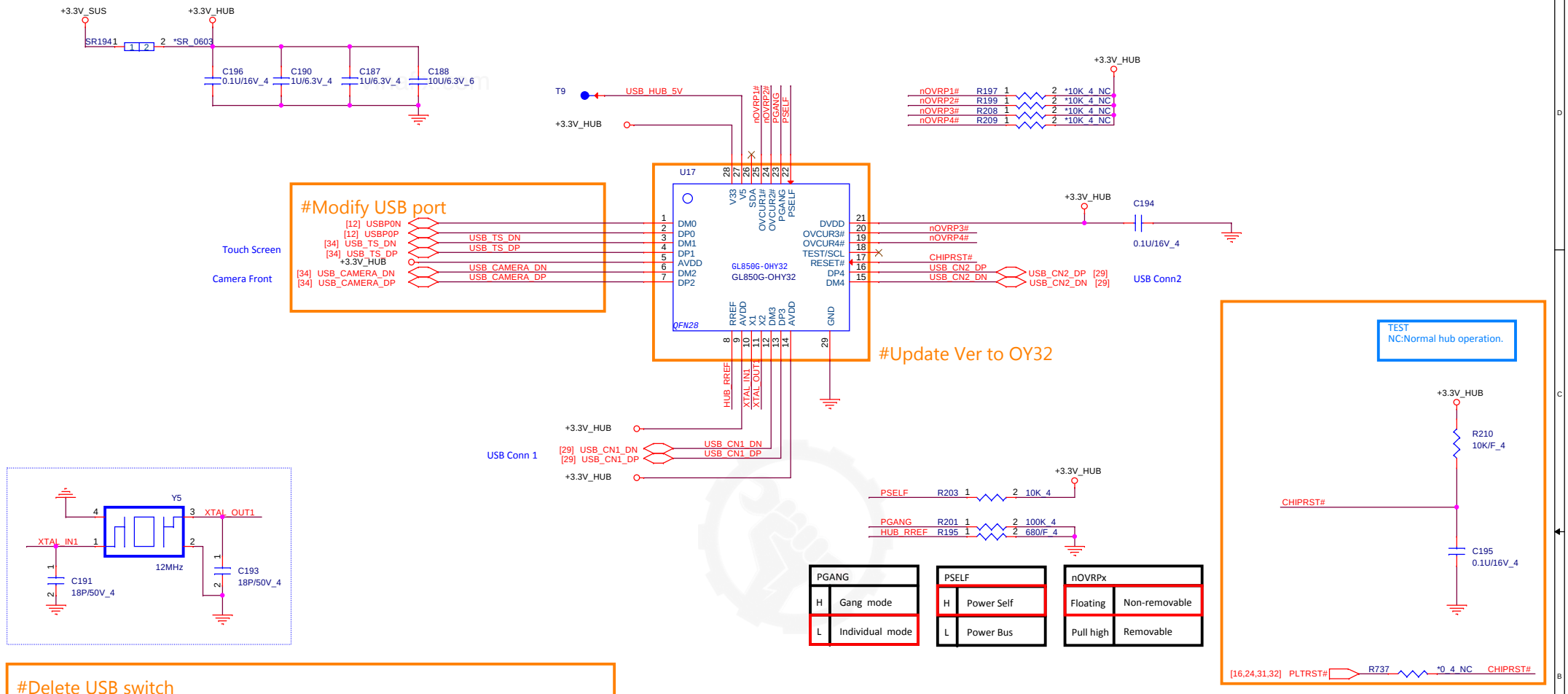
#Add level shift for SO-DIMM



Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	Bay Trail M Level Shifr	A00
Date: Friday, March 28, 2014	Sheet 16 of 48	

USB HUB



PGANG	
H	Gang mode
L	Individual mode

PSELF	
H	Power Self
L	Power Bus

nOVRPx	
Floating	Non-removable
Pull high	Removable

#Delete USB switch

Quanta Computer Inc.			
PROJECT : QF2A EC0782413			
Size	Document Number		Rev
	USB HUB IC(GL850G)		A00
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Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	DDR3L	A00

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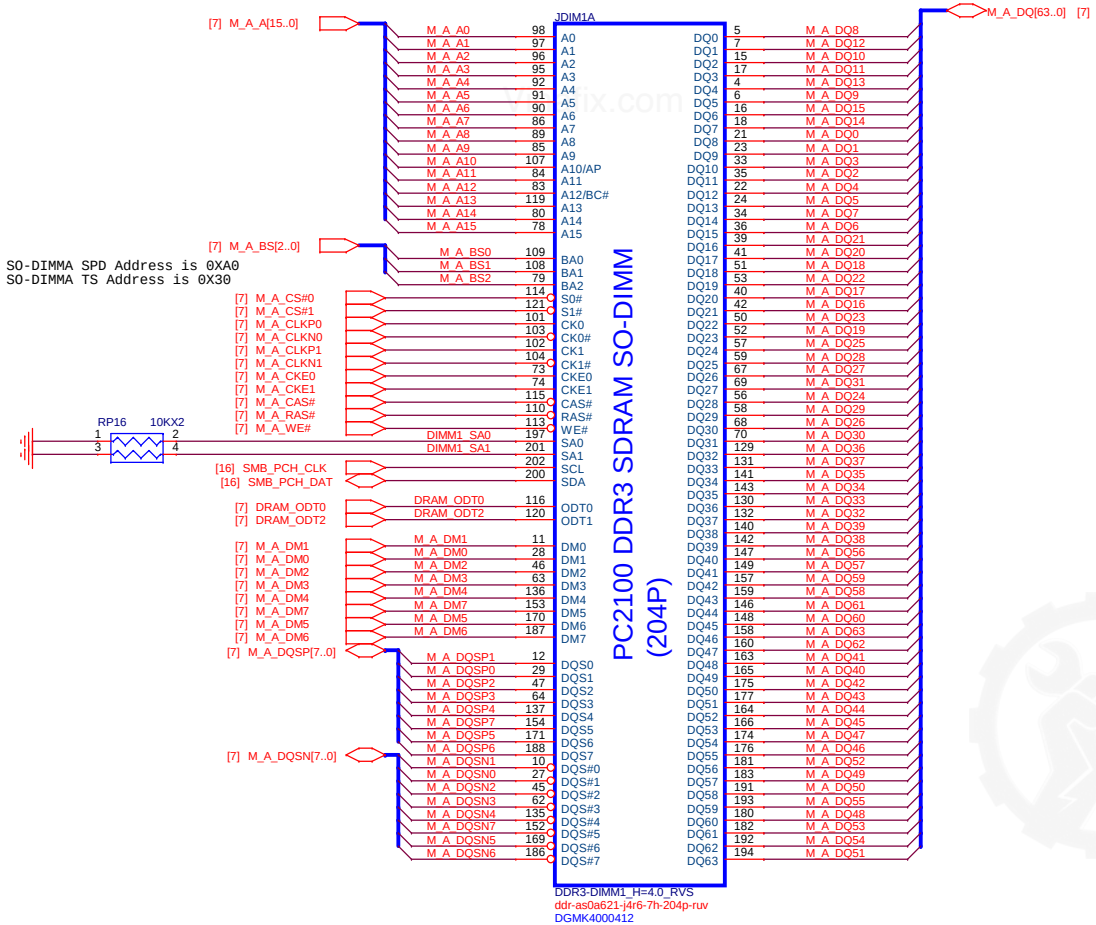

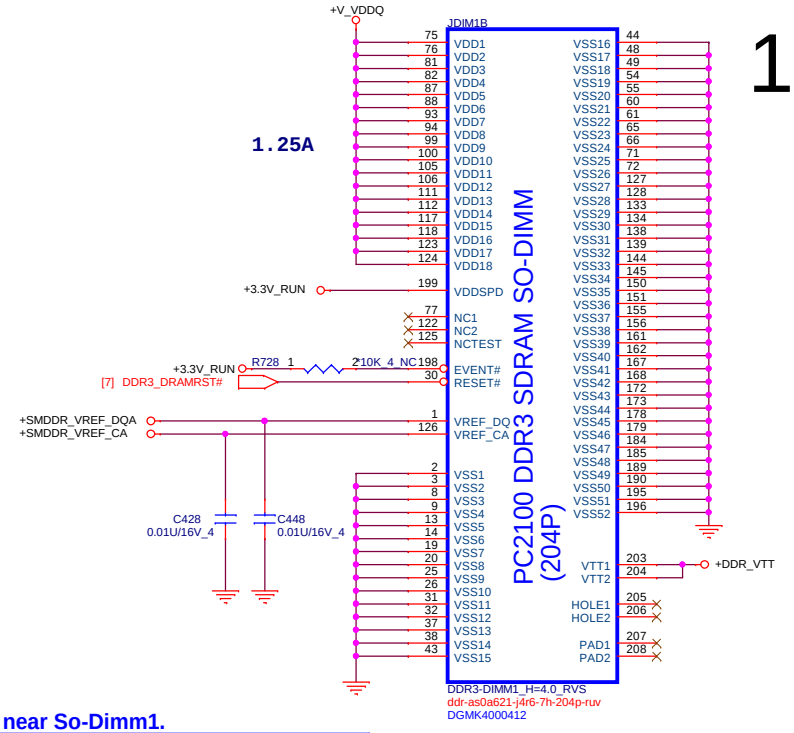

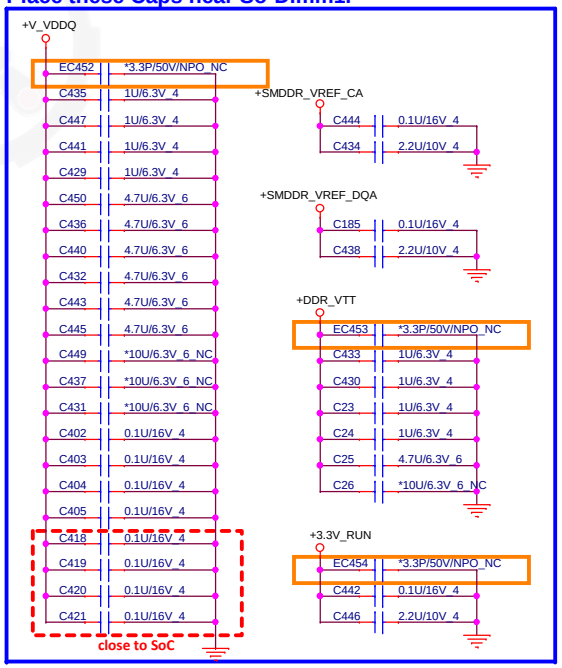

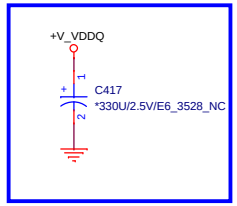

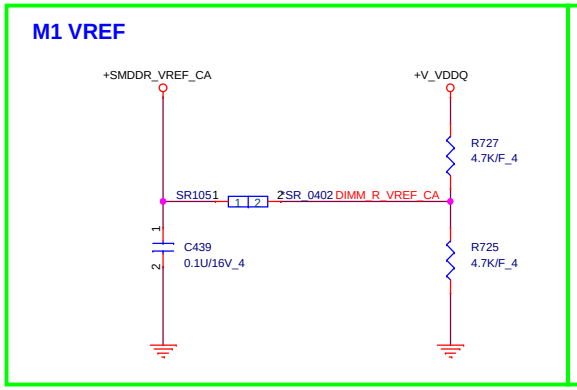

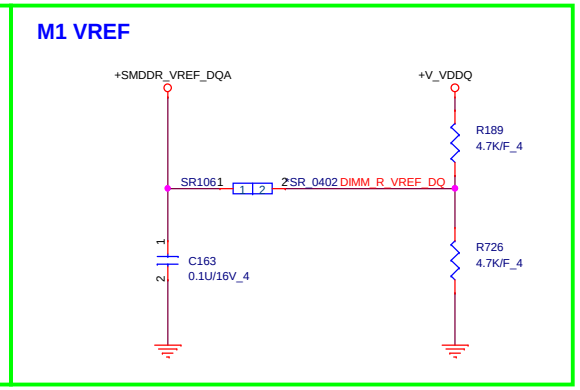

Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	System Memory (4.0H)	A00

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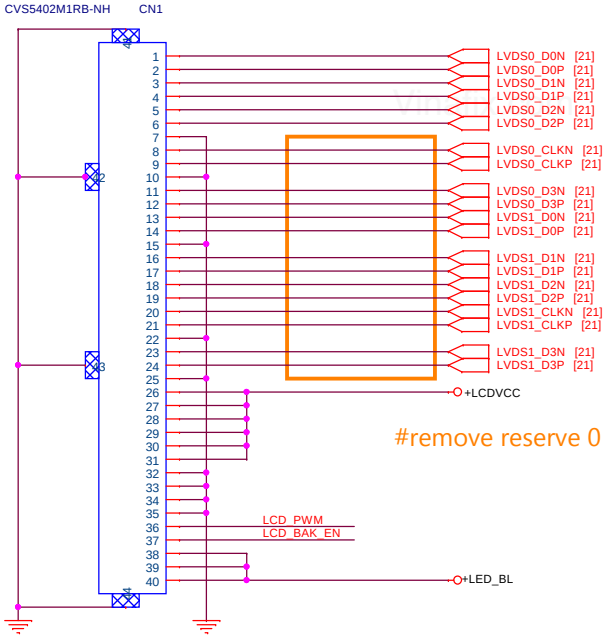
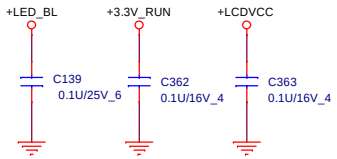
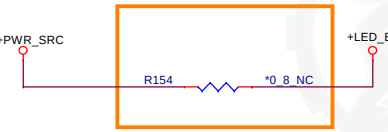


