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03	Change List	1A	
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07	HSW MCP(POWER)	1A	
08	HSW PCH(RTC/HDA/SATA)	1A	
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19	HDMI/THERMAL	1A	
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22	NGFF WLAN/KB-BL	1A	
23	NGFF SSD/TP/FAN	1A	
24	Audio ALC233-CG CON	1A	
25	SWITCH/LED	1A	
26	POWER +VCC_CORE (NCP81101)	1A	
27	POWER 3VPCU&RVCC5(TPS51427)	1A	
28	POWER 1.35VSUS/VTT_MEM	1A	
29	POWER +1.05V(G5602R41U)	1A	
30	POWER(BAT IN / ADA IN/ UL)	1A	
31	POWER CHARGER (ISL88732)	1A	
32	BLANK	1A	
33	TPM CON	1A	
34	BLANK	1A	
35	BLANK	1A	
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37	BLANK	1A	
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Page	Title of schematic page	Rev.	Date
40	Power Design Diagram	1A	
		1A	
		1A	
		1A	

1

* : No mount
L@ : For LVDS output
D@ : For eDP output
E@ : For DIS GFX
I@ : For UMA

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Mule BLOCK DIAGRAM

02

Memory Down(Channel A/B)

X16 X16 X16 X16 DDR3L-1600 CH-A Memory Down

X16 X16 X16 X16 DDR3L-1600 CH-B Memory Down

CAMERA

USB3.0 PORT2

USB3.0 PORT1

SSD SATA0 / PCIE6 6Gb/s

USB 3.0

USB2-PORT4

PORT5

BT

USB 2.0

PORT7

Front CAMERA

Light Sensor CM3218

A+M Sensor LSM303DLHCTR

Gyro Sensor L3GD20TR

I2C

I2C

I2C

Sensor HUB STM32F103RC

PORT6

I2C

NFC

SMBUS

SPI

SPI ROM 8MB

SPI

Touch Pad

Keyboard

LPC

PECI

EC NPCE985L

LEDs

- Power LED
- Charger LED
- Caps Lock LED

Buttons

- Power
- Assit
- Volume Up
- Volume Down
- Windows
- Battery Detach

Intel Shark Bay

Haswell ULX + Lynx Point-LP

BGA1168 (40mm X 24mm)

PCI-E X4

eDP 13"eDP (1920x1080)

HDMI

5GT/s PCI-Express Gen2

PCIE4 PCIE3 PCIE4

WLAN/BT

Card Reader RTS5227E

SD-XC

HD-AUDIO(Samll BD)

Audio CODEC ALC233-CG

Combo Jack SPK DMIC

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PCB STACK UP 8L

LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : SVCC
LAYER 6 : IN3
LAYER 7 : SGND
LAYER 8 : BOT

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

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Change List

DVT-2013-05-05

P15 Add serial resistor RP11~RP16 on K/B matrix

Reason :For ESD protection
Possible Risk: no

DVT-2013-05-05

P4 Change netname of GPIO 78 from EC_A20GATE to GPIO78

P16 Remove EC_A20GATE

Reason : EC_A20GATE is not necessary

DVT-2013-05-05

P9 PCH GPIO29 use for WLAN_PW_EN
Reason :Change the power well of WLAN_PW_EN from sus to DSW. .

DVT-2013-05-05
P20 Add R24460 without mount for TPS2543 .
Reason :Reserve for TPS2543 .

DVT-2013-05-05
P22 remove R671,R673 for cost down .

DVT-2013-05-05
P22 change R2442 from unmout to mount
P22 change R656 from mout to unmount
Reason :Change PLTRST#_WLAN instead of PLTRST for RTD3

DVT-2013-05-05
P22 Add a AND gate U30 for WLAN power enable
P16 add GPIO84 for EC_WLAN_PWR_EN

DVT-2013-05-05
P22 Change WLAN_WAKE# PU power well from +3V_S5 to +3V_S5_DSW .

Reason :The signal is belong to" DSW " power well

DVT-2013-05-06

P15 unmount KB 220P (C184~C207)

DVT-2013-05-08

P9 Add TP150 for ME

DVT-2013-05-10

P23 Add U54 for SATA & PCIE Detect

P23 Add +3.3V PU R24461 10Kohm

DVT-2013-05-10
P12 Add C302 0.47uf capacitor for inrush current.(VCCDSW3_3)

DVT-2013-05-10

P17 Add mode_lid-2# signal

P16 Add KR28 PU and change EC GPIO32 from IMVP_PWRGD to MODE_LID-2#

DVT-2013-05-10

P25 remove CN2 and add SW3 ,SW4

DVT-2013-05-10

P18 MR2,MR3 mount

DVT-2013-05-11

P19 R200,R202 change from 2.2k to 4.7k for VEVS 7-1 DDC 130ohm test item

DVT-2013-05-13

P16 Change EC GPIO55 from DRAM_VOLTAGE_SET to SIO_WAKE_GPIO27#

P11 GPIO27 add SIO_WAKE_GPIO27# From EC

DVT-2013-05-13

P8 Change Y1 package for Broadwell requirement

DVT-2013-05-13

P8 Change Y1 package for Broadwell requirement

DVT-2013-05-13
P16 Add KC16 150 pF for EC_PECI

DVT-2013-05-14

P11 Add R24462 100K pull down for CR_PW_EN and unmount R297

DVT-2013-05-14

P36 Change U29 to AL000527000 and power source from +5V_WAKE to +3V_WAKE

P36 Add R24470 ,R24469 to PD,R2449 mount, remove R2450

P36 Add R24471 to PD

P36 Remove R2384 and mount R2451

P36 Add R24472 for SH_ALS_INT# PU

DVT-2013-05-14

P21 mount L2007,L2008,L2009

DVT-2013-05-14

P18 Change MR12,MR13,MR14,MR15,MR16,MR17 from 43ohm to 20 ohm

DVT-2013-05-15
P15 remove H19

DVT-2013-05-16
P17 Change U51 as AL000527000
P17 Change R2413 as 40.2K ohm and mount;Change R24455 as 100Kohm
P17 remove R258,R259,R2436,R2435

DVT-2013-05-16

P11 Change R2433,R304,R310,R308,R297,R306 from mount to un-mount .

DVT-2013-05-16

P4 Change the netname of GPIO77 from EC_EXT_SMI# to GPIO77
P8 Change the netname of GPIO35 from GPIO35 to EC_EXT_SMI#

DVT-2013-05-16

P16 Add KD5 for EC_PWROK

DVT-2013-05-16

P17 Change U52 from G5254T11U to G527ATP11U

P17 mount R258 40.2k ohm and change R24456 as 100k ohm

P17 Change U26 from G5254T11U to G527ATP11U

P17 mount R2436 40.2k ohm and change R24454 as 100k ohm

DVT-2013-05-19

P21 Change U53 from G5254T11U to G527ATP11U

P21 Change R2431 to 40.2Kohm and Add R24473 as 100K ohm

DVT-2013-05-19

P22 Change U27 to G547E1P81U

P22 Delete R2454

DVT-2013-05-19

P4 Change R271,R272,R273,R274,R275,R276,R277 to 100Kohm

DVT-2013-05-19

P7 Change R42 as 100Kohm

DVT-2013-05-19

P8 R278,R279,R280,R281 change to 100Kohm, and remove R2048

DVT-2013-05-19
P9 Change R73, R282 from 10k ohm to 100k ohm

DVT-2013-05-19
P10 Change R24474(no mount), R24475, R86 from 10k ohm to 100k ohm,and remove RP4

P11 Change R283, R285, R300, R315, R313, R317,
R311, R296, R290, R291, R301, R303, R305, R307, R309, R312,
R314, R316(no mount), R318, R319, R320, R2433(no mount), R298,
R299, R304(no mount), R295, R310(no mount), R308(no mount),
R284, R112, R24448, R115, R292, R287, R294, R116, R117, R118, R119,
R286, R289, R297(no mount), R128(unmount),R114, R122, R306(no mount),
R125, R126(unmount), R127, R129(no mount), R130,
R131(no mount), R132, R133(no mount), R134, R135(unmount),R293
from 10k ohm to 100k ohm

P16 Change KR2, KR4, KR19, KR26, KR27, KR28 from 10k ohm to 100k ohm
P22 Change R24445,R2446 from 10k ohm to 100k ohm
P4 Change R14,R15 from 10k ohm to 100k ohm

DVT-2013-05-21

P36 U29 PIN1 change +3V_SENSORHUB for optional non CS design
P36 R2451 change +3V_S5 for optional nbn CS design
P36 change U29 ,C2337,R24469,R2449,R24470 to un-mout

DVT-2013-05-21

P22 Add R24476 0 ohm
P22 Mount R656
P22 Un-mount R2446,R24442,Q34,Q35,R2447,U28,R2442,R2443,U30,C2336

DVT-2013-05-21
P8 Change R62 as 330ohm,change CON1 P/N

DVT-2013-05-22
P20 Add C2432,C2433 0.22uF CAP

DVT-2013-05-22
P23 :TP function mount D8,D9,D10,D11,D12 for ESD

DVT-2013-05-22
P25 :Change SW1 as DHP00XJ1J01

DVT-2013-05-23
P23:change Q8 as BAM34040001

DVT-2013-05-28
P36:Mount R2359,R2361,R2364,R2365,R2367,R2369

DVT-2013-05-23
P24: Add R24477 for EMI

DVT-2013-05-23
P21: Change U45 as AL000918000,U46,U47 as AL000916007
P21: Change R2149,R2147;R786,R790;R2152,R2148

DVT-2013-05-25
P11: Mount R310

DVT-2013-05-25
P17: Change CON6 FP(P/N: DFHS40FS104)

DVT-2013-05-25
P23: Change SW2,SW3,SW4 FP, and reserve D45,D46,D47,D48,C2435,C2436,C2437

DVT-2013-05-25
P4:Add R24480 and Reserve R24478,R24479

DVT-2013-05-25
P8:R24451 change to 15Kohm

DVT-2013-05-25
P18:unmount MC21,MC24,MU2,MC23,MR20,MU3,MR22,MR23,ML4
P18:mount ML2,MR24

DVT-2013-05-27
P19: R186,R187,R189,R190,R192,R193,R195,R196 change to 470 ohm

DVT-2013-05-27
P19: R186,R187,R189,R190,R192,R193,R195,R196 change to 470 ohm

DVT-2013-05-27
P22: Remove R236,Q17,U28,R2442,R2443,U30,R24442,R2446,Q35,R2447,C2336,Q34,R24445,Q36

DVT-2013-05-27
P11:R315 unmount

DVT-2013-05-28
P22:Con14 Change to DFFC04FR066

DVT-2013-05-29
P33:add R24481 33ohm and reserve C2438

DVT-2013-05-29
P17:L10 mount

DVT-2013-05-30
P23:Delete R2407,R2408

DVT-2013-05-30
P7:mount C49 680P

DVT-2013-05-30
P7:mount C49 680P

DVT-2013-05-30
P21:unmount U53,R24473,C2415,R2431,R219 and add R24484 and R24482

DVT-2013-05-31
P19:unmount R185,R188,R191,R194

DVT-2013-05-31
P17:Add U56,R24485

DVT-2013-06-01
P23: remove R342

DVT-2013-06-01
P22: ADD C303,R24486

DVT-2013-06-03
P24: Change F10,F12 footprint

DVT-2013-06-03
P20: Add R24488,R24489,R24490,R24491,R24492,R24493,R24494,R24495

DVT-2013-06-04
P16: Add KR29

DVT-2013-06-04
P19: Add TU3,TC2,TR3,TR4,TQ2

DVT-2013-06-04
P25: Add R24496, R24497

DVT-2013-06-07
P8: Unmount R59,R60,R61,R64,R65,R66

DVT-2013-06-12
P16: Unmount KC16

DVT-2013-06-13
P19: mount R185,R188,R191,R194

DVT-2013-06-19
P25: Change Q25,Q26 PN BA001240Z11

DVT-2013-05-16 (Power Portion)

P27 POWER 3VPCU&RVCC5(TPS51427)
Removed PG1,PG2,+5V_WAKE-1 and +3V_WAKE-1
Reason : DVT is not necessary.

P28 POWER 1.35VSUS/VTT_MEM
Change PCB footprint of PU4 from 21P to 26P
Reason : 21P is incorrect componet.
Removed PC75
Reason : PC75 will lead to delay DDR_PG signal.
Possible : DDR_PG signal will be unstable.
Removed PG3 and +1.35V_SUS-1
Reason : DVT is not necessary.

P29 POWER +1.05V/+1.5V/Thermal
Change PC81 from CH6104K9A00 to CH6104M9901.
Reason : To decrease the temperature of PQ34 and PQ35.
Removed PG4 and +1.05V_M-1
Reason : DVT is not necessary.

P30 POWER(BAT IN / ADAIN /UL)
Change “One-Shot 10ms POCHOT# For ADP/BAT” circuit to “One-Shot 10ms POCHOT# For ADP”.
Reason : Order to fine-tune for new 45W adapter.
Change System OVP for VEDS from “+5V_WAKE-1 ,+3V_WAKE-1, +1.35V_SUS-1 and +1.05V_M-1”
to “+5V_WAKE ,+3V_WAKE, +1.35V_SUS and +1.05V”
Reason : +5V_WAKE-1 ,+3V_WAKE-1, +1.35V_SUS-1 and +1.05V_M-1 are removed

P31 POWER CHARGER (ISL88732)
Change PR215 from 95.3K to 140K.
Change PR217 from 34.8K to 31.6K.
Change charge current from 2.81A to 2.688A
Reason : Modify Max Charge Current Limit from 4.5A to 3.2A.

DVT-2013-05-23 (Power Portion)
To change PSW P/N from DHP0TJ42600 to DHP00XJ1J01.
Reason : To change the swich component.
To change PU9 P/N from AL088732000 to AL088732001.
Reason : IC version update.
To add PR196 and to change PC141 P/N from CH21006KB16 to CH5102K9B06.
Reason : To reserve a RC delay time filter in ISENSE_IN route.

DVT-2013-05-29 (Power Portion)
To change PR23 value from 24Kohm to 24.9K.
Reason : To modify the Vhcore Loadline.

To use PC10 1200pF and to close PC9 1000pF.
Reason : To modify the Vhcore load transient.

To use PC21~PC23.
Reason : To modify the Vhcore load transient overshoot.

To correct PU107A into PU104A.
Reason :PU104A and PU104B is a group IC.

DVT-2013-06-05 (Power Portion)

Change PR23 from 24.9K to 23.7K
Change PC170 from 470PF to 220PF
Reason : modify Vhcore’s Dynamic Iout accury.

DVT-2013-06-06 (Power Portion)

Update FI1 Power portion DVT 0606 schematics
To add PR145 430K and PR141 in parallel.
Change PR141 from 470K NTC to 680K NTC
Change PR146 from 6.98K to 0 ohm.
Reason : The minimum temp of PQ36 trigger point will be increased from 86C to 98C

DVT-2013-06-07 (Power Portion)

FI1 power portion 0607 update(for DVT building BOM)
Change PR141,PR146 and PR145 from DVT value to EVT value.
Reason : PR141 680K lack parts.

PVT-2013-07-18 (Power Portion)

P26,P27,P29
Change to Short pad PR7,PR15,PR25,PR27,PR838,PR54,
PR45,PR53,PR55,PR37,PR231,PR96,PR116,PR193
Reason : PVT stage do not need to reserve 0 ohm.

P27 POWER 3VPCU&RVCC5(TPS51427)
Change PC44,PC46 from CH7221M8601 to CH7221MT603
Reason : NEO assign Cap P/N.
Add +1.35V_SUS discharge circuit (PR64,PR65,PR67,PR69,PQ16,PQ17)
Reason : +1.35V_SUS discharge

P29 POWER +1.05V/+1.5V/Thermal
Add PC 151 parallel with the PR220

P30 POWER(BAT IN / ADAIN /UL)
Change PG5 PCB foot print from short pad jumper to RC 0603

P31 POWER CHARGER (ISL88732)
Add PC54 parallel with the P161
Reason : Avoid BAT over voltage.

PVT-2013-07-18

P8: reserve Q46 , R24498 for no power issue

P16:EC GPIO85 add EC_RTC_RST for workaround solution

P12:R138,R139 change to short pad.

P13:DR1,DR2 change to short pad.

P14:DR50,DR53 change to short pad.

P16 KL1,KR25,KR18 change to short pad.

P17 add U58,R24499,R24501,R24500,C2444, remove F6

P22 R619 change to short pad.

PVT-2013-07-19

P17 change F2 footprint

PVT-2013-07-19

P22 Add R24507,R24508 and unmount R24486

PVT-2013-07-19 (Power Portion)

modified 1.35V_SUS discharge ciruit
Reason: change PQ17 from dual package to single package.

PVT-2013-07-21

P10 change R95,R96,R97,R98 to shortpad

P17 change R329 to shortpad

P36 change R2374 to shortpad

P21 delete L2008,L2009

PVT-2013-07-22 (Power Portion)

P31 POWER CHARGER
Added EC176 0.1U/25V/Y5V_4
Reason: EMI suggestion
P30 POWER(BATIN/ADAIN/UL)
Added EC11 0.1U/50V/X7R_6
Reason: EMI suggestion

PVT-2013-07-22

P4 change R24480 to shortpad

P17 change R2437 to shortpad

P17 unmount R24455,R24454 ,C294,C295

P21 change R219 to shortpad

P11 mount R308,R306

P25 Change R226 as 120 ohm,R264 as 300 ohm;
R263 as 680ohm,F18 unmount
P25 Add R24509,R24510 and Q47

PVT-2013-07-23

P17 reserve D24

PVT-2013-07-27

P17 Change the R185,R188,R191,R194 as 330 ohm

PVT-2013-07-29
P17 unmount R24455,R24454 ,C294,C295,R2438,R2448,
mount R24512,R24511

PVT-2013-07-30
P36 Change U20 AR6W08D0000(FW26)

PVT-2013-07-31
P17 R24512 change to 0 ohm

PVT-2013-08-01
P17 change C2331,C2332,C2333 to 2.2u

PVT-2013-08-01
P19 change R208 to 57.6k,R212 to 23.7k
P19 change R206 to 100k,R211 to 42.2k

MP-2013-08-09

P21: Change C932 as 1u
P21: add D49,R24517 , C2446

MP-2013-08-10

P10: Add R24518,R24519,R24520,R24521,R24522

P23: Change C330,C317,C319 and reserve C2447

MP-2013-08-11
P19: remove R185,R188,R191,R194 as 330 ohm,
add C2448,C2449,C2450,C2451

