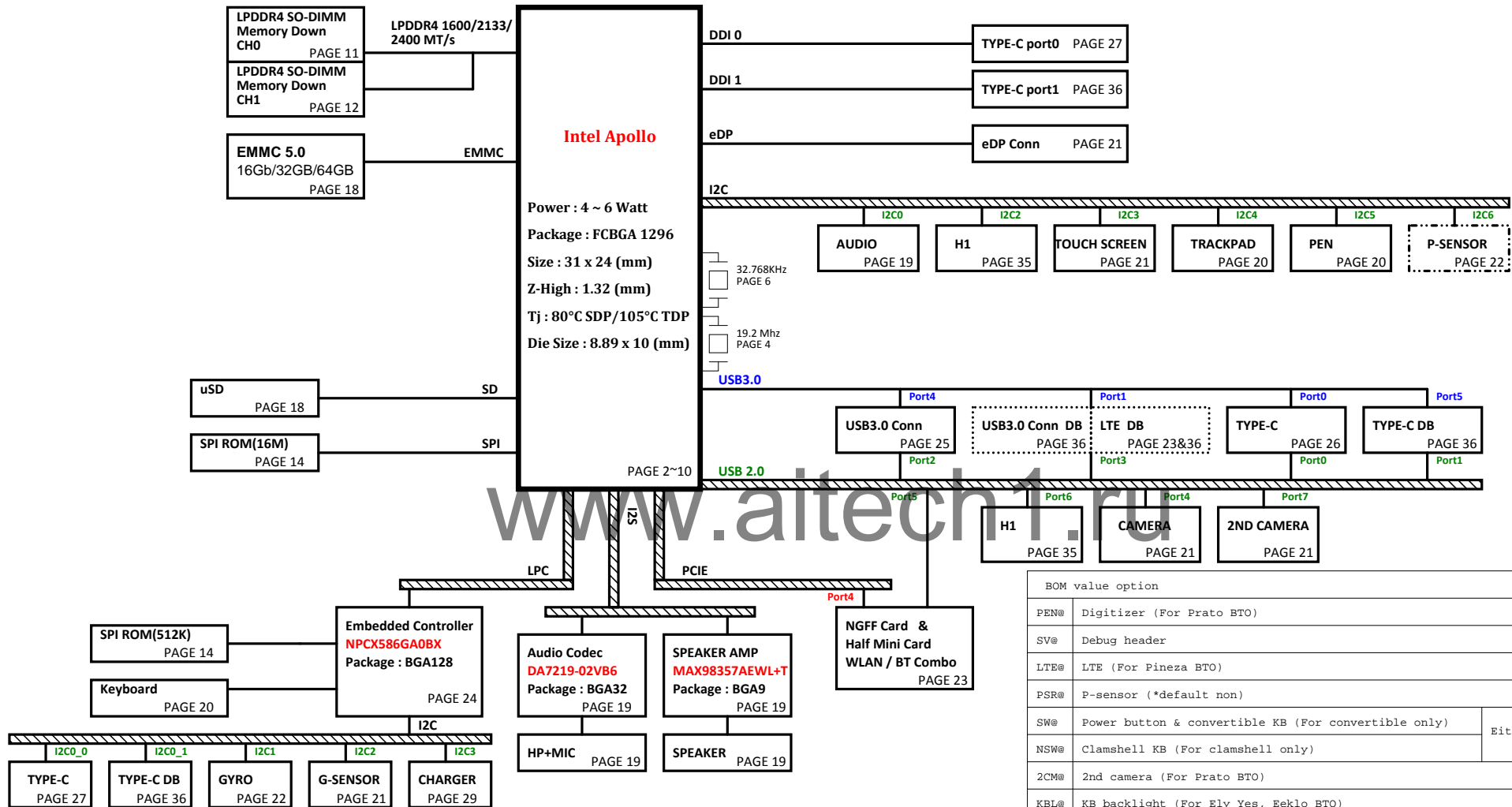


Intel Apollo Platform Block Diagram

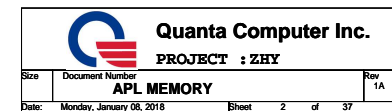
PCB 6L STACK UP

LAYER 1 : TOP
LAYER 2 : VCC
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : GND
LAYER 6 : BOT



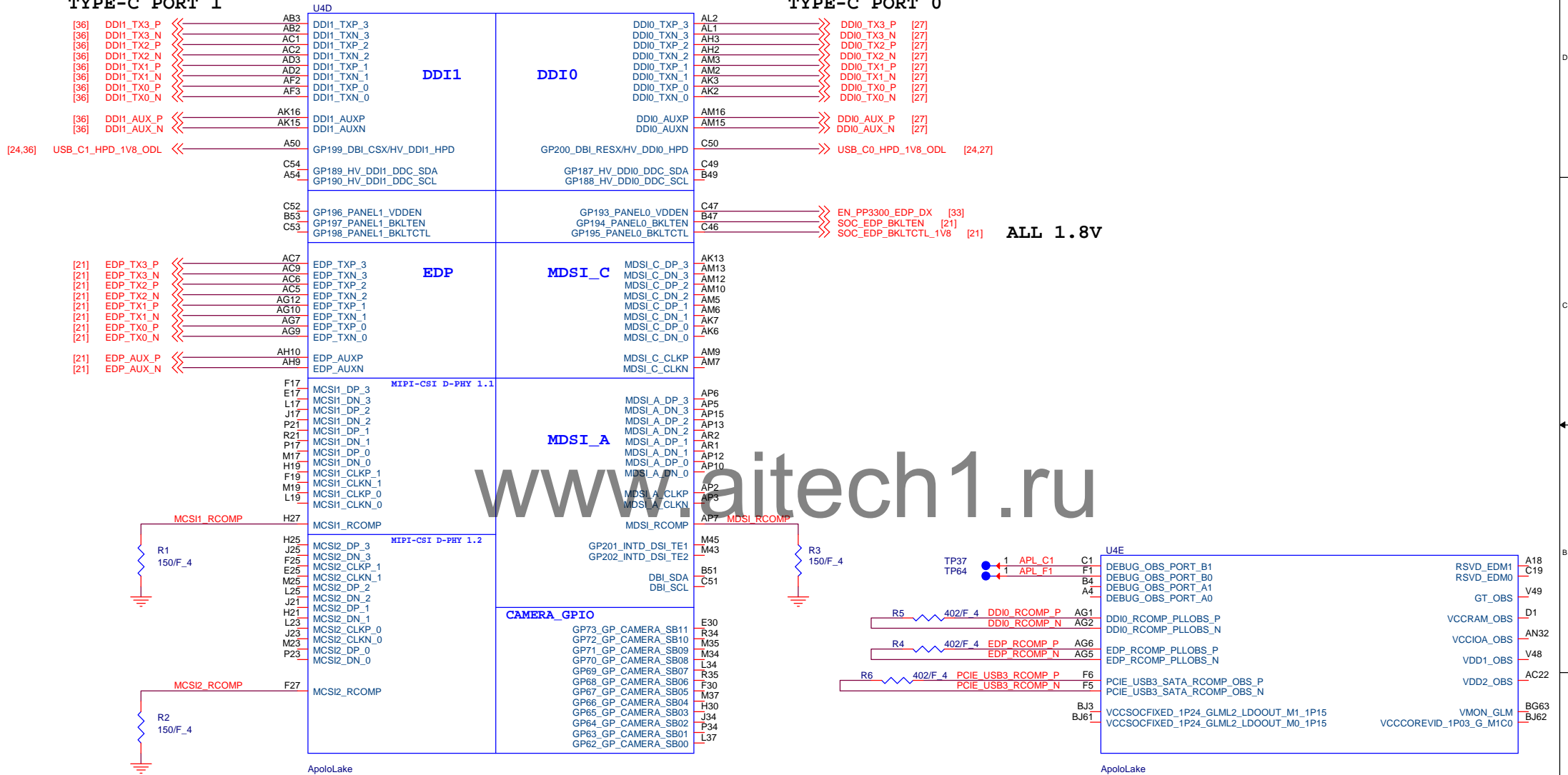
BOM value option		
PEN@	Digitizer (For Prato BTO)	
SV@	Debug header	
LTE@	LTE (For Pineza BTO)	
PSR@	P-sensor (*default non)	
SW@	Power button & convertible KB (For convertible only)	Either one
NSW@	Clamshell KB (For clamshell only)	
2CM@	2nd camera (For Prato BTO)	
KBL@	KB backlight (For Ely Yes, Eeklo BTO)	
GS@	G-sensor (For convertible only)	
TN@	Touchscreen (For convertible Yes, clamshell BTO)	
GY@	Gyro (For convertible only)	
ZAL@	For Astronaut only (acoustic noise)	

*11" and 15" USB3 TYPE-A connector and audio jack are different



TYPE-C PORT 1

TYPE-C PORT 0



TYPE A PORT 1

TYPE C PORT 0

TYPE A PORT 0

TYPE C PORT 1

[36] USB3_1_A1_TX_P
[36] USB3_1_A1_TX_N
[36] USB3_1_A1_RX_P
[36] USB3_1_A1_RX_N

[27] USB3_0_C0_TX_P
[27] USB3_0_C0_TX_N
[27] USB3_0_C0_RX_P
[27] USB3_0_C0_RX_N

[23] PCIE_PCH4TX_WLANRX_P
[23] PCIE_PCH4TX_WLANRX_N
[23] PCIE_PCH4RX_WLANTX_P
[23] PCIE_PCH4RX_WLANTX_N

[25] USB3_4_A0_TX_P
[25] USB3_4_A0_TX_N
[25] USB3_4_A0_RX_P
[25] USB3_4_A0_RX_N

[36] USB3_5_C1_TX_P
[36] USB3_5_C1_TX_N
[36] USB3_5_C1_RX_P
[36] USB3_5_C1_RX_N

U4F
T2 PCIE_P2_TXP
T3 PCIE_P2_TXN
M5 PCIE_P2_RXP
M6 PCIE_P2_RXN
R1 PCIE_P1_TXP
R2 PCIE_P1_TXN
T10 PCIE_P1_RXP
T12 PCIE_P1_RXN
V3 PCIE_P0_TXP
V2 PCIE_P0_TXN
P7 PCIE_P0_RXP
P6 PCIE_P0_RXN

K3 USB3_P1_TXP
K2 USB3_P1_TXN
F2 USB3_P1_RXP
G2 USB3_P1_RXN
J1 USB3_P0_TX
I2 USB3_P0_TXN
K9 USB3_P0_RXP
K10 USB3_P0_RXN

Y3 SATA_P0_TXP
Y2 SATA_P0_TXN
T9 SATA_P0_RXP
T7 SATA_P0_RXN

L2 PCIE_P5_USB3_P2_TXP
L1 PCIE_P5_USB3_P2_TXN
K7 PCIE_P5_USB3_P2_RXP
M7 PCIE_P5_USB3_P2_RXN

N2 PCIE_P4_USB3_P3_TXP
M2 PCIE_P4_USB3_P3_TXN
H5 PCIE_P4_USB3_P3_RXP
H6 PCIE_P4_USB3_P3_RXN
P3 PCIE_P3_USB3_P4_TXP
P2 PCIE_P3_USB3_P4_TXN
P12 PCIE_P3_USB3_P4_RXP
P10 PCIE_P3_USB3_P4_RXN

W1 SATA_P1_USB3_P5_TXP
W2 SATA_P1_USB3_P5_TXN
T5 SATA_P1_USB3_P5_RXP
T6 SATA_P1_USB3_P5_RXN

USB3

USB3 (OTG)

SATA0

PCIE/USB3/SATA

USB_SSIC

USB2

GP212_PCIE_CLKREQ0_B
GP211_PCIE_CLKREQ2_B
GP210_PCIE_CLKREQ1_B
GP209_PCIE_CLKREQ0_B

GP208_PCIE_WAKE3_B
GP207_PCIE_WAKE2_B
GP206_PCIE_WAKE1_B
GP205_PCIE_WAKE0_B

PCIE_CLKOUT_3P
PCIE_CLKOUT_3N

PCIE_CLKOUT_2P
PCIE_CLKOUT_2N

PCIE_CLKOUT_1P
PCIE_CLKOUT_1N

PCIE_CLKOUT_0P
PCIE_CLKOUT_0N

CLKDRV_RCOMP

USB_SSIC_0_TX_P
USB_SSIC_0_TX_N
USB_SSIC_0_RX_P
USB_SSIC_0_RX_N

USB_SSIC_RCOMP

USB2_DP7
USB2_DN7

USB2_DP6
USB2_DN6

USB2_DP5
USB2_DN5

USB2_DP4
USB2_DN4

USB2_DP3
USB2_DN3

USB2_DP2
USB2_DN2

USB2_DP1
USB2_DN1

USB2_OTG_DP0
USB2_OTG_DN0

USB_OTG_ID
USB_VBUS_SNS

GP204_USB2_OC1_B
GP203_USB2_OC0_B

USB2_RCOMP

AJ62
AH61
AH62
AK62

N62
P61
P62
R62

B7
B5

A7
B8

C10
A10

C11
B11

E21

AH13
AH12
AG16
AG15

AB15

V5
V6

AC12
AC10

AB6
AB7

Y9
Y10

V9
V7

Y13
V13

V16
V15

V12
V10

AC15
AC16

C55
B55

Y15

PP1800_SOC_A

R10
10K_4

R11
10K_4

WLAN_PCIE_CLKREQ_1V8_ODL

LTE_WAKE_L [23]

WLAN_PCIE_WAKE_1V8_ODL

PP1800_SOC_A

WLAN_Q1

WLAN_Q2

WLAN_PCIE_CLK_P [23]

WLAN_PCIE_CLK_N [23]

CLKDRV_RCOMP R7 60.4/F_4

SSIC_RCOMP R8 137/F_4

USB2_7_CAM2_P [21]

USB2_7_CAM2_N [21]

USB2_6_H1_P [35]

USB2_6_H1_N [35]

USB2_5_BT_P [23]

USB2_5_BT_N [23]

USB2_4_CAM_P [21]

USB2_4_CAM_N [21]

USB2_3_A1_P [25]

USB2_3_A1_N [25]

USB2_2_A0_P [25]

USB2_2_A0_N [25]

USB2_1_C1_P [29]

USB2_1_C1_N [29]

USB2_0_C0_P [29]

USB2_0_C0_N [29]

USB2_OTG_ID R71 *0_4

TRACKPAD_INT_GATE [20,24]

USB2_OTG_VBUSSENSE [24]

USB_C0_OC_ODL [28]

USB_C1_OC_ODL [28]

USB_A0_OC_ODL [25]

WLAN_PCIE_CLKREQ_3V3_ODL [23]

WLAN_PCIE_WAKE_3V3_ODL [23]

PP3300_WLAN_DX

WLAN_Q1

WLAN_Q2

WLAN_PCIE_CLK_P [23]

WLAN_PCIE_CLK_N [23]

CLKDRV_RCOMP R7 60.4/F_4

SSIC_RCOMP R8 137/F_4

USB2_7_CAM2_P [21]

USB2_7_CAM2_N [21]

USB2_6_H1_P [35]

USB2_6_H1_N [35]

USB2_5_BT_P [23]

USB2_5_BT_N [23]

USB2_4_CAM_P [21]

USB2_4_CAM_N [21]

USB2_3_A1_P [25]