#remove reserve 0 ohm for 19" panel

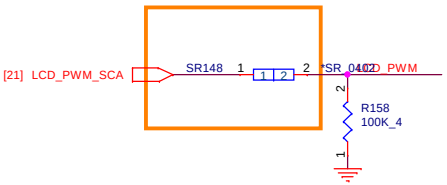
#NC reserve 0 ohm for 15 panel



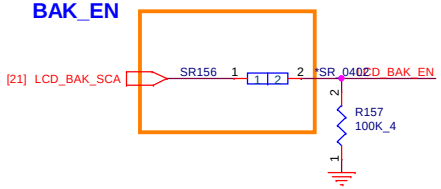
Close LCD connector

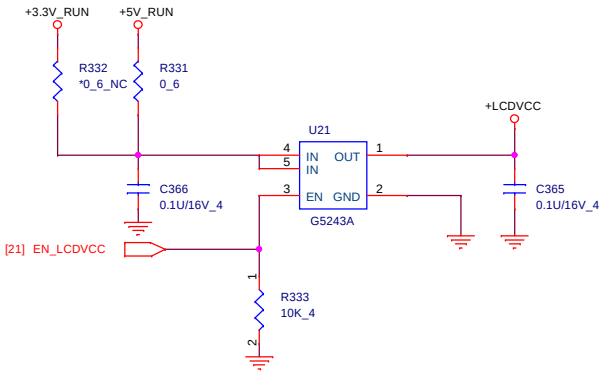


Brightness Control

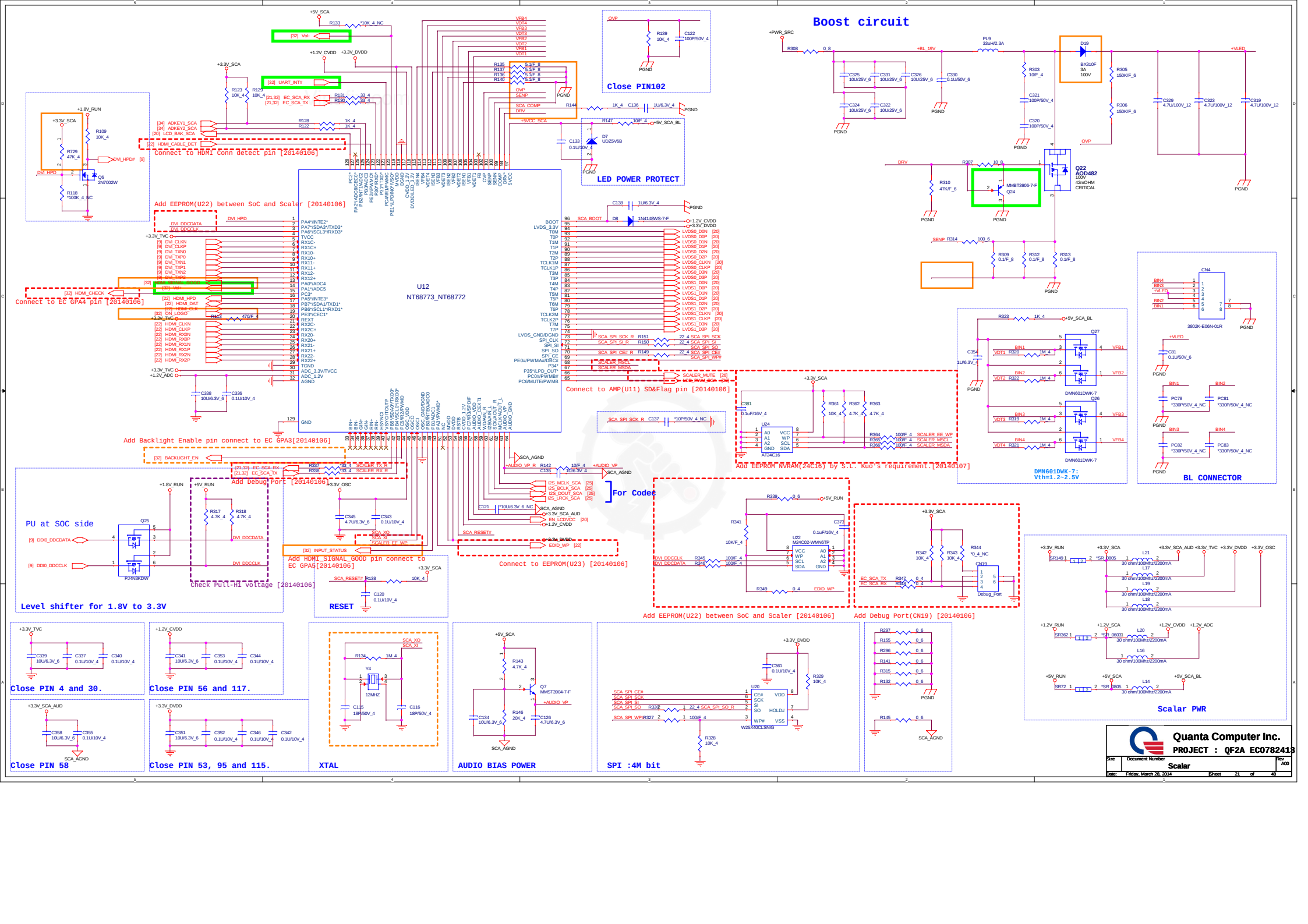


BAK_EN





Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: LVDS/Camera/TS	Rev: A00
Date: Friday, March 28, 2014	Sheet 20 of 48	


Boost circuit
Close PIN102
LED POWER PROTECT
Connect to HDMI Conn detect pin [20140106]
Add EEPROM(U22) between SoC and Scaler [20140106]
Connect to EC GPA4 pin [20140106]
U12
NT68773_NT68772
Connect to AMP(U11) SD&Flag pin [20140106]
Add EEPROM NVRAM(24C16) by S.L. Kuo's requirement.[20140107]
DMN601DWK-7:
Vth=1.2~2.5V
BL CONNECTOR
Add Backlight Enable pin connect to EC GPA3[20140106]
Add Debug Port [20140106]
PU at SOC side
Check Pull-Hi voltage [20140106]
Level shifter for 1.8V to 3.3V
Add HDMI SIGNAL GOOD pin connect to EC GPA5[20140106]
RESET
Connect to EEPROM(U23) [20140106]
For Codec
Add EEPROM(U22) between SoC and Scaler [20140106]
Add Debug Port(CN19) [20140106]
Scalar PWR
Close PIN 4 and 30.
Close PIN 56 and 117.
Close PIN 58
Close PIN 53, 95 and 115.
XTAL
AUDIO BIAS POWER
SPI :4M bit
Quanta Computer Inc.
PROJECT : QF2A EC0782413
Scalar
Friday, March 28, 2014
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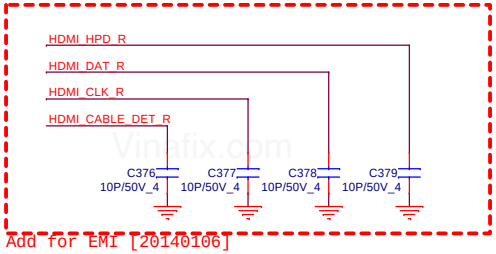
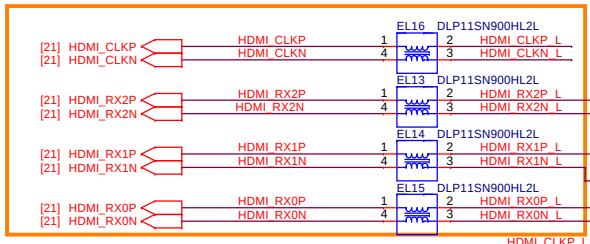


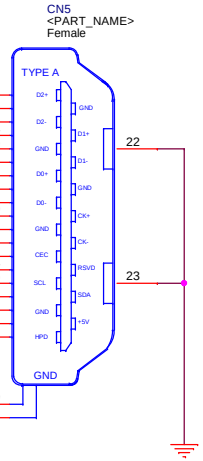
Add for EMI [20140106]

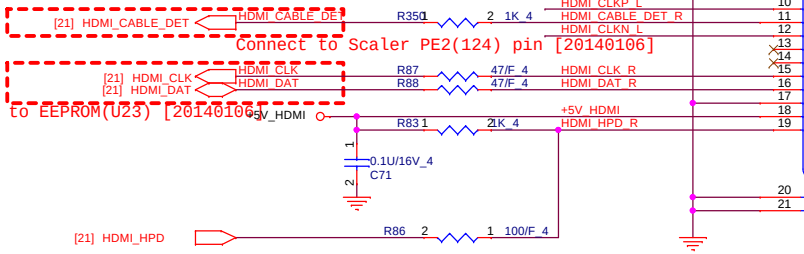
Remove Pull-Hi Circuit of Rev 1224 [20140107]

#EMI add choke



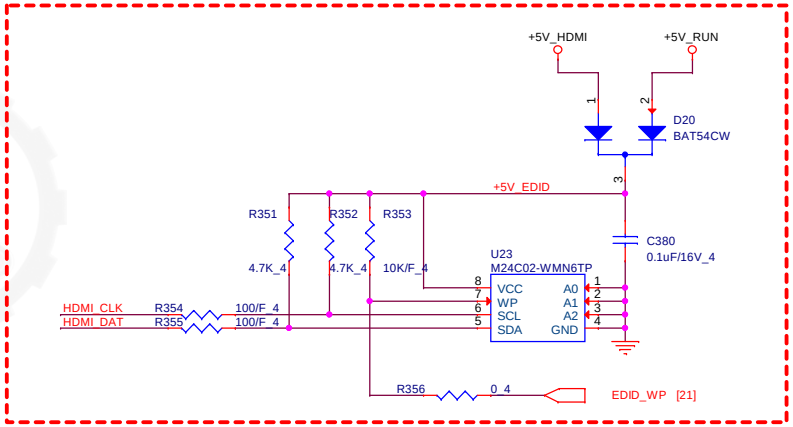
HDMI Conn.





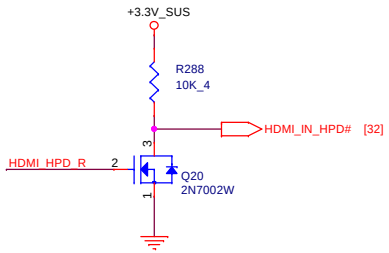
Connect to Scaler PE2(124) pin [20140106]

Connect to EEPROM(U23) [20140106]



Add EEPROM(U23) for HDMI EDID [20140106]

When HDMI IN ,inform to EC.