MP-2013-08-16
P21: R804, R2145 change to 0 ohm
P17: Change F2

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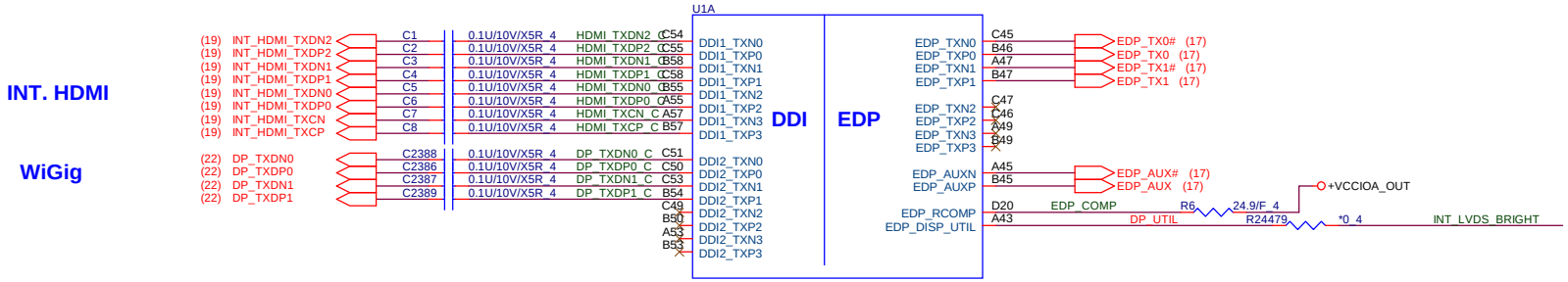
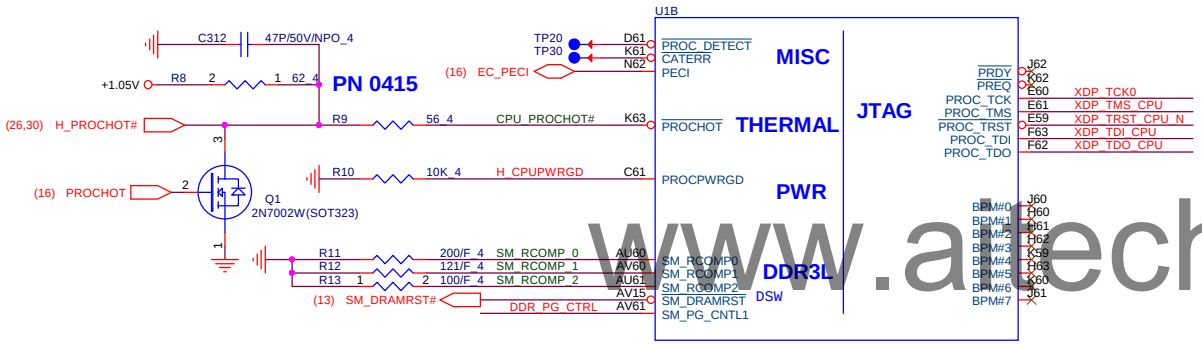
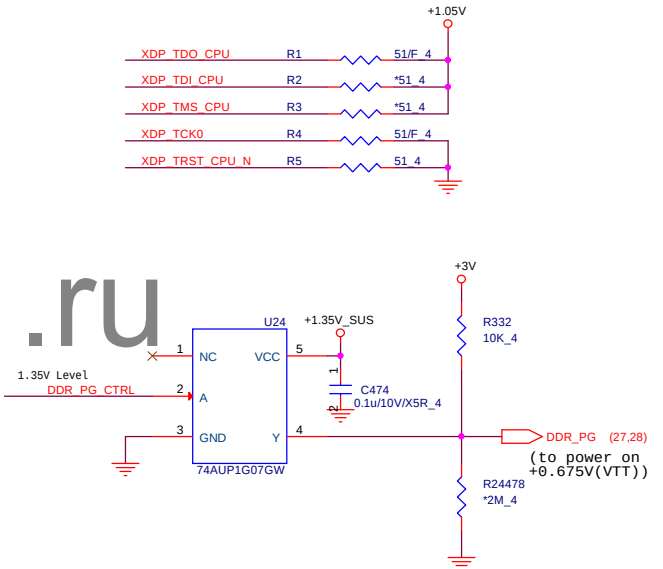
Quanta Computer Inc.
PROJECT : FI1

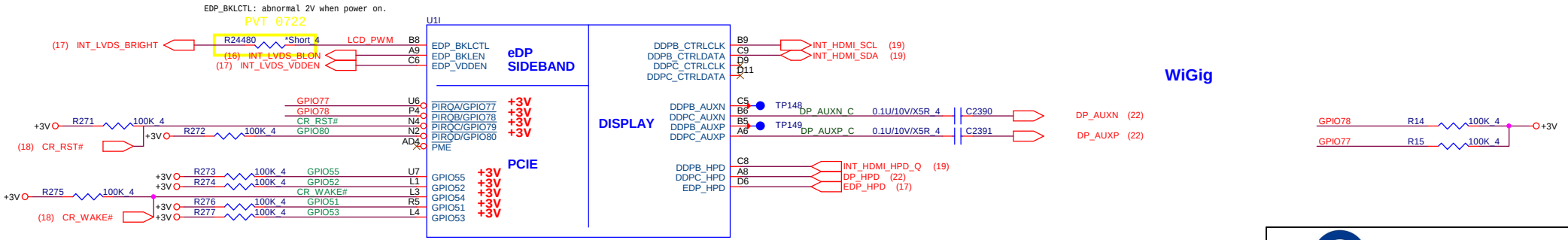
Size	Document Number	Rev
	Change List	1A
Date: Tuesday, August 20, 2013	Sheet 3 of 40	

Haswell ULT (DISPLAY)









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2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.		
PROJECT : FI1		
Size	Document Number	Rev
	HSW MCP(Display/eDP)	1A
Date: Monday, August 19, 2013	Sheet 4 of 40	

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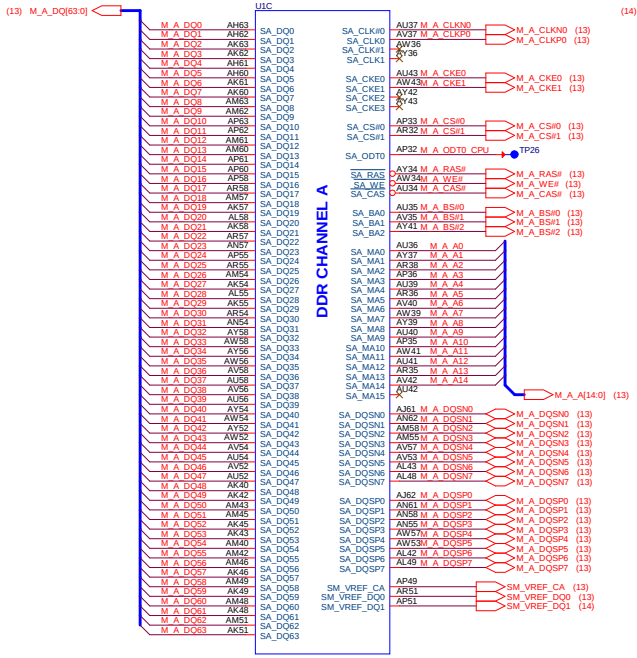
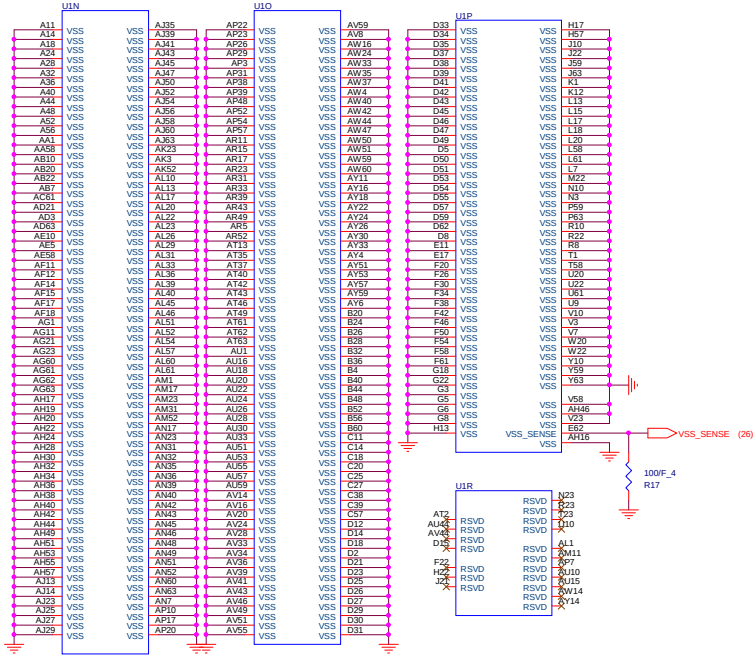
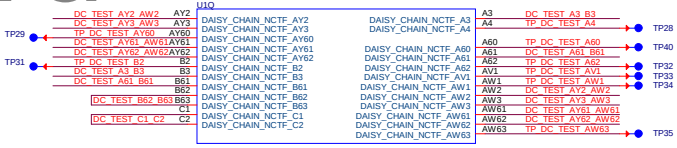
Haswell ULT (DDR3L)



HSW ULT(GND)





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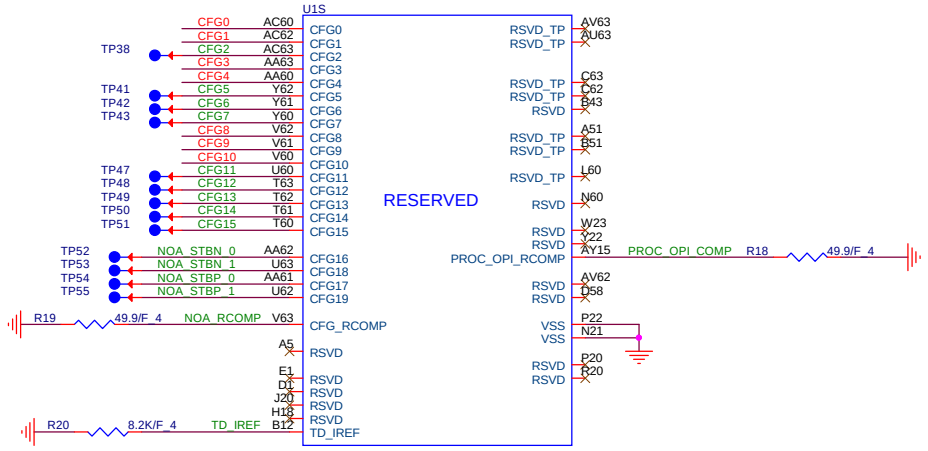
PROJECT :FI1

Size	Document Number	Rev
	HSW MCP(Memory)	1A

Date: Monday, August 19, 2013 Sheet 5 of 40



Processor Strapping

	1	0	
CFG0 EAR-STALL/NOT STALL RESET SEQUENCE AFTER PCU PLL IS LOCKED	(DEFAULT) NORMAL OPERATION; NO STALL	STALL	CFG0 R21 *1K_4
CFG1 PCH/ PCH LESS MODE SELECTION	(DEFAULT) NORMAL OPERATION	PCH-LESS MODE	CFG1 R22 *1K_4
CFG3 PHYSICAL_DEBUG_ENABLED (DFX PRIVACY)	DISABLED	ENABLED SET DFX ENABLED BIT IN DEBUG INTERFACE MSR	CFG3 R23 *1K_4
CFG4 DISPLAY PORT PRESENCE STRAP	DISABLED NO PHYSICAL DISPLAY PORT ATTACHED TO EMBEDDED DISPLAY PORT	ENABLED; NOA WILL BE AVAILABLE REGARDLESS OF THE LOCKING OF THE UNIT	CFG4 R24 1K_4
CFG 8 ALLOW THE USE OF NOA ON LOCKED UNITS	DISABLED(DEFAULT); IN THIS CASE, NOA WILL BE DISABLED IN LOCKED UNITS AND ENABLED IN UN-LOCKED UNITS	ENABLED AN EXTERNAL DISPLAY PORT DEVICE IS CONNECTED TO THE EMBEDDED DISPLAY PORT	CFG8 R25 *1K_4
CFG9 NO SVID PROTOCOL CAPABLE VR CONNECTED	VRS SUPPORTING SVID PROTOCOL ARE PRESENT	NO VR SUPPORTING SVID IS PRESENT. THE CHIP WILL NOT GENERATE (OR RESPOND TO) SVID ACTIVITY	CFG9 R26 *1K_4
CFG10 SAFE MODE BOOT	POWER FEATURES ACTIVATED DURING RESET	POWER FEATURES (ESPECIALLY CLOCK GATINE ARE NOT ACTIVATED	CFG10 R27 *1K_4

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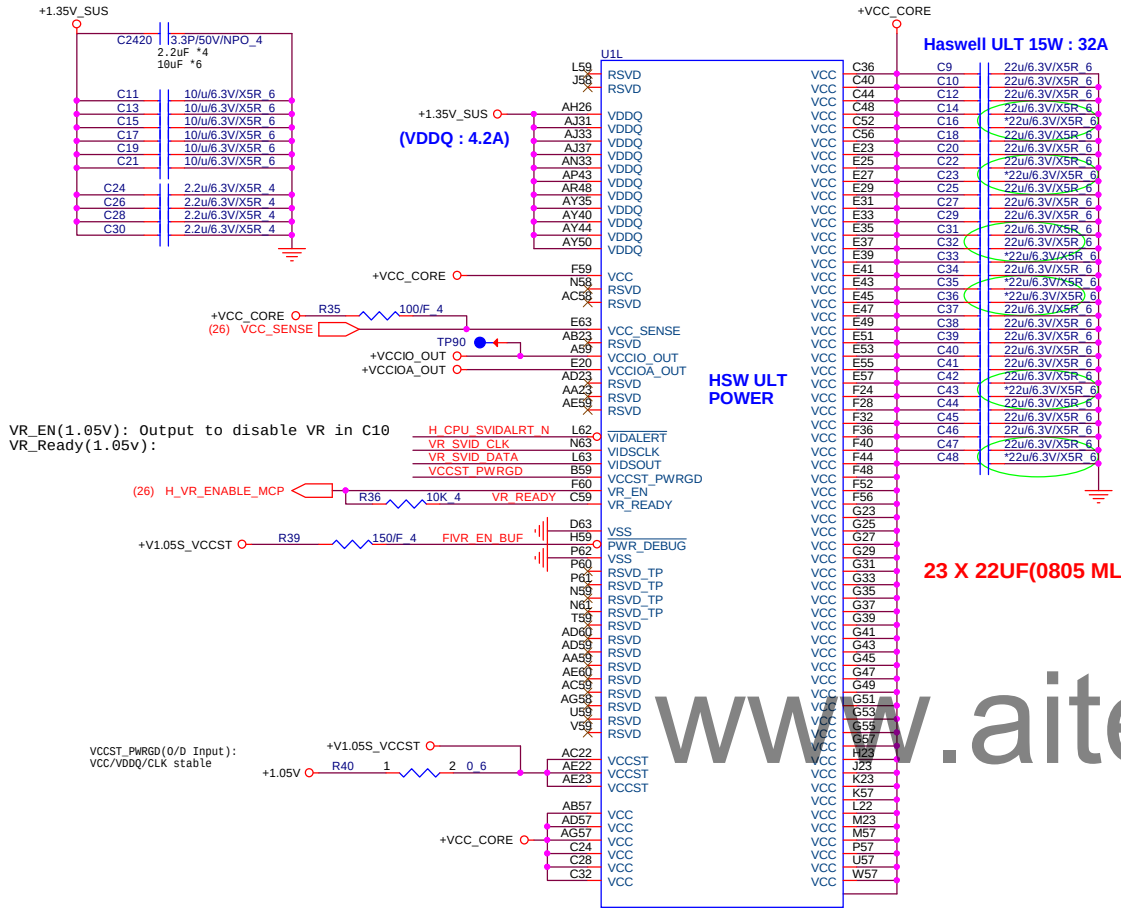
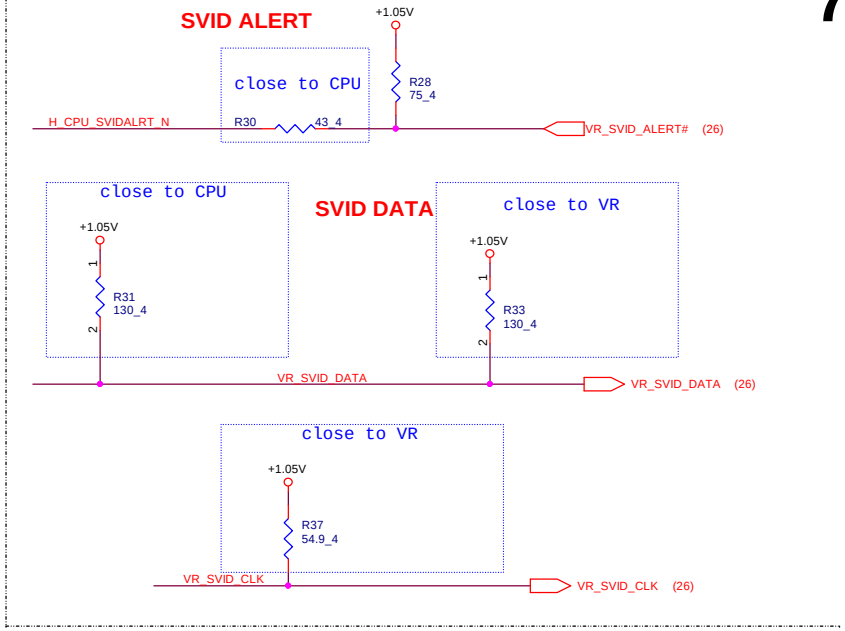
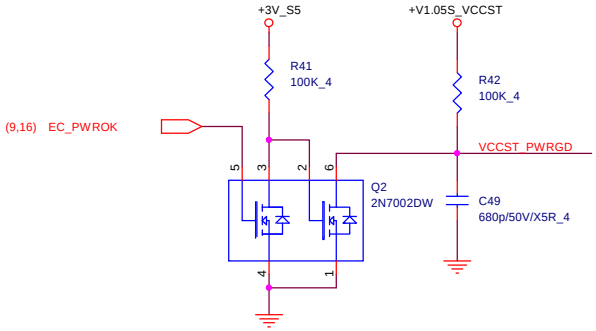
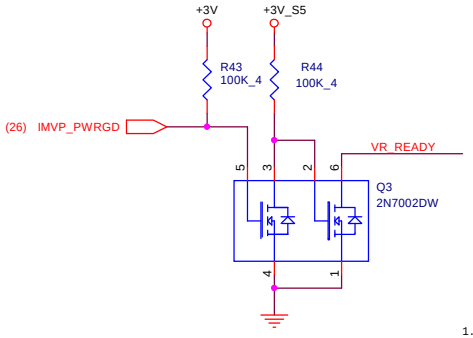
Haswell ULT MCP(POWER)









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Quanta Computer Inc.		
PROJECT : FI1		
Size	Document Number: HSW MCP(Power)	Rev: 1A
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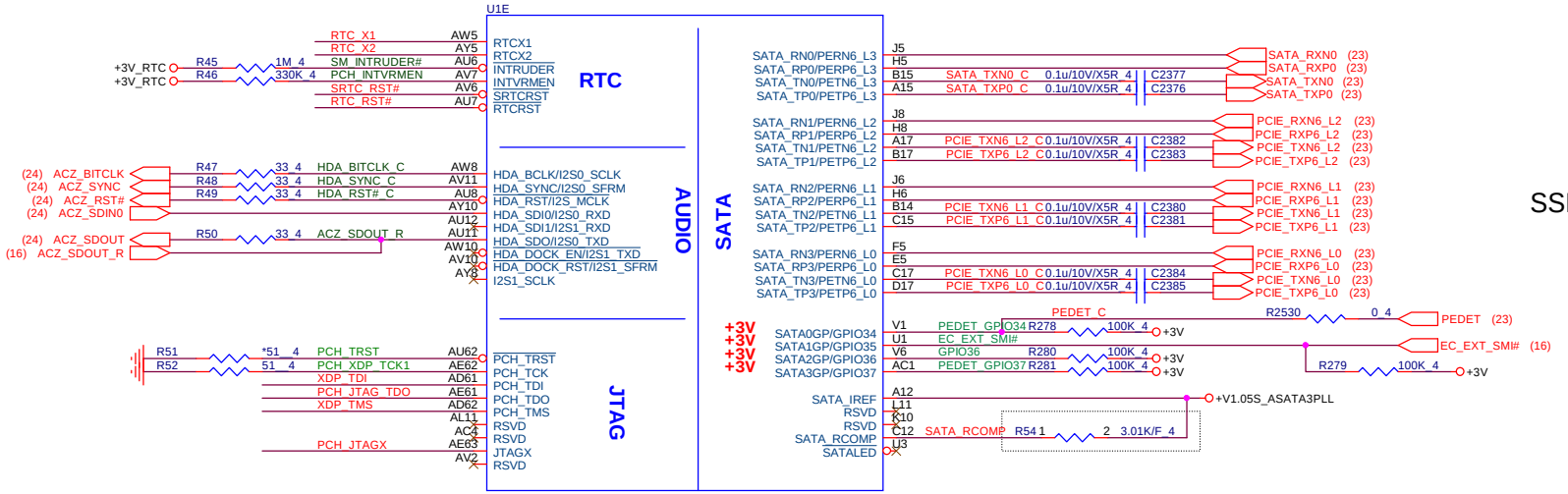
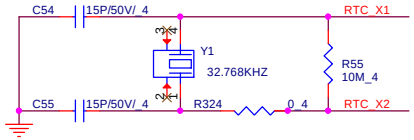
Haswell ULT (RTC, HDA, JTAG, SATA)