USB2_3_A1_N [25]

USB2_2_A0_P [25]

USB2_2_A0_N [25]

USB2_1_C1_P [29]

USB2_1_C1_N [29]

USB2_0_C0_P [29]

USB2_0_C0_N [29]

USB2_OTG_ID R71 *0_4

TRACKPAD_INT_GATE [20,24]

USB2_OTG_VBUSSENSE [24]

USB_C0_OC_ODL [28]

USB_C1_OC_ODL [28]

USB_A0_OC_ODL [25]

USB_A1_OC_ODL [25]

20K INTERNAL PU

H1 SECURITY KEY

BLUETOOTH ON M.2

CAMERA

TYPE A PORT 1

TYPE A PORT 0

TYPE C PORT 1

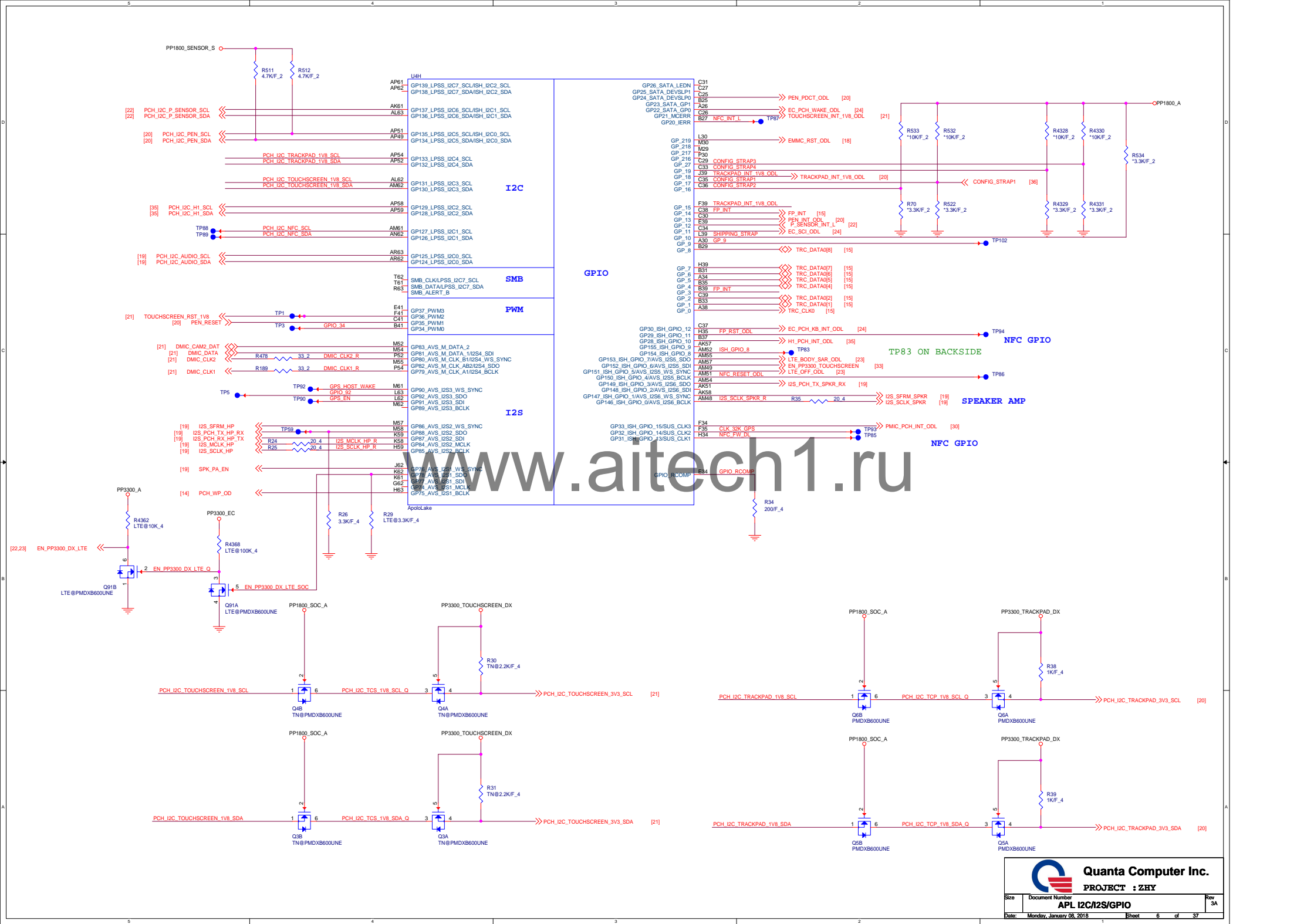
TYPE C PORT 0

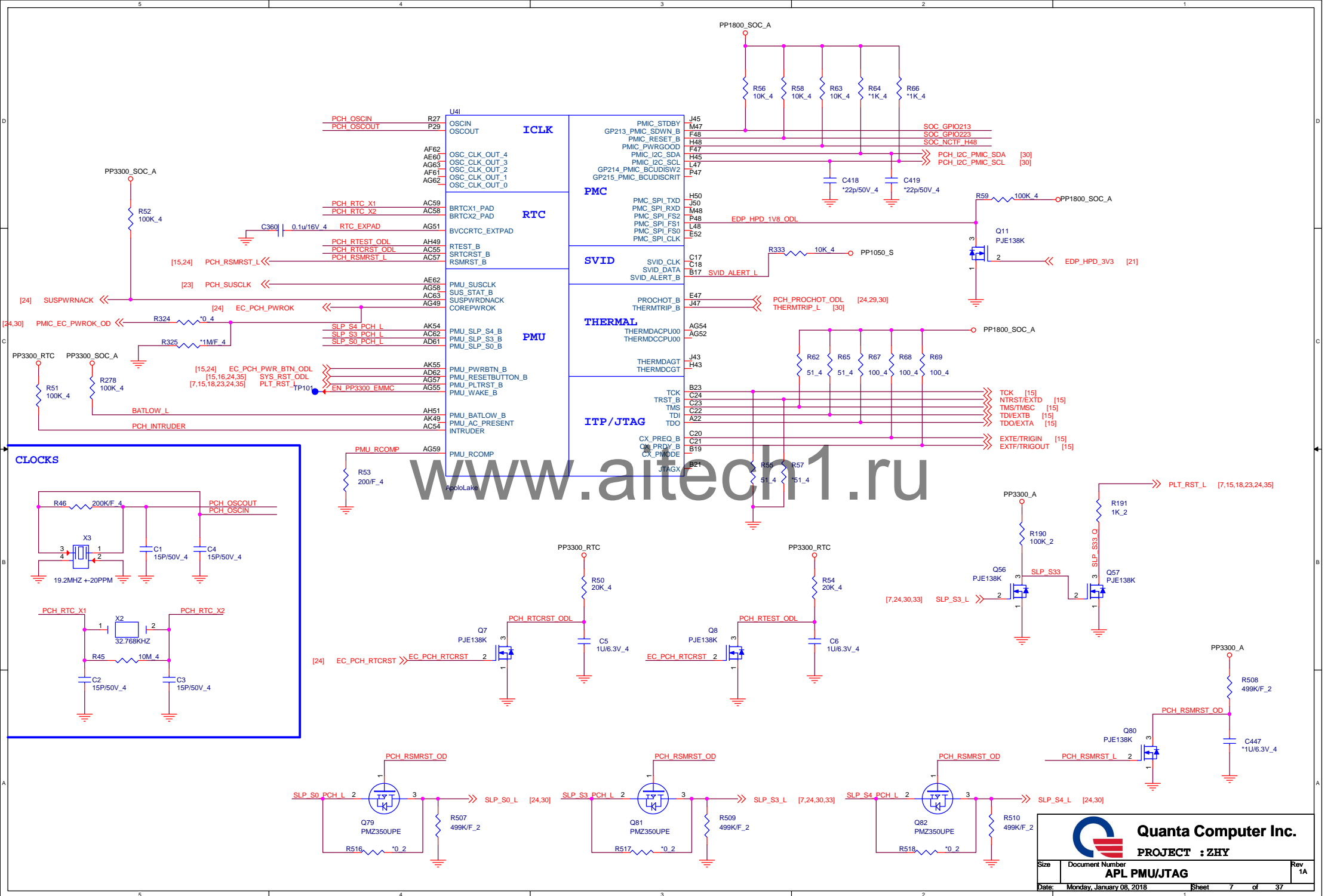


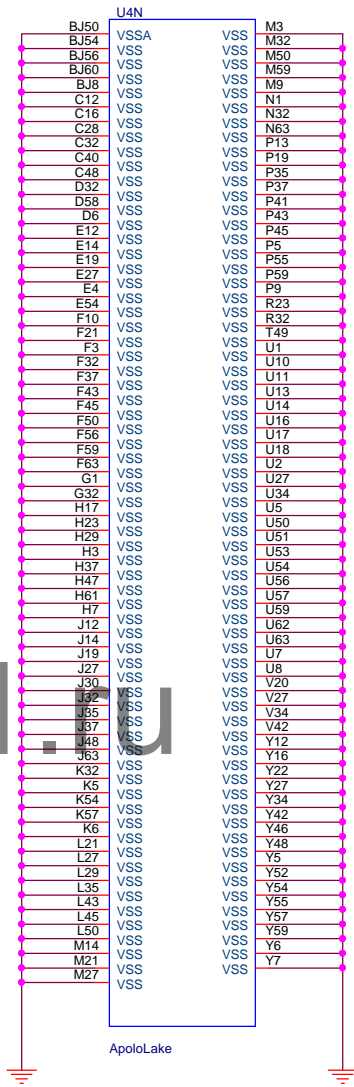
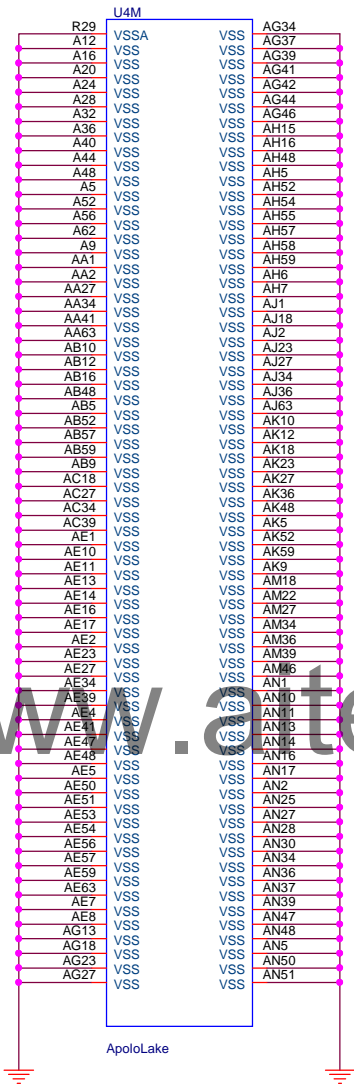
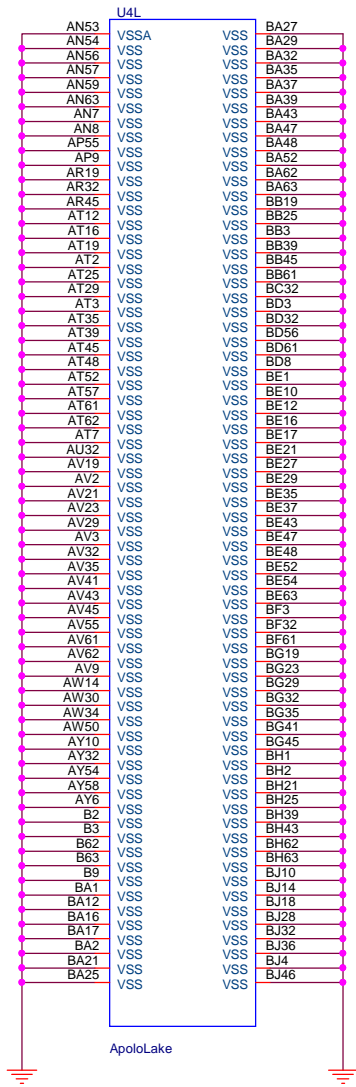
Quanta Computer Inc.

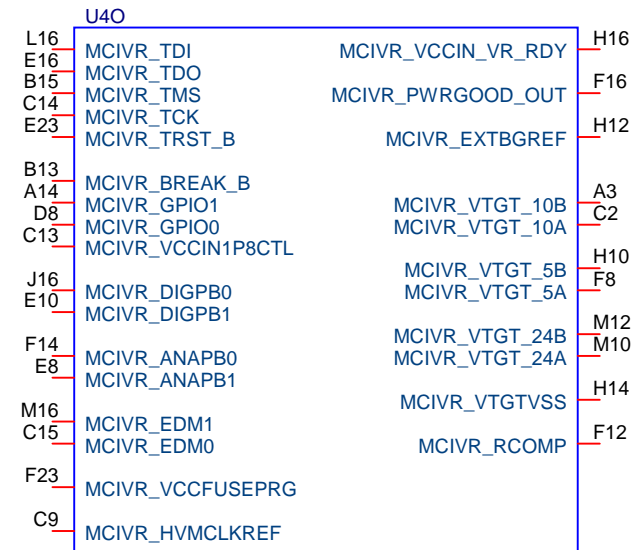
PROJECT : ZHY

Size	Document Number	Rev
	APL_PCIE/USB/SATA	1A
Date:	Monday, January 08, 2018	Sheet 4 of 37



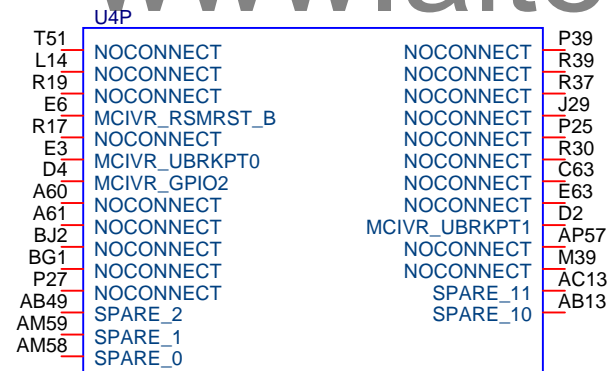






ApoloLake

www.aitech1.ru



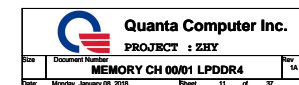
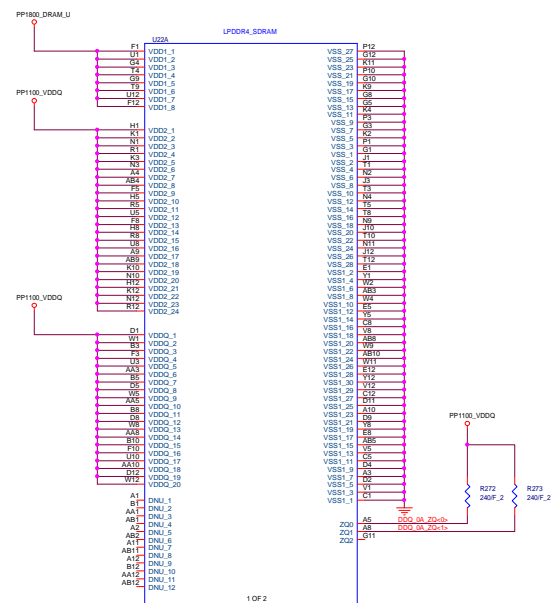
ApoloLake