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Scalar PWR/HDMI CONN	Rev: A00
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#Delete HDMI circiut

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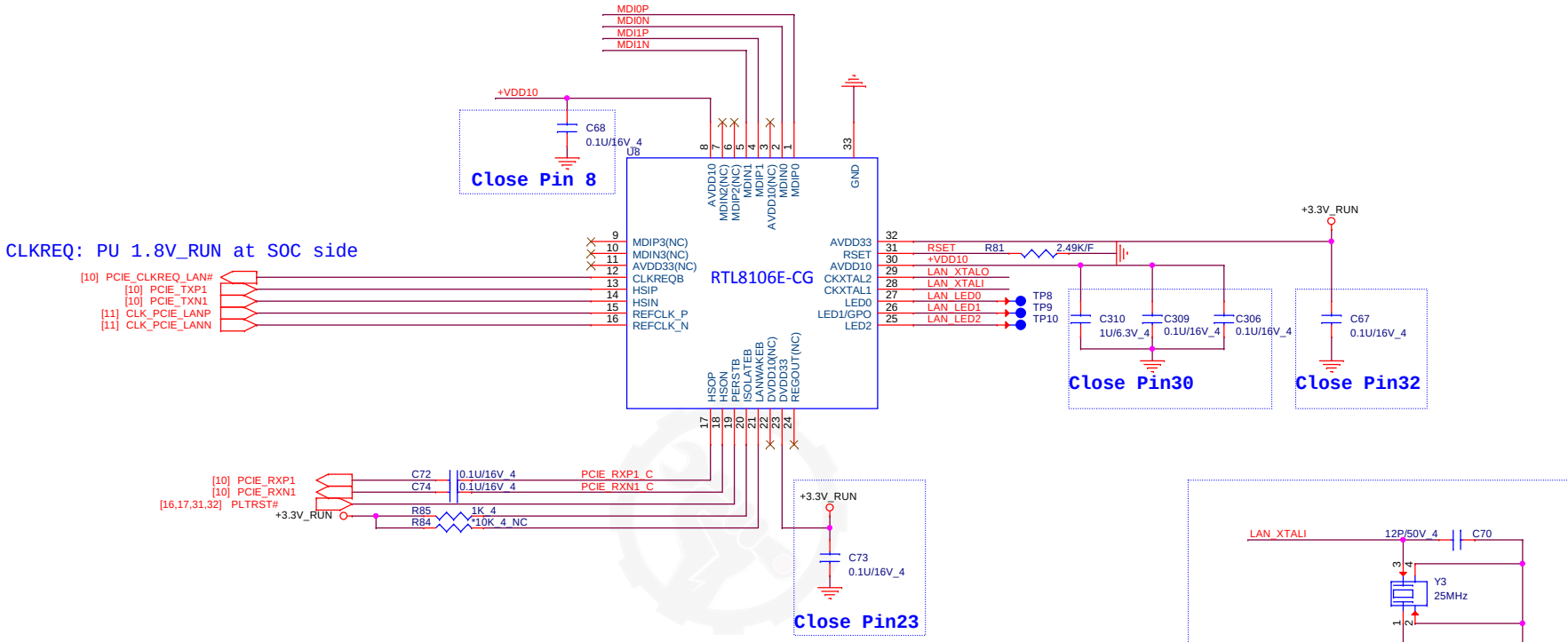
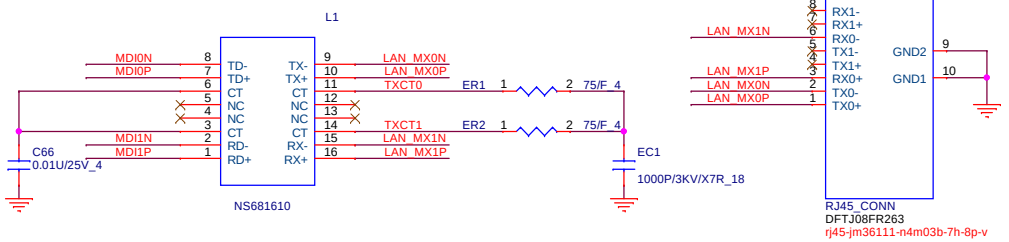
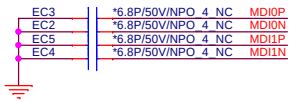
Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: HDMI OUT	Rev: A00
Date: Friday, March 28, 2014	Sheet 23 of 48	



Transfermor & RJ45 connector



EMI



Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	LAN(RTL8106E-CG)/RJ45	A00

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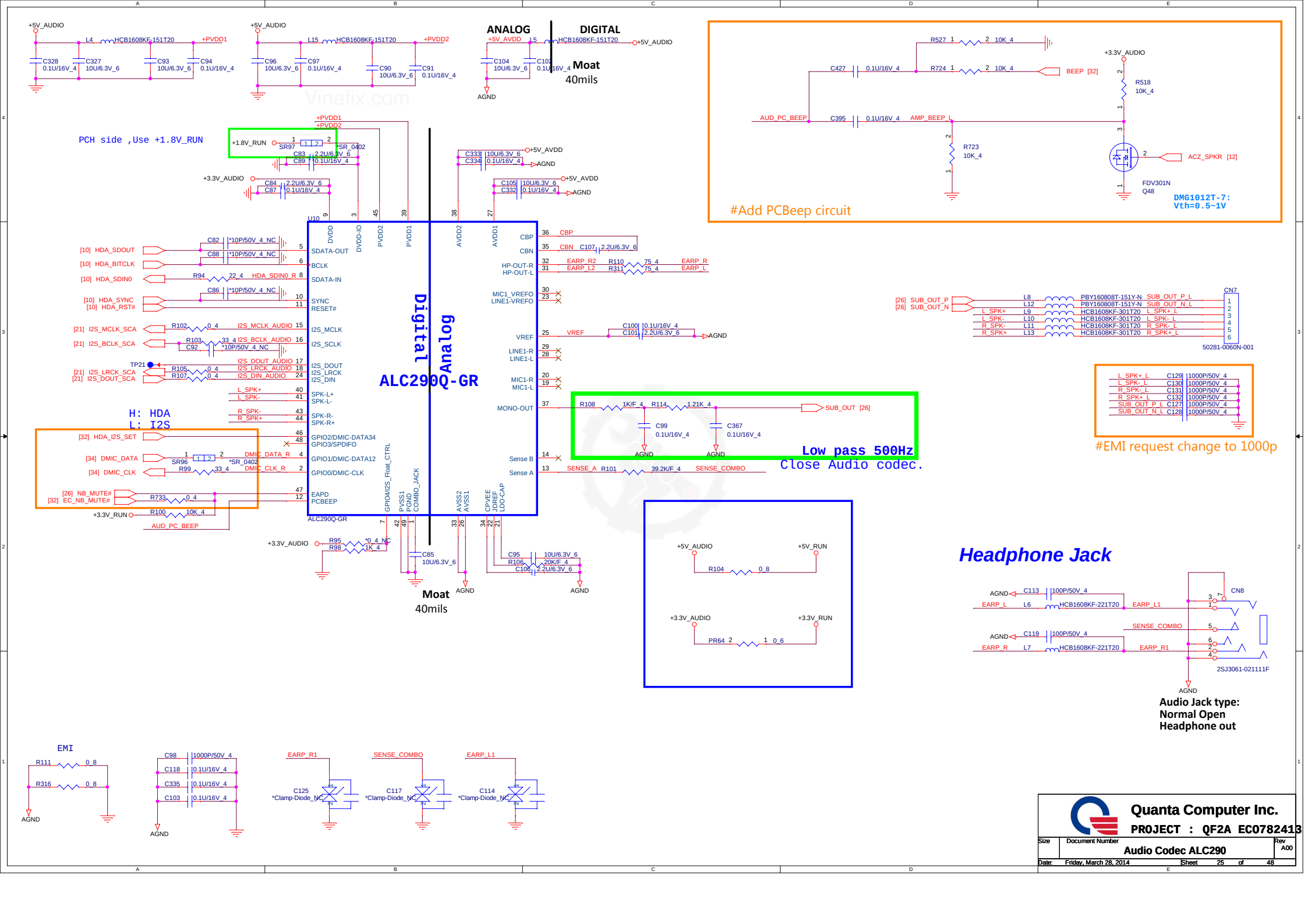
ANALOG
DIGITAL
Moat
40mils
PCH side ,Use +1.8V_RUN
ALC290Q-GR
Digital
Analog
H: HDA
L: I2S
#Add PCBeep circuit
DMG1012T-7:
Vth=0.5~1V
Low pass 500Hz
Close Audio codec.
#EMI request change to 1000p
Headphone Jack
Audio Jack type:
Normal Open
Headphone out
EMI
Quanta Computer Inc.
PROJECT : QF2A EC0782413
Audio Codec ALC290
Date: Friday, March 28, 2014
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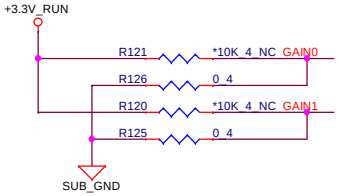


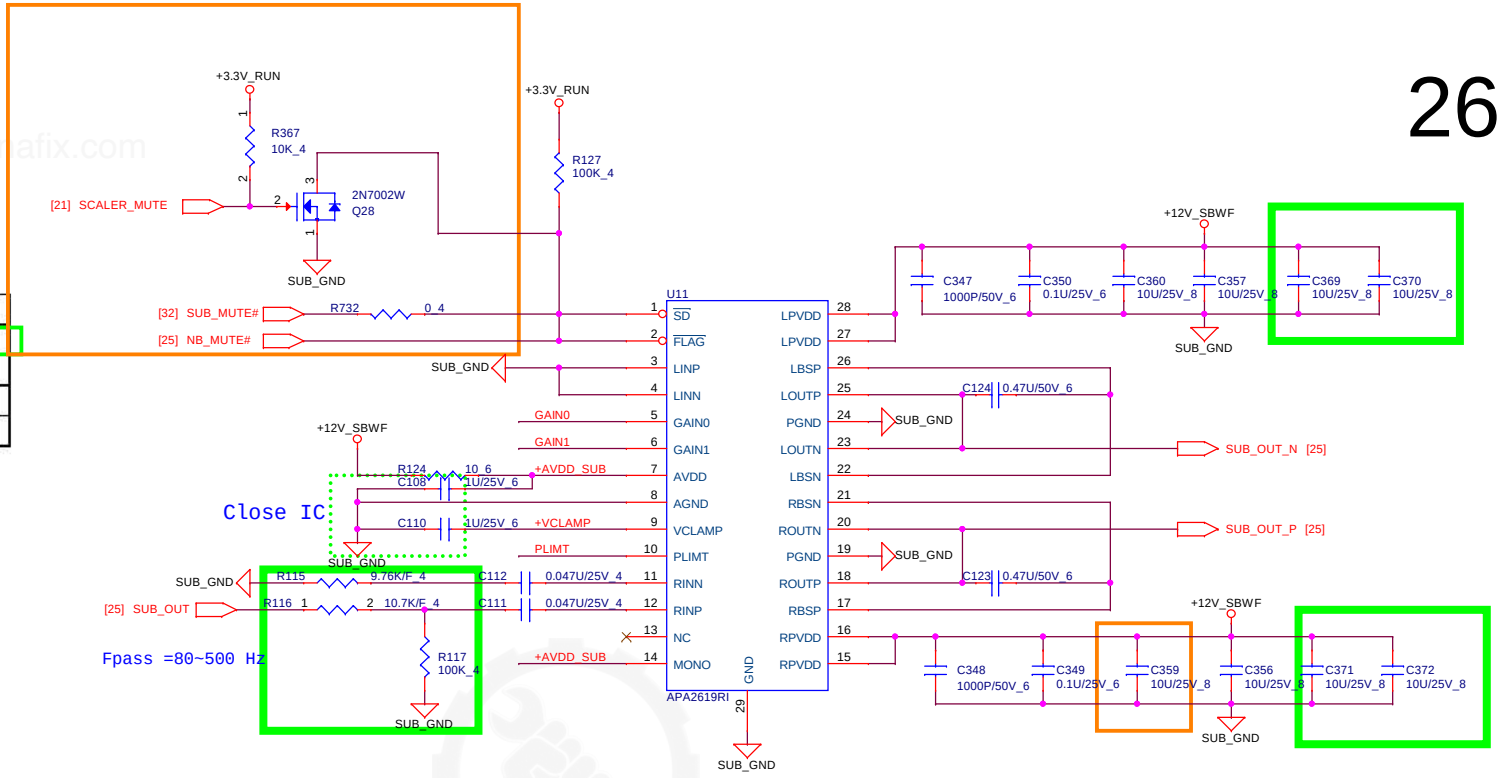
Gain Setting Operation

GAIN1	GAIN0	Gain	Ri(Ω)
0	0	20dB	60k
0	1	26dB	30k
1	0	32dB	15k
1	1	36dB	9k

Table 1 : The Gain Setting

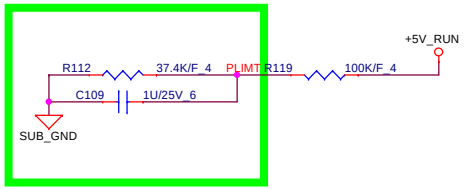
$$f_{C(hipass)} = \frac{1}{2\pi R_i C_i}$$

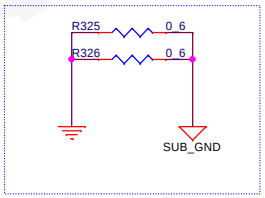
fc= 1 /2 x 3.14 x 60k x0.047u =80 Hz



Test Conditions	PLIMIT Voltage	MAX Output Power @ THD+N=10%
PVDD=12V, Rl=8Ω	1.05V	2W
PVDD=12V, Rl=8 Ω	1.37V	3W
PVDD=12V, Rl=8 Ω	1.59V	4W
PVDD=12V, Rl=8 Ω	1.78V	5W
PVDD=12V, Rl=4 Ω	0.77V	2W
PVDD=12V, Rl=4 Ω	0.96V	3W
PVDD=12V, Rl=4 Ω	1.15V	4W
PVDD=12V, Rl=4 Ω	1.3V	5W

