Quanta Confidential

KBL-U/R MB Schematic Document

ZAT

Rev: 5A

2019.03.20

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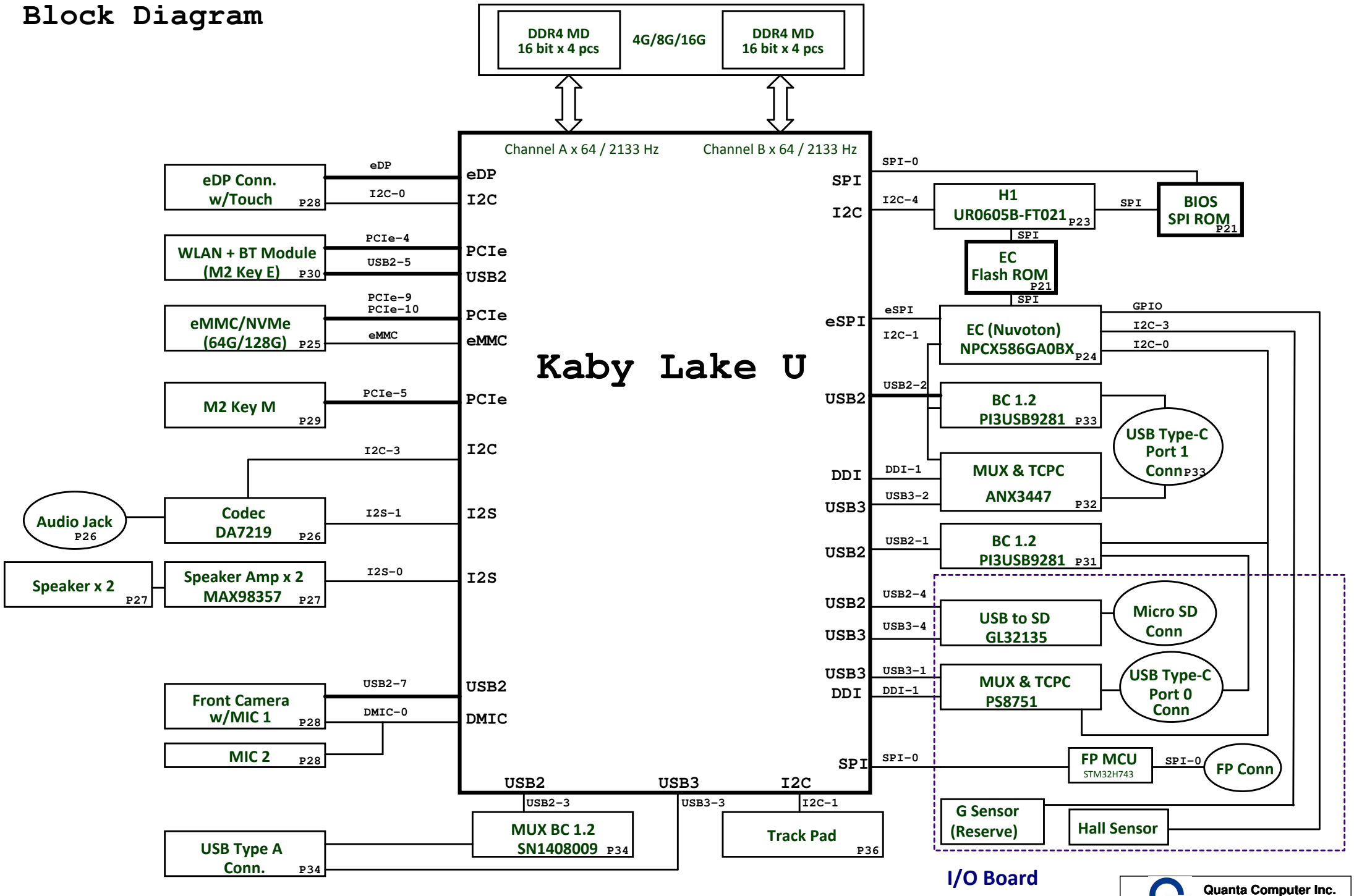
PROJECT : ZAT