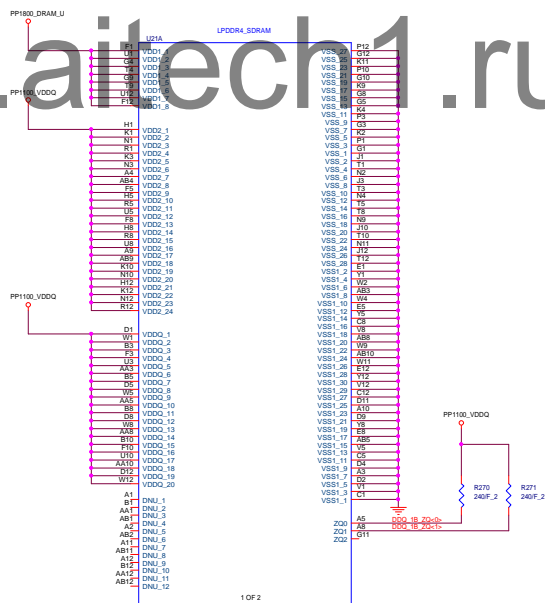
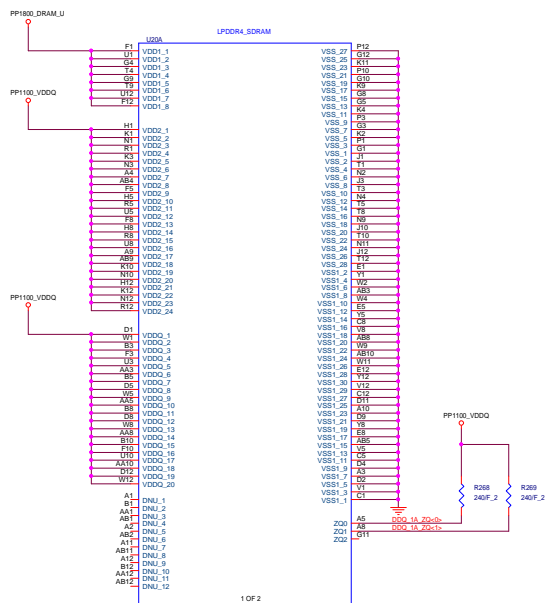


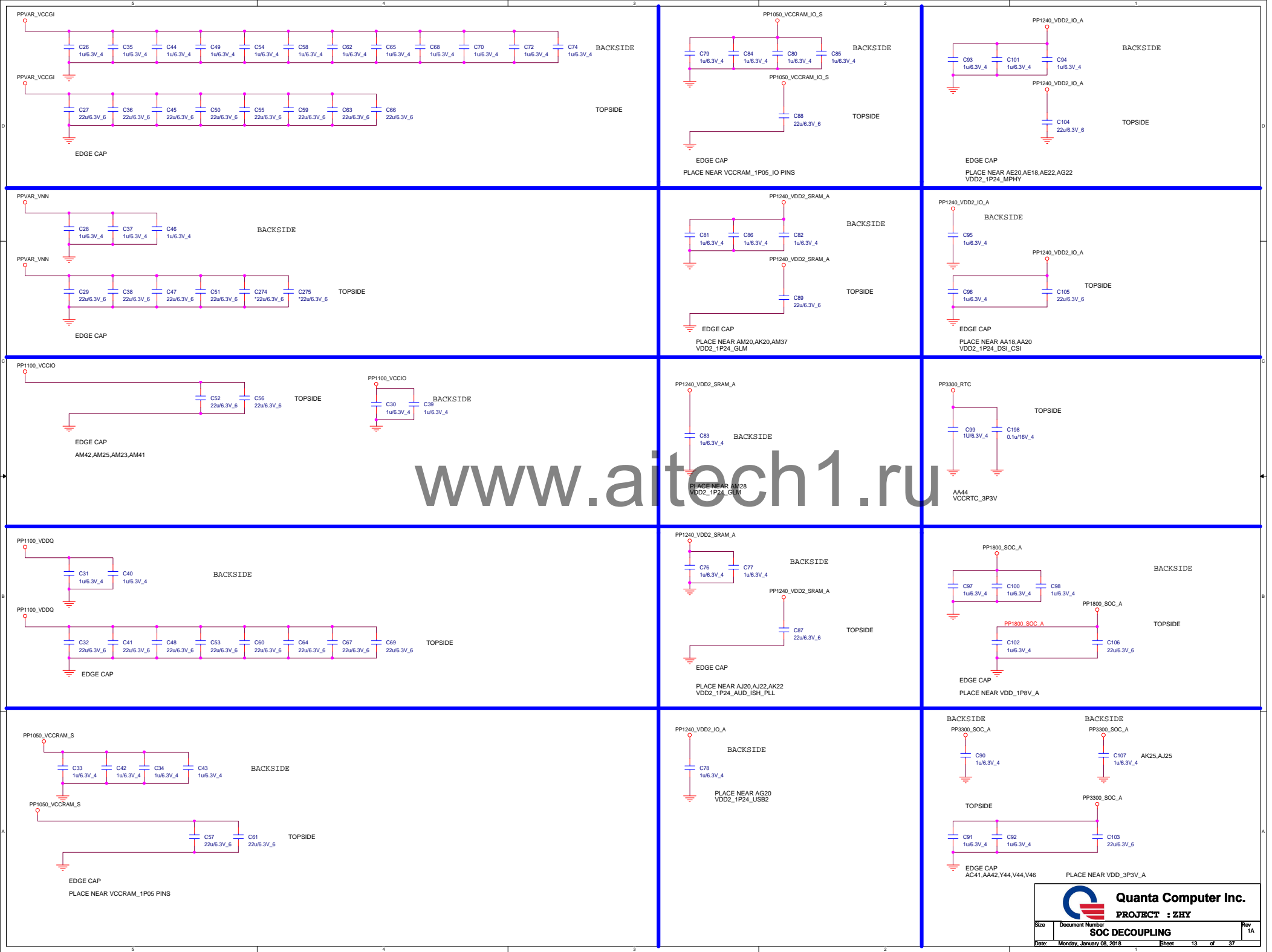
Quanta Computer Inc.

PROJECT : ZHY

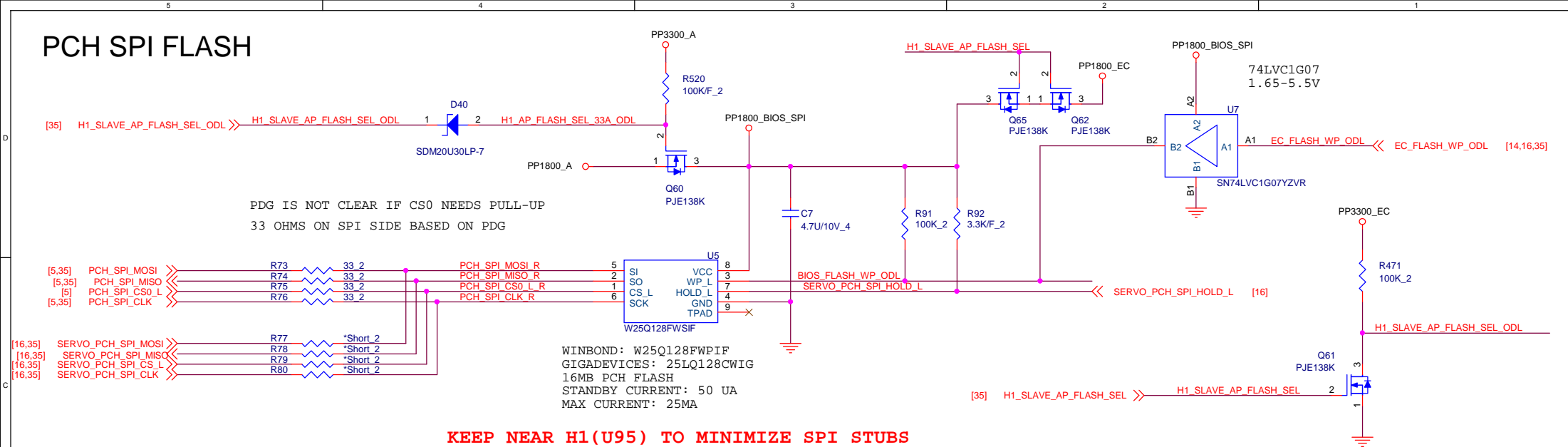
Size	Document Number	Rev
	APL NO CONNECT	1A
Date:	Monday, January 08, 2018	Sheet 10 of 37



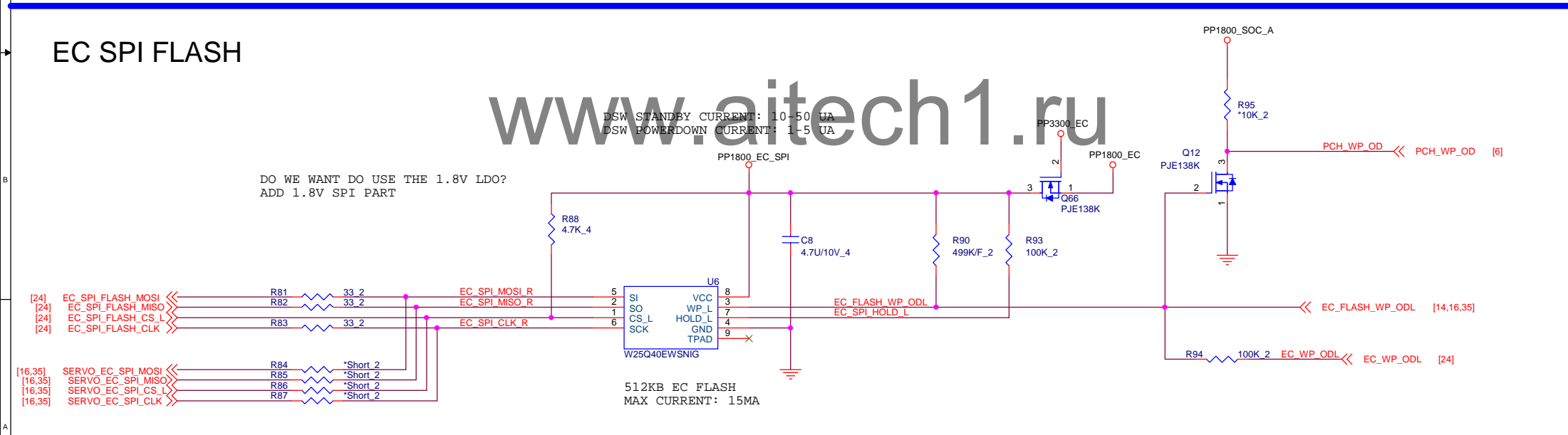


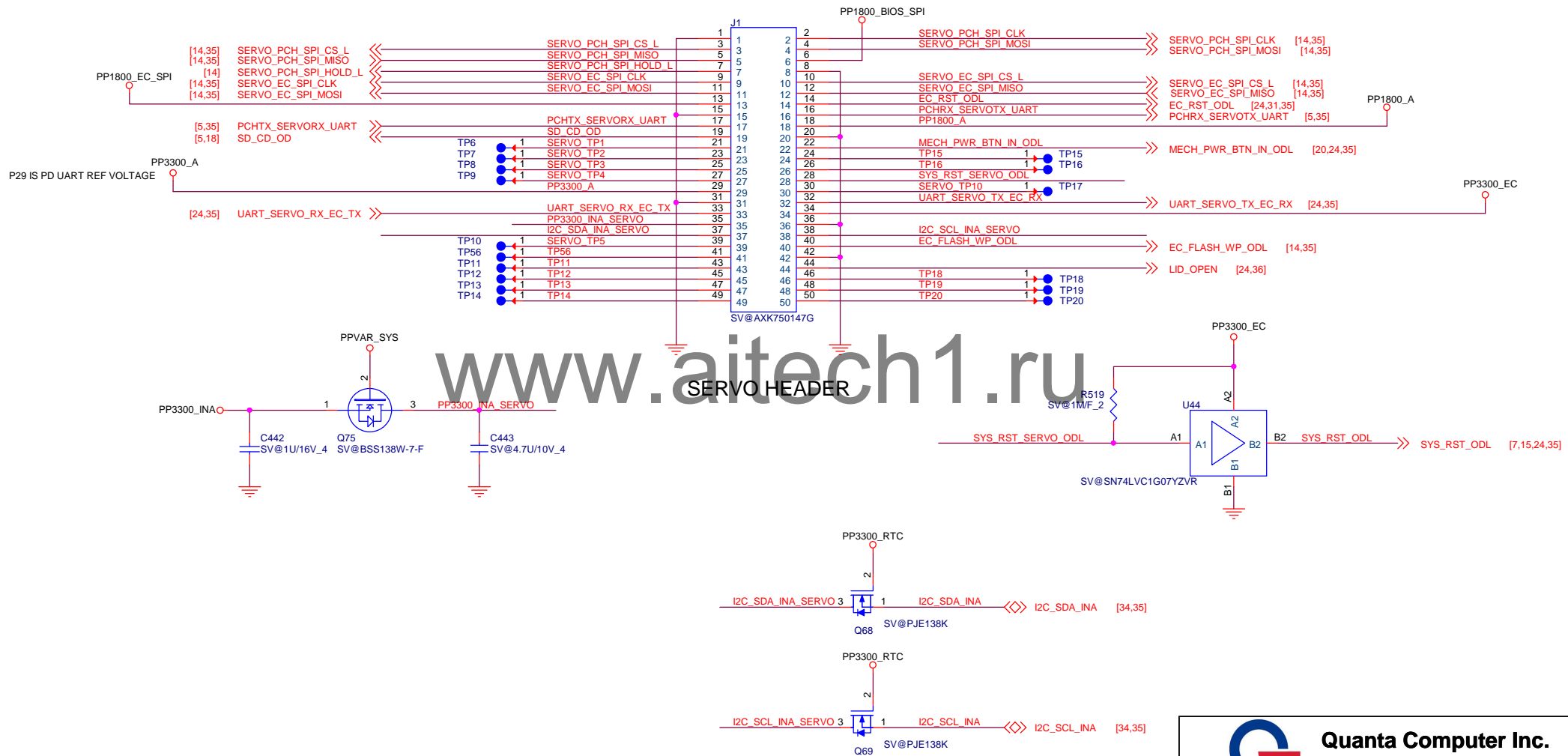


PCH SPI FLASH



EC SPI FLASH





www.aitech1.ru



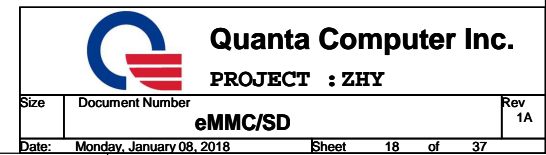
Quanta Computer Inc.