Table2. PLIMIT Typical Operation





Quanta Computer Inc.			
PROJECT : QF2A EC0782413			
Size	Document Number	Woofer AMP(APA2613RI)	Rev A00
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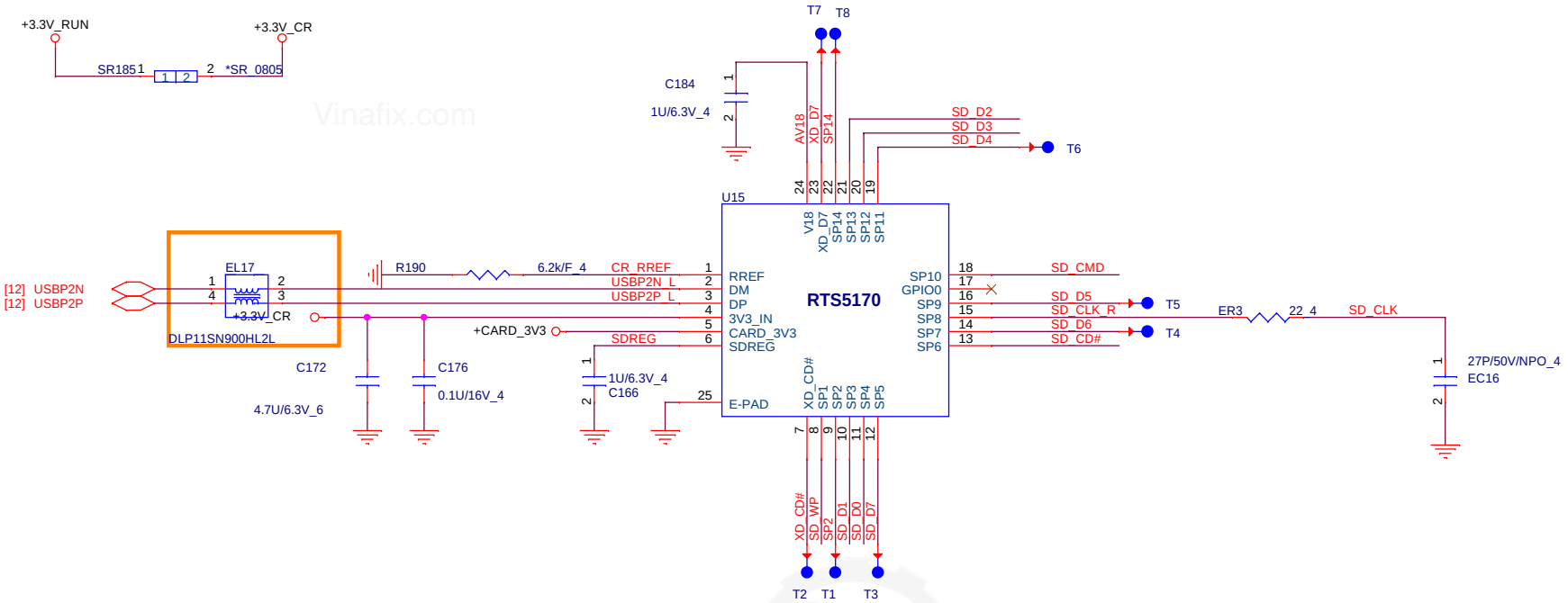
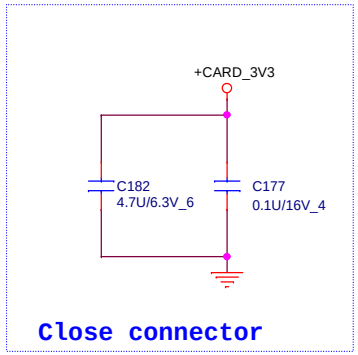
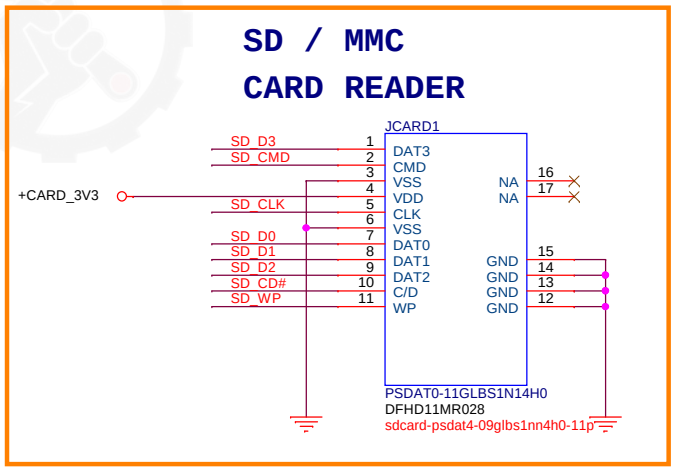


#Update Conn & footprint





Quanta Computer Inc.

PROJECT : QF2A ECO782413

Size	Document Number	Rev
	Card Reader RTS5170	A00

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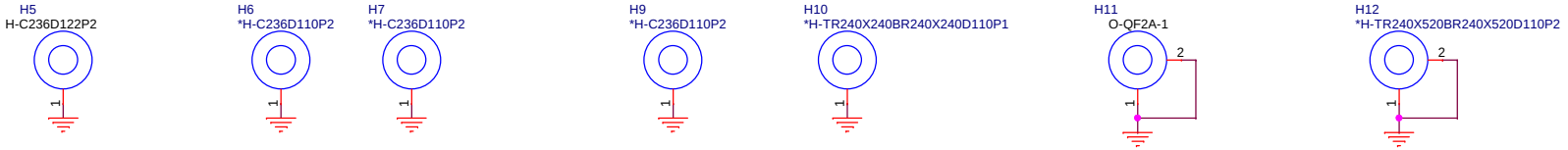
SCREW PAD



NUT

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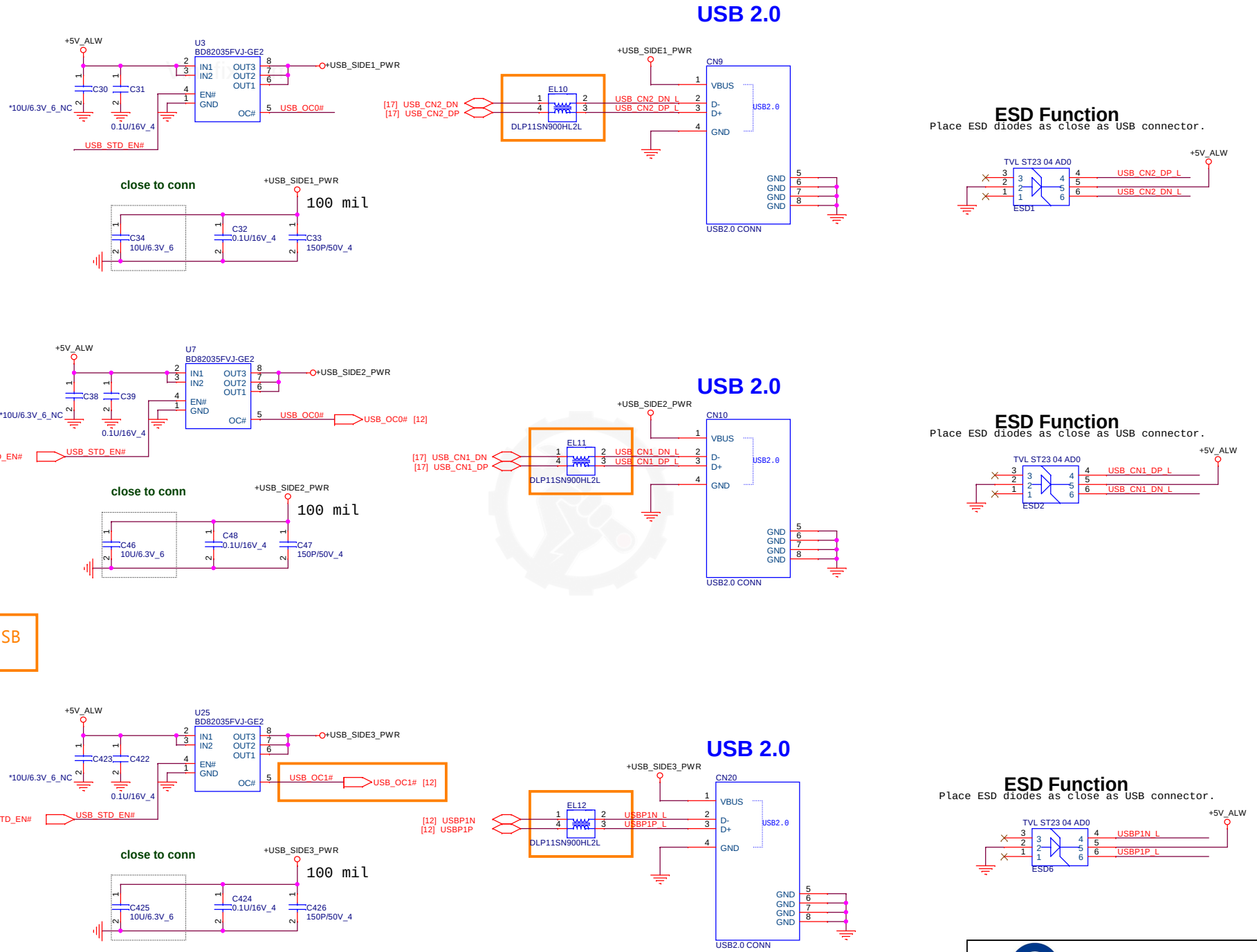
Quanta Computer Inc.

PROJECT : QF2A EC0782413

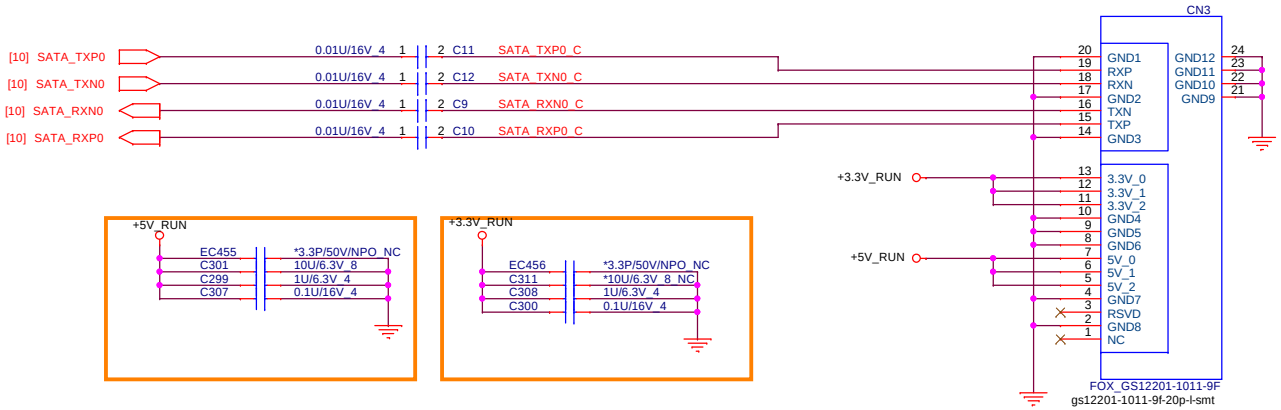
Size	Document Number	Rev
	SCREW PAD	A00

Date: Friday, March 28, 2014 Sheet 28 of 48



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: STD USB2 CONN	Rev: A00
Date: Friday, March 28, 2014	Sheet 29 of 48	

HDD

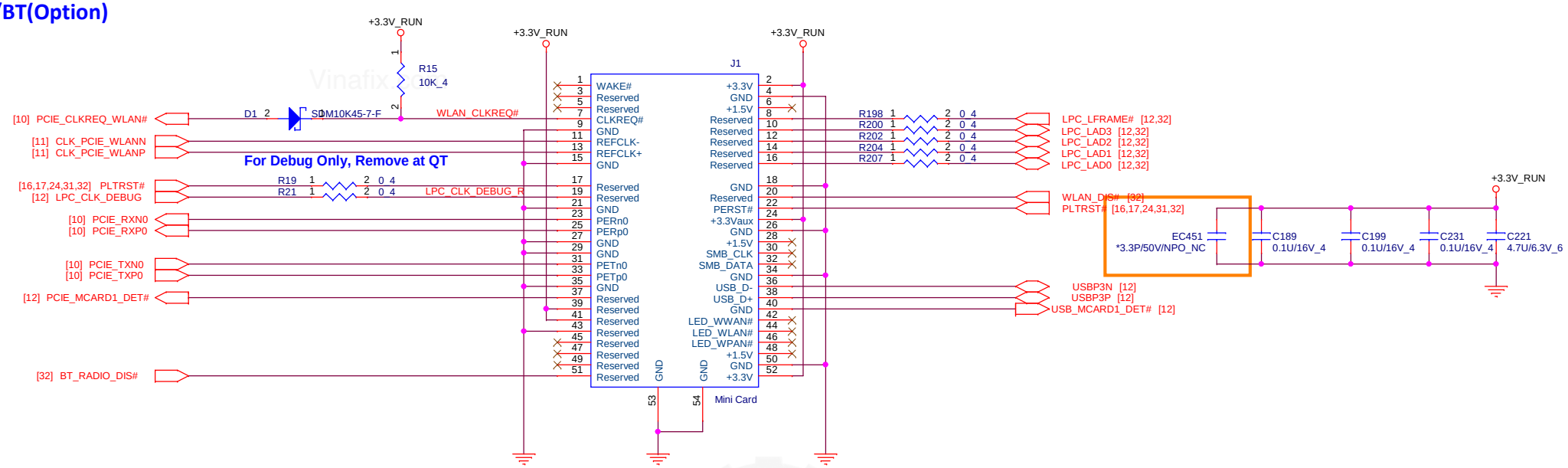


#Update Conn & footprint

#Delete MSATA circiut

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: MSATA/HDD CONN	Rev: A00
Date: Friday, March 28, 2014	Sheet 30 of 48	

Mini Card
WLAN/BT(Option)



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: WLAN/BT	Rev: A00
Date: Friday, March 28, 2014	Sheet 31 of 48	

Place these caps close to ITE8528.