SSD



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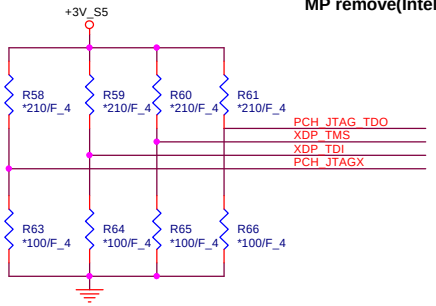
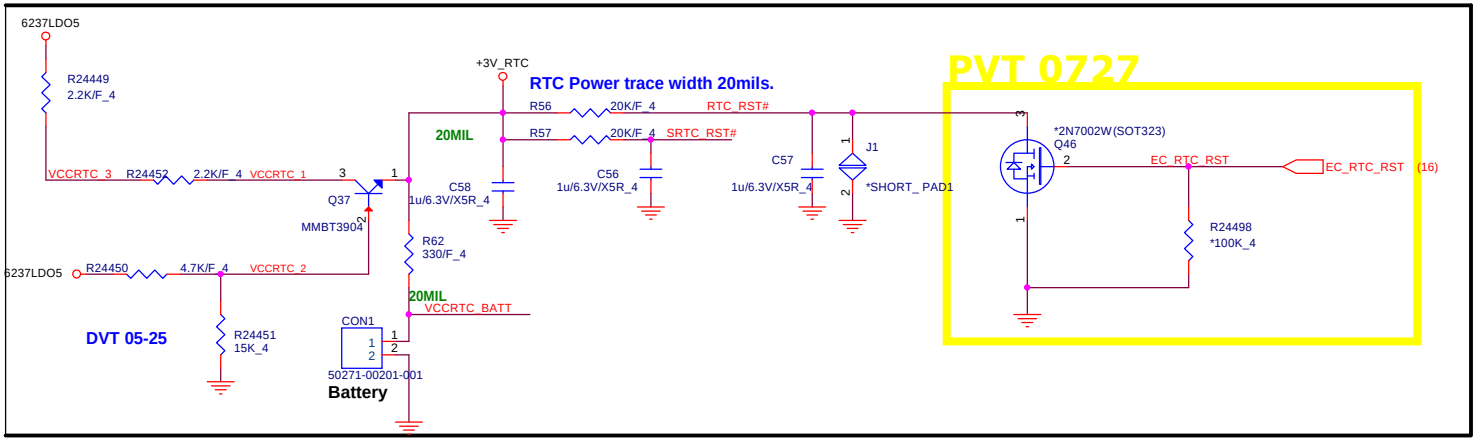
PCH JTAG Debug (CLG)

MP remove(Intel)





PCH Strap Table

Pin Name	Strap description	Sampled	Configuration	note
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	+3V R67 *1K_4 SPKR (11,24)
HDA_SDO	Flash Descriptor Security Override / Intel ME Debug Mode	PWROK	0 = Security Effect (Int PD) 1 = Can be Override	
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	

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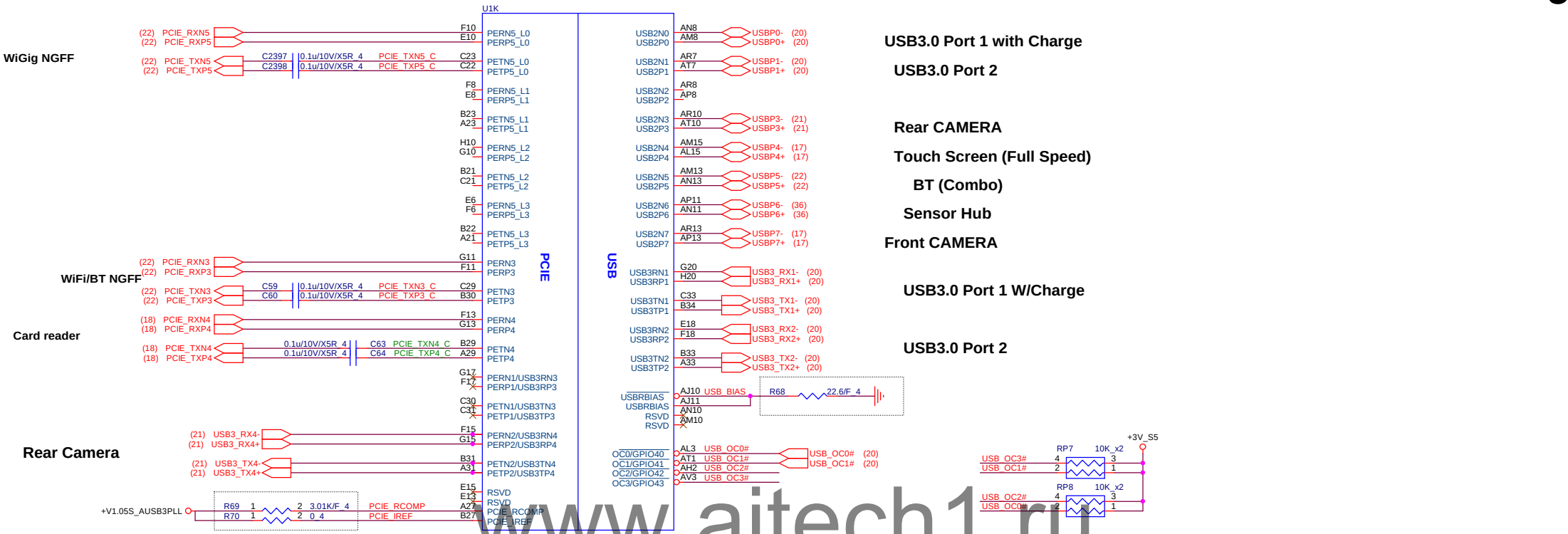
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HSW PCH(RTC/HDA/SATA)	1A

Date: Monday, August 19, 2013 Sheet 8 of 40

Haswell ULT (PCIE,USB)



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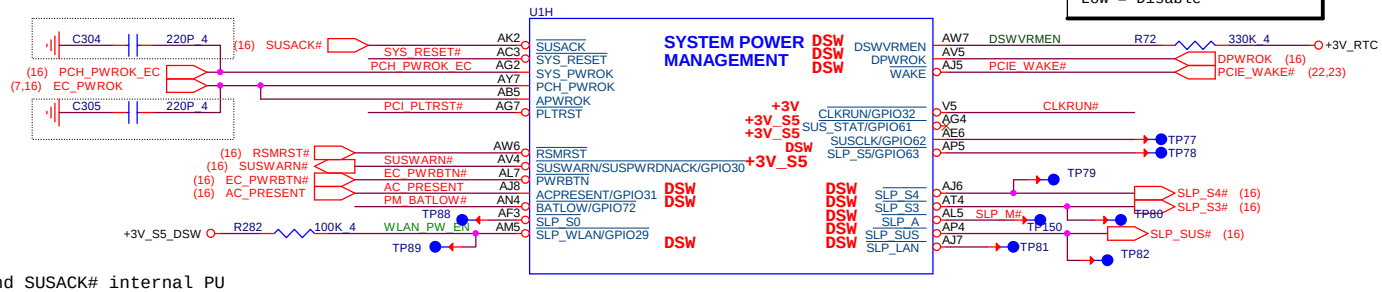
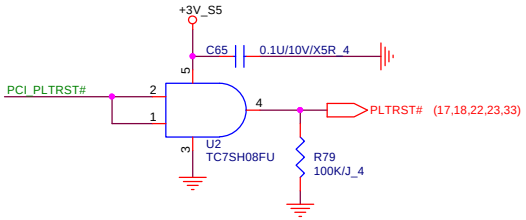
Haswell ULT (SYSTEM POWER MANAGEMENT)

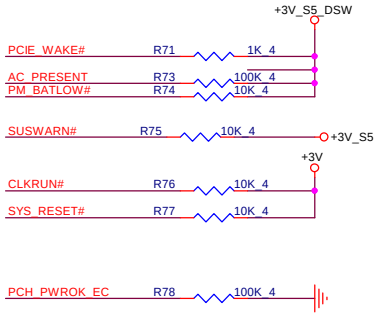
On Die DSW VR Enable
High = Enable (Default)
Low = Disable



PWRBTN# and SUSACK# internal PU



PCH Pull-high/low(CLG)



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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HSW PCH(PCIE/USB)	1A
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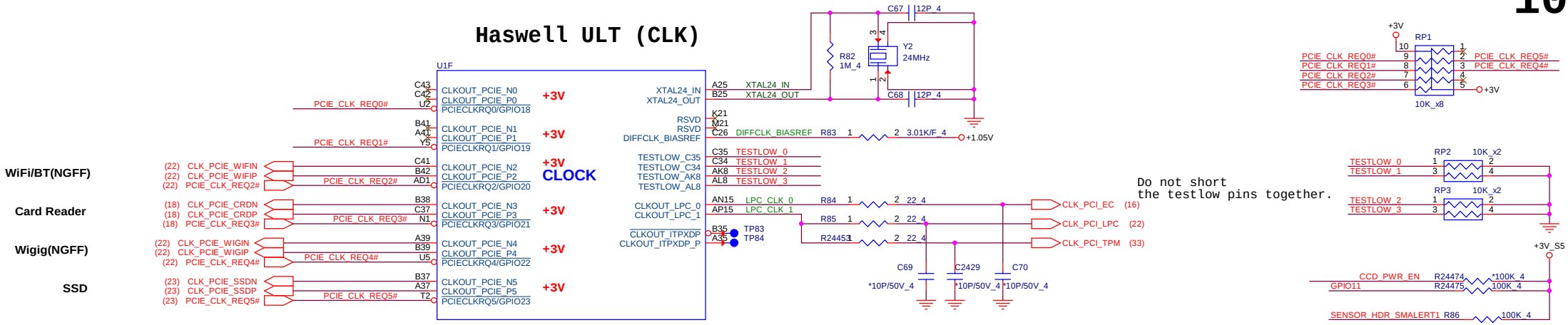
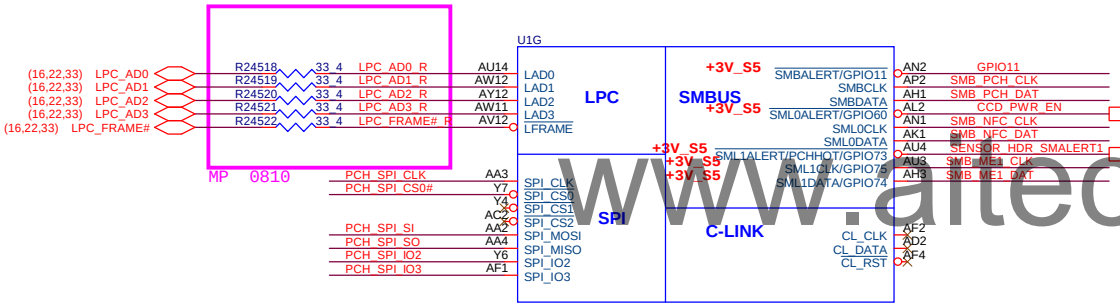
Haswell ULT (CLK)



Haswell ULT (LPC/SPI/SMB/CLINK)



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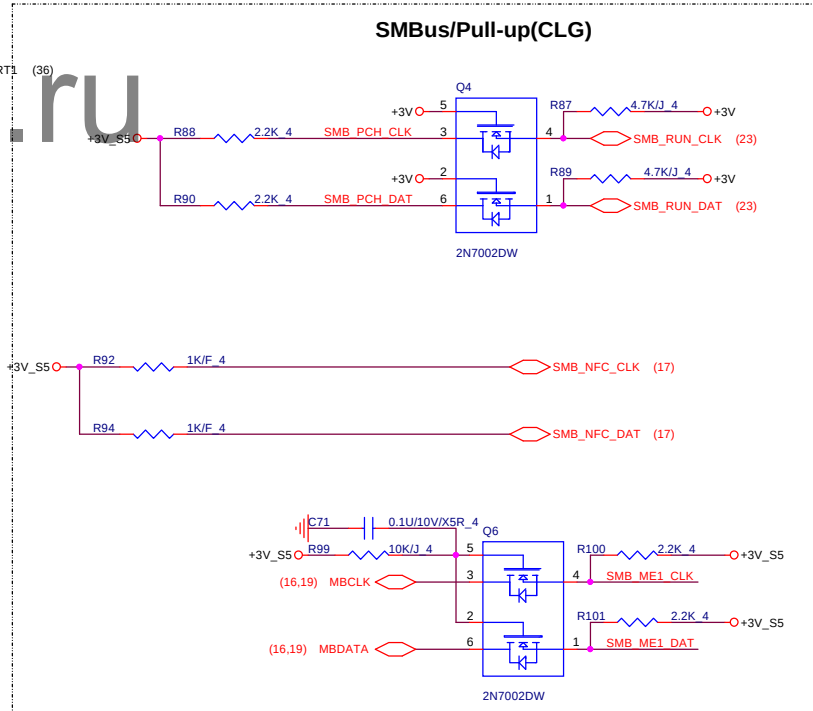
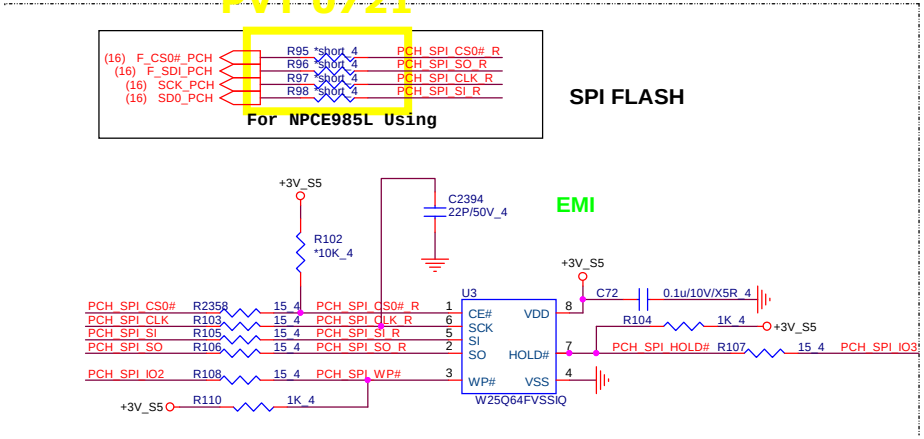
SMBus/Pull-up(CLG)



PVT 0721

SPI FLASH



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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HSW PCH(CLK/LPC/SPI/SMB)	1A
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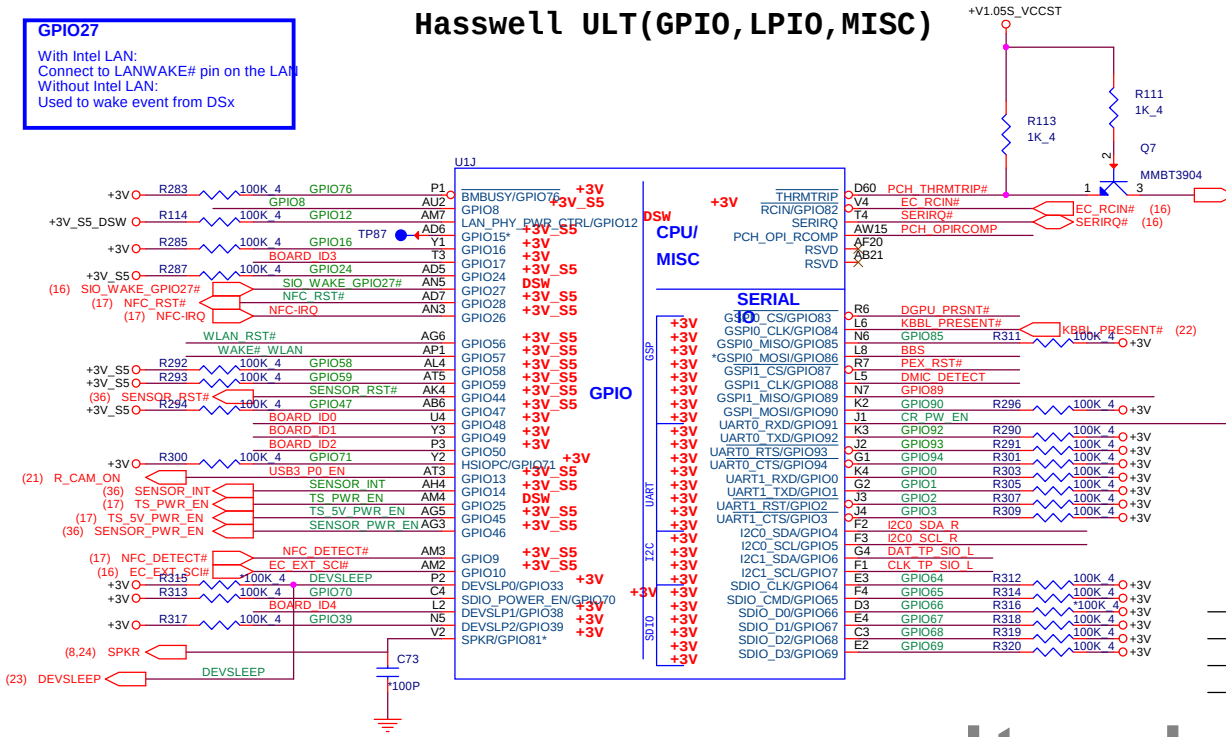
Hasswell ULT(GPIO,LPIO,MISC)

GPIO27

With Intel LAN:
Connect to LANWAKE# pin on the LAN
Without Intel LAN:
Used to wake event from DSx

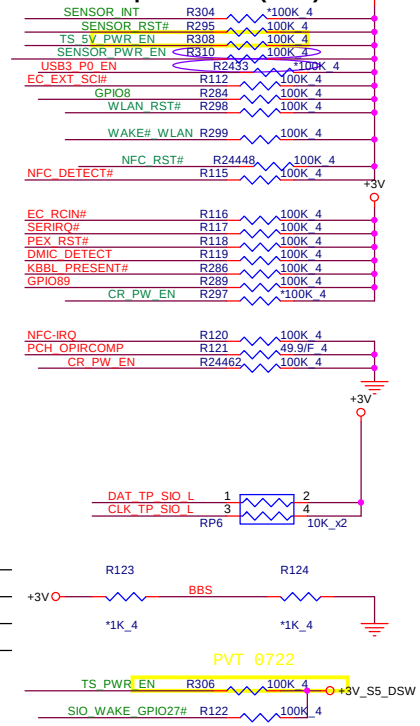


DMIC_DETECT:
High : Single DMIC
Low : Dual DMIC

	GPIO66
R316	ENABLE
R316_NC	DISABLE(Default)

GPIO Pull-up/Pull-down(CLG)

PVT 0722



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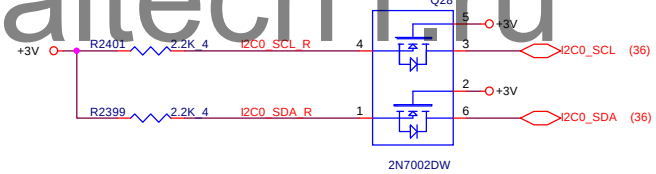
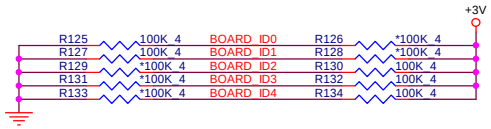
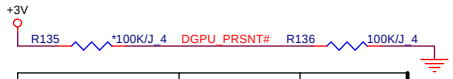
Vendor	Vendor Part Number	BOARD_ID2	BOARD_ID3	BOARD_ID4
Elpida(4G)	EDJ4216EFBG-GN-F	0	0	0
Samsung(4G)	K4B4G1646B-HYK0	0	0	1
Hynix(4G)	H5TC4G63AFR-PBA	0	1	0
Elpida(8G)	EDJ8416E6MB-GN-F	0	1	1
Samsung(8G)	K4B8G1646B-MYK0	1	0	0
Hynix(8G)	H5TC8G63AMR-PBA	1	0	1
		1	1	0
		1	1	1







PCBA SKU	Discrete	UMA
R135(Pull High)	Stuff	No Stuff
R136(Pull Low)	No Stuff	Stuff

R127(Low) R128(High) **R125(Low) R126(High)**

	Board ID1	Board ID0
Mule FI1	0	0
HuronSHA1 FI2	0	1
HuronSHB1 FI3_UMA	1	0
HuronSHB1 FI3_DGPU	1	1

GPIO86	
PU	LPC
PD	SPI (Default IPD)