Size	Document Number	Rev
	Cover Page	5A

Date: Tuesday, March 26, 2019 Sheet 1 of 54

Block Diagram



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PROJECT : ZAT

Size	Document Number	Rev
	SYSTEM BLOCK DIAGRAM	5A

Date: Tuesday, March 26, 2019 Sheet 3 of 54

Intel KBL-U Platform		KBL-U Chromebook (EQA04)		
HSIO Port	Capable	Port Allocation	PCIE CLK & CLKREQ	Note
1	USB3 #1/OTG	USB3 Type-C port 0		SUB/B
2	USB3 #2 / SSIC	USB3 Type-C port 1		M/B
3	USB3 #3	USB3 Type-A port		M/B
4	USB3 #4	USB3 to SD card reader		SUB/B
5	PCIE #1 / USB3 #5	NA		
6	PCIE #2 / USB3 #6	NA		
7	PCIE #3 / LAN	NA		
8	PCIE #4 / LAN	WLAN + BT Module	PCIE CLK 1	M.2 key-E
9	PCIE #5 / LAN	M.2 key-M	PCIE CLK 3	M.2 key-M
10	PCIE #6	NA		
11	SATA #0 / PCIE #7	NA		
12	SATA #1 / PCIE #8	NA		
13	PCIE #9 / LAN	On board NVMe	PCIE CLK 2	
14	PCIE #10 / LAN	On board NVMe	PCIE CLK 2	
15	PCIE #11	NA		
16	PCIE #12	NA		

Intel KBL-U Platform		KBL-U Chromebook (EQA04)	
HSIO Port	Capable	Port Allocation	Note
1	USB2 #1	USB3 Type-C port 0	SUB/B
2	USB2 #2	USB3 Type-C port 1	M/B
3	USB2 #3	USB3 Type-A port	M/B
4	USB2 #4	USB3 to SD card reader	
5	USB2 #5	WLAN + BT Module	M.2 key-E
6	USB2 #6	N/A	
7	USB2 #7	CAMERA	Front
8	USB2 #8	NA	
9	USB2 #9	N/A	
10	USB2 #10	NA	

Intel KBL-U Platform		KBL-U Chromebook (EQA04)	
DDI Port	Capable	Port Allocation	Note
1	DDI #1	Type-C port 1	M/B
2	DDO #2	Type-C port 0	SUB/B

EC			
I2C Port	Power Rail	Device	Address (7 bit)
I2C_0	3.3V	BC1.2 Detecter (USB-C Port 0) PI3USB9281C	0100101
	3.3V	TCPC & Redrive-MUX (USB-C Port 0) PS8751	0001011
	3.3V	HW ID EEPROM M34E02-F	1010000
I2C0_1	3.3V	BC1.2 Detecter (USB-C Port 1) PI3USB9281C	0100101
		TCPC & MUX (USB-C Port 1) ANX3447	0101100
I2C_1	3.3V	Battery	
	3.3V	Battery Charger ISL9238	0001001
I2C_2	3.3V	KB Back Light LM3509	0110110
	3.3V	PMIC TPS650830	0110000
	3.3V	No support(Reserve)	1101000
		No support(Reserve)	0010000
		G-sensor KX022-1020	0011111
		Thermal Sensor(F75303M_MSOP10)	1001101

SCO			
I2C Port	Voltage Level	Device	Address(7 bit)
I2C_0	3.3V	Touch Screen	0100000
I2C_1	3.3V	Trackpad	0011001
I2C_2	3.3V	No support(Reserve)	0001001
I2C_3	1.8V	Headphone Codec	0011010
I2C_4	3.3V	H1(Reserve)	NA