#Delete USB Switch & Mini Detect

Thermal

IT8528

SM BUS
PS/2
LPC
GPIO
CIR
PWM
UART port
WAKE UP
EXTERNAL SERIAL FLASH
SPI ENABLE
KBMX
A/D D/A
CLOCK

Charge ,BAT

DMN601DWK-7:
Vth=1.2~2.5V

*DMN601DWK-7_NC

2N7002W:
Vth=1~2.5V

Board ID Straps

Board ID 1
1 : with woofer
0 : non woofer

100K/F_4: CS41002FB28
45.3K/F_4: CS34532FB18
24.3K/F_4: CS32432FB19
12K/F_4 : CS31202FB15
6.49K/F_4: CS26492FB23
1.65K/F_4: CS21652FB29

BD0		
000	0.5V_PU 100K	EVT
001	1.0V_PU 45.3K	DVT
010	1.5V_PU 24.3K	PVT
100	2.0V_PU 12K	
101	2.5V_PU 6.49K	
110	3.0V_PU 1.65K	
111	0V_NO PU	

Quanta Computer Inc.
PROJECT : QF2A EC0782413

Size	Document Number	Rev
	SIO (ITE8528E)	A00
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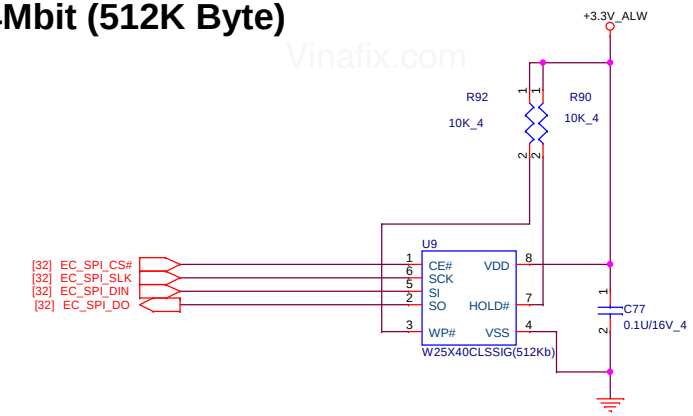
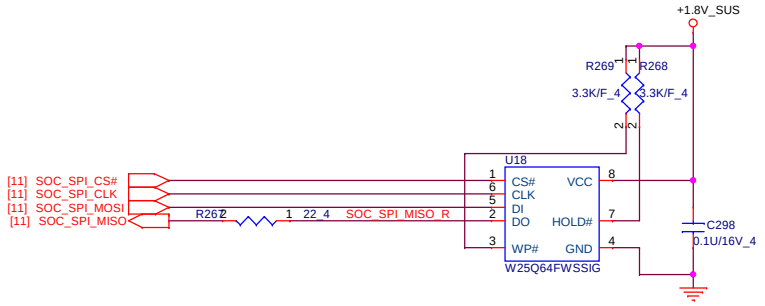
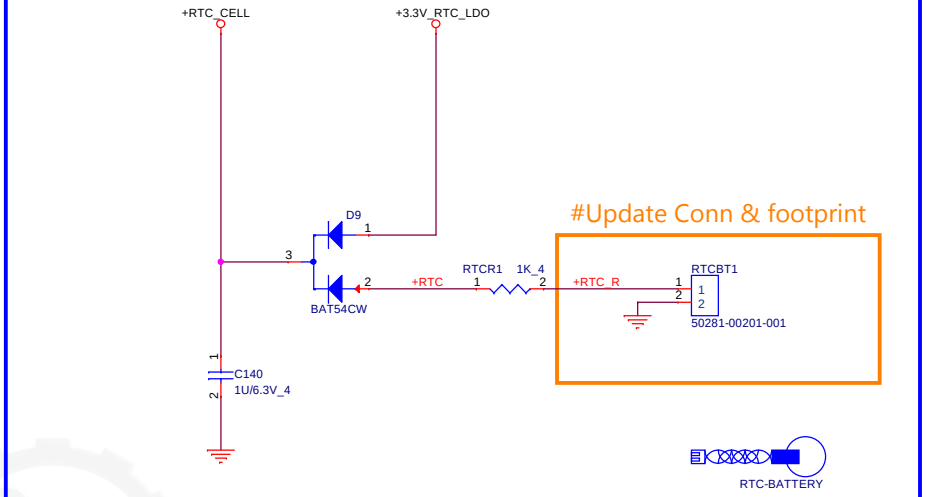
For EC 4Mbit (512K Byte)



For SOC 64Mbit (8M Byte)



RTC BATTERY



Quanta Computer Inc.

PROJECT : QF2A EC0782413

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	FLASH / RTC	A00

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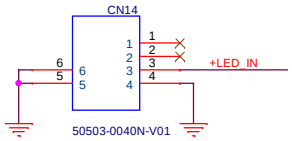
#Delete function Botton

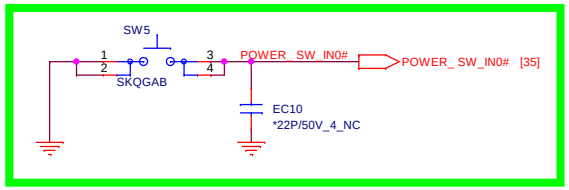
LED/IR CONN to LED/IR board

#Delete C359 & +3.3V_RUN for IR

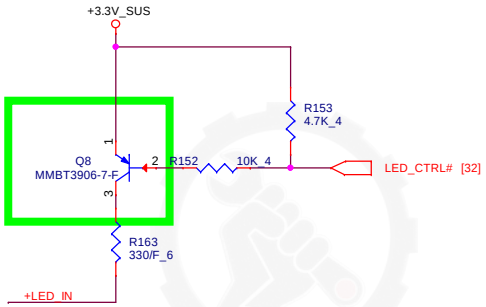


#Delete DBTV Conn

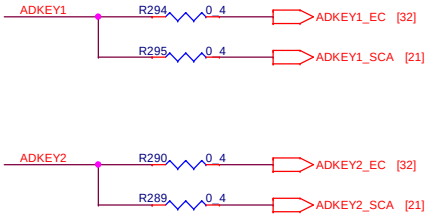
PWR BTN



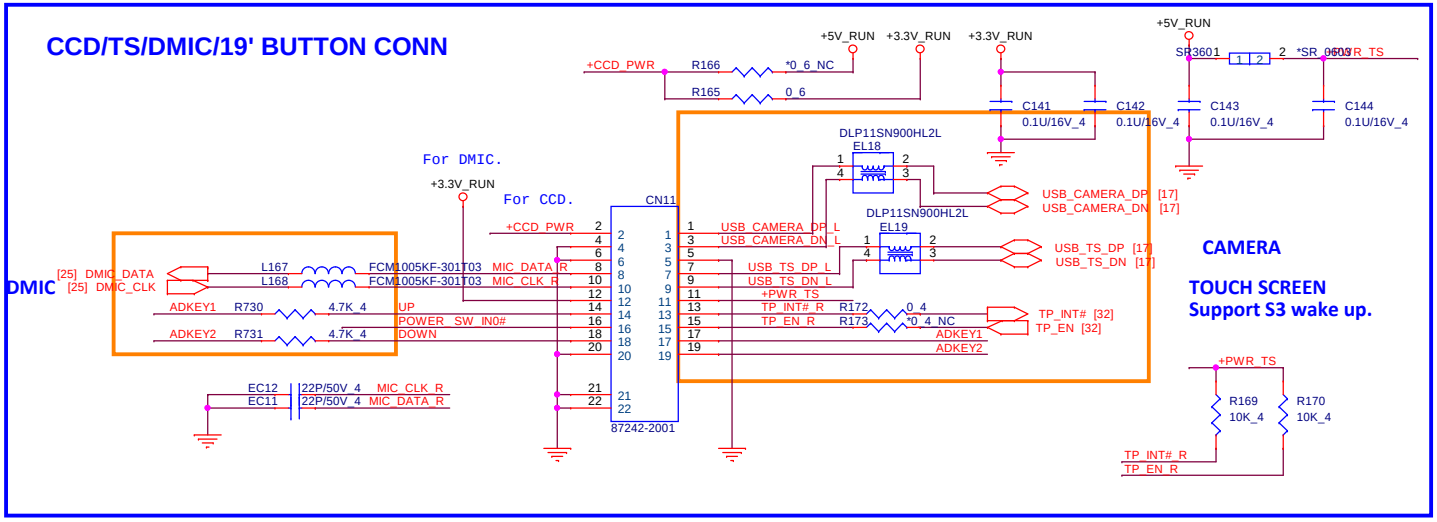
LED CONTROL



AD PIN Setect



CCD/TS/DMIC/19' BUTTON CONN



Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Button & CONN	Rev: A00
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3VALW ON POWER LOGIC

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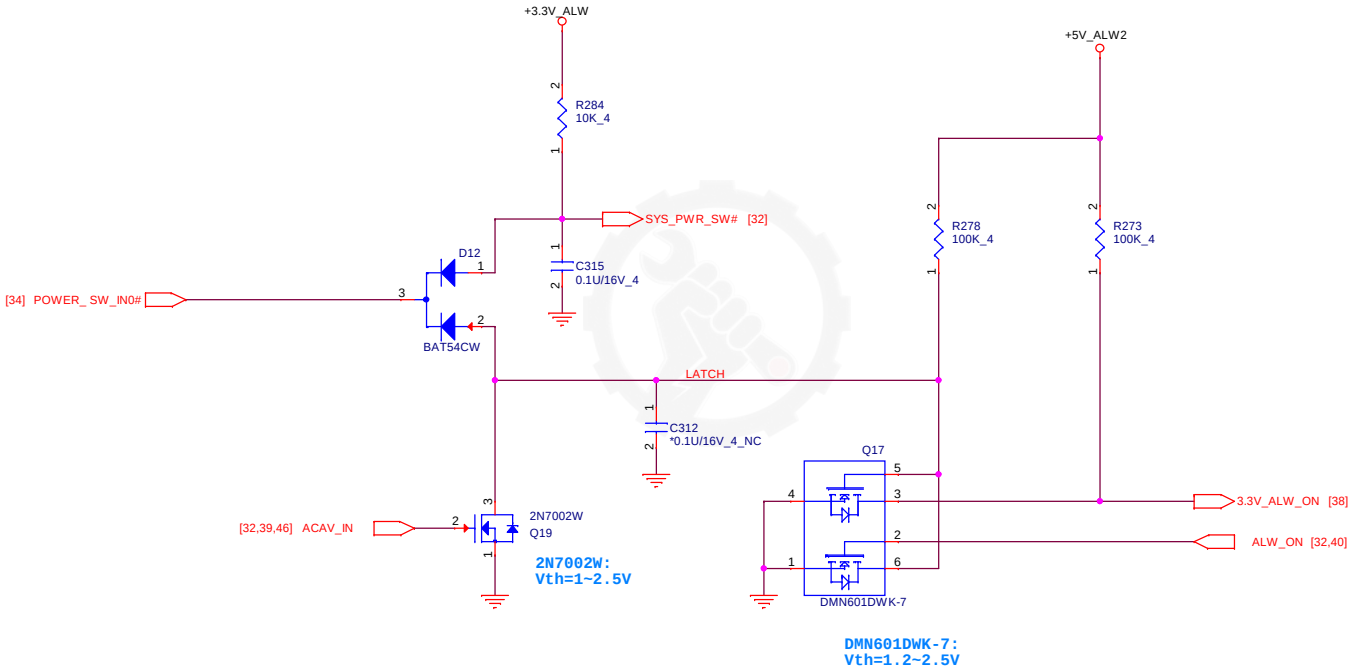