PROJECT : ZHY

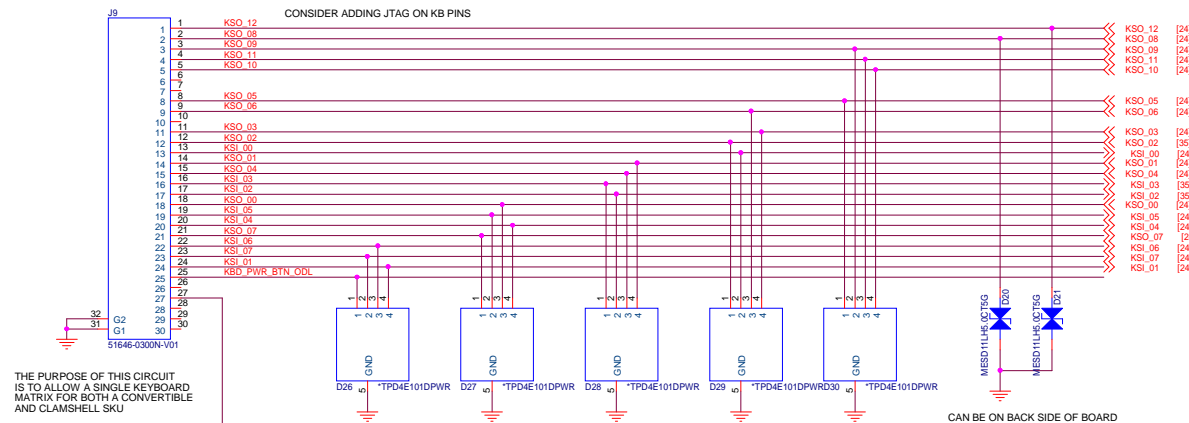
Size	Document Number	Rev 1A
RESERVE		

Date: Monday, January 08, 2018 Sheet 17 of 37

150 UA SLEEP CURRENT



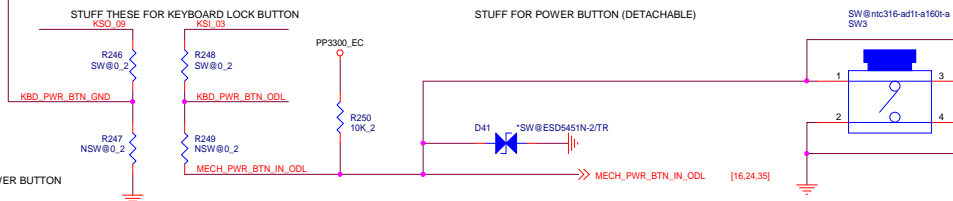
BSW REF DESIGN ERRATA MENTIONED
A LEAKAGE PROBLEM INTO THE EC
VIA THE KSO PINS. THE FIX WAS
TO ADD 100K PULLUPS TO 3P3A_EC
ON THE KSO SIGNALS
0C2A COMPATIBLE



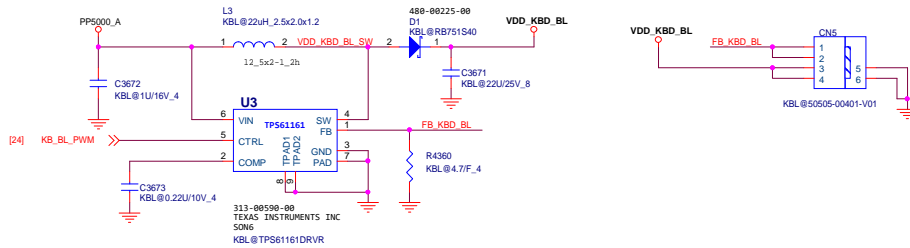
Convertible	R246,R248,SW3 STUFF ; R247,R249 NC
Clamshell	R247,R249 STUFF ; R246,R248,SW3 NC

THE PURPOSE OF THIS CIRCUIT
IS TO ALLOW A SINGLE KEYBOARD
MATRIX FOR BOTH A CONVERTIBLE
AND CLAMSHELL SKU

STUFF THESE FOR KEYBOARD POWER BUTTON

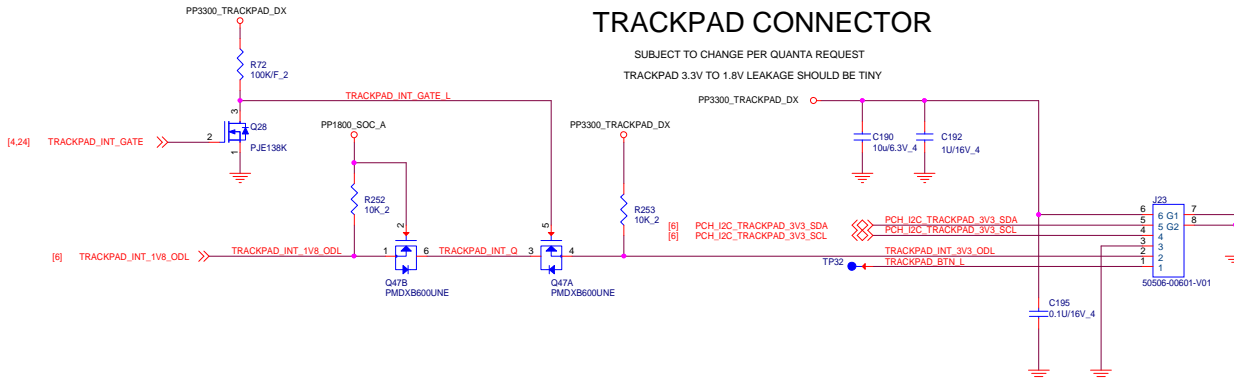


KB BACKLIGHT



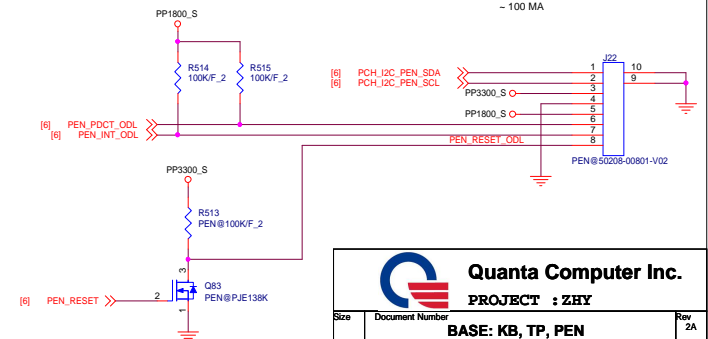
TRACKPAD CONNECTOR

SUBJECT TO CHANGE PER QUANTA REQUEST
TRACKPAD 3.3V TO 1.8V LEAKAGE SHOULD BE TINY

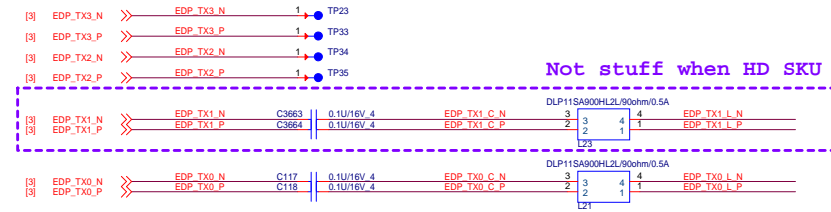


PEN CONNECTOR

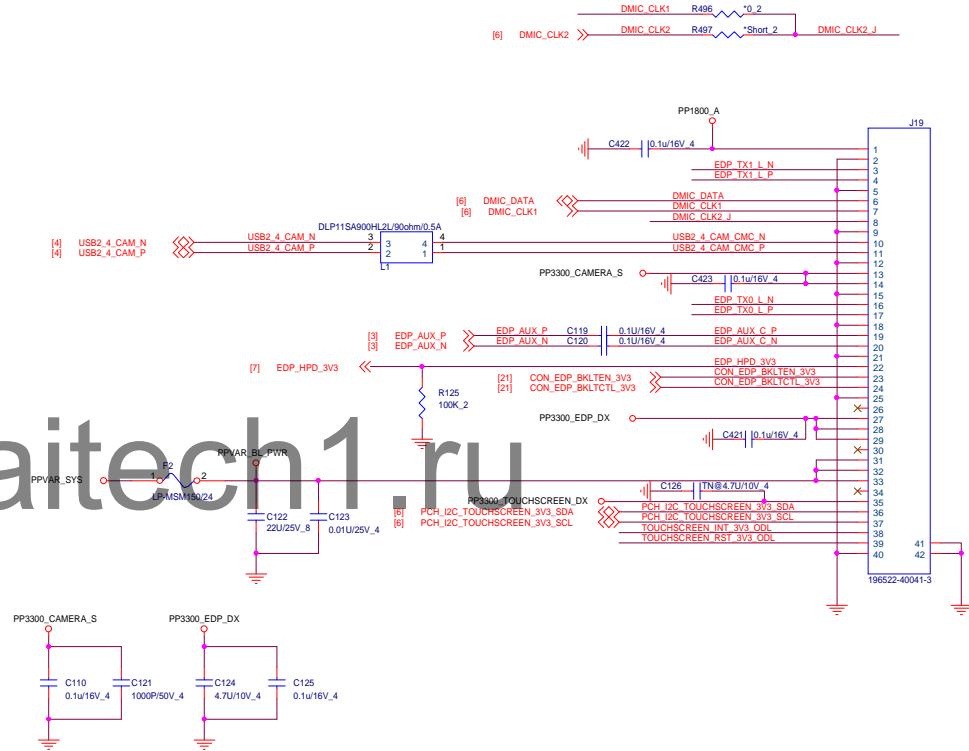
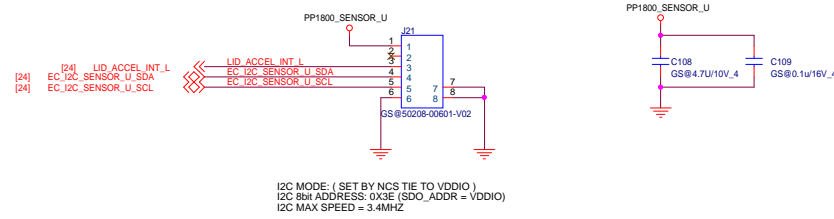
PEN 7-BIT I2C ADDRESS = 0X09
~ 100 MA



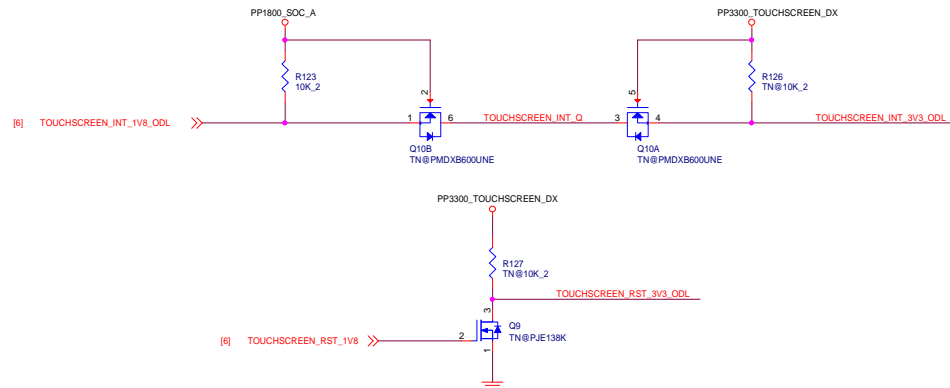
EDP2-EDP3 DOES NOT NEED TO ROUTE TO CONNECTOR



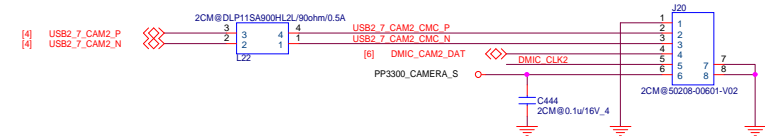
SENSOR BOARD (KX022)



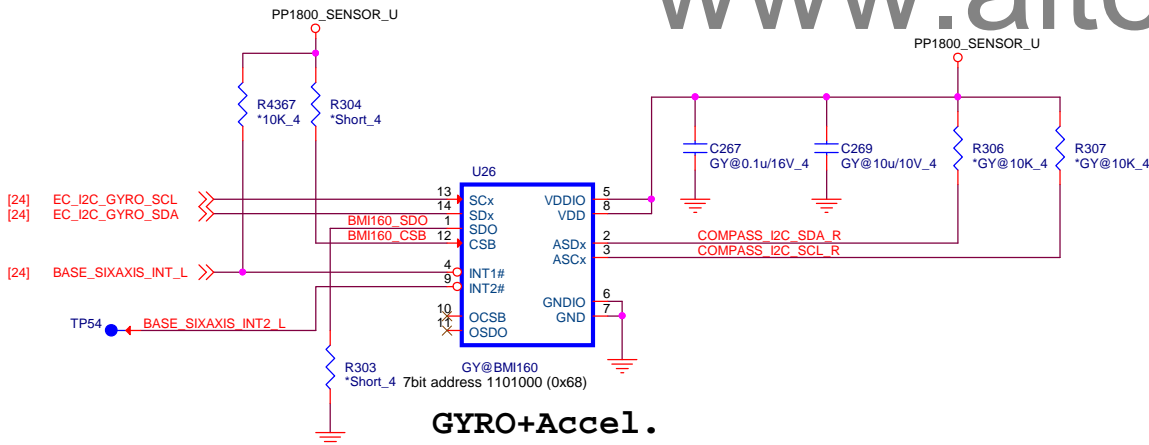
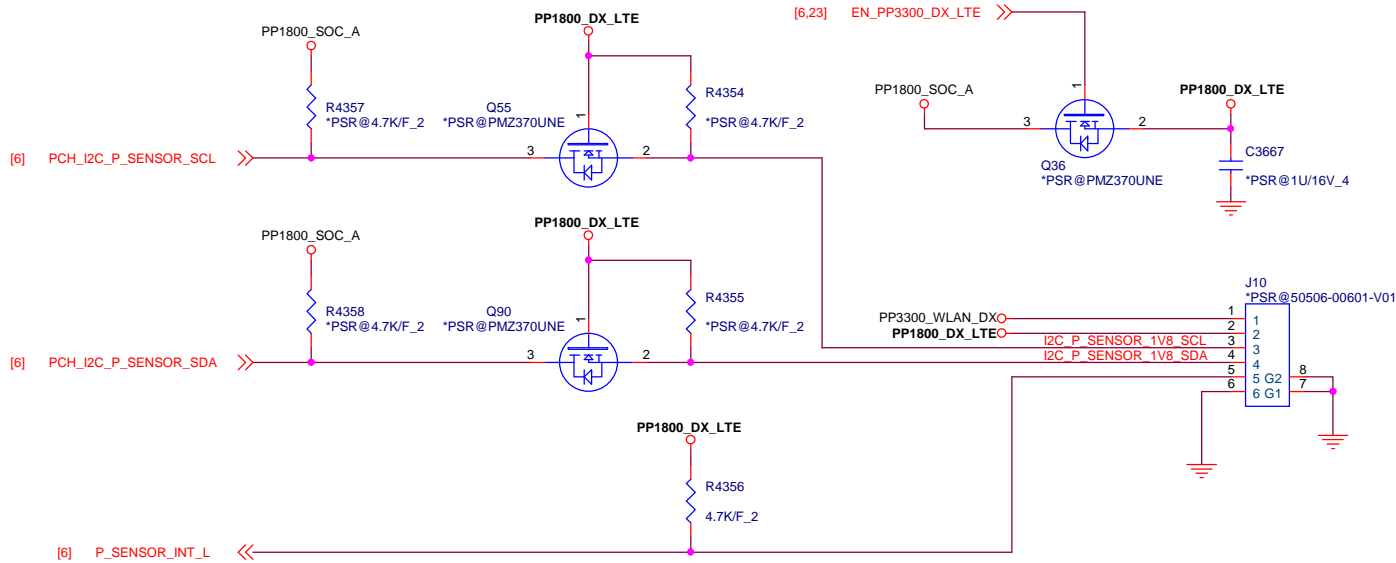
TOUCH SCREEN