	Location	Address	Channel	Test Power Net Name	Test Point		Remark
INA3221AIRGVR	U35	1000000	CH1	PPVAR_SYS_PMIC_V1	PR127	0.01_0603_1%	PP1000_A Source
			CH2	PPVAR_BL_PWR	F1	F_SMD1812P110TF-24	Panel backlight
			CH3	+8.4VB_VCC1_VIN	PR87	0.01_1206_1%	PPVAR_VCC Source
	U36	1000001	CH1	PP5000_A	PR160	0.005_1206_1%	
			CH2	PPVAR_SYS_PMIC_V5	PR159	0.01_0805_1%	PP5000_A Source
			CH3	PP1800_A	PR137	0.01_0603_1%	
	U37	1000010	CH1	PP1200_VDDQ	PR152	0.005_1206_1%	
			CH2	PP0600_DDRVTT	PR929	0.01_0603_1%	
			CH3	PPVAR_SYS_PMIC_V4	PR151	0_0603_5%	PP1200_VDDQ Source
	U38	1000011	CH1	VINVR2_650830	PR1236	0_0402_5%	PP1800_A Source
			CH2	PP1200_VDDQ_DDRVTTIN	PR931	0_0402_5%	PP0600_DDRVTT Source
			CH3	PPVAR_SYS_PMIC_V3	PR140	0.01_0805_1%	PP3300_DSW Source
INA219AIDCNRG4	U39	1000100	CH1	+8.4VB_VCC2_VIN	PR92	0.01_1206_1%	PPVAR_VCC Source
	U40	1000110	CH1	PP3300_DSW	PR138	0.005_1206_1%	
	U41	1001000	CH1	PPVAR_GT_VIN	PR97	0.01_1206_1%	PPVAR_GT Source
	U42	1000111	CH1	PPVAR_BATT_R	PR11	0.01_1206_1%	Charger
	U44	1000101	CH1	PPVAR_SA_VIN	PR99	0.01_1206_1%	PPVAR_SA Source
	U97	1001001	CH1	PP3300_S	R4920	0.01_0603_1%	
	U98	1001010	CH1	PP3300_DX_WLAN	R381	0.01_0805_1%	
	U99	1001011	CH1	PP1000_A	PR128	0.005_1206_1%	
	U100	1001100	CH1	PP3300_DX_EDP	R378	0.01_0603_1%	
	U101	1001101	CH1	PP3300_DSW_EC	R271	2.2_0402_5%	

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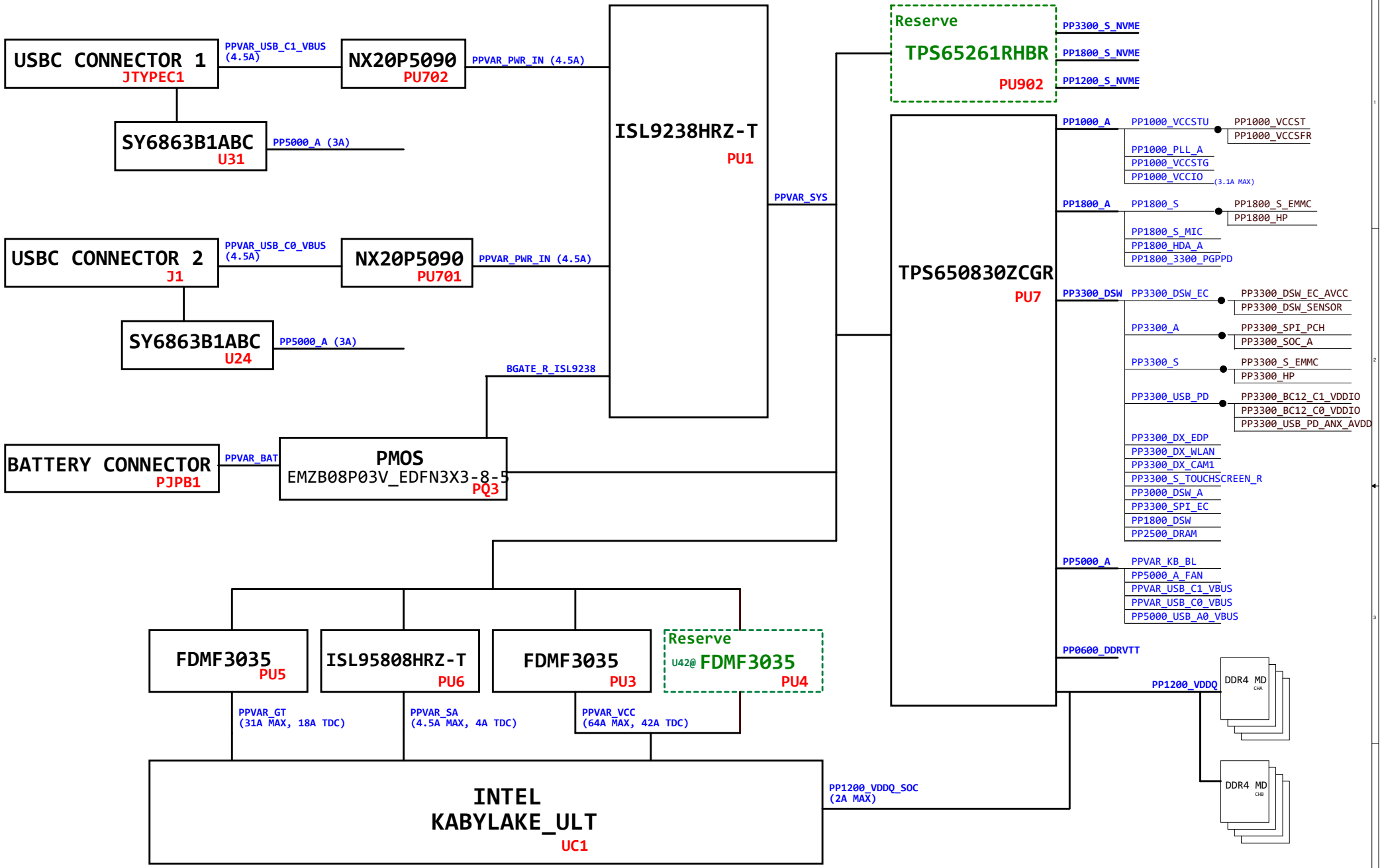
PROJECT : ZAT
Notes List