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: 3VALW ON POWER LOGIC	Rev: A00
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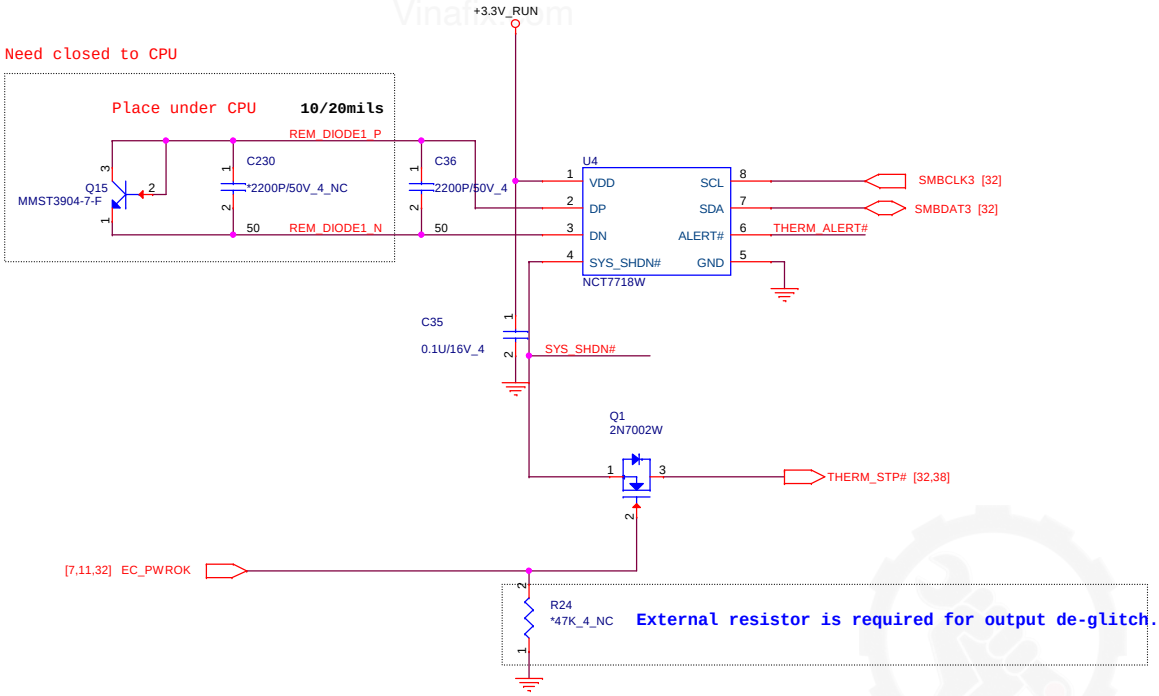
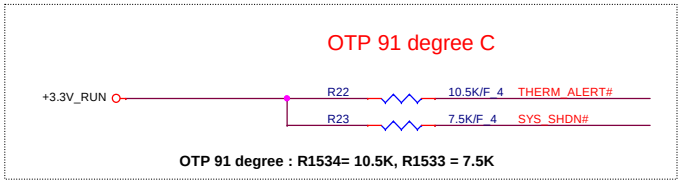
THERMAL IC





SYS_SHD# / ALERT#	2K	7.5K	10.5K	14K	18.7K
2K	77'C	87'C	97'C	107'C	117'C
7.5K	79'C	89'C	99'C	109'C	119'C
10.5K	81'C	91'C	101'C	111'C	121'C
14K	83'C	93'C	103'C	113'C	123'C
18.7K	85'C	95'C	105'C	115'C	125'C

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	THERMAL	A00

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	Blank	A00
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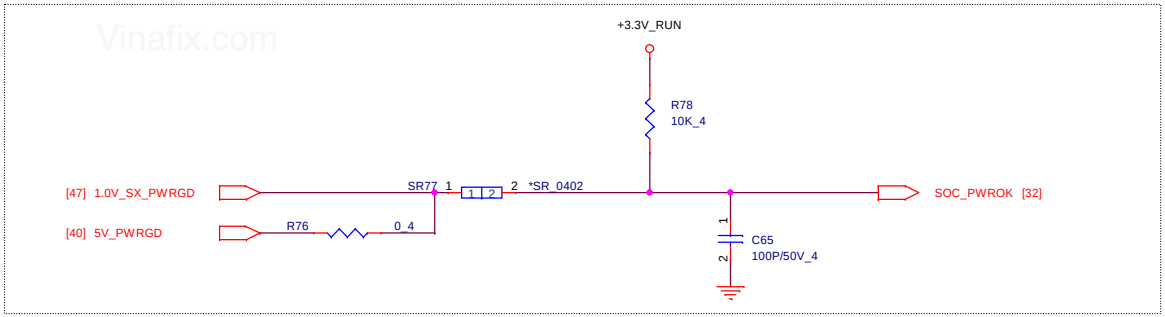

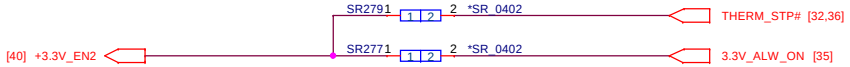

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: System Reset Circuit	Rev: A00
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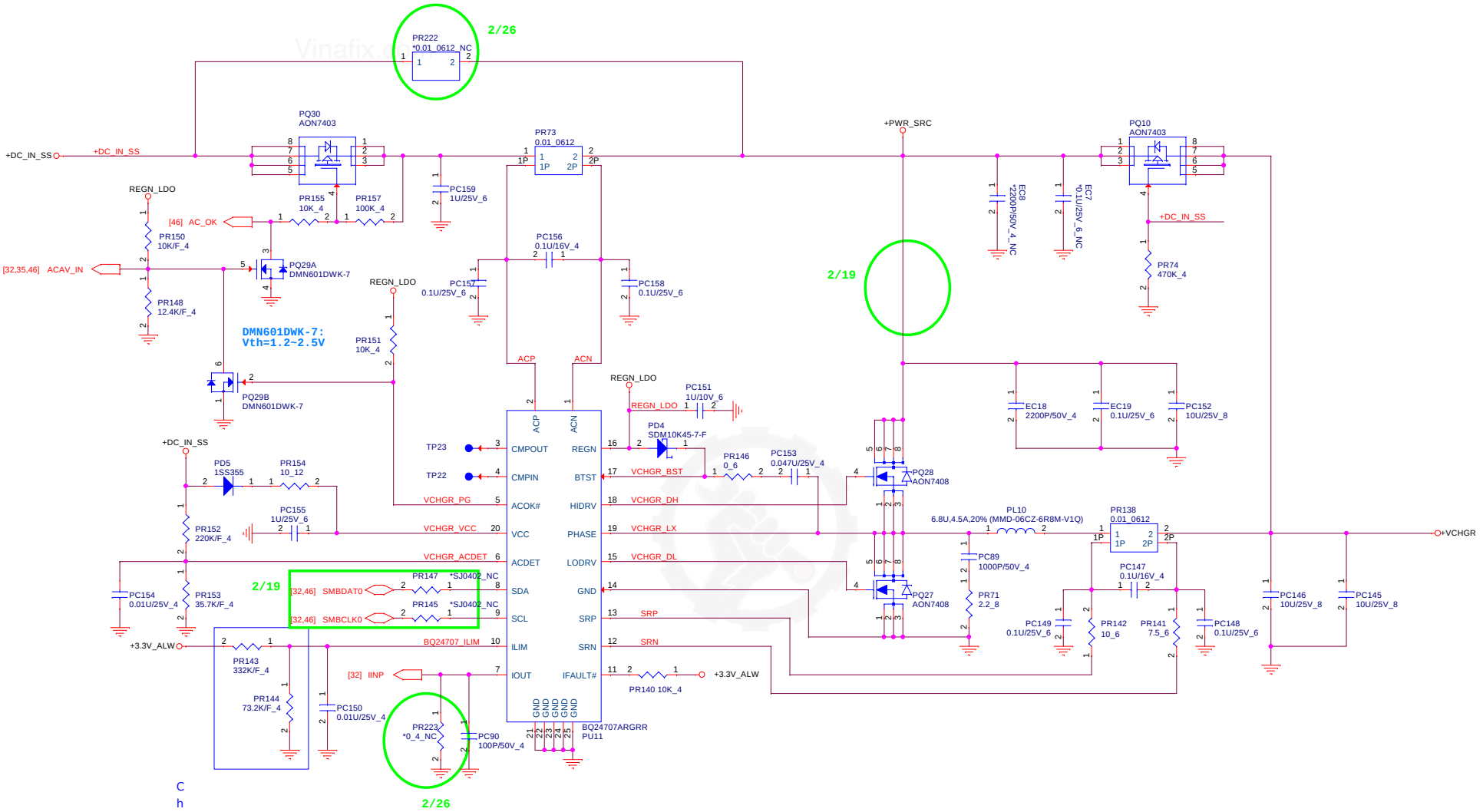

Charger current limit

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: Charger (BQ24737RGRR)	Rev: A00
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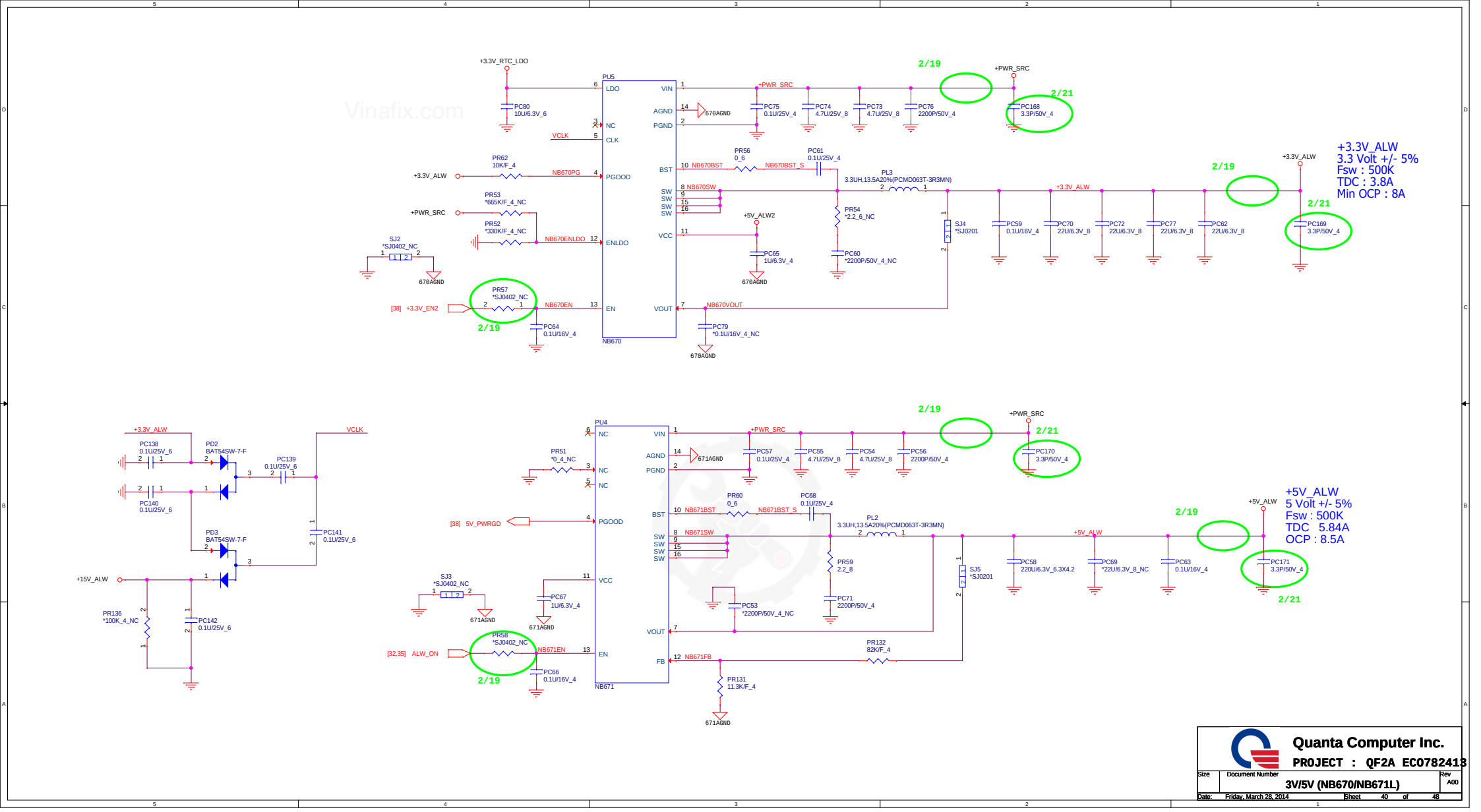