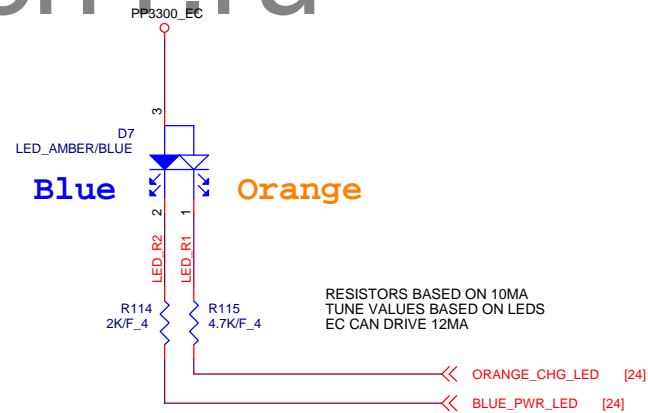
C-PANEL CAMERA



P-SENSOR



CHARGE/BATTERY LED



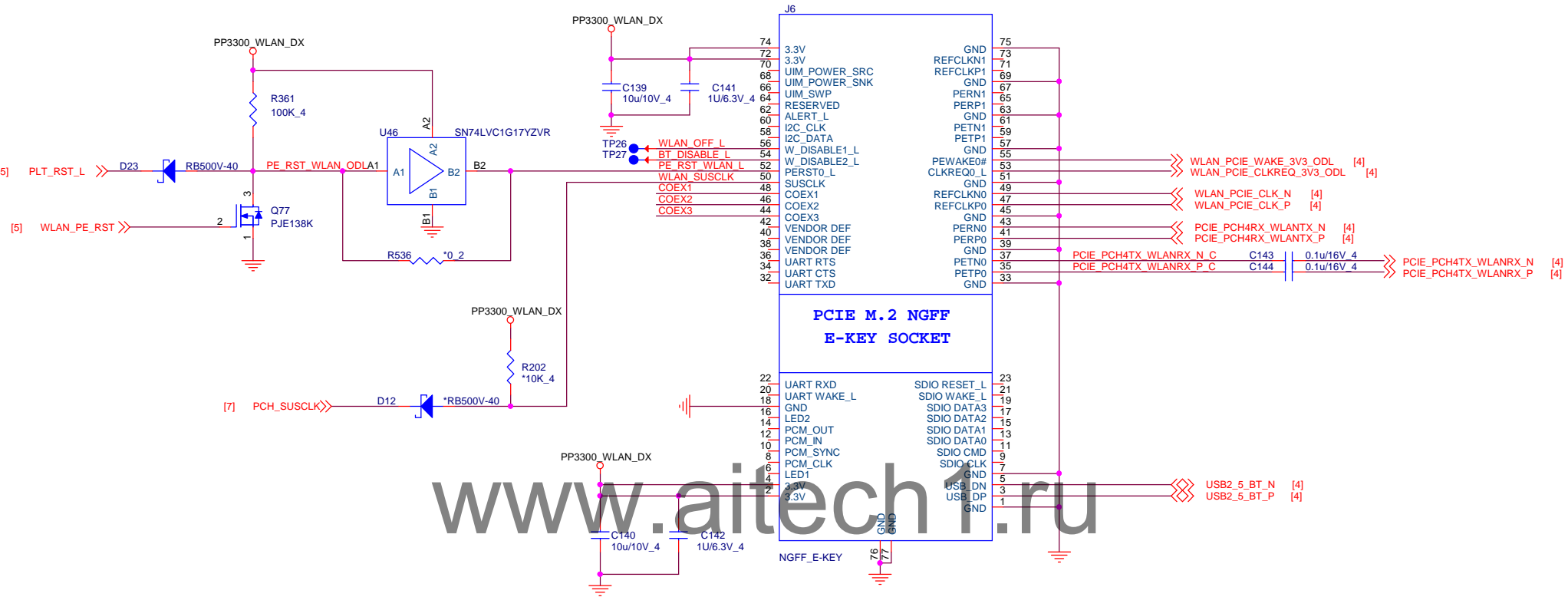
Quanta Computer Inc.

PROJECT : ZHY

GYRO, LED, P-SENSOR

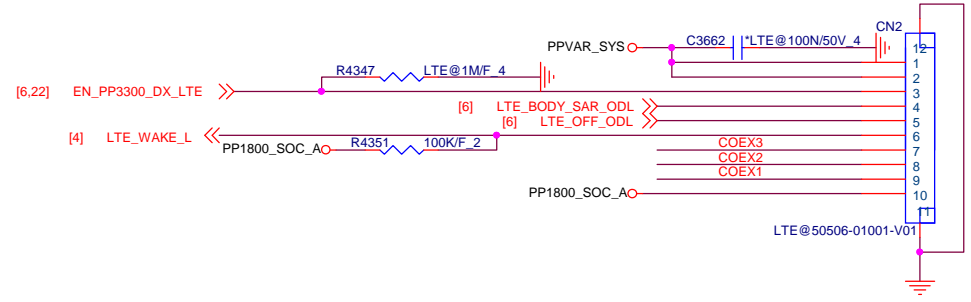
Size	Document Number GYRO, LED, P-SENSOR	Rev 3A
Date:	Monday, January 08, 2018	Sheet 22 of 37