No Reboot Strap(GPIO81)	
NC	Default
PU	EN

TLS CONFIDENTIALITY STRAP(GPIO15)	
NC	Default
PU	EN

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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HSW PCH(GPIO/MISC)	1A
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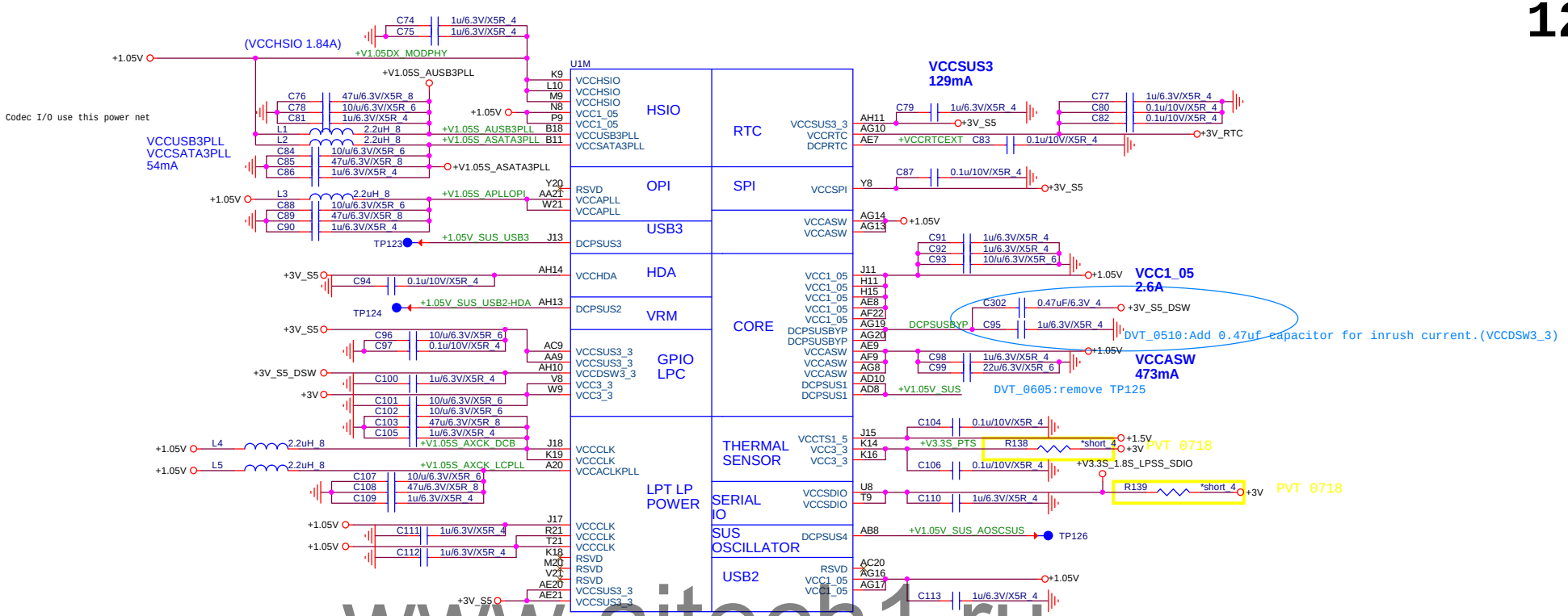

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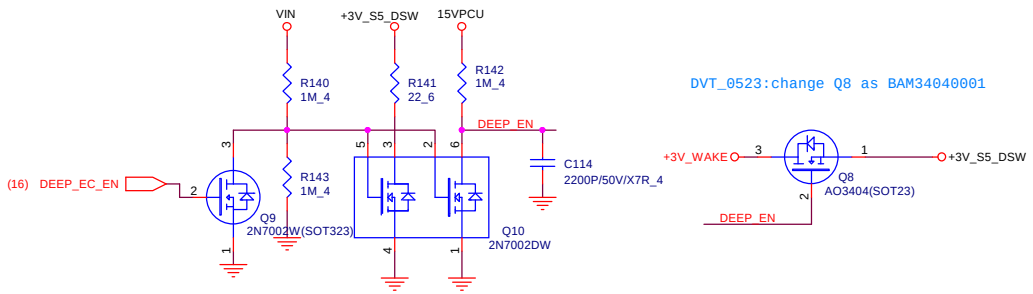

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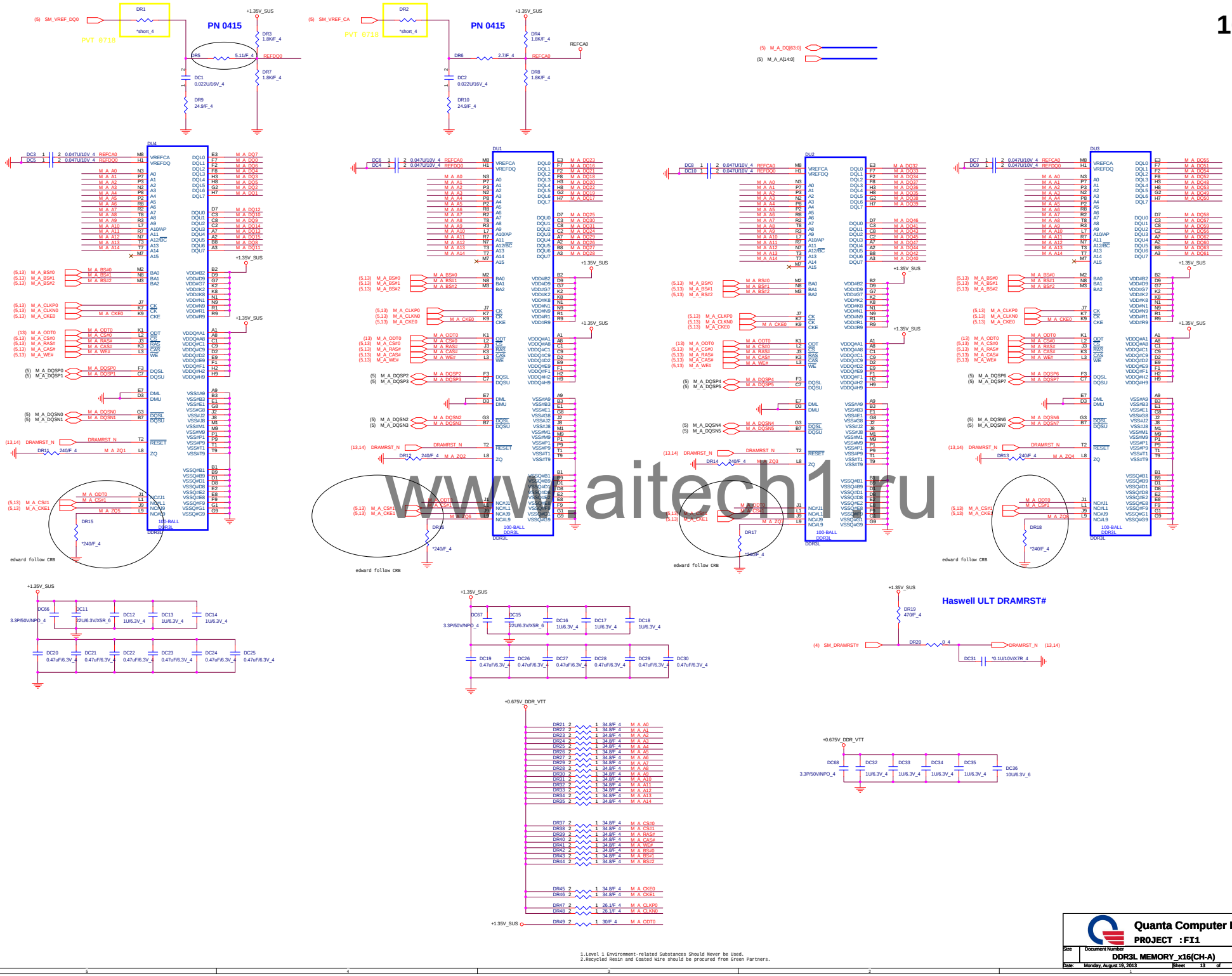
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HSW PCH(Power)	1A
Date: Monday, August 19, 2013	Sheet 12 of 40	



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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	DDR3L MEMORY_x16(CH-A)	1A
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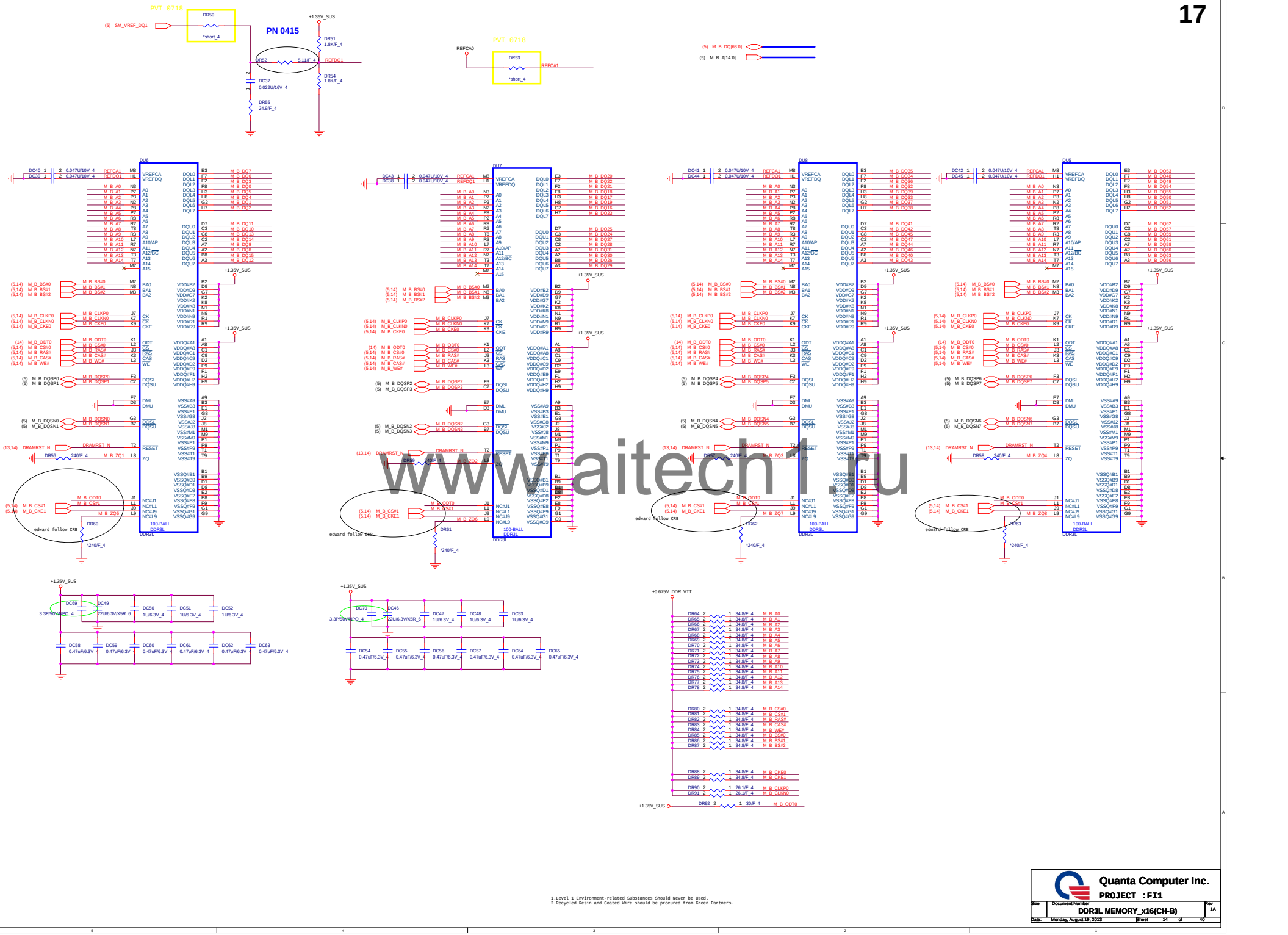

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Quanta Computer Inc.			
PROJECT : FI1			
Size	Document Number		Rev
	DDR3L MEMORY_x16(CH-B)		1A
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H1 *H-C256D91P2
H2 *O-HKD-3
H3 *o-fi1-1
H4 *H-C256D91P2
H5 *O-HKD-3
H6 *H-C256D91P2
H7 *H-C217D91P2
H26 *H-C91D91N
H8 *H-C256D91P2
H9 *H-C256D91P2
H10 *H-TR295X256D91P2
H11 *O-HKD-3
H12 *O-FI1-2
H13 *H-C91D91N
H15 *H-C91D91N
H27 *H-C91D91N
H16 *H-C276D150P2
H17 *H-C276D150P2
H18 *H-C276D150P2
H20 *H-C91D91N
DVT 05-15 remove H19
H21 *O-FI1-4
H24 *O-FI1-3
H22 *H-C91D91N
H23 *H-C91D91N
H25 *H-C91D91N

+3V_S5 +1.05V C441 1000P/50V/X7R/10%_4
+VCC_CORE C442 C443 C444 1000P/50V/X7R/10%_4

VIN C450 C451 C452 C458 C459 C460 C461 C462 C463 C464 C465 C466 1000P/50V/X7R/10%_4
C453 C454 C455 C456 C457 0.1U/25V/Y5V_4

+3VPCU C470 1000P/50V/X7R/10%_4
C471 0.1U/25V/Y5V_4
C472 C473 1000P/50V/X7R/10%_4

+3V +1.05V C431 1000P/50V/X7R/10%_4
+3V_S5 +3V C433 1000P/50V/X7R/10%_4
+3V C434 C435 1000P/50V/X7R/10%_4
+5V_WAKE C437 C438 1000P/50V/X7R/10%_4
+3V_S5 C439 C440 1000P/50V/X7R/10%_4

0327 reverse

KEY BOARD Connector

CON4
CAPSLED
(16) MY15 MY14 MY13 MY12 MY11 MX7 MY10 MX6 MX5 MY9 MX4 MY8 MY7 MY6 MY5 MY4 MY3 MX3 MY2 MY1 MY0 MX2 MX1 MX0
MY15_R MY14_R MY13_R MY12_R MY11_R MX7_R MY10_R MX6_R MX5_R MY9_R MX4_R MY8_R MY7_R MY6_R MY5_R MY4_R MY3_R MX3_R MY2_R MY1_R MY0_R MX2_R MX1_R MX0_R
26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
28 27
KB_ACS(88513-260N)

DVT-2013-05-05

DVT 05-13 SWAP

RP11 MY12 MY13 MY14 MY15 MX6 MY10 MX7 MY11 MY8 MX4 MY9 MX5 MY4 MY5 MY6 MY7 MY1 MY2 MX3 MY3 MX0 MX1 MX2 MY0
RP12 RP13 RP14 RP15 RP16
MY12_R MY13_R MY14_R MY15_R MX6_R MY10_R MX7_R MY11_R MY8_R MX4_R MY9_R MX5_R MY4_R MY5_R MY6_R MY7_R MY1_R MY2_R MX3_R MY3_R MX0_R MX1_R MX2_R MY0_R
22K

CAPSLED C298 *0.1U/10V/X5R_4
MX0 C184 MX1 C185 MX2 C186 MY0 C187 MY1 C188 MY2 C189 MX3 C190 MY3 C191 MY4 C192 MY5 C193 MY6 C194 MY7 C195 MY8 C196 MX4 C197 MY9 C198 MX5 C199 MX6 C200 MY10 C201 MX7 C202 MY11 C203 MY12 C204 MY13 C205 MY14 C206 MY15 C207
*68P_4

+3VPCU
MX0 MX1 MX2 MX3 R172 R173 R174 R175 10K/J_4
MX4 MX5 MX6 MX7 R176 R177 R178 R179 10K/J_4

+3V
(16) CAPSLED#
Q32 DTA124EU
R2428 150/F_4
CAPSLED

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Quanta Computer Inc.
PROJECT : FI1
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New ADD

**** Straping Pin,Can not pull low.**
Note the input leakage current to the strap pins must be less than 10uA.

Since ECSCI is OD, no need for a back-drive protection diode on this signal. But note there is internal PU in chipset at default

PVT-2013-07-18

+3VPCU
KC1 *10U/6.3V/X5R_6
KC2 0.1U/10V/X5R_4
KC3 0.1U/10V/X5R_4
KC4 0.1U/10V/X5R_4
KC7 0.1U/10V/X5R_4
KC8 0.1U/10V/X5R_4
KL2 *short_8 3VPCU_ITE_AVDD
KC5 *10U/6.3V/X5R_6
KC6 0.1U/10V/X5R_4
KC9 0.1U/10V/X5R_4
+3V

KU1

VDD 4
VCC 115
VCC 88
VCC 76
VCC 46
VCC 19
AVCC 102

LPC
(10,22,33) LPC_AD0 126 LAD0/GPIOF1
(10,22,33) LPC_AD1 127 LAD1/GPIOF2
(10,22,33) LPC_AD2 128 LAD2/GPIOF3
(10,22,33) LPC_AD3 1 LAD3/GPIOF4
2 LRESET#/GPIOF7
LCLK/GPIOF5
(10,22,33) LPC_FRAME# 3 LFRAME#/GPIOF6

+3V KR2 100K_4
(10) CLK_PCI_EC
KC10 *33P/50V/NPO_4
PVT-2013-07-18

(8) EC_RTC_RST 121 GA20/GPIO85
(11) SERIRQ# 125 SERIRQ/GPIOF0
(8) EC_EXT_SMI# 9 SMI#/GPIO65
(11) EC_EXT_SCI# 29 ECSCI#/GPIO54

(11) EC_RCIN# 122 KBRST#/GPIO86

(9) RSMRST# RSMRST# KR3 2.2K_4 123 GPIO67/N2TMS
KR4 100K_4

SPI
(10) F_SDI_PCH 86 F_SDI/F_SDIO1
(10) SD0_PCH 87 F_SDIO/F_SDIO0
(10) SCK_PCH 92 F_SCK
(10) F_CS0#_PCH 90 F_CS0#

A/D
AD0/GPIO90 97 MBATV (31)
AD1/GPIO91 98 ISENS_IN (30,31)
AD2/GPIO92 99 BAT_PRS# BAT_PRS# (30)
AD3/GPIO93 100 FUN_ASSIST# (25)
AD4/GPIO05 108 NBSWON# (25)
AD5/GPIO04 96 SLP_S3# (9)
AD6/GPIO03 95 MODE_LID# (17)
AD7/GPIO07/VD_IN2 94 SLP_SUS# (9)

D/A
DA0/GPIO94 101 VFAN (23)
DA1/GPIO95 105
DA2/GPIO96 106 SUSACK# (9)
DA3/GPIO97 107 EC_WAKE_ON (27)

PWM
A_PWM0/GPIO15 32
B_PWM/GPIO21 118 MODE_LID-1# KB_BACKLIGHT (22) MODE_LID-1# (25)
C_PWM/GPIO13 62 CAPSLED# (15)
D_PWM/GPIO32 65 MODE_LID-2# (17)
H_PWM/GPIO33/VD1_EN# 66 SLEEPLED# (25)
G_PWM/GPIO66 81 BATLED1# (25)
E_PWM/GPIO45 22 PWRLED# (25)
PWM/GPIO40/1_WIRE 16 BT_PEN (22)

LPCPD#/GPIO10 124 SW_VOL+# (25)
CLKRUN#/GPIO11 8 S5_ON S5_ON (27)

GPIO
(15) MX0 54 KBSIN0/GPIOA0/N2TCK
(15) MX1 55 KBSIN1/GPIOA1/N2TMS
(15) MX2 56 KBSIN2/GPIOA2
(15) MX3 57 KBSIN3/GPIOA3
(15) MX4 58 KBSIN4/GPIOA4
(15) MX5 59 KBSIN5/GPIOA5
(15) MX6 60 KBSIN6/GPIOA6
(15) MX7 61 KBSIN7/GPIOA7

(15) MY0 53 KBSOUT0/GPOB0/JENK#/SOUT_CR
(15) MY1 52 KBSOUT1/GPIOB1/TCK
(15) MY2 51 KBSOUT2/GPIOB2/TMS
(15) MY3 50 KBSOUT3/GPIOB3/TDI
(15) MY4 49 KBSOUT4/GPOB4/JENO#**
(15) MY5 48 KBSOUT5/GPIOB5/TDO
(15) MY6 47 KBSOUT6/GPIOB6/RDY#
(15) MY7 43 KBSOUT7/GPIOB7
(15) MY8 42 KBSOUT8/GPIOC0
(15) MY9 41 KBSOUT9/GPOC1/SDP_VIS#
(15) MY10 40 KBSOUT10/P80_CLK/GPIOC2
(15) MY11 39 KBSOUT11/P80_DAT/GPIOC3
(15) MY12 38 KBSOUT12/GPO64/TEST#
(15) MY13 37 KBSOUT13/GP(I)O63/TRIST#
(15) MY14 36 KBSOUT14/GP(I)O62/XORTR#
(15) MY15 35 KBSOUT15/GPIO61/XOR_OUT
34 KBSOUT16/GPIO60
33 KBSOUT17/GPIO57