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Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number	Rev
	3V/5V (NB670/NB671L)	A00
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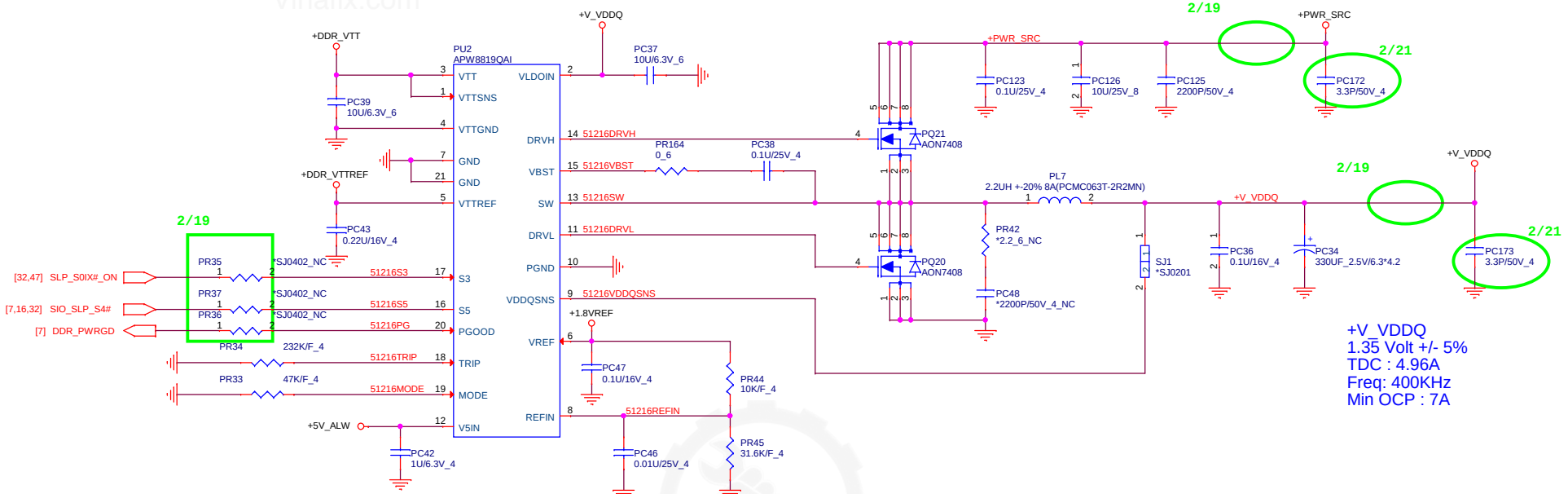

Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	DDR3L (APW8819QAI)	A00

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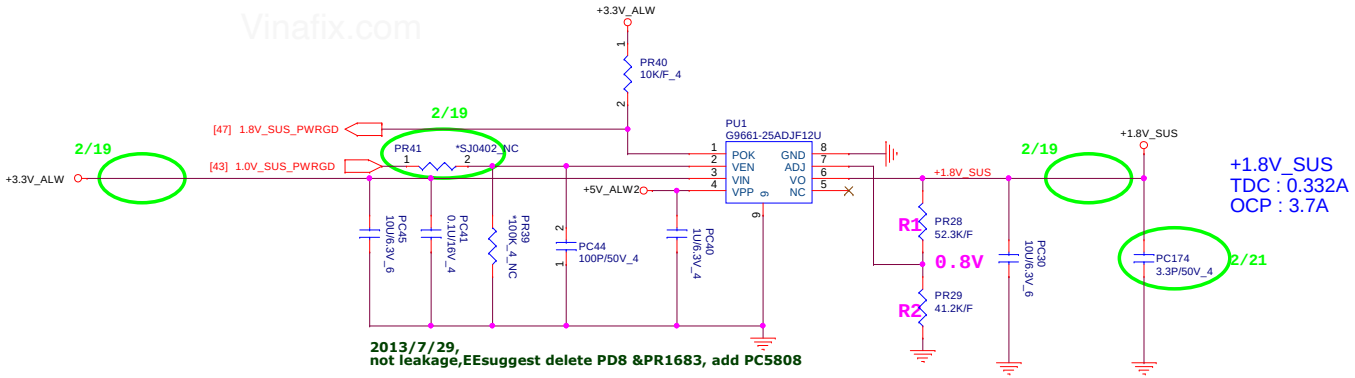

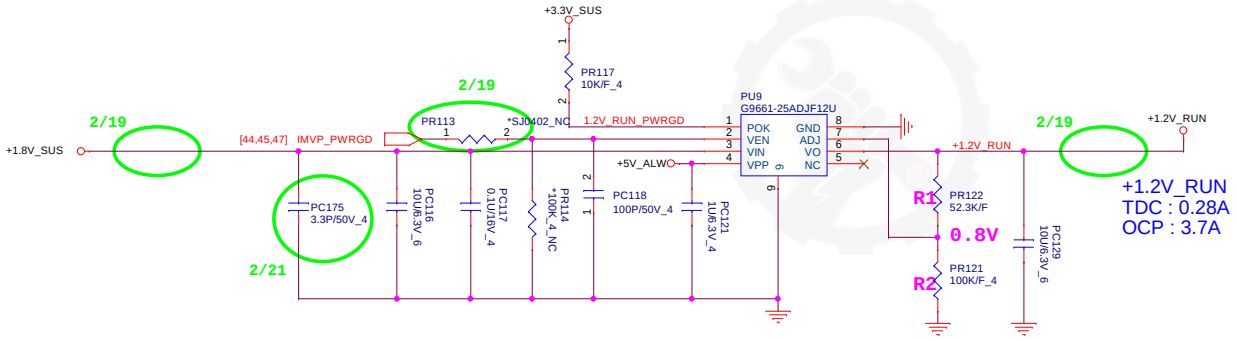

Quanta Computer Inc.

PROJECT : QF2A EC0782413

Size	Document Number	Rev
	1.8V_SUS / 1.2V_SUS (G9661-25ADJF12U)	A00

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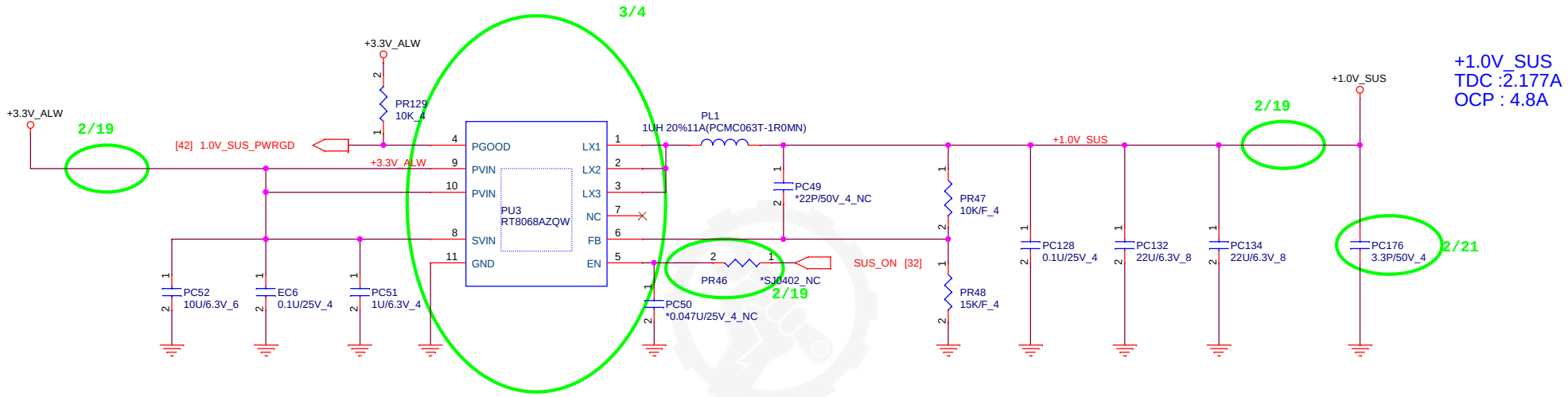

Quanta Computer Inc.		
PROJECT : QF2A EC0782413		
Size	Document Number: 1.0V_SUS(APW8804QBI)	Rev: A00
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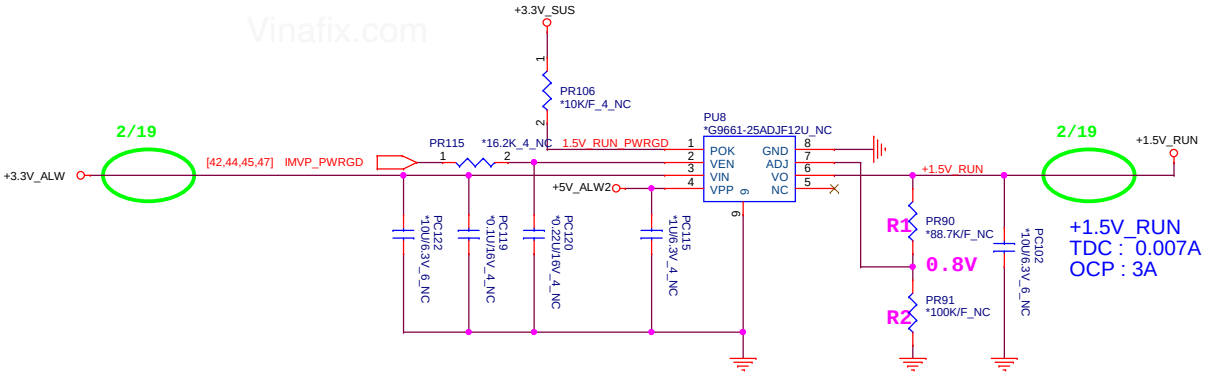

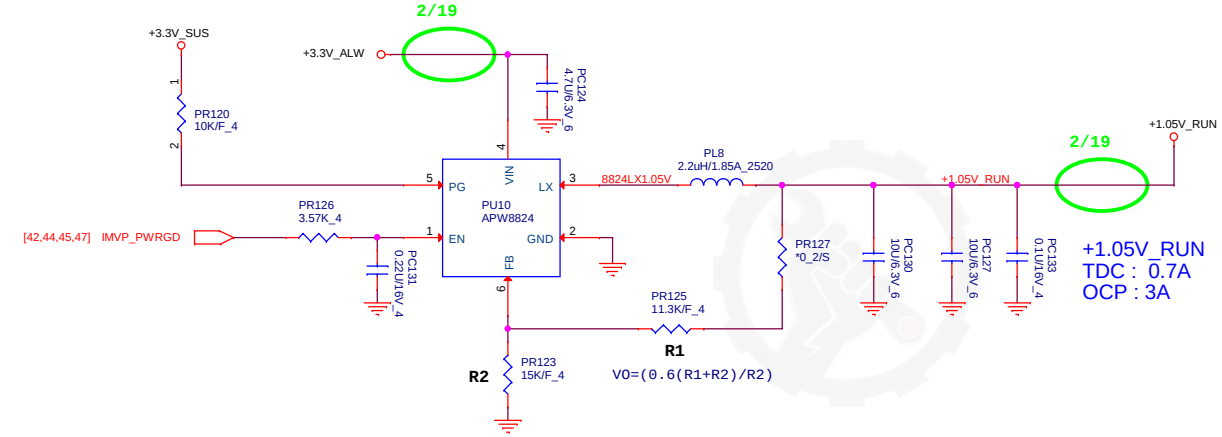

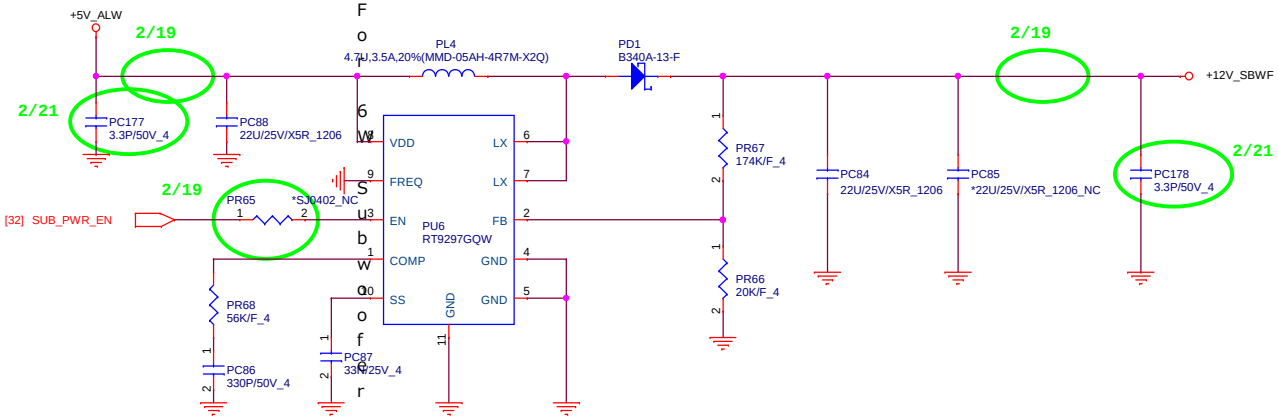

Quanta Computer Inc.