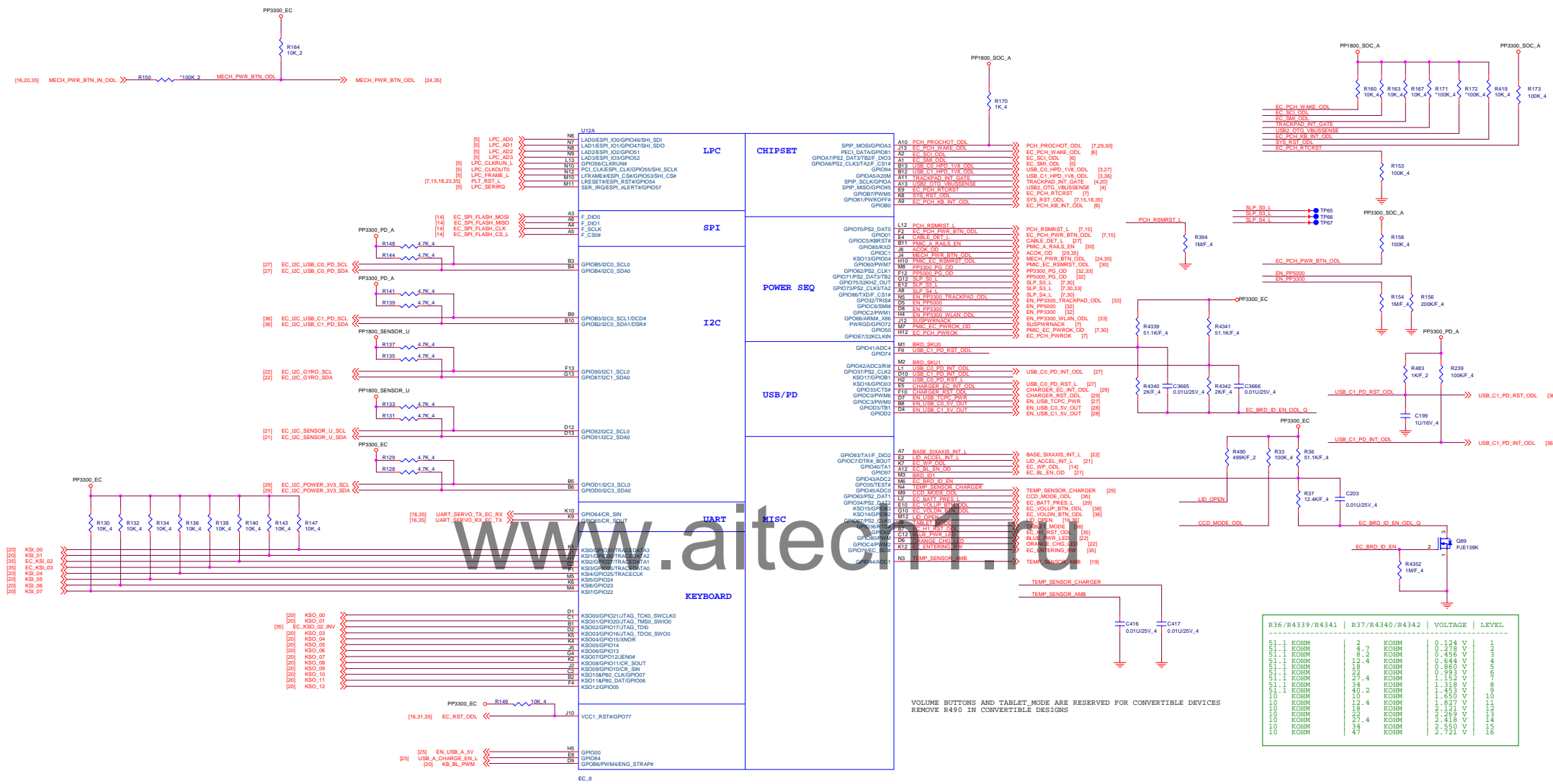
M.2 connector



www.aitech1.ru

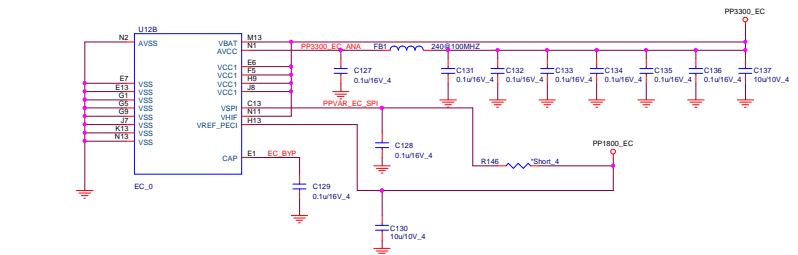
To LTE/B connector

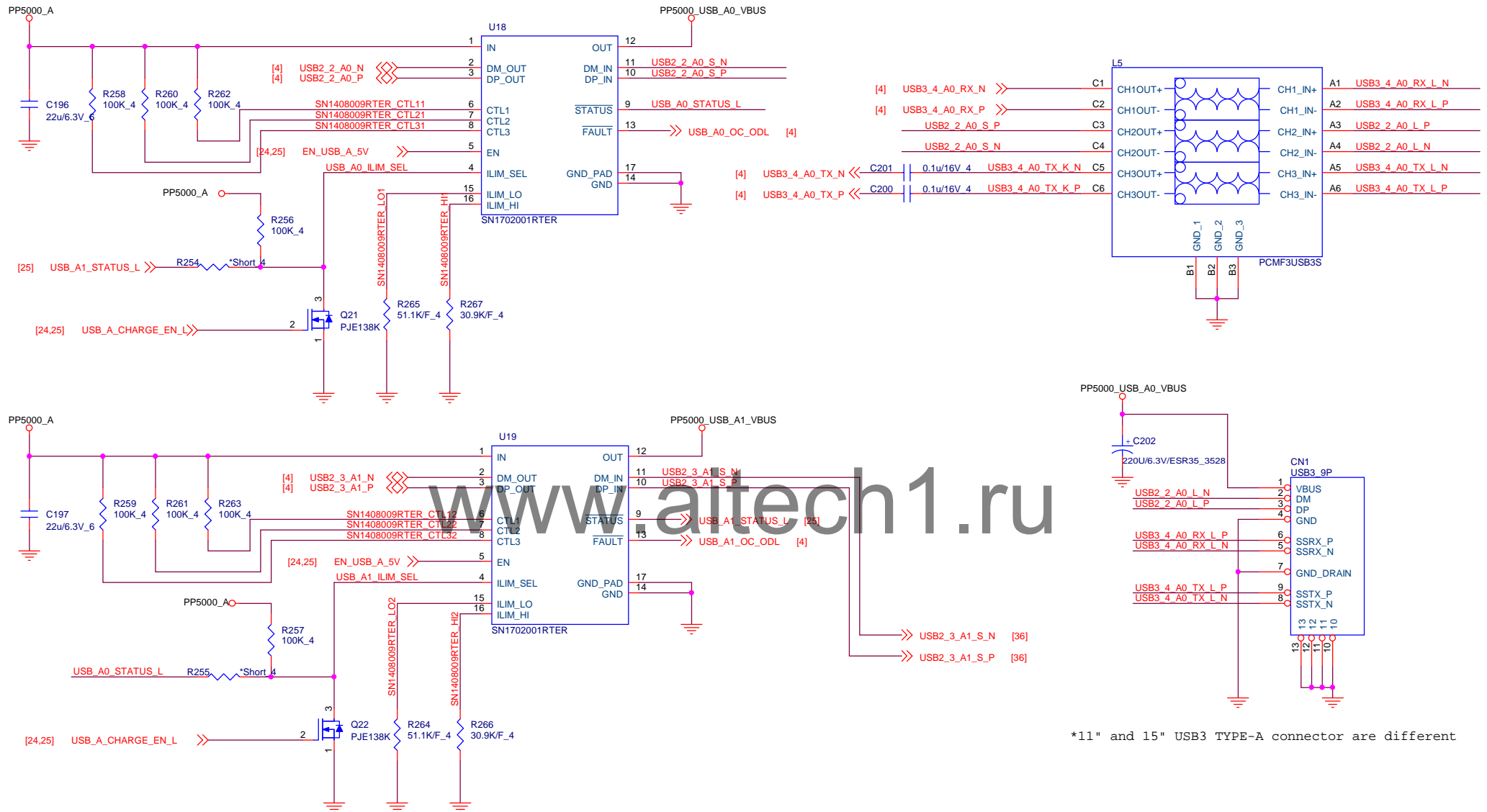




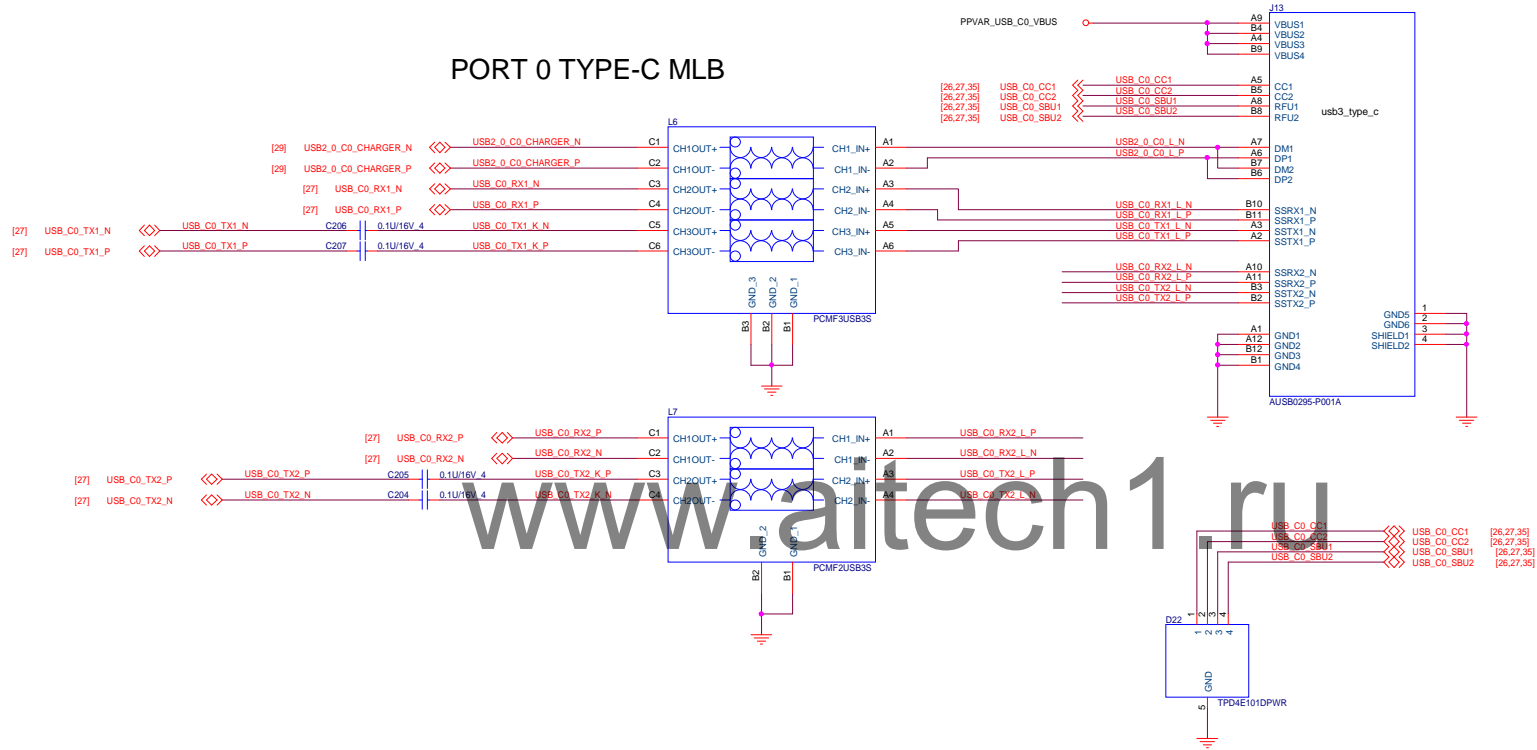
R36/R4339/R4341		R37/R4340/R4342		VOLTAGE	LEVEL
5.1-1	KOHM	2	KOHM	0.378 V	2
5.1-1	KOHM	2.7	KOHM	0.378 V	2
5.1-1	KOHM	12.4	KOHM	0.456 V	4
5.1-1	KOHM	12.4	KOHM	0.644 V	4
5.1-1	KOHM	18	KOHM	0.860 V	5
5.1-1	KOHM	18	KOHM	0.973 V	6
5.1-1	KOHM	27.4	KOHM	1.152 V	8
5.1-1	KOHM	34	KOHM	1.318 V	8
5.1-1	KOHM	40.2	KOHM	1.453 V	9
1.0	KOHM	10	KOHM	1.650 V	10
1.0	KOHM	12.4	KOHM	1.827 V	11
1.0	KOHM	18	KOHM	2.121 V	12
1.0	KOHM	22	KOHM	2.269 V	13
1.0	KOHM	27.4	KOHM	2.418 V	14
1.0	KOHM	34	KOHM	2.550 V	15
1.0	KOHM	47	KOHM	2.721 V	16

VOLUME BUTTONS AND TABLET_MODE ARE RESERVED FOR CONVERTIBLE DESIGNS
REMOVE R490 IN CONVERTIBLE DESIGNS



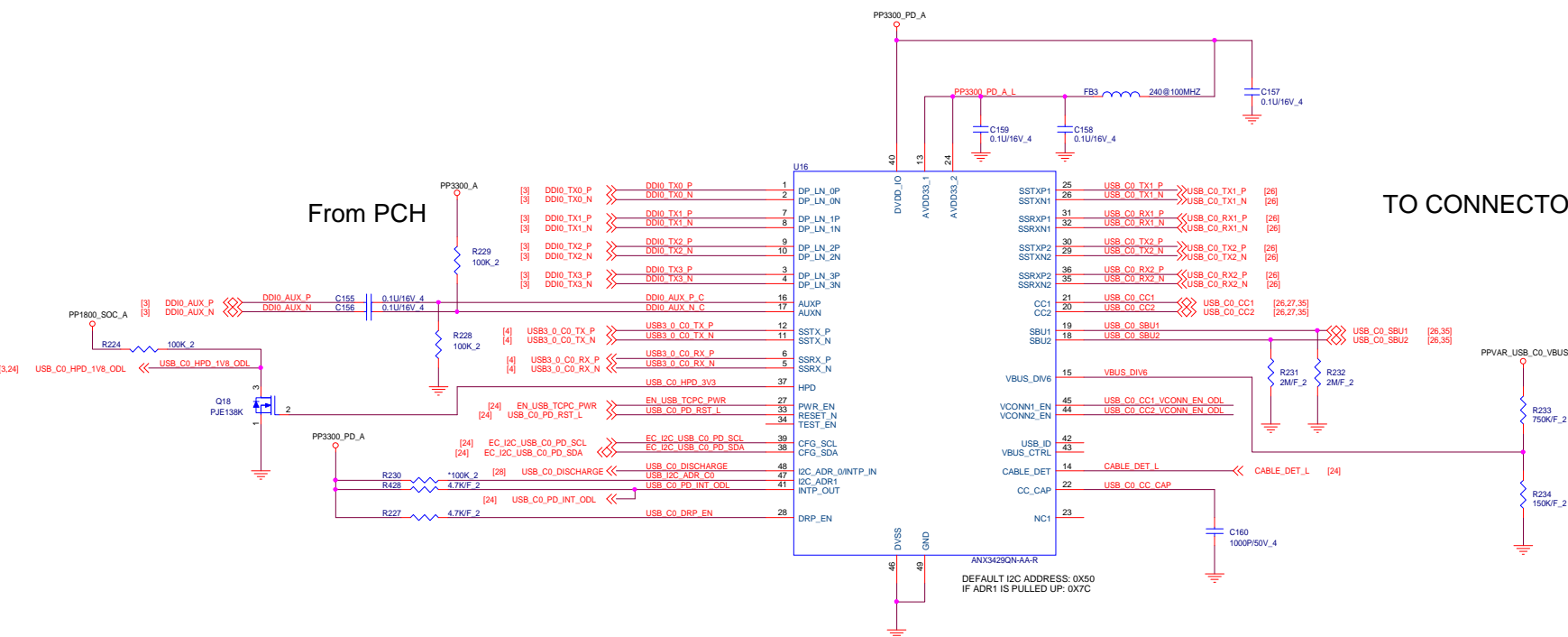


PORT 0 TYPE-C MLB



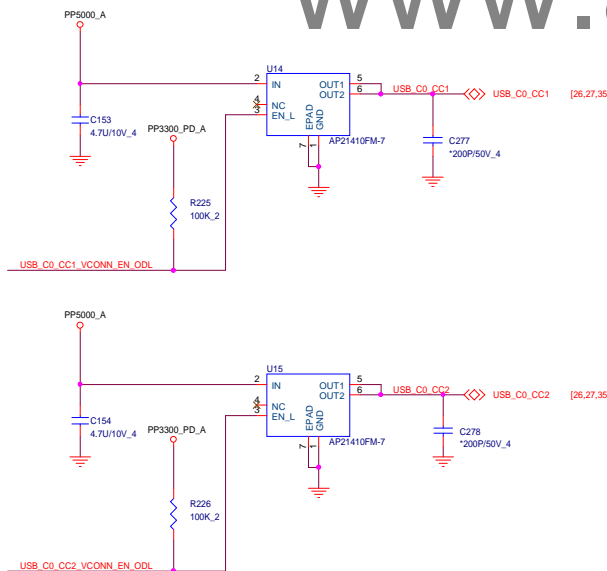
From PCH

TO CONNECTOR



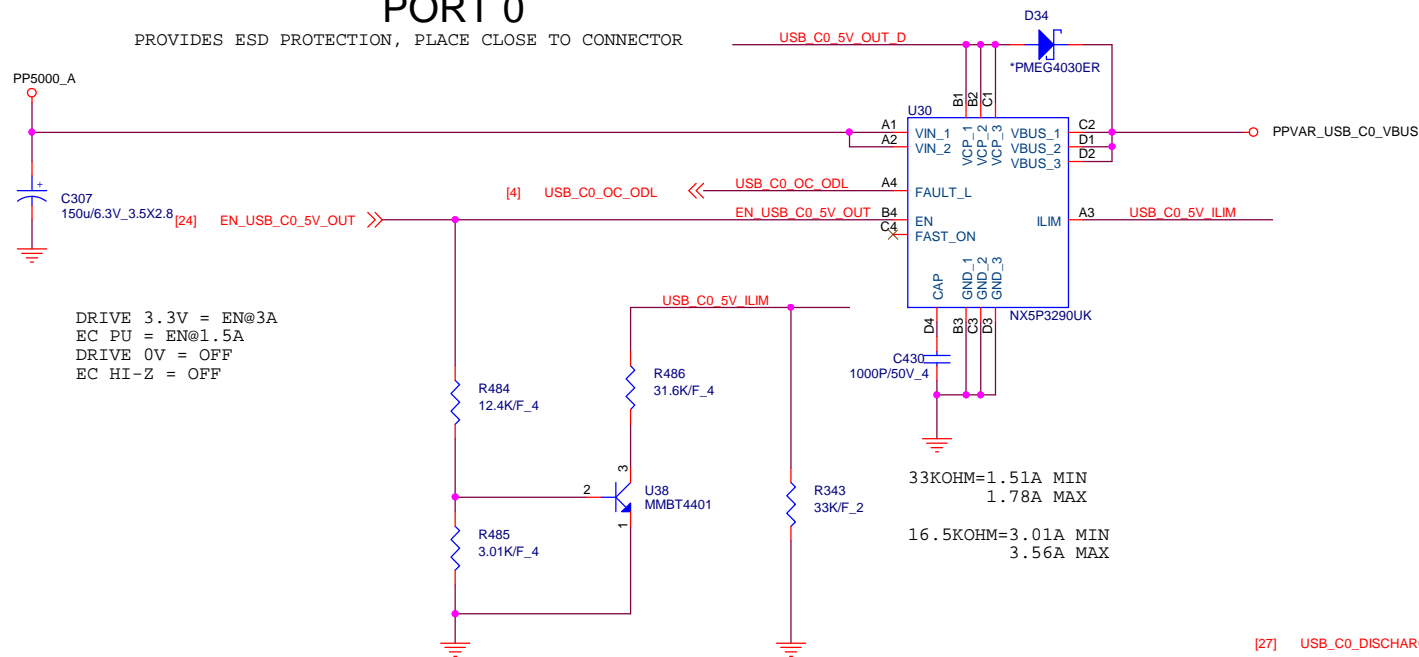
www.aitech1.ru

MOTHERBOARD PORT



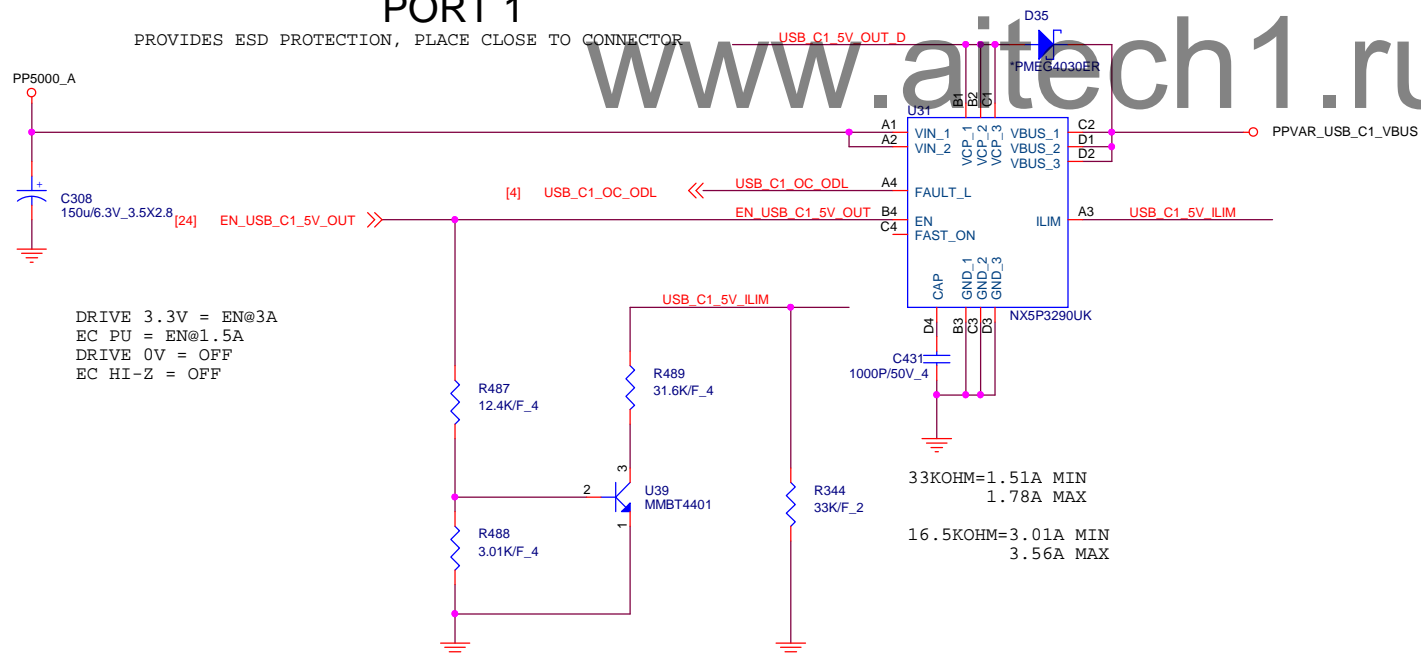
PORT 0

PROVIDES ESD PROTECTION, PLACE CLOSE TO CONNECTOR



PORT 1

PROVIDES ESD PROTECTION, PLACE CLOSE TO CONNECTOR



VBUS DISCHARGE

20UF LOAD, 21V TO <0.8V IN <80MS
20UF LOAD, 5V TO <0.8V IN <45MS
0402 CAN DISSIPATE 400MW FOR 80MS
0603 CAN DISSIPATE 400MW FOR 500MS
0805 CAN DISSIPATE 400MW FOR 2000MS



Quanta Computer Inc.