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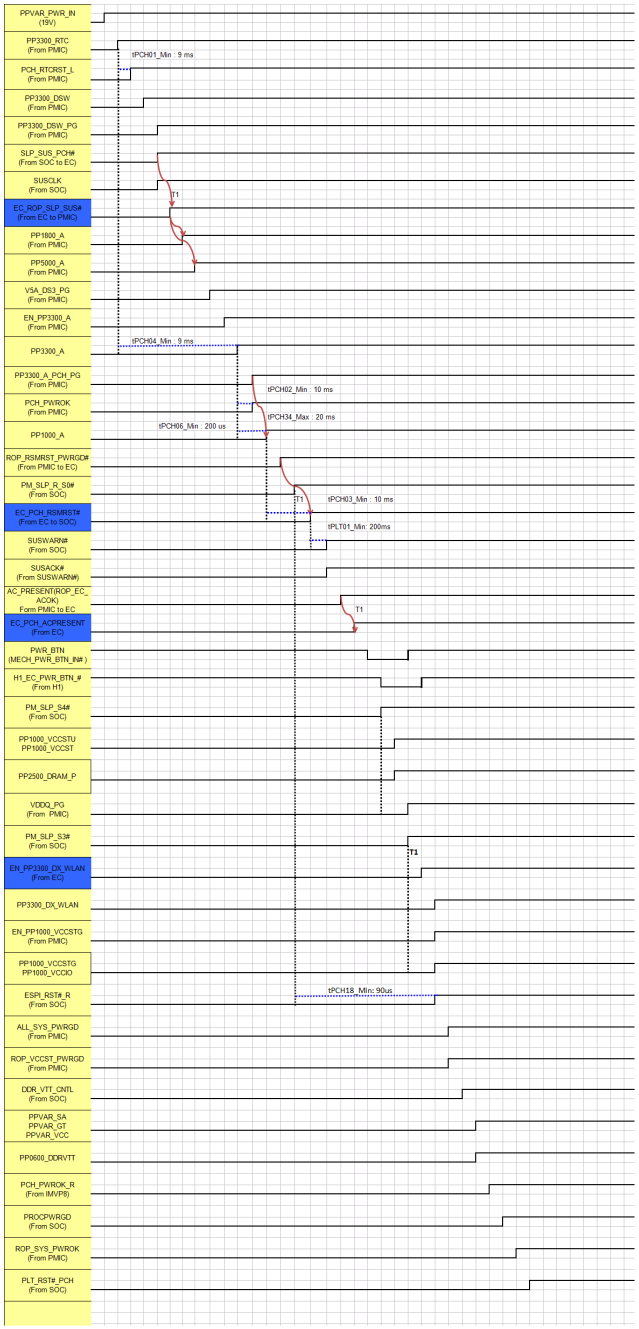
PROJECT : ZAT			
Size	Document Number		Rev
	Power Map		5A
Date: Tuesday, March 26, 2019		Sheet 5 of 54	