GPIO16 114 SLP_S4# (9)
GPIO30/F_WP# 109 DEEP_EC_EN DEEP_EC_EN (12)
GPIO36 15 EC_PWRBTN# R 1 KD1 2 RB501V-40 EC_PWRBTN# (9)
GPIO41/F_WP# 80 SUS_ON (27,28)
GPIO70 73 RUN_ON (17,27,29,31)
GPIO71 74 KR12 2.2K_4 PCH_PWROK_EC PCH_PWROK_EC (9)
GPIO72 75
KBSOUT0/GPOB0/JENK#/SOUT_CR/GPIO81/F_WP#/F_SDIO2 91 HOME# (17)

GPIO24 6 EC_PWROK (7,9)
TA1/GPIO56 31 SUSWARN# (9)
TMS/GPIO43 20 ALL_SYS_PWRGD ALL_SYS_PWRGD (28,29)
SOUT_CR/GPIO83 111 AMPMUTE# (24)
TDI/GPIO44 21 DISPON (17)
GPIO51/N2TCK 26 2540A_CTL3 (20) KR16 2.2K_4 INT_LVDS_BLON (4)
KR17 100K/F_4

PVT-2013-07-18

CIR
(22) SIO_WAKE_GPIO# 27 RDY#/GPIO52/PSDAT3
(8) ACZ_SDOUT_R KR18 *short_4 ME_OVERRIDE 25 TDO/GPIO50/PSCLK3
(9) AC_PRESENT 11 PSDAT2/GPIO27
+3VPCU KR19 100K_4 LID# 10 PSCLK2/GPIO26
(23) TBDATA TBDATA 71 PSDAT1/GPIO35
(23) TBCLK TBCLK 72 PSCLK1/GPIO37

PS/2
GPIO34 14 2540A_CTL2 (20)
TRST#/GPIO46 23 WLAN_RF_ON (22)
SIN_CR/GPIO87 113 DCI-C (30,31)

KC16 *150PF_4
PECI 13 KR20 43_4 EC_PECI (4) KC13 1U/6.3V/X5R_4
VTT 12 +1.05V
TCK/GPIO42 17

PCEI

117 TA2/GPIO20/IOX_DIN_DIO
(23) FAN-SIG 63 TB1/GPIO14
(31) ACIN 64 TB2/GPIO01

SPI_MISO/GPIO77 84
**SPI_MOSI/GPO76 83
SPI_SCK/GPIO75 82
SPI_CS#/GPIO02 79

KR29 100K_4 +3VPCU

(19,30,31) MBCLK_BAT MBCLK_BAT 70 SCL1/GPIO17/N2TCK
(19,30,31) MBDATA_BAT MBDATA_BAT 69 SDA1/GPIO22/N2TMS
67 SCL2/GPIO73/N2TCK
68 SDA2/GPIO74/N2TMS

GPIO06/IOX_DOUT 93
GPIO82/IOX_LDSH/VD_OUT1 110
GPIO84/IOX_SCLK/VD_OUT2 112 EC_WLAN_PWR_EN (22)
CLKOUT/GPIO55/IOX_DIM_DIO 30 SIO_WAKE_GPIO27# (11)

(10,19) MBCLK MBCLK 119 SCL3A/GPIO23/N2TCK
(10,19) MBDATA MBDATA 120 SDA3A/GPIO31/N2TMS

(20) 2540A_CTL1 24 SCL4A/GPIO47/N2TCK
(4) PROCHOT 28 SDA4A/GPIO53N2TMS

VD_IN1/GPIO80 104 SW_VOL-# (25)
EXT_RST# 85 KR23 4.7K/J_4 +3VPCU
VCC POWER ON RESET

(9) DPWROK DPWROK 77 GPIO00/EXTCLK/F_SDIO3
KR24 100K/F_4

I/O Expansion

VCORF 44 EC_VCORF KC14 1U/6.3V/X5R_4

GND 116 GND 89 GND 78 GND 45 GND 15 GND 5 AGND 103
KR25 *short_4
PVT-2013-07-18

PC985L_0

1 KD5 2 RB501V-40 EC_PWROK
1 KD2 2 RB501V-40 DPWROK
(27) 5VPGD 1 KD3 2 RB501V-40 RSMRST#
1 KD4 2 RB501V-40 PCH_PWROK_EC

DVT-2013-05-19

MODE_LID# KR26 100K_4 +3VPCU
MODE_LID-1# KR27 100K_4
MODE_LID-2# KR28 100K_4

TBCLK KR5 4.7K/J_4 +3V
TBDATA KR6 4.7K/J_4 +3V

+3VPCU KR7 3.3K_4 MBCLK
KR8 3.3K_4 MBDATA
KR9 2.2K_4 MBCLK_BAT
KR10 2.2K_4 MBDATA_BAT

ALL_SYS_PWRGD KR11 1K/F_4 +3V

MBATV KC11 0.01U/25V/X7R_4
ISENS_IN KC12 0.01U/25V/X7R_4

EC_WAKE_ON KR13 100K/F_4
S5_ON KR14 100K/F_4 +3VPCU
DEEP_EC_EN KR15 100K/F_4

Magnetic Lid Switch

KU2
+3VPCU 1 IN OUT 2 LID#
GND 3
E-CMOS

E-CMOS :AL002618001/EC2618NLB1GR
PROLIFIC : AL003661003/PT3661-BB
BCD : AL009249000/AH9249NTR-G1

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1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	NPCE885L	1A
Date: Monday, August 19, 2013	Sheet 16 of 40	

Camera HD specification
Voltage: Max. 3.6V
Current : Max. 200mA
OCP: 200mA ~ 300mA

Need to confirm total power consumpton

Current limit
Typ:1A(880mA~1120mA)

DMIC

PVT 0718

Current limit
Typ:1A(880mA~1120mA)

30Pin eDP CN

Camera

DVT_05-29

Touch Screen

*WCM2012-90

PVT 0722

USB Camera Power

300mA

PVT 0729 PVT 0731 PVT 0724 PVT 0722 PVT 0801

Typ: 529mA (397mA~661mA)

eDP

FAST,UL/CSA

MP 0816

Camera HD specification
Voltage: Max. 3.6V
Current : Max. 200mA
OCP: 200mA ~ 300mA

NB LVDS enable

AAT4280AIGU-4-T1/G5243AT11U

AU LCDVCC:
I rush = 2A/0.5ms
IDD = 0.3A

NFC module :
Vender : Samsung SNC-i20
Power consumption : Max. 160mW/48mA
Power Ripple +/- 50mV

NFC

0328 NEO

DVT 05-31

PVT 0721

NFC-ACS(50501-01541-001)

N/B

NFC MIDULE

1 MOD_VDD

15 GND

15 GND

MOD_VDD

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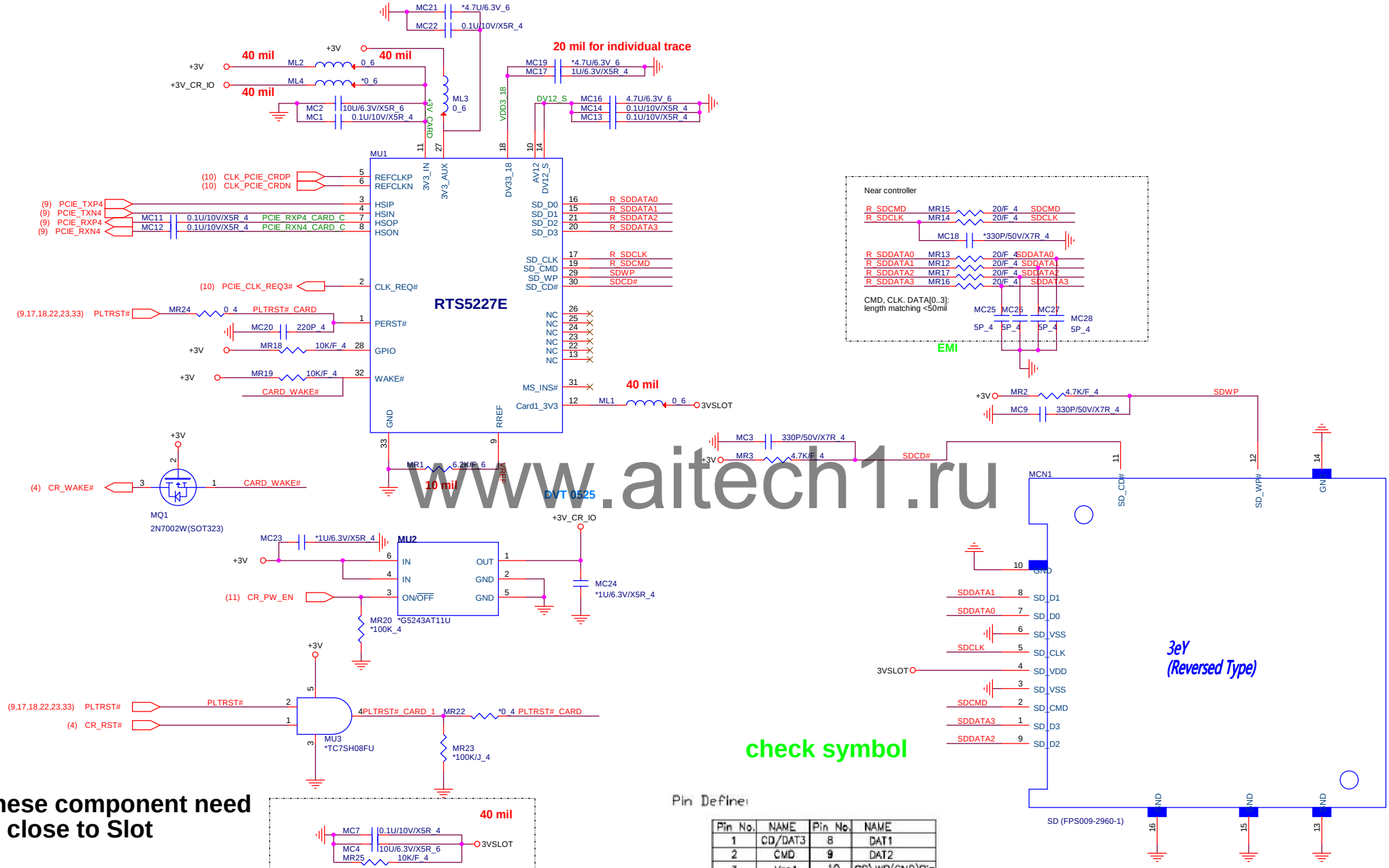
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	CRT/LVDS	1A

Date: Tuesday, August 20, 2013 Sheet 17 of 40

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.



Pin Define:

Pin No.	NAME	Pin No.	NAME
1	CD/DAT3	8	DAT1
2	CMD	9	DAT2
3	Vss1	10	CD\WP(GND)Pin
4	VDD	11	CD Pin
5	CLK	12	WP Pin
6	Vss2	13	GND(Shell)
7	DAT0	14	GND(Shell)
		15	GND(Shell)
		16	GND(Shell)

1.Level 1 Environment-related Substances Should Never be Used.
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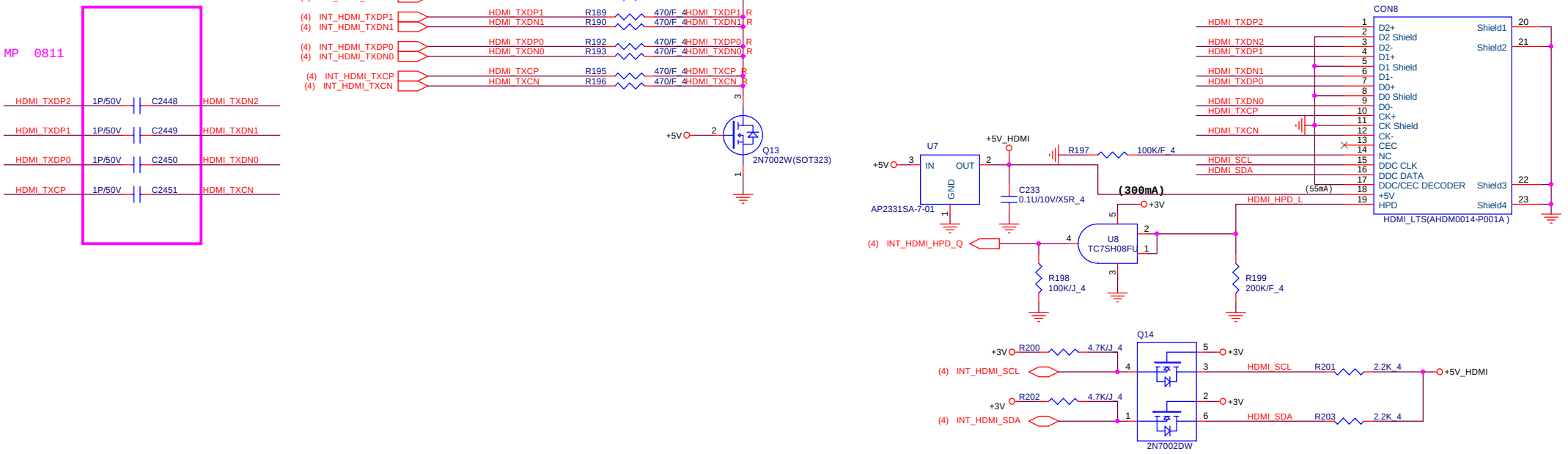
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	CARD	1A

Date: Monday, August 19, 2013 Sheet 18 of 40



H/W Thermal Protect

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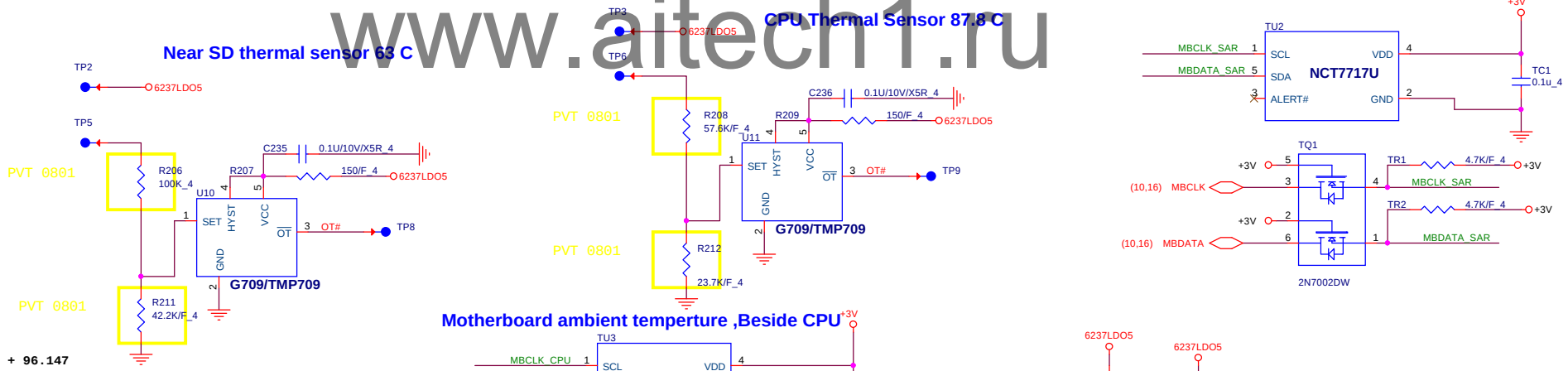


RSET(kΩ)= 0.0012T2 – 0.9308T + 96.147

95	18.5K
100	15K
107	10.3K
110	8.2K

DIS SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	70	R208=36.87K	36.5K	71	70
Near GFX sensor temp	65	R146=40.72K	40.2K	66.3	65.1
Near AUDIO sensor temp	60	R345=44.62K	44.2K	61.2	60

UMA SKU

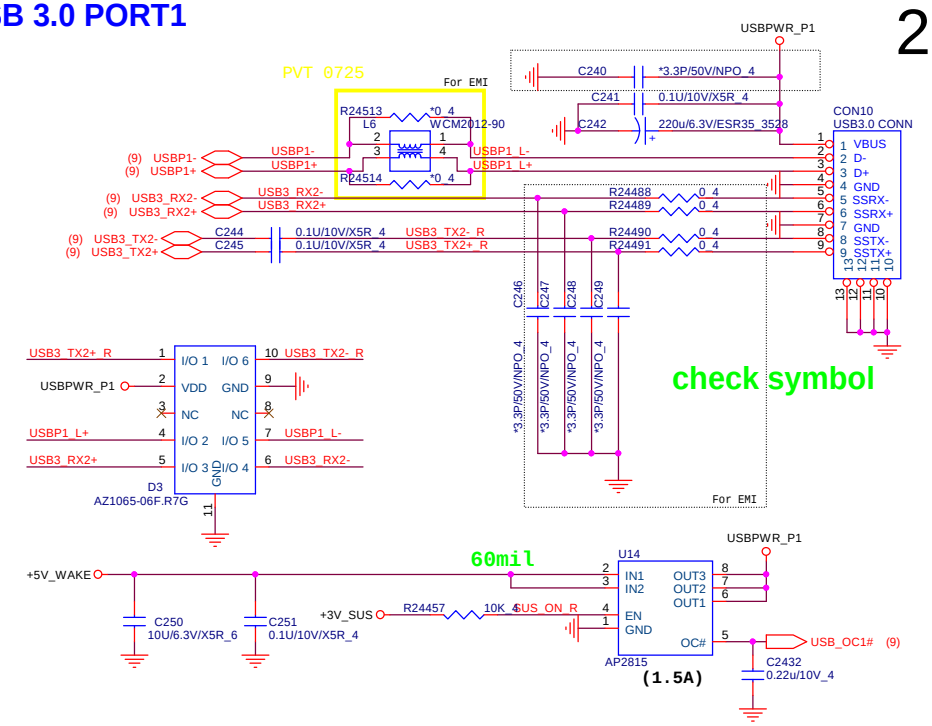
Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	81	R208=28.63K	28K	82.3	81.4
Near AUDIO sensor temp	58	R345=46.2K	46.4K	58.4	57.1

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

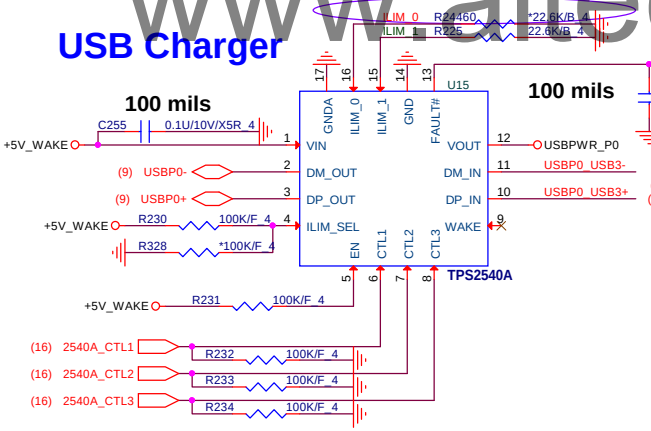
Size	Document Number	Rev
	HDMI/Thermal IC	1A
Date: Monday, August 19, 2013	Sheet 19 of 40	

USB 3.0 PORT1

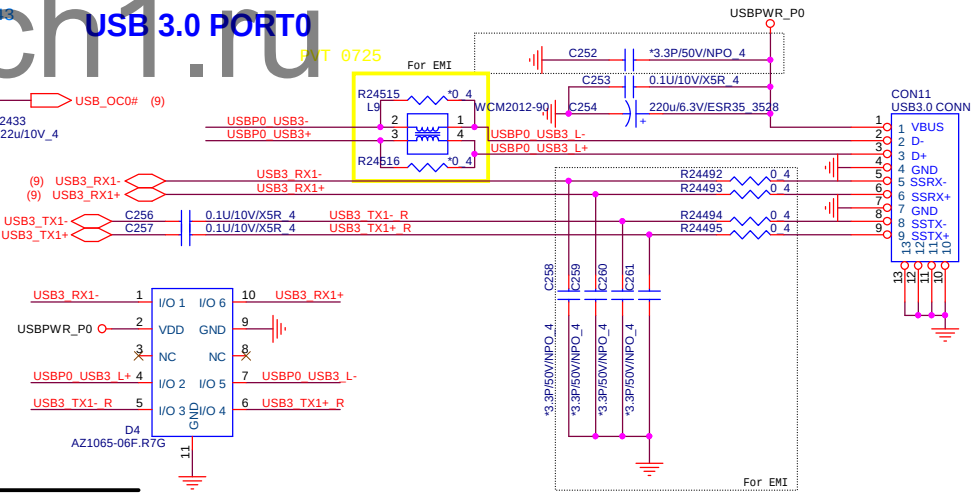


USB Charger

DVT-2013-05-05: Symbol reserve for TPS2543



USB 3.0 PORT0



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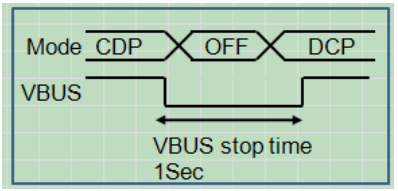
	TPS2540A		TPS2543	
ILIM_SEL	Pin15	Pin16	Pin15	Pin16
High	V			V
Low		V	V	