PROJECT : ZHY

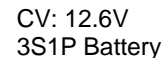
Size	Document Number	Rev
		1A

USB C 5V OUT


Date: Monday, January 08, 2018 Sheet 28 of 37

ROHM BUCK-BOOST CHARGER

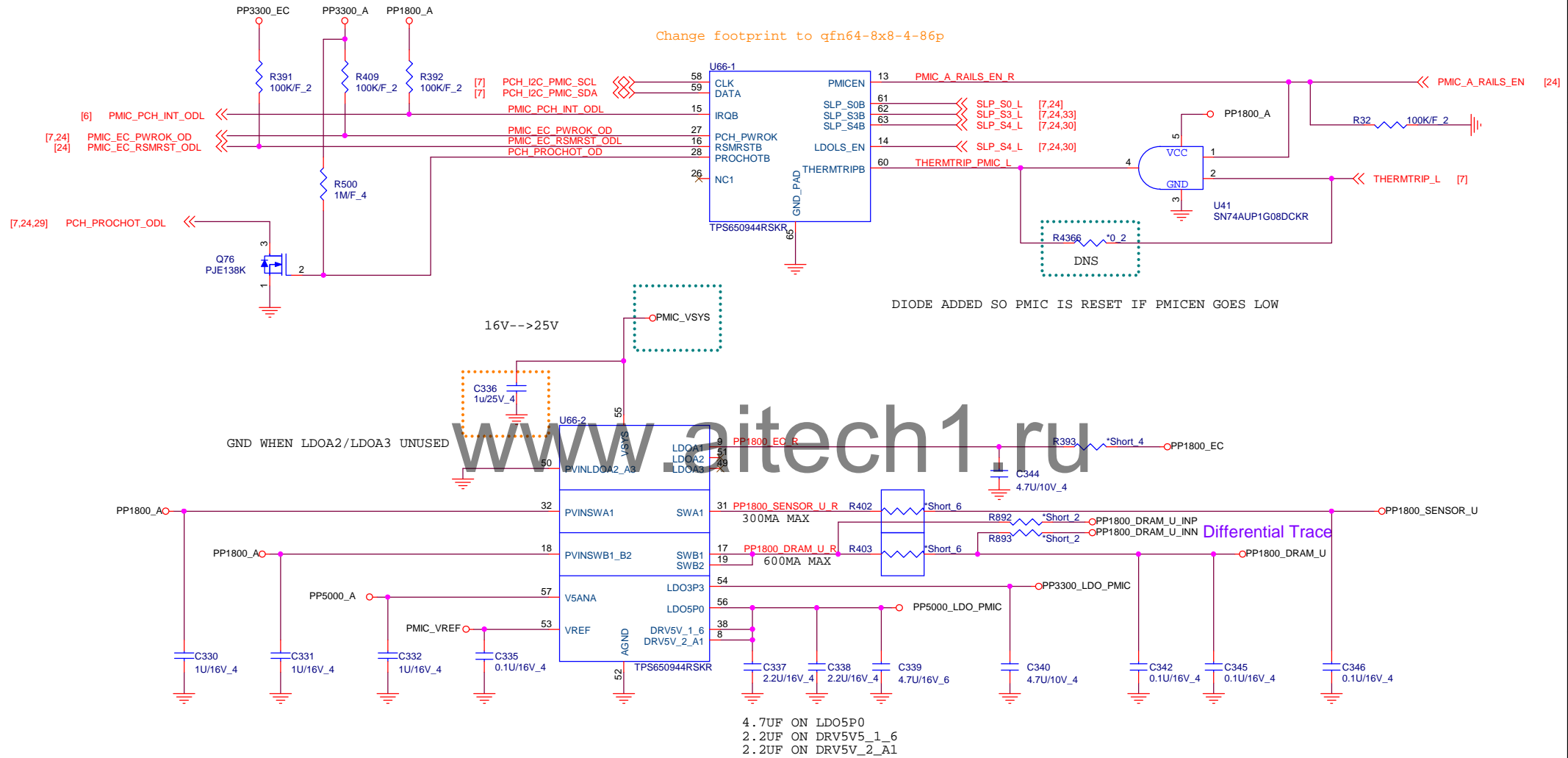
change to 10U/25V_8 from 10U/50V_1206



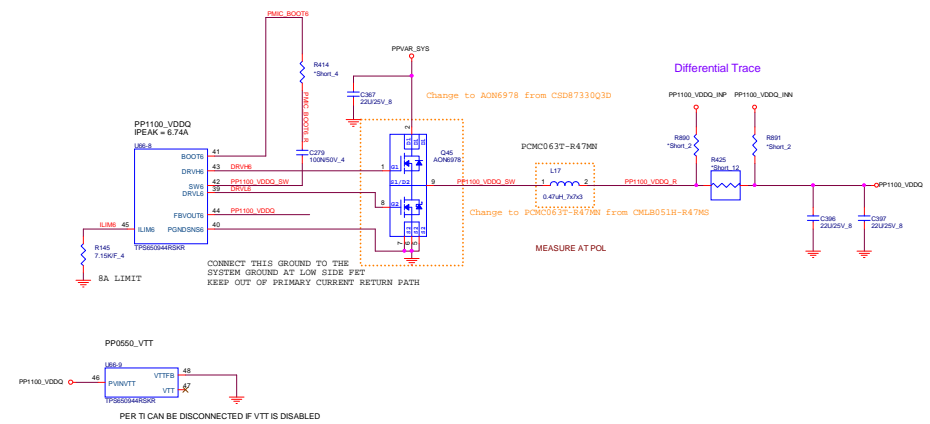
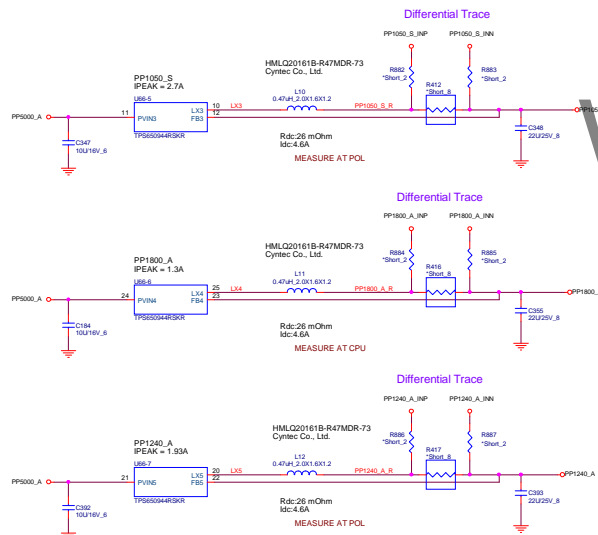
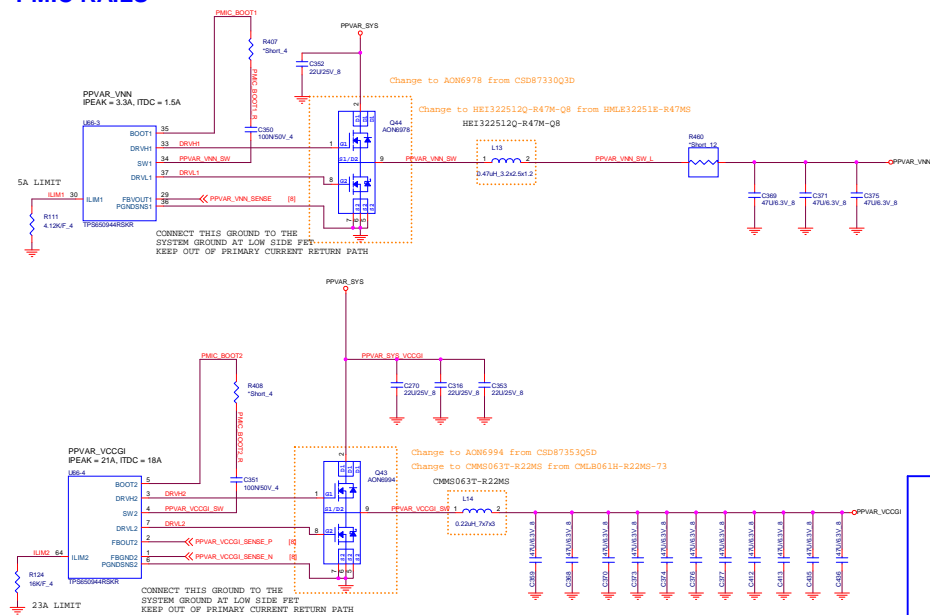
QUANTA CHOOSE PINOUT/CONNECTOR

 Quanta Computer Inc. PROJECT : ZHY	
Size	Document Number
POWER - BATTERY CHARGER	
Date:	Monday, January 06, 2018 10:28 AM

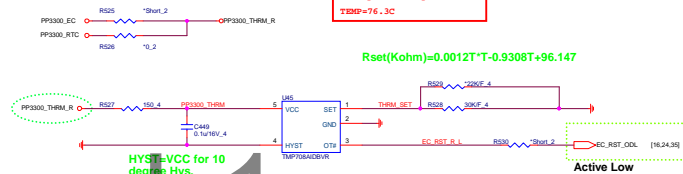
POWER - PMIC LOGIC



POWER - PMIC RAILS



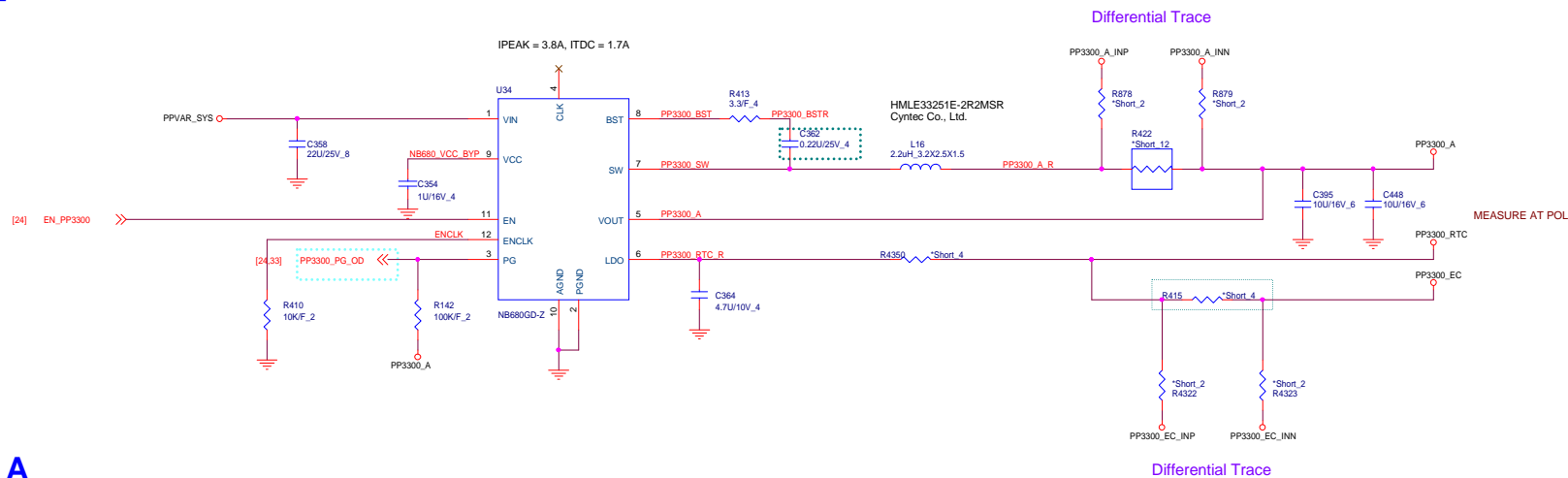
Thermal Protector



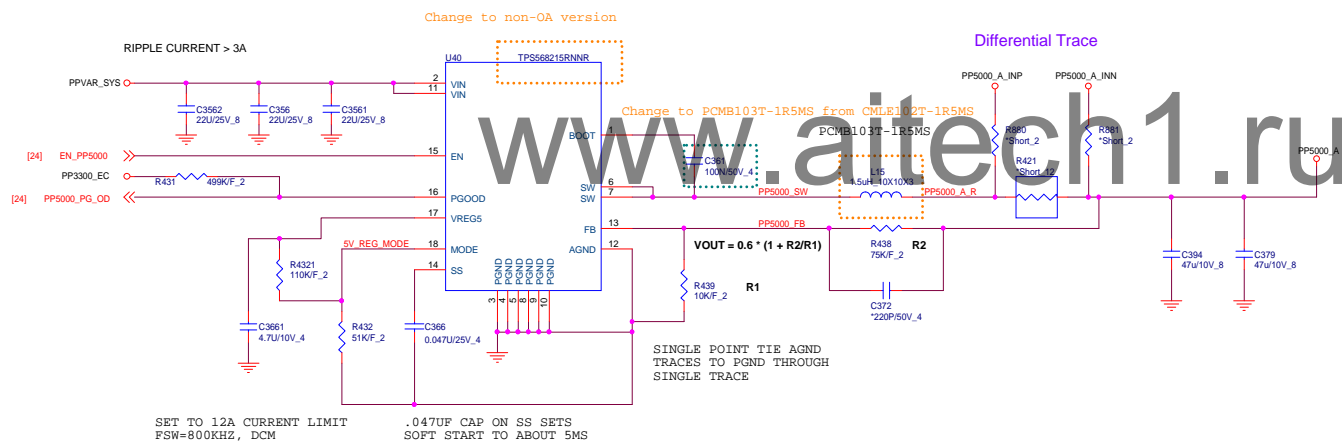
PMIC_VSYS



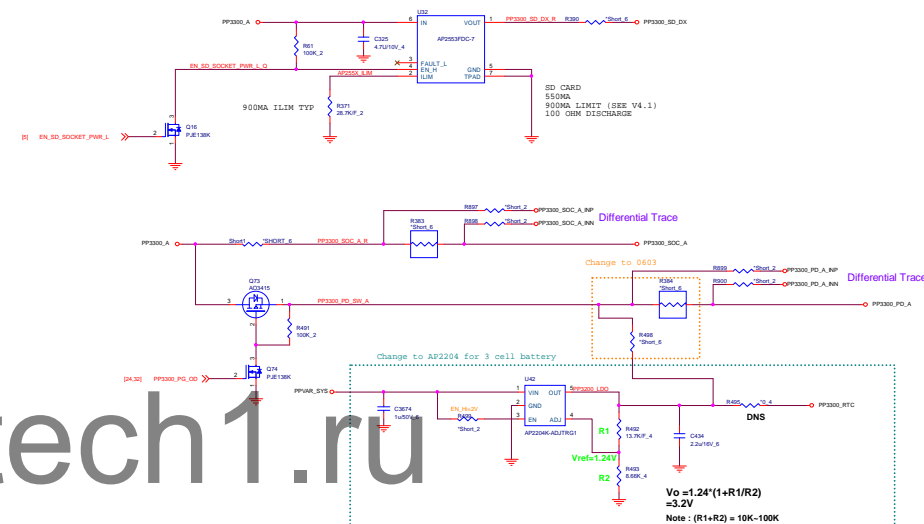
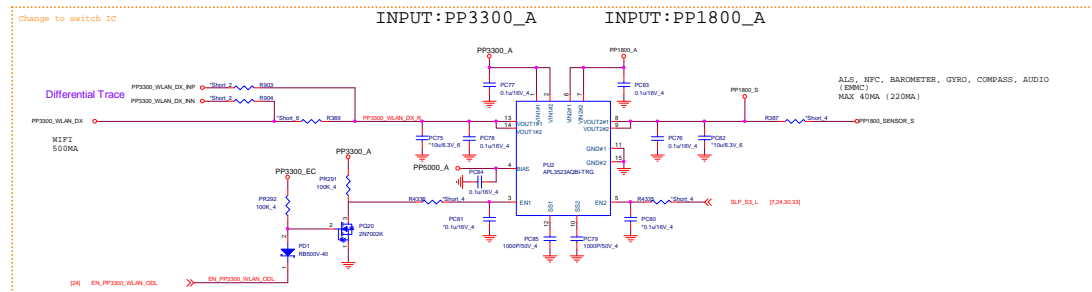
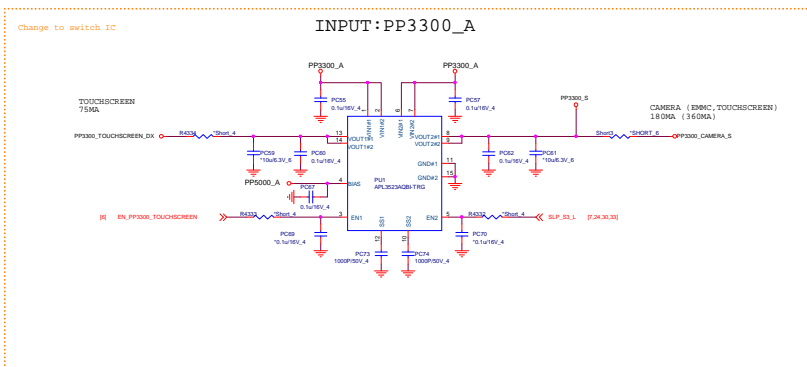
PP3300_A