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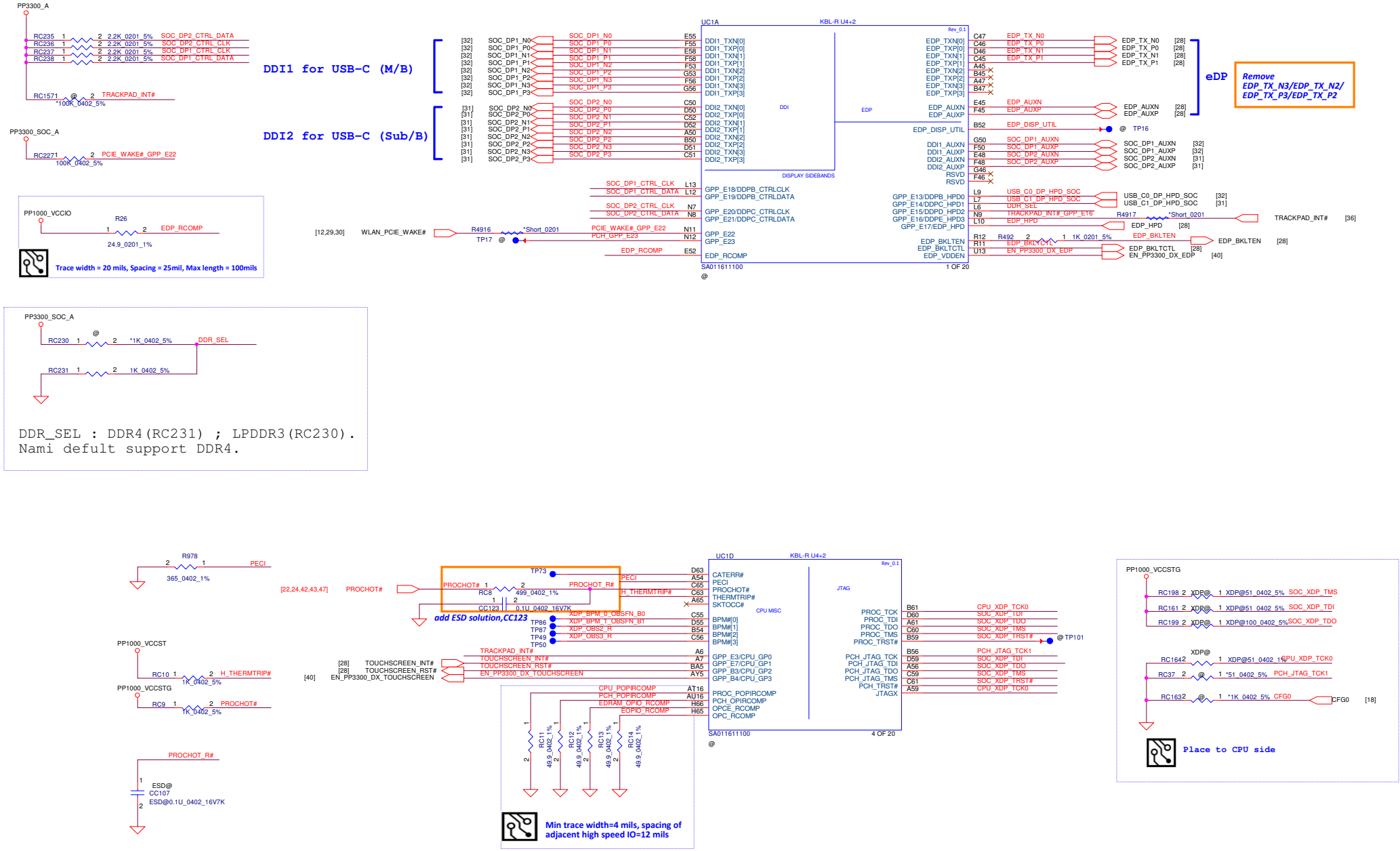
PROJECT : ZAT