PROJECT : QF2A ECO782413

Size	Document Number	Rev
	1.5V/1.05V / 12V	A00

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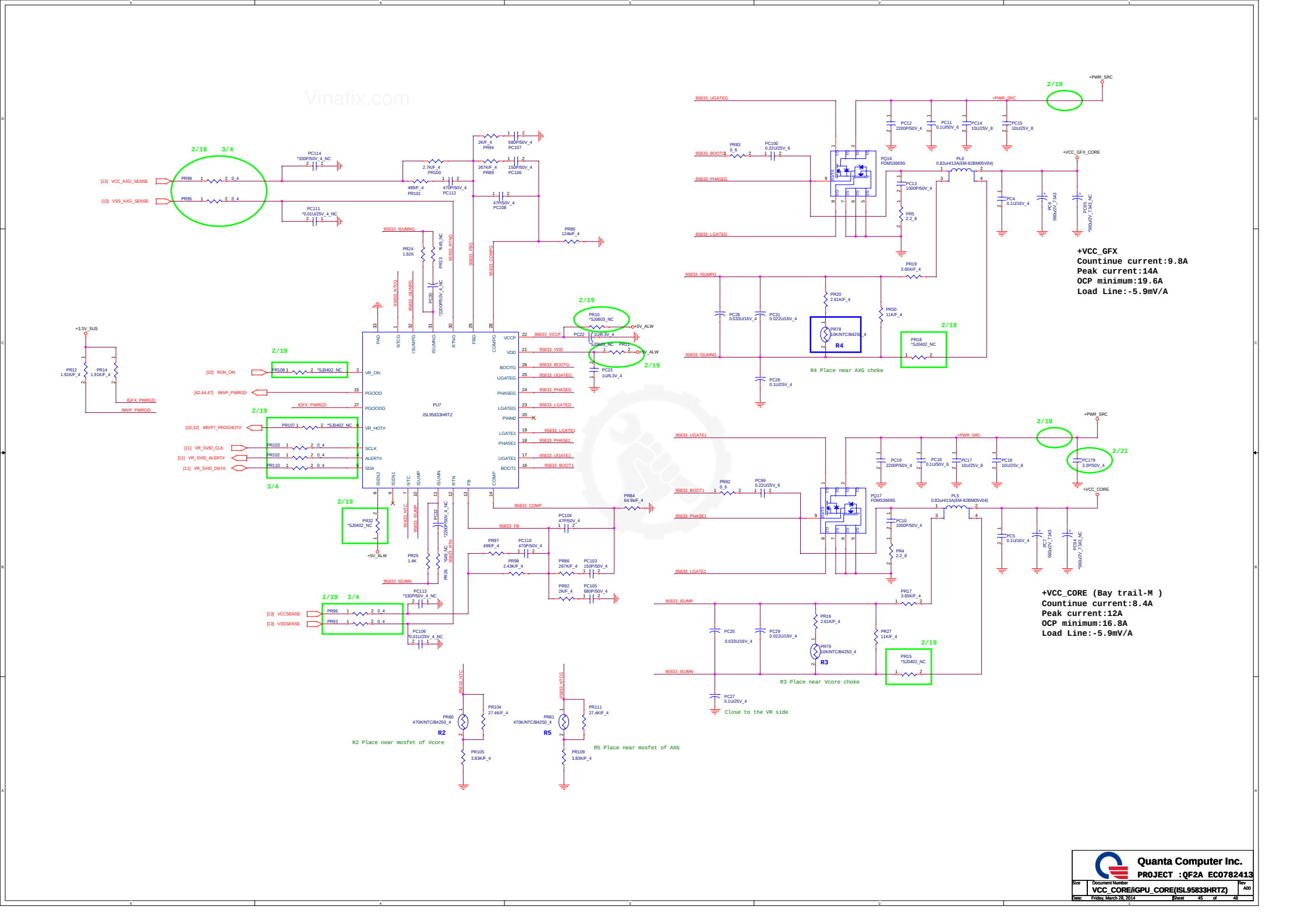
+VCC_GFX
Countinue current:9.8A
Peak current:14A
OCP minimum:19.6A
Load Line:-5.9mV/A
+VCC_CORE (Bay trail-M)
Countinue current:8.4A
Peak current:12A
OCP minimum:16.8A
Load Line:-5.9mV/A
R4 Place near AXG choke
R3 Place near Vcore choke
Close to the VR side
R2 Place near mosfet of Vcore
R5 Place near mosfet of AXG
PU7
ISL95833HRTZ
Quanta Computer Inc.
PROJECT :QF2A EC0782413
VCC_CORE/iGPU_CORE(ISL95833HRTZ)
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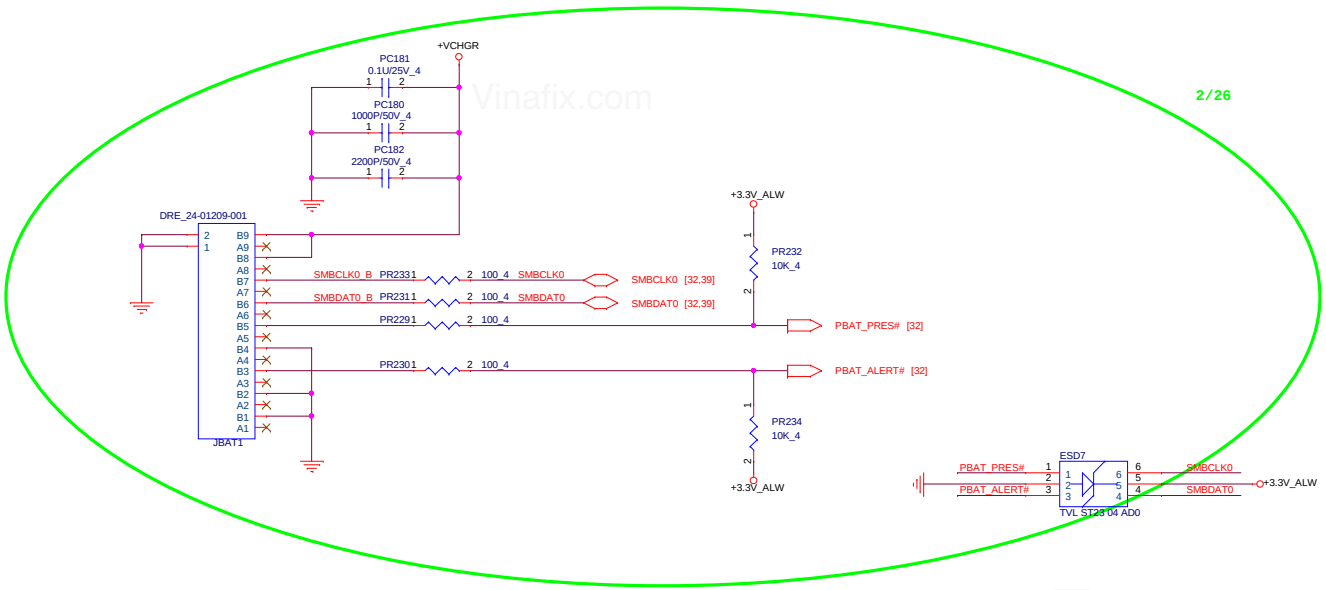

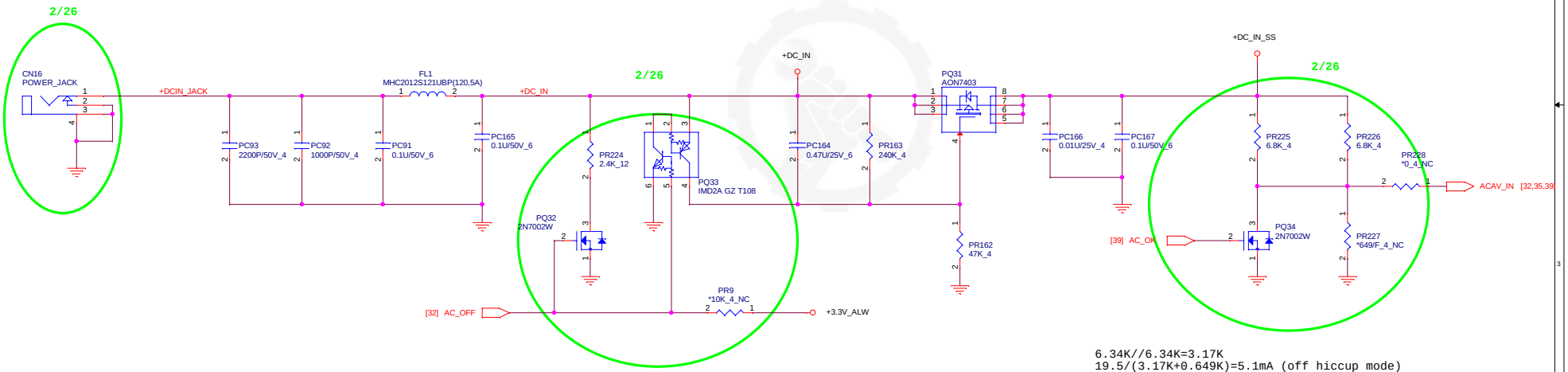

6.34K//6.34K=3.17K
19.5/(3.17K+0.649K)=5.1mA (off hiccup mode)
(5.1m x5.1m x 3.17K) / 2=0.041W (<0.0625W,0402 size
5.1m x5.1m x 0.649K=0.0168W (<0.0625W,0402 size)

	NO Battery sku	Battery sku
PR225	6.34K(CS26342FB27)	6.8K(CS26802JB11)
PQ34	NC	2N7002W(BAM70020004)
PR226	6.34K(CS26342FB27)	6.8K(CS26802JB11)
PR227	649(CS16492FB13)	NC
PR228	0(CS00002JB38)	NC

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Size	Document Number	Rev
	DCin & Bat	A00
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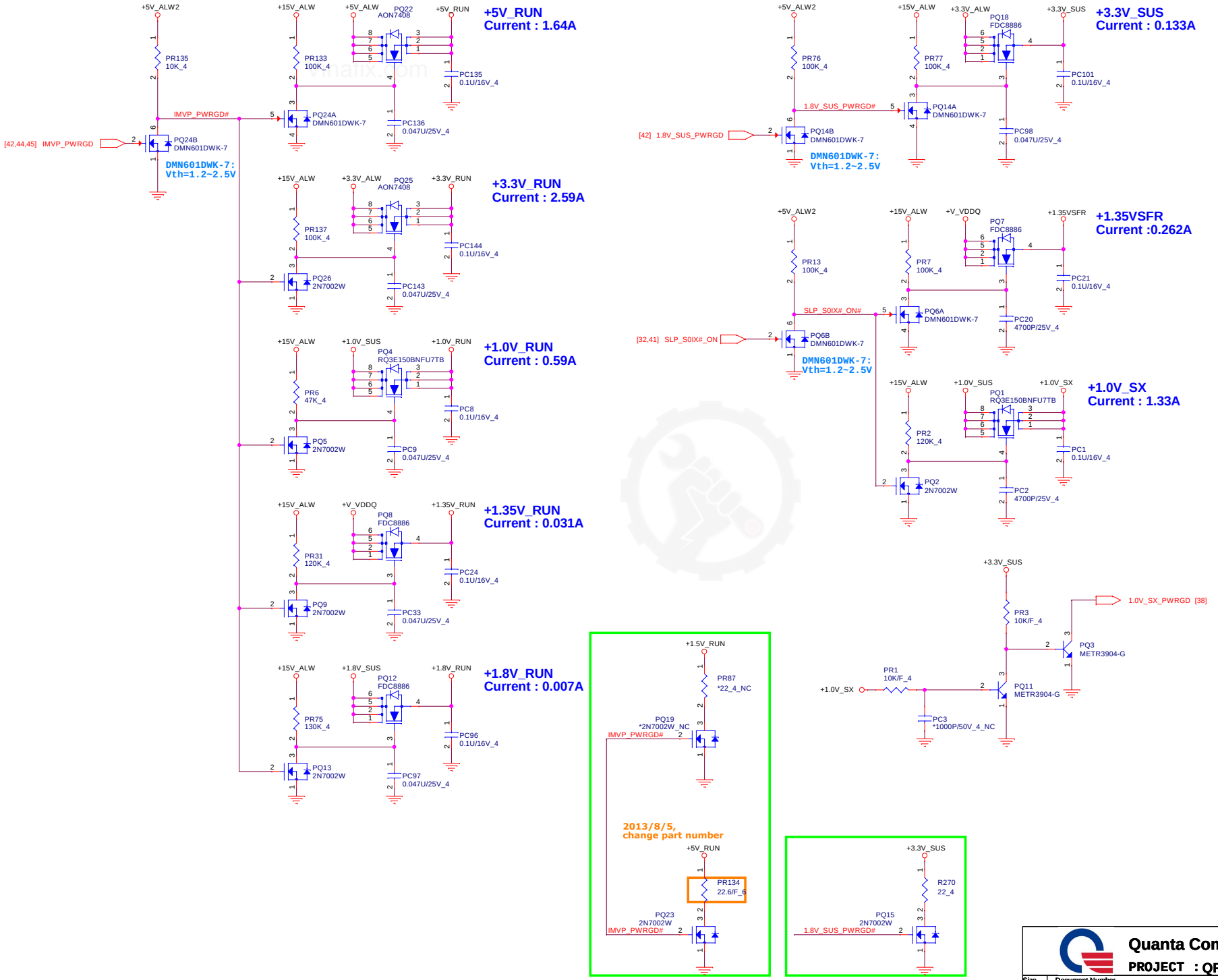
+5V_RUN
Current : 1.64A
+3.3V_RUN
Current : 2.59A
+1.0V_RUN
Current : 0.59A
+1.35V_RUN
Current : 0.031A
+1.8V_RUN
Current : 0.007A
+3.3V_SUS
Current : 0.133A
+1.35VSFR
Current :0.262A
+1.0V_SX
Current : 1.33A
DMN601DWK-7:
Vth=1.2~2.5V
2013/8/5,
change part number
Quanta Computer Inc.
PROJECT : QF2A ECO782413
Load Switch
Friday, March 28, 2014