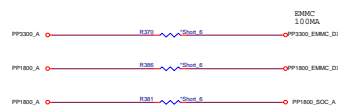
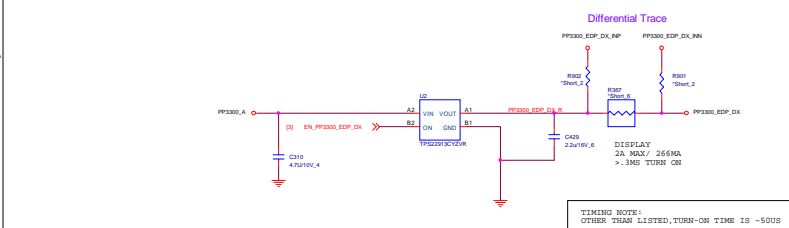
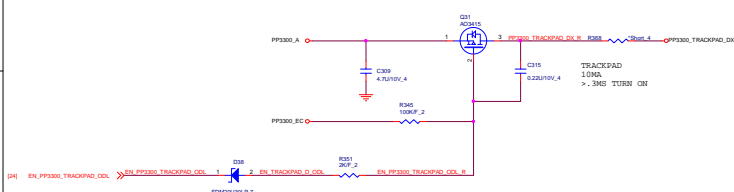
PP5000_A

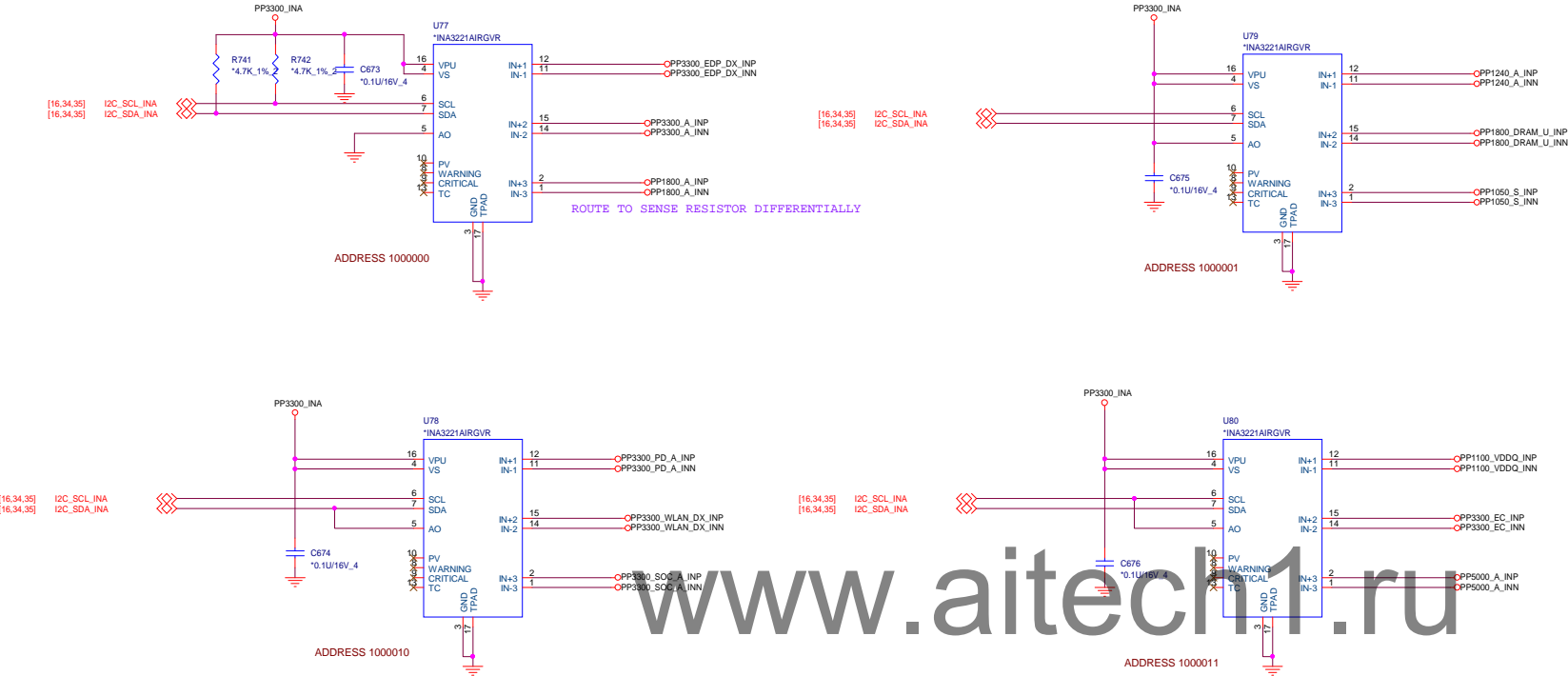


POWER - LOAD SWITCHES

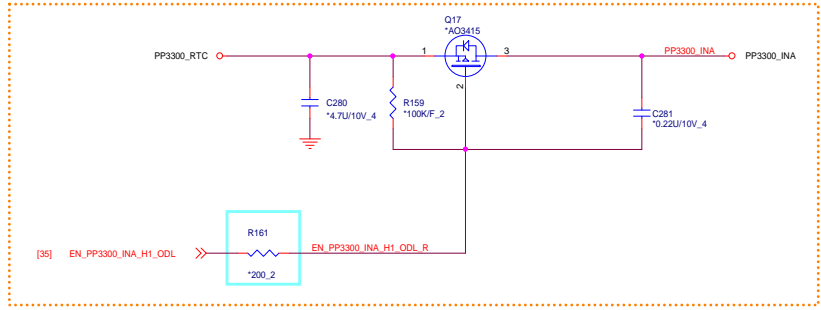


www.aitech1.ru

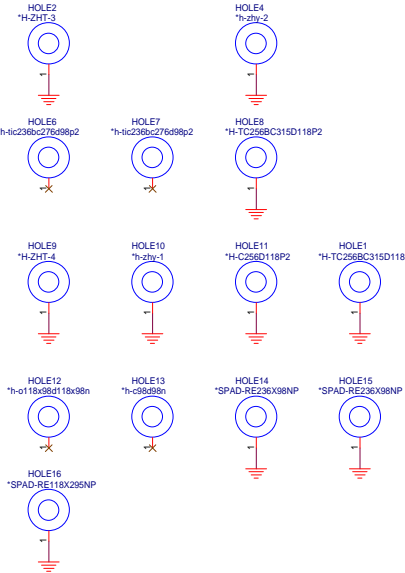




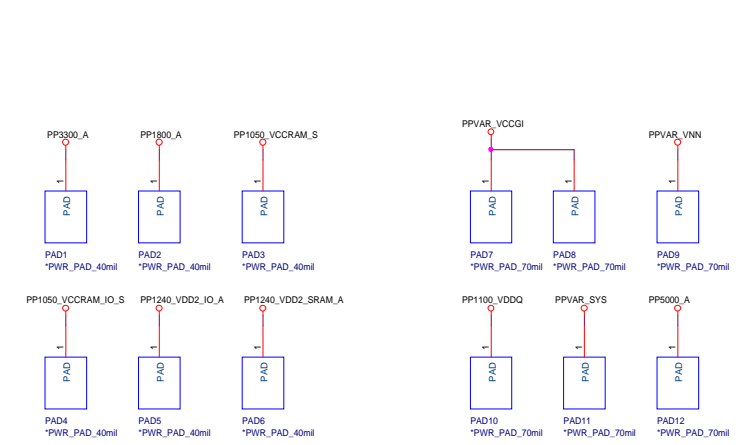
INAs power

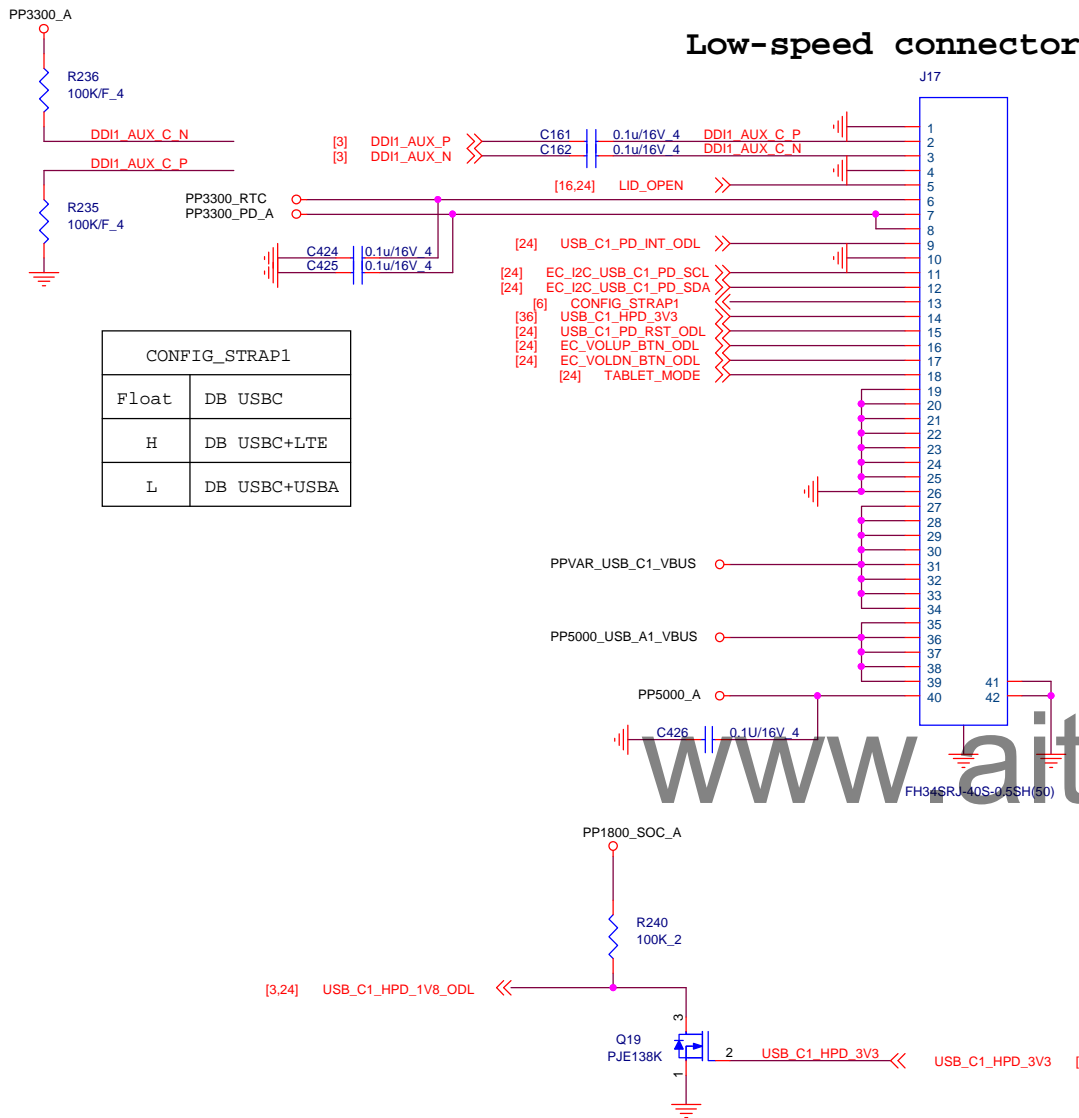


HOLES

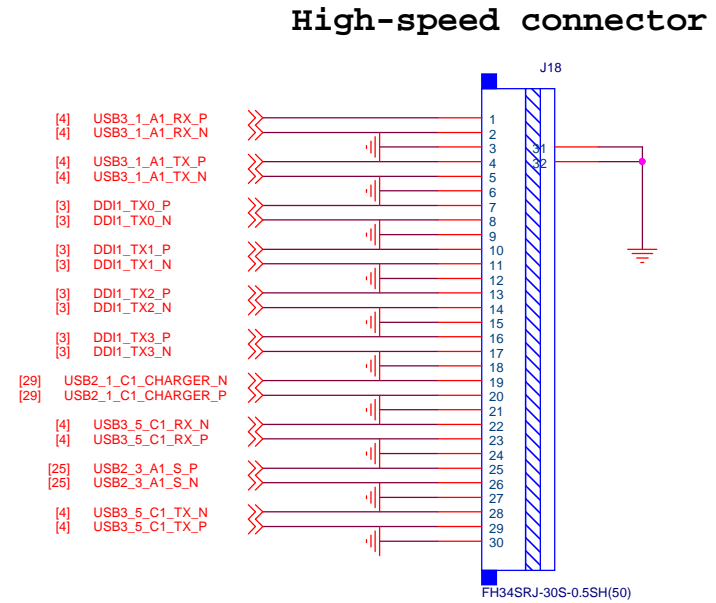


POWER TEST PAD





CONFIG_STRAP1	
Float	DB USBC
H	DB USBC+LTE
L	DB USBC+USBA



Model	Version	CHANGE LIST
ZHY	3A	<div>2017/12/19</div> <div>page 6 Change Q91 to PMDXB600UNE, add R4368 for LTE_EN_PP3300_DX_LTE signal glitch issue</div> <div>page 21 Change R497 to short pad</div> <div>page 35 Change R875,R450,R813 to short pad</div> <div>page 29 Change value to 10u/25V_8 for C296,C297,C410</div> <div>page 30 Change R393,R402,R403 to short pad</div> <div>page 31 Change R460,R412,R416,R417,R425,R530,R4365 to short pad</div> <div>page 32 Change R422,R4350,R415,R421 to short pad</div> <div>page 33 Change R4334,R4333,R4332,R4336,R4335,R383,R381,R367,R499 to short pad</div> <div>Change R498,R384 to short pad</div> <div>page 34 DNS all INAs and INAs power</div> <div>2017/12/20</div> <div>page 29 Add C3675,C3676 (56uF/20V/7343) on PPVAR_SYS for acoustic noise.</div> <div>page 31 Remove PU15,R4364,PR191,PR189,PR188,R4363,PC197,PC195.</div> <div>2017/12/29</div> <div>page 29 Stuff C3676 for all project,stuff C3675 for Astronaut project only</div> <div>2018/1/3</div> <div>page 24 Change R37 to 12.4Kohm for PVT</div>

www.aitech1.ru