Power Sequence

M/B SKU	Description	BOM stuff
31ZATMB0000	ZAT MB(CPUU22 C-3865 1.8/M8G/W32)UR118E1	U22@/XDP@/EMI@/INA@/ESPI@/ESD@/EMMC@/DSX_S0IX@/DSX@/SDP@/NGFF@/CCD@/RF@
31ZATMB0010	ZAT MB(CPUU42I3-8130 2.2H8GH32)1PUR118E1	U42@/XDP@/EMI@/INA@/ESPI@/ESD@/EMMC@/DSX_S0IX@/DSX@/SDP@/NGFF@/CCD@/RF@
31ZATMB0020	ZAT MB(CPUU42I5-8250 1.6M16GW128)UR118E1	U42@/XDP@/EMI@/INA@/ESPI@/ESD@/EMMC@/DSX_S0IX@/DSX@/DDP@/NGFF@/CCD@/RF@
31ZATMB0030	ZAT MB(CPUU42I5-8250 1.6/M16GH64)UR118E1	U42@/XDP@/EMI@/INA@/ESPI@/ESD@/EMMC@/DSX_S0IX@/DSX@/DDP@/NGFF@/CCD@/RF@

Vendor	Vendor P/N	Quanta P/N	Memory	Package	[3]	[2]	[1]	[0]	RAM ID			
TBD					0	0	0	0	R90	R91	R92	R93
Micro	MT40A256M16GE-083E	AKD5JGSTL26	4G	SDP	0	0	0	1	R90	R91	R92	R89
Samsung	K4A8G165WB-BCRC	AKD5QZ0T508	8G	SDP	0	0	1	0	R90	R91	R88	R93
Hynix	H5AN4G6NBJR-UHC	AKD5JGUTW01	4G	SDP	0	0	1	1	R90	R91	R88	R89
Hynix	H5ANAG6NAMR-UHC	AKD5RGUTW07	16G	DDP	0	1	0	0	R90	R87	R92	R93
Hynix	H5ANAG6NCMR-VKC	AKD5RGUTW08	16G	DDP	0	1	0	1	R90	R87	R92	R89
Hynix	H5AN8G6NAFR-UHC	AKD5QGSTW09	8G	SDP	0	1	1	0	R90	R87	R88	R93
Samsung	K4A4G165WE-BCRC	AKD5JGUT504	4G	SDP	0	1	1	1	R90	R87	R88	R89
Samsung	K4A8G165WC-BCTD	AKD5FGUT502	8G	SDP	1	0	0	0	R86	R91	R92	R93
Hynix	H5AN4G6NAFR-UHC	AKD5JGUTW03	4G	SDP	1	0	0	1	R86	R91	R92	R89
TBD					1	0	1	0	R86	R91	R88	R93
TBD					1	0	1	1	R86	R91	R88	R89
Samsung	K4AAG165WB-MCRC	AKD5LGUT500	16G	DDP	1	1	0	0	R86	R87	R92	R93
Micro	MT40A1G16KNR-075:E	AKD5MZSTL04	16G	DDP	1	1	0	1	R86	R87	R92	R89
Micro	MT40A512M16LY-075E	AKD5LZSTL25	8G	SDP	1	1	1	0	R86	R87	R88	R93
Hynix	H5AN8G6NCJR-VKC	AKD5QGSTW14	8G	SDP	1	1	1	1	R86	R87	R88	R89



Quanta Computer Inc.	PROJECT : ZAT		
Size	Document Number		Rev
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Date: Tuesday, March 26, 2019	Sheet 8 of 54		