SDP : Standard Downstream Port
CDP : Charging downstream port
DCP : Dedicated Charging Port
Enable/Disable : setting by BIOS



CTL_1	CTL_2	CTL_3	TPS 2540A/2543 Truth Table
0	0	0	OUT discharge, power switch OFF
0	X	1	DCP,Auto-detect(S3/S4/S5, 1.5A)
X	1	0	SDP, USB2.0 mode(S0, 0.5A)
1	0	0	DCP, BC SPEC1.2 only(S3/Deep standby/S4/S5, 1.5A)
1	0	1	DCP, Divider mode only(S3/S4/S5, 1.5A)
1	1	1	CDP (S0, 1.5A)

System State	USB Battery Charging Setting			
	Disable	C(1 2 3)	Enable	C(1 2 3)
S0	SDP	(X 1 0)	CDP	(1 1 1)
S3	SDP	(X 1 0)	DCP BC	(1 0 0)
DS3	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S4	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S5	Charger OFF	(0 0 0)	DCP BC	(1 0 0)

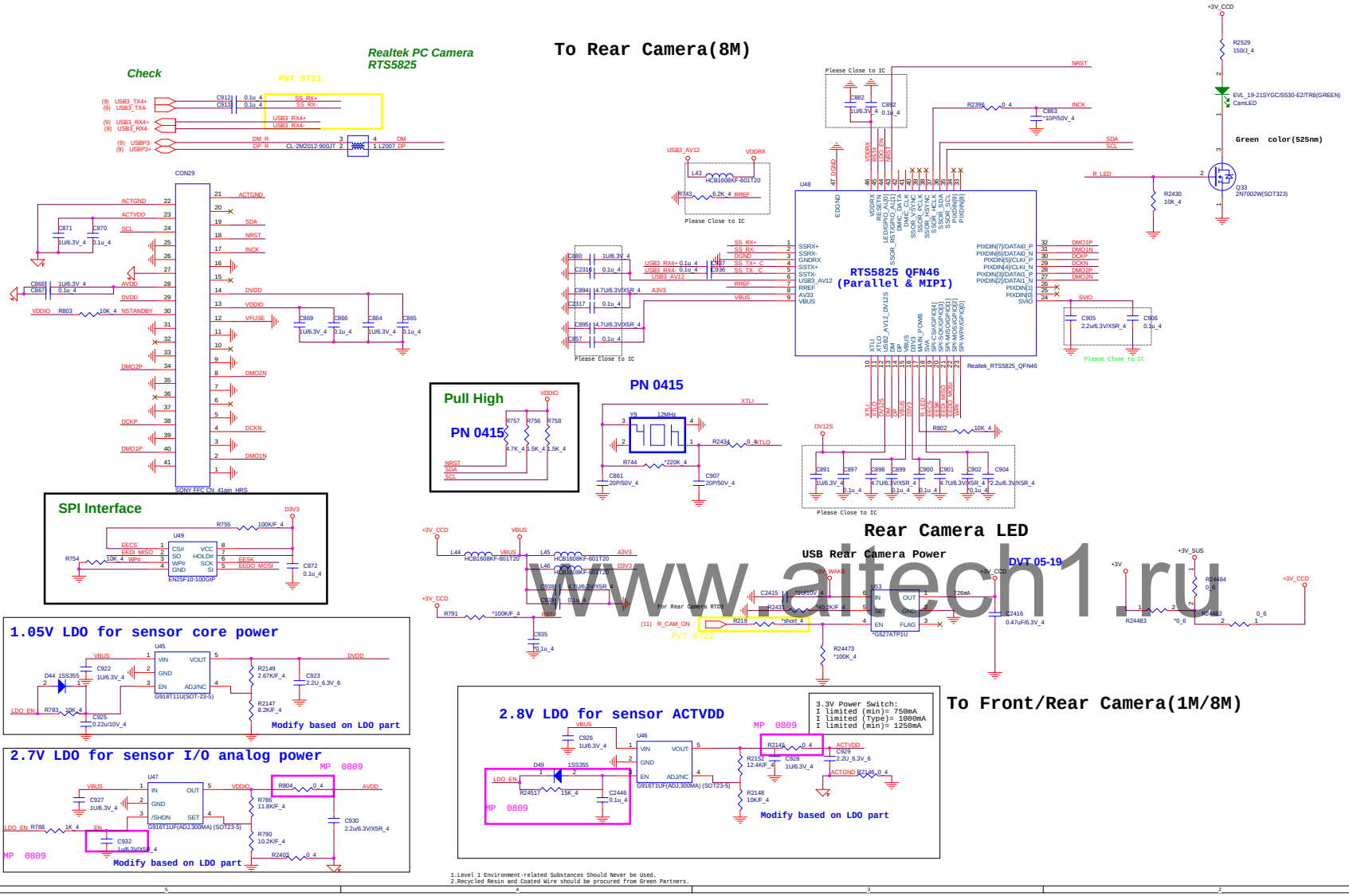
ILIM_SEL	(I LIMIT(A)= 48000/R)	
HI	I_LIM_1	
LO	I_LIM_0	48000/22.6K=2.123A

1.Level 1 Environment-related Substances should never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	USB/USB Charger	1A

Date: Monday, August 19, 2013 Sheet 20 of 40



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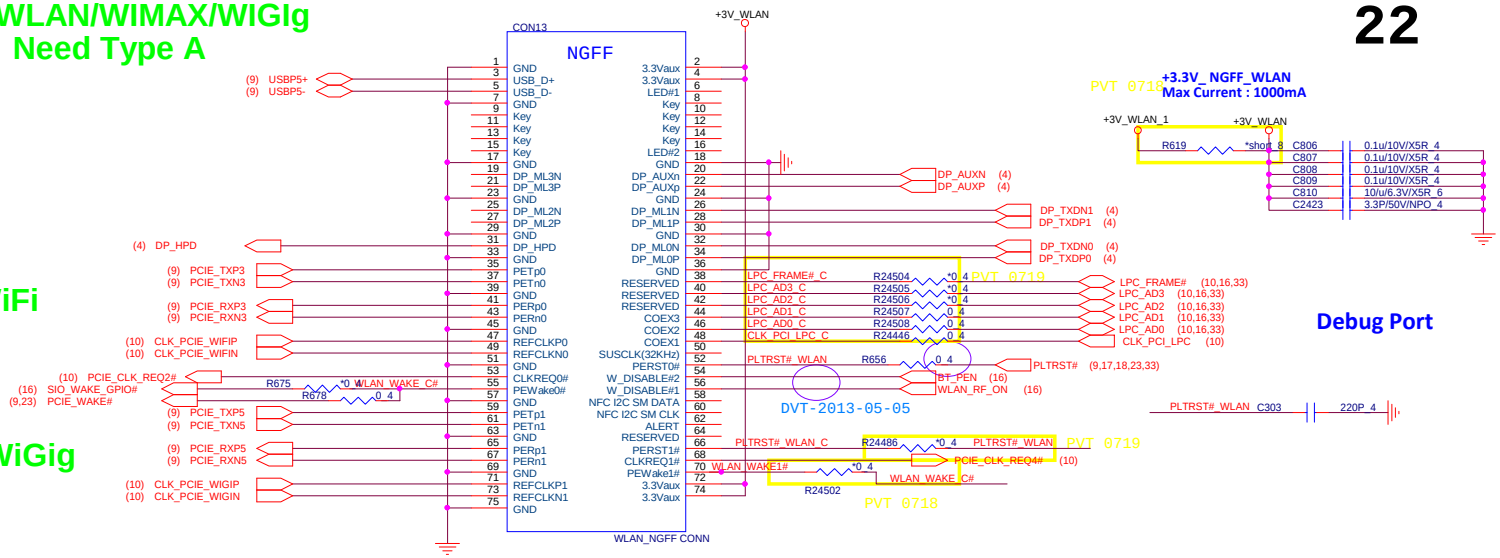
Quanta Computer Inc.			
PROJECT :FI1			
Size	Document Number		Rev
	Camera		1A
Date: Tuesday, August 20, 2013	Sheet 21 of 40		

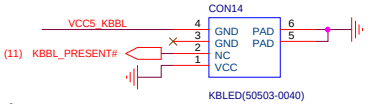
NGFF Wifi/BT connector

WLAN/WIMAX/WIGIg Need Type A



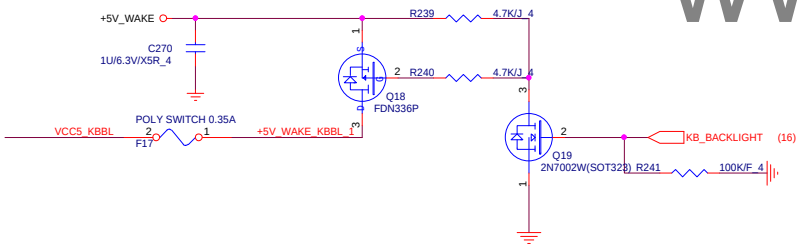
KB BACKLIGHT

Check symbol

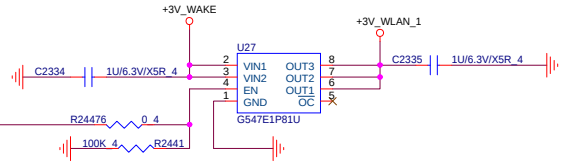


KB Backlight: Max. 360mA

KB Backlight PWM=380Hz



AC Mode : Support Wake on WLAN
DC Mode : Don't support wake on WLAN



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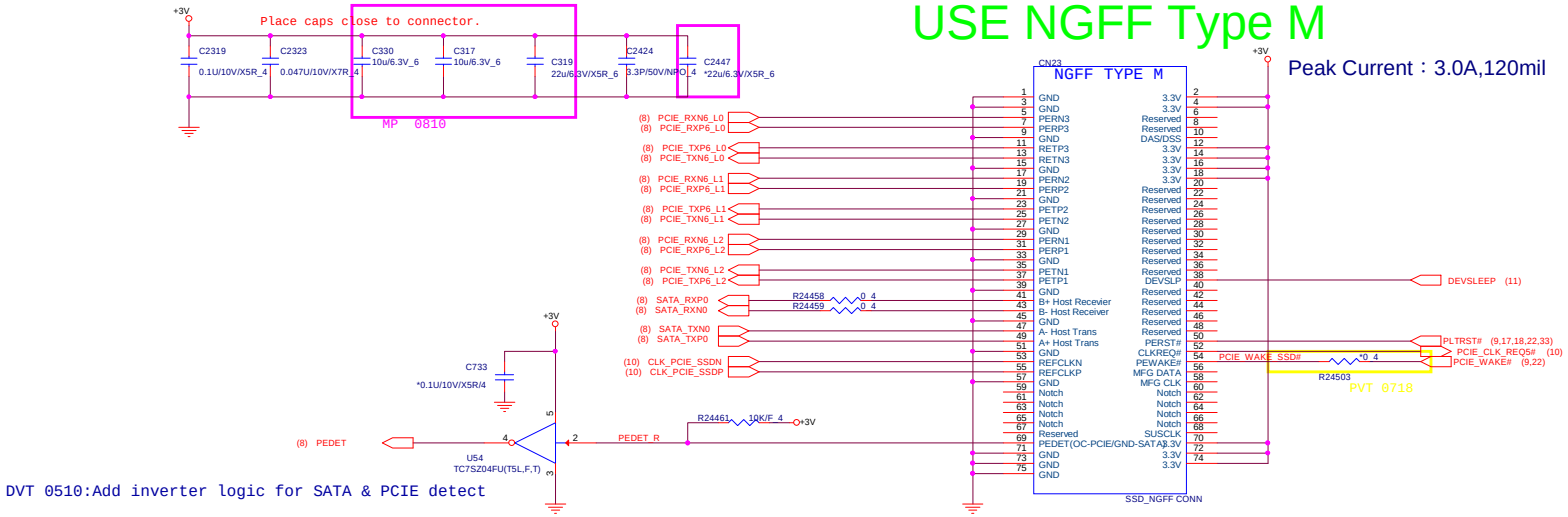
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	WLAN/KB BL	1A
Date: Monday, August 19, 2013	Sheet 22 of 40	

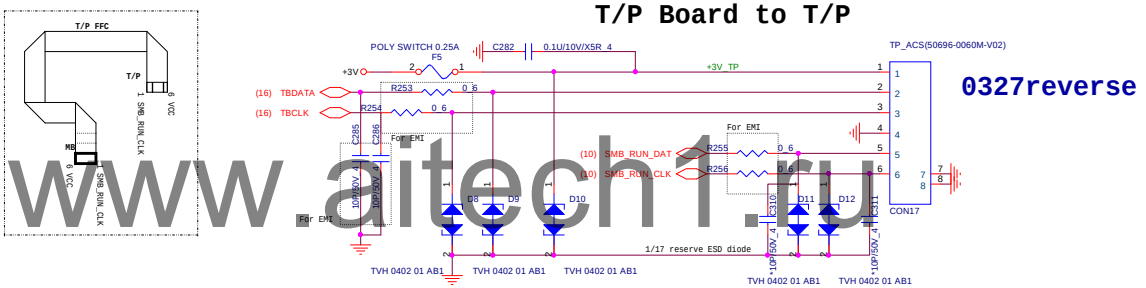
USE NGFF Type M

Peak Current：3.0A,120mil



DVT 0510:Add inverter logic for SATA & PCIE detect

T/P Board to T/P



0327reverse

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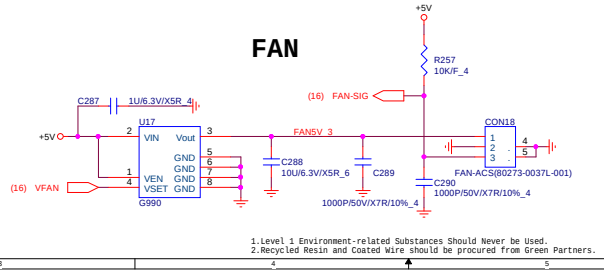
FAN



1.Level 1 Environment-related Substances Should Never be Used.
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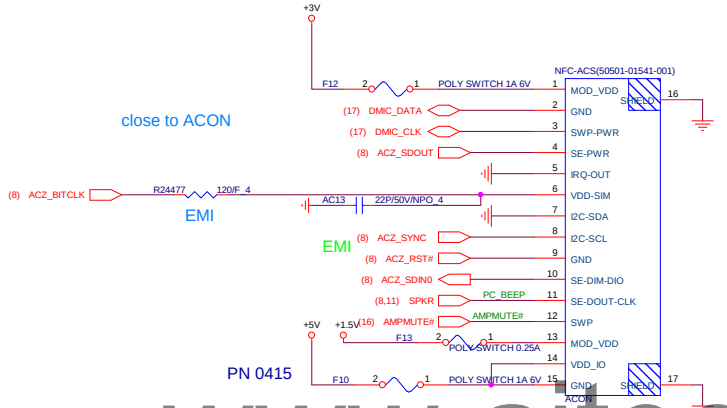
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	HDD/ODD/TP/FAN	1A

Date: Monday, August 19, 2013 Sheet 23 of 40



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1.Level 1 Environment-related Substances Should Never be Used.
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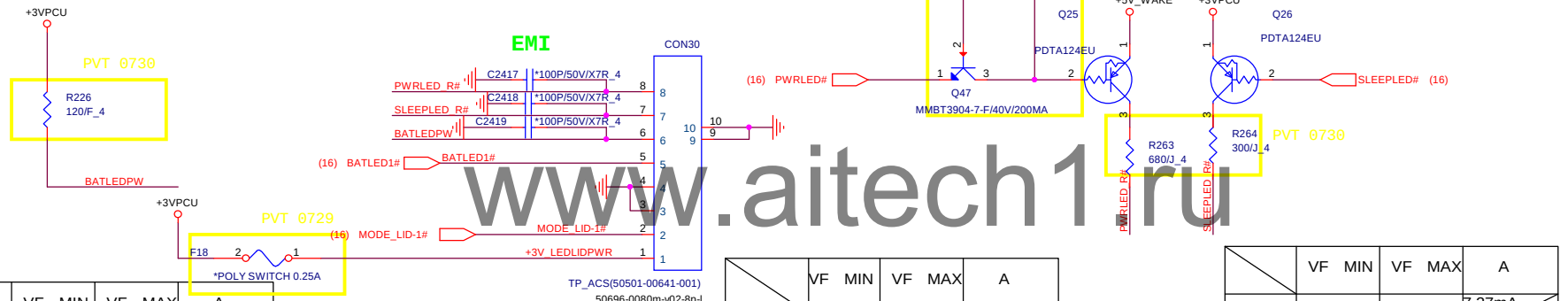
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	Audio Codec ALC233-CG	1A
Date: Monday, August 19, 2013	Sheet 24 of 40	

To Power/Sleep LED & BATTERY LED



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	VF MIN	VF MAX	A
Umber LED	1.75V	2.35V	7.27mA / 4.09 mA

(3.3 - 1.75)V /120 Ω = 12.9 mA
(3.3 - 2.35)V / 120Ω =7.92 mA

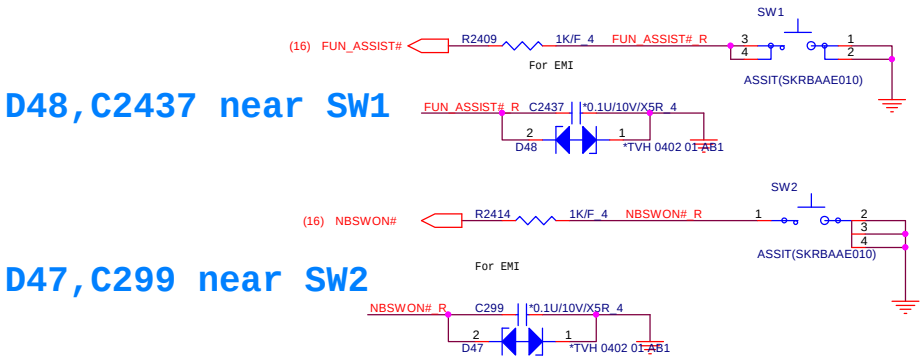
	VF MIN	VF MAX	A
Pure green LED	2.7V	3.7V	4.89mA / 2.76 mA