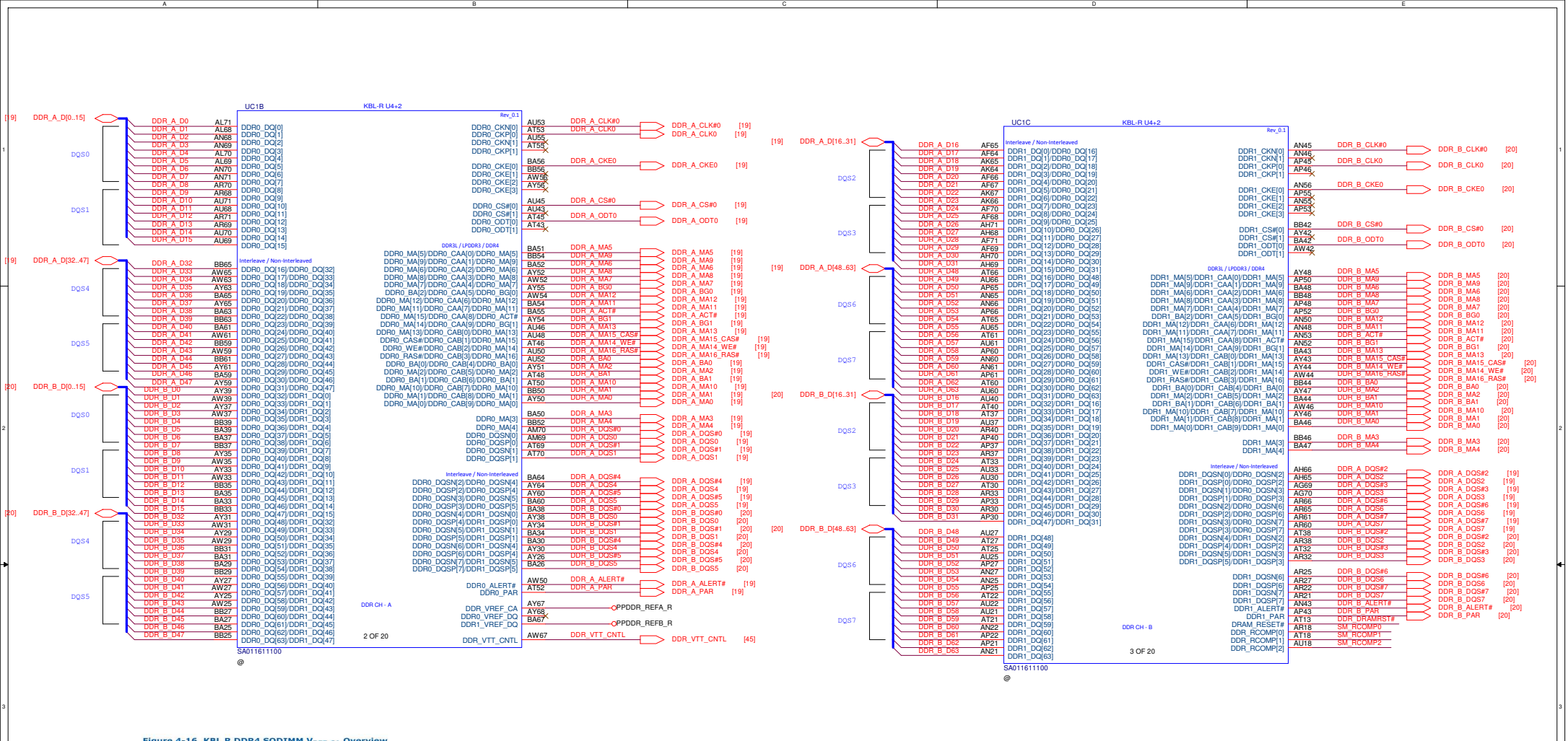
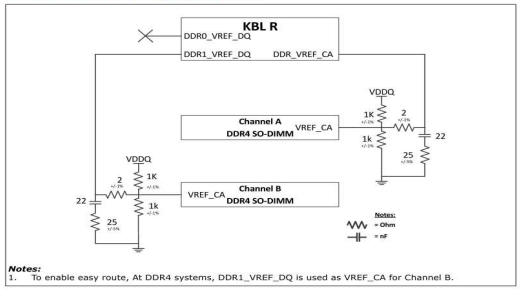
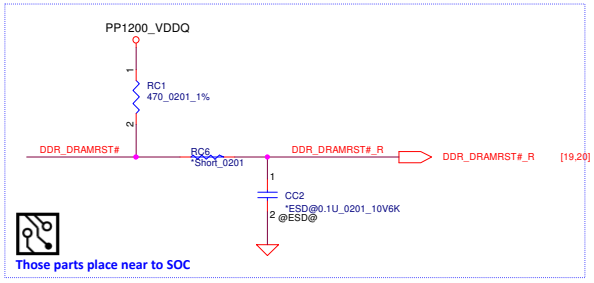


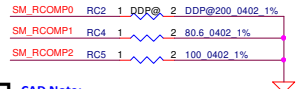
Figure 4-16. KBL R DDR4 SODIMM V_{REF-CA} Overview





	SDP	DDP
RCOMP [0]	200_1%	121_1%

CS11212FB24



CAD Note:
Trace width=12~15 mil, Spacing=20 mils
Max trace length= 500 mil

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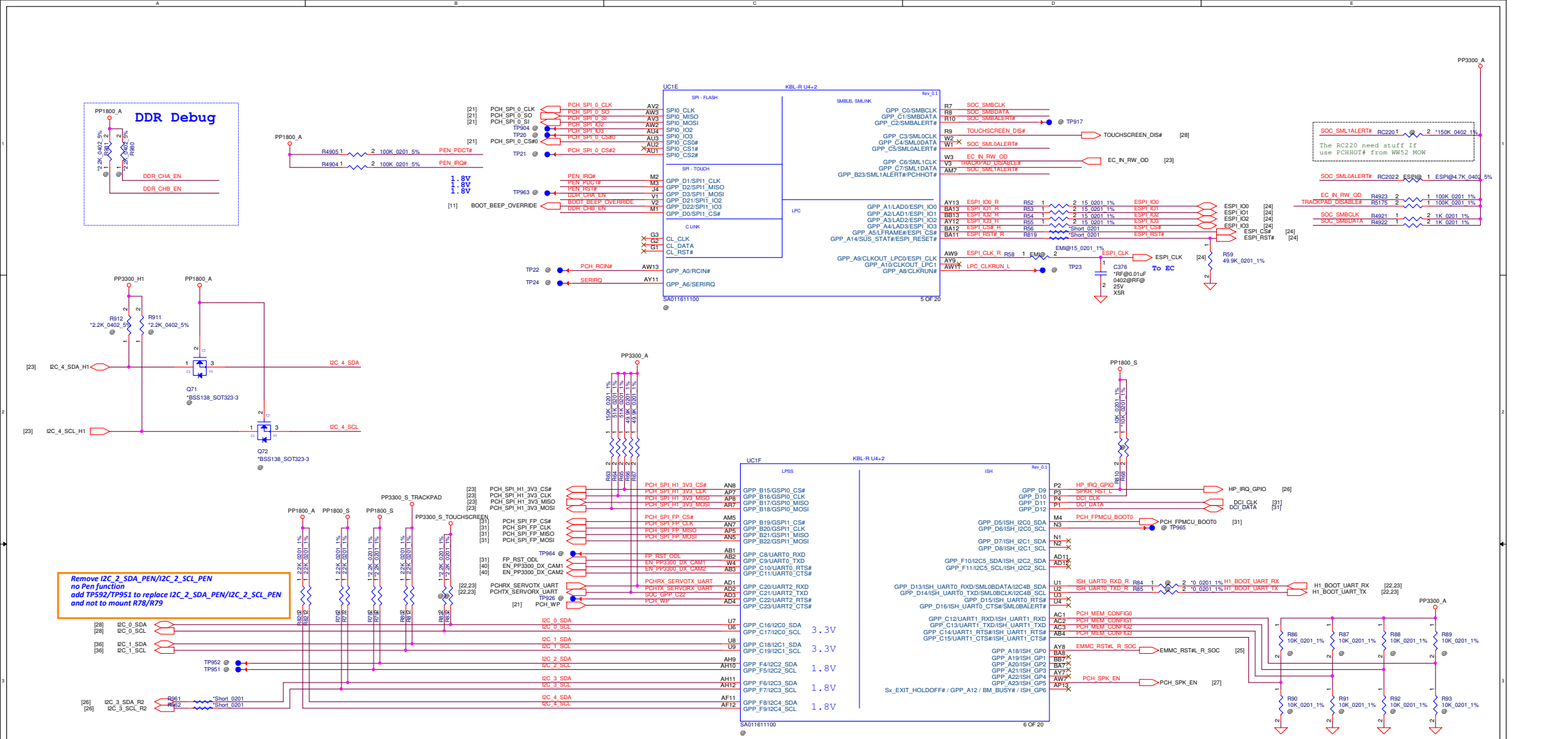
PROJECT : ZAT

Size	Document Number	Rev
	KBL-U(2/11)DDR4	5A

Date: Tuesday, March 26, 2019 Sheet 9