(5- 2.7)V / 680 Ω =3.38 mA
(5 - 3.7)V / 680Ω = 1.91 mA

	VF MIN	VF MAX	A
Umber LED	1.7V	2.4V	7.27mA / 4.09 mA

(3.3 - 1.7)V /300 Ω = 5.3 mA
(3.3 - 2.4)V / 300Ω =3mA

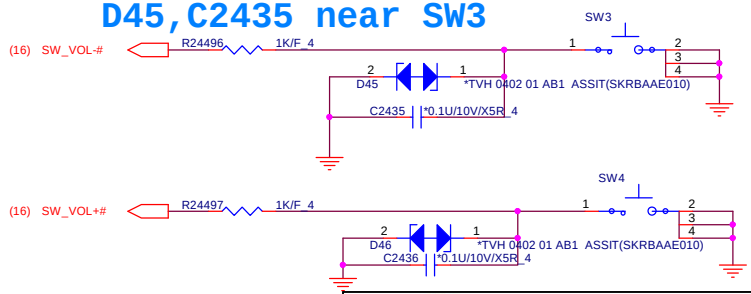
Power & Assist SW Follow FI3



D48,C2437 near SW1

D47,C299 near SW2

D45,C2435 near SW3



D46,C2436 near SW4

1.Level 1 Environment-related Substances Should Never be Used.
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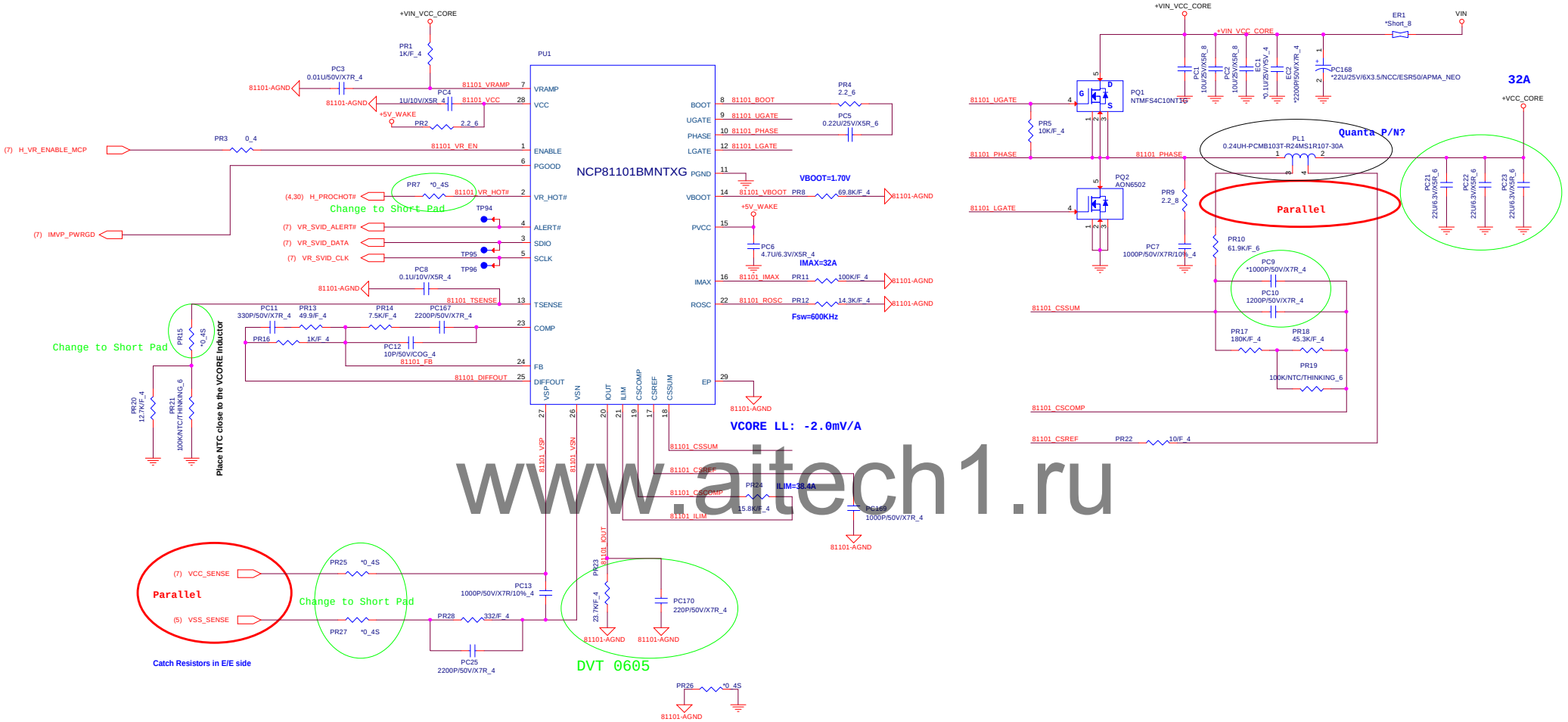
Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	LED/RF/KB/PS	1A

Date: Monday, August 19, 2013 Sheet 25 of 40



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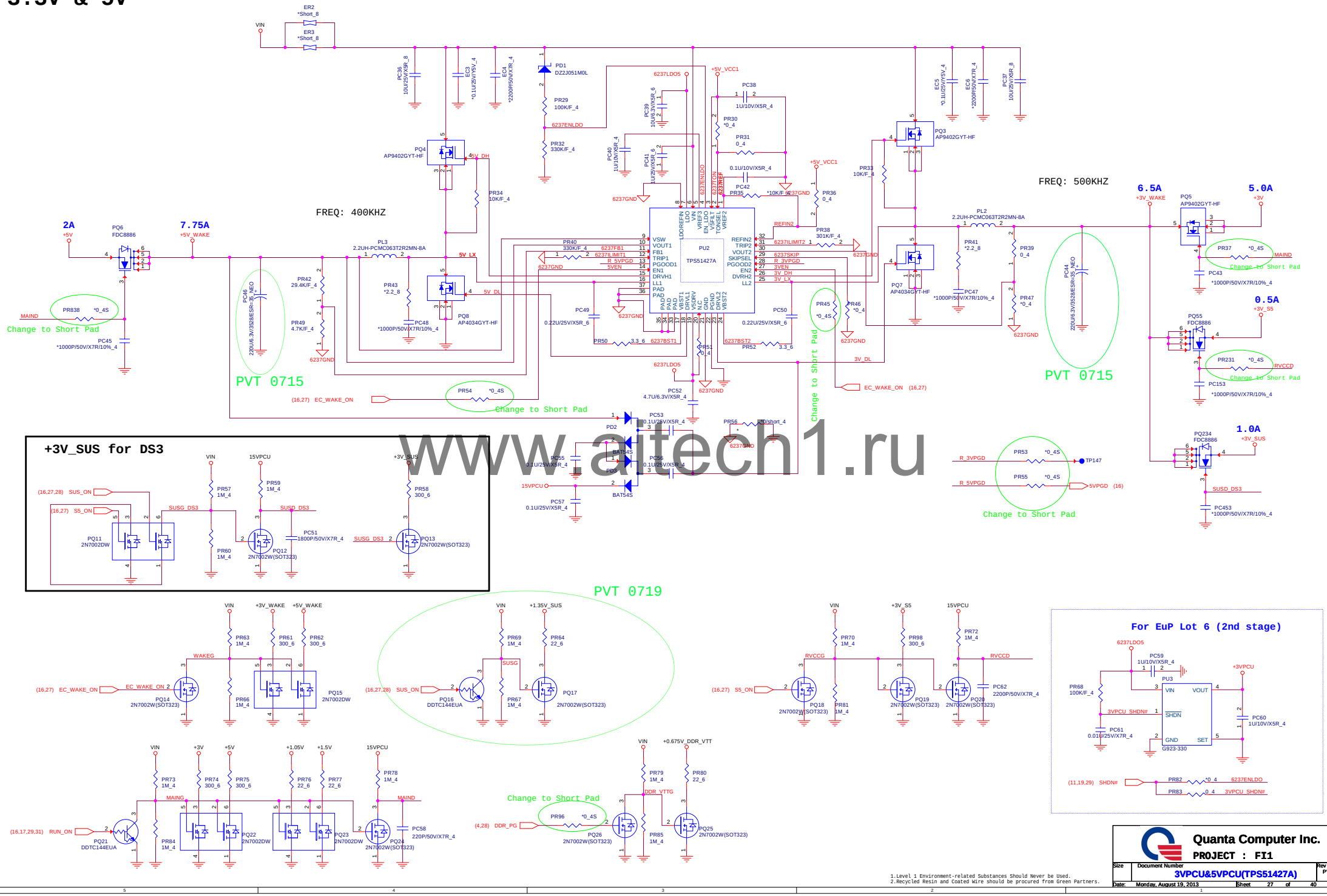
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	+VCC_CORE (NCP81101)	PVT

Date: Tuesday, August 20, 2013 Sheet 26 of 40

3.3V & 5V



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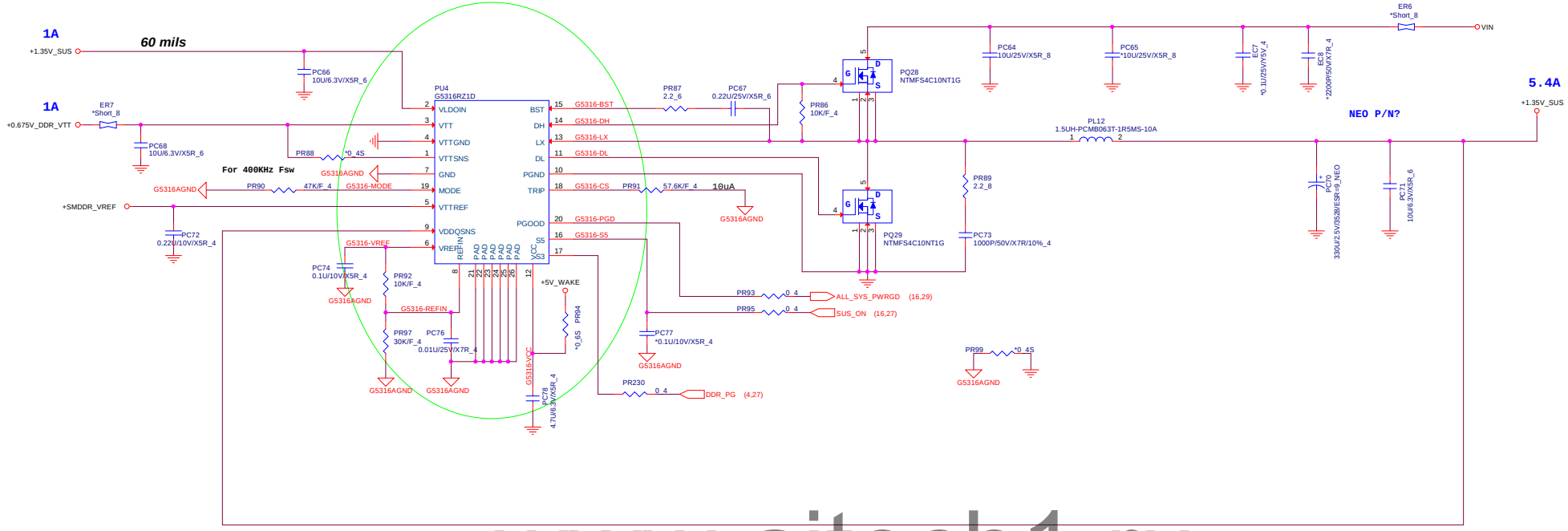
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

1.35VSUS & VTT_MEM



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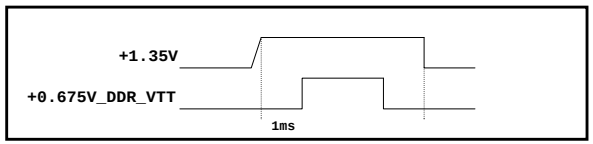
MODE	Resistor on Mode	Fsw	Discharge Mode
3	200Kohm	400KHz	Tracking discharge
2	100Kohm	300KHz	
1	68Kohm	300KHz	**Non-tracking discharge**
0	**47Kohm**	**400KHz**	

STATE	S3	S5	1.5VSUS	VTTREF	VTT
S0	1	1	On	On	On
S3	0	1	On	On	Off/High Z
S4/S5	0	0	Off	Off	Off



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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	1.5VSUS/VTT_MEM	PVT

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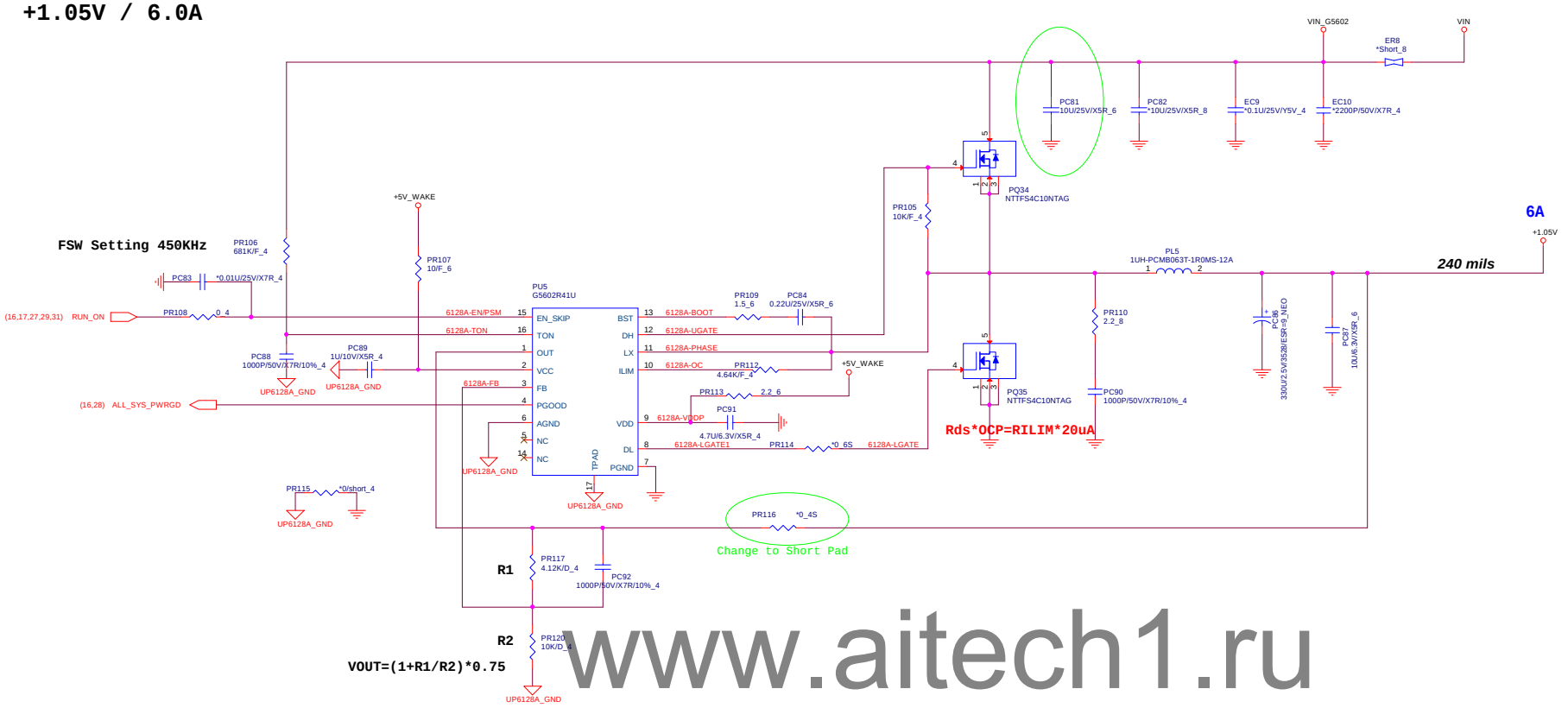
+1.05V / 6.0A



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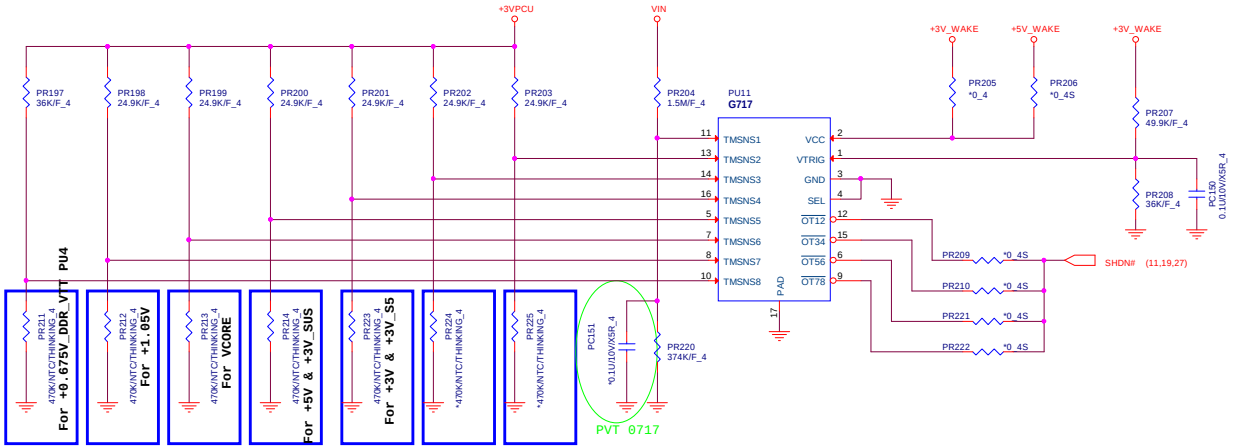
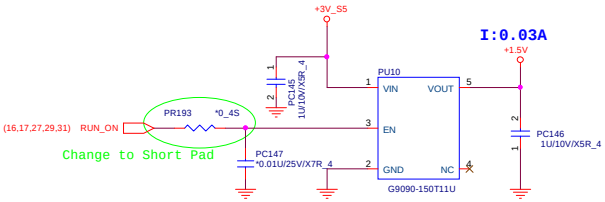
Thermal Protection and Battery UVP for VEDS



VCC1.5



1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.		
PROJECT : FI1		
Size	Document Number	Rev
	+1.05V (UP1522RQDD)-6A	PVT
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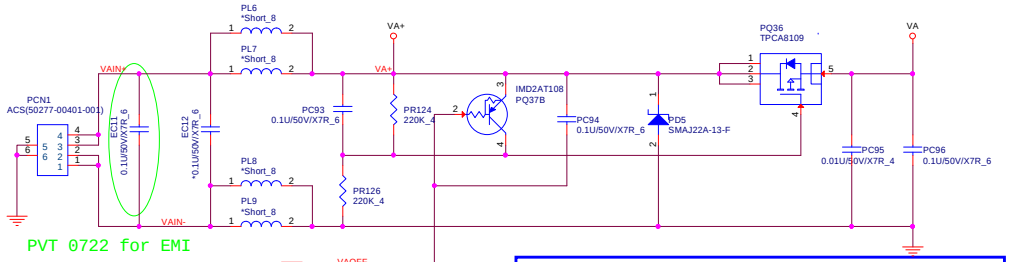
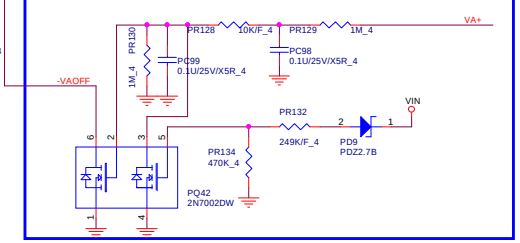
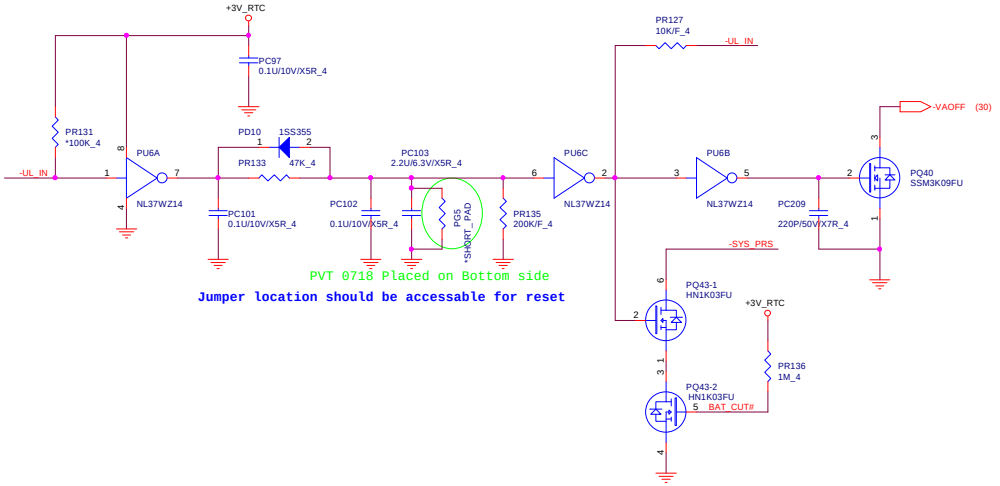


VIN Short Circuit Protection for ADP



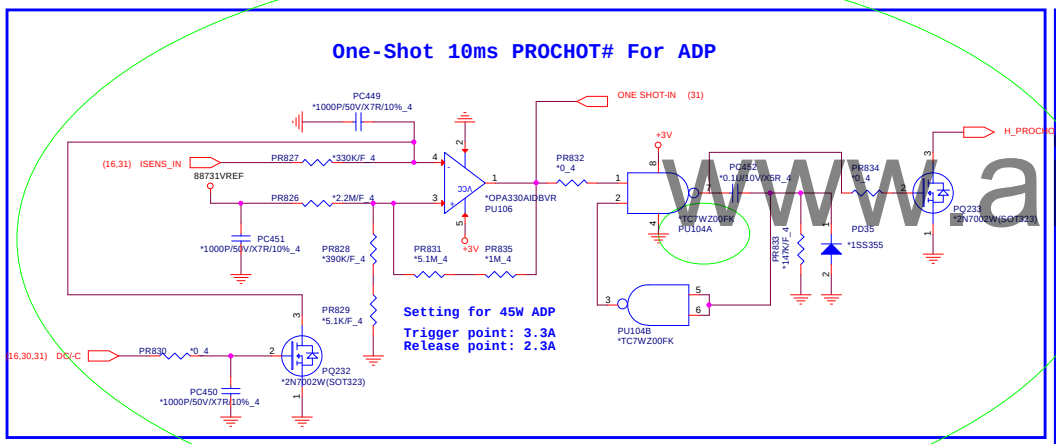
UL Latch Circuit



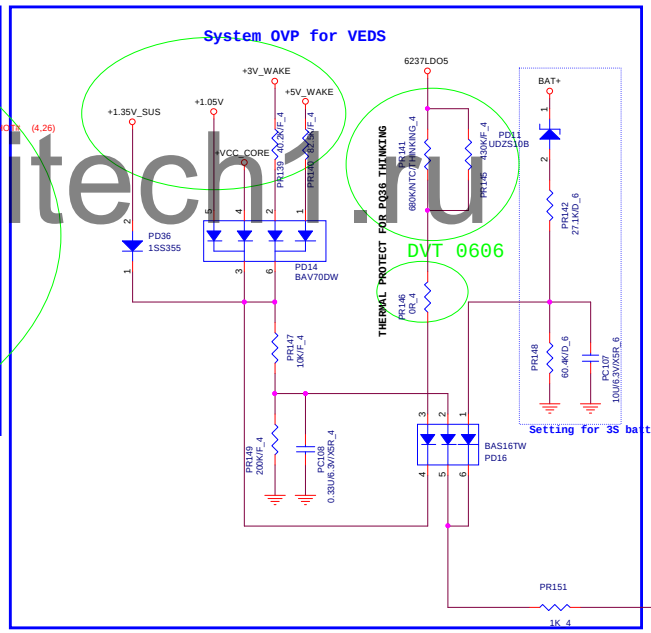
PVT 0718 Placed on Bottom side

Jumper location should be accessable for reset

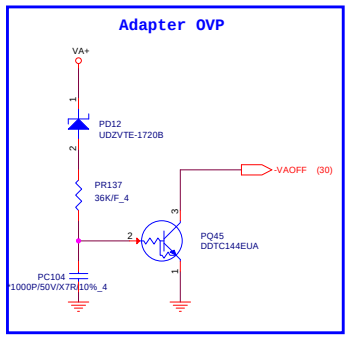
One-Shot 10ms PROCHOT# For ADP

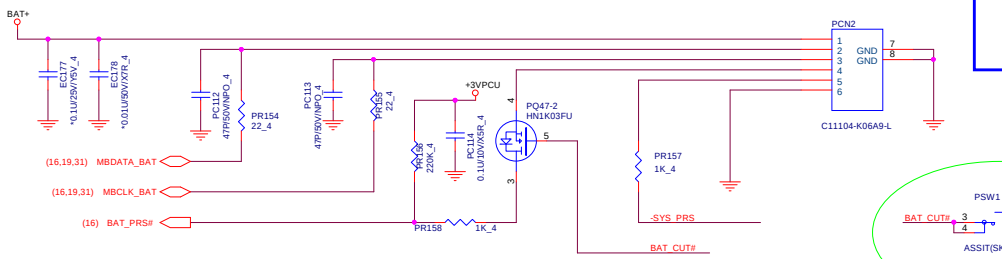


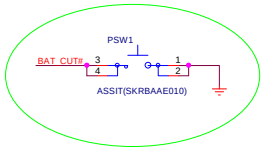
System OVP for VEDS

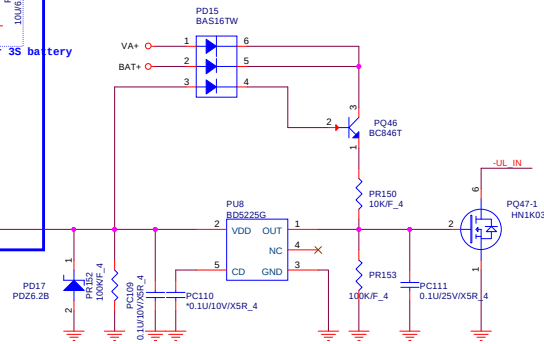


Adapter OVP









1.Level 1 Environment-related Substances Should Never be Used.
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Quanta Computer Inc.
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	BAT IN/ADA IN/UL	PVT

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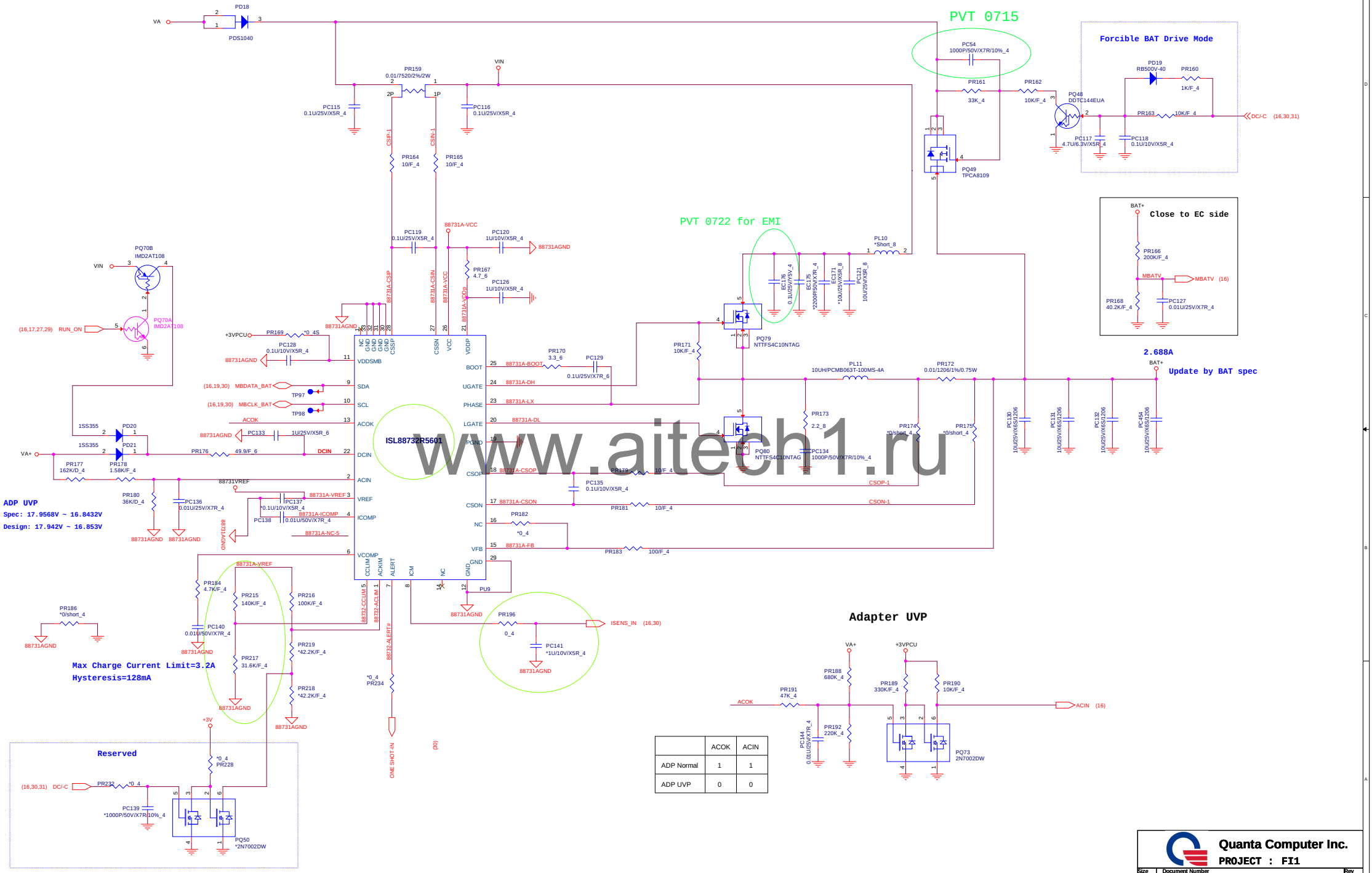

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PROJECT : FI1

Size	Document Number	Rev
	Debug con	1A
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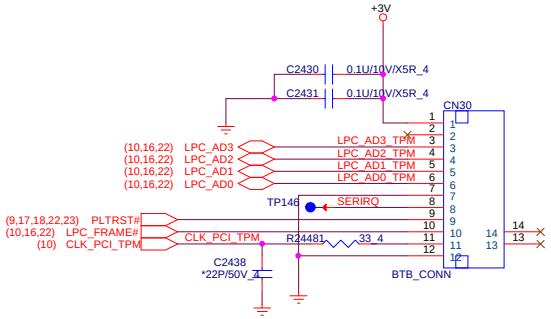

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1.Level 1 Environment-related Substances Should Never be Used.
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PROJECT : FI1

Size	Document Number	Rev
	Nvidia 2/4	1A

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1.Level 1 Environment-related Substances Should Never be Used.
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Quanta Computer Inc.
PROJECT : FI1

Size	Document Number	Rev
	VRAM 3/4	1A
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1.Level 1 Environment-related Substances Should Never be Used.
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Size	Document Number	Rev
	VRAM 4/4	1A
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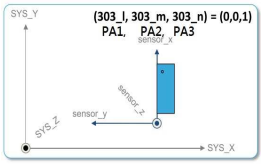
Sensor HUB

LSM303DLHC Orientation Setting (Top)



PVT 0730

PVT 0721

PN 0415

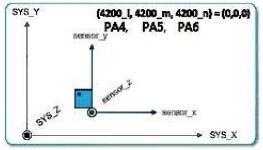
DVT 05-28

Depending sensor Layout placement

DVT 05-14

PN 0415

L3GD20TR Orientation Setting (Top)



Current limit
Typ:1A(880mA~1120mA)

ALS Remove to camera module

DVT 05-14

Reserve I2C to HSW-ULT (Check I2C driver)

PROG IC CTRL(48P)STM32F103CBU6TRC44

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G-sensor/E-compass/Magnetometer

LSM303DLHC

WR Address : 0x3C
RD Address : 0x3D

all layer delete

Gyroscope

L3GD20TR

WR Address : 0xD2
RD Address : 0xD3

Only surface layer delete

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PROJECT : FI1

Size	Document Number	Rev
	Sensors Hub & Sensors	1A

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1.Level 1 Environment-related Substances Should Never be Used.
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PROJECT : FI1

Size	Document Number	Rev
	Blank	1A

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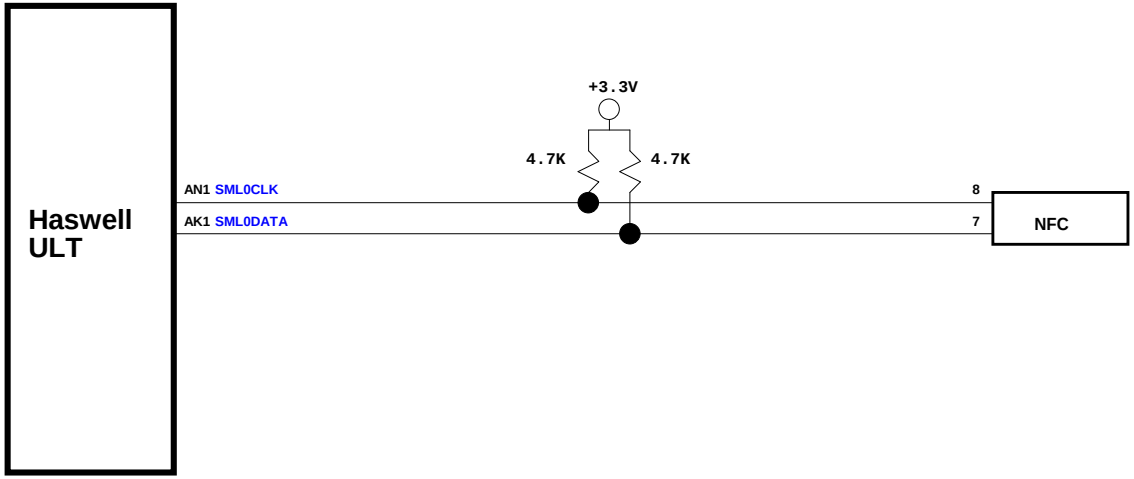

Function	IC	SMBus Address
Charge IC	ISL88731CHRTZ	0X12
Battery	Battery	0X16
NFC		

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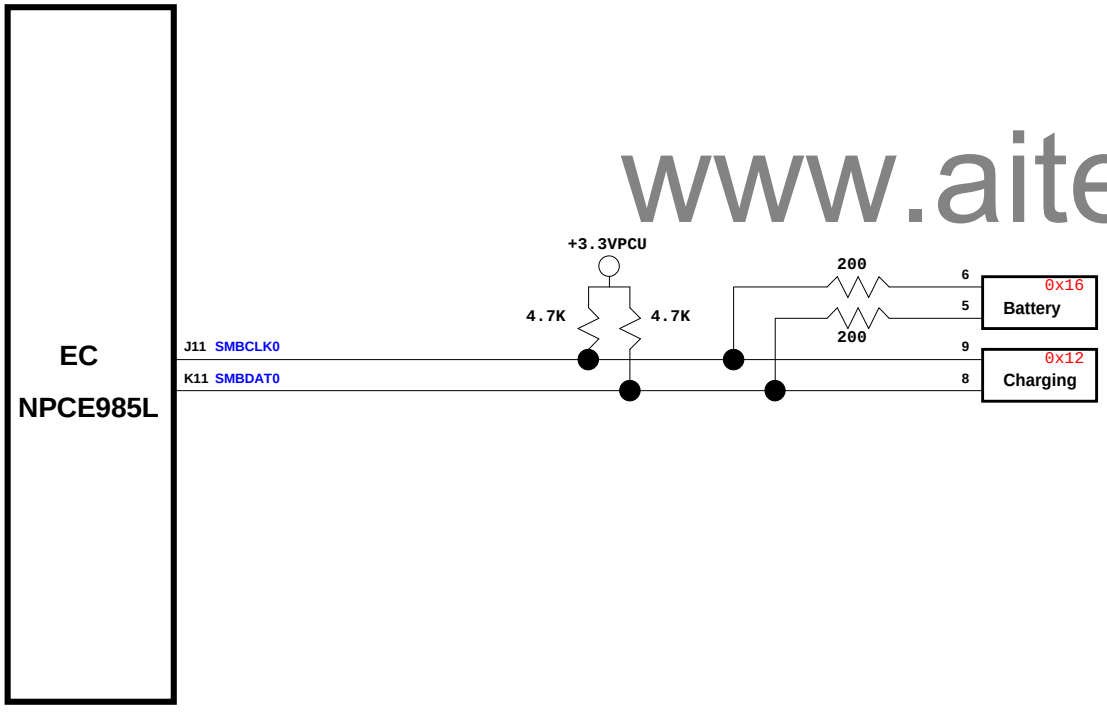

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PROJECT : FI1

Size	Document Number	Rev
	Camera	1A

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Power	Voltage	S0	S3	DS3	S4 (/W RTC Wake up)	S4 (/WO RTC Wake up)	S4 (/WO CHANGE)	S4 (/W CHANGE)	S5 (/WO CHANGE)	S5 (/W CHANGE)	Ctl Signal
+3VPCU	3.3V	V	V	V	V	V	V	V	V	V	Adapter/BAT in
+3.3V_DSW	3.3V	V	V	V	V	V	V	V	V	V	DEEP_EC_EN
+3V_WAKE	3.3V	V	V	V	V			V		V	**EC_WAKE_ON**
+5V_WAKE	5V	V	V	V	V			V		V	**EC_WAKE_ON**
+5V_S5	5V	V	V		V						**S5_ON**
+3V_S5	3.3V	V	V		V						**S5_ON**
+1.35V_SUS	1.35V	V	V	V							**SUS_ON**
+3V	3.3V	V									**RUN_ON**
+5V	5V	V									**RUN_ON**
+0.675V_DDR_VTT	0.675V	V									**RUN_ON**
+1.05V	**1.05V**	V									**RUN_ON**
+1.5V	**1.5V**	V									**RUN_ON**
+VCC_CORE	**By VID**	V									**RUN_ON**

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PROJECT : FI1

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	Power Table	1A
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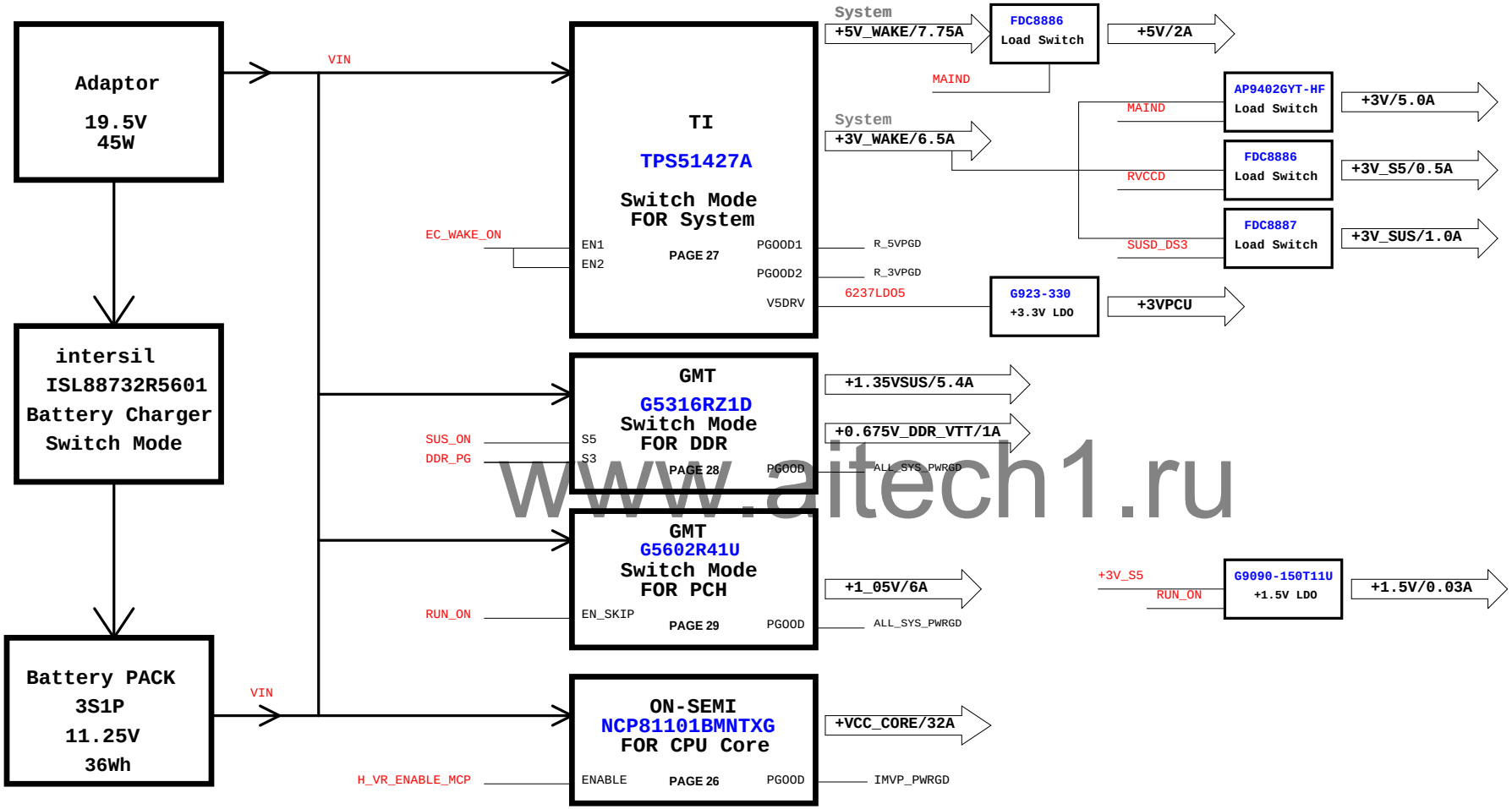

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PROJECT : FI1

Size	Document Number	Rev
	Power TREE	1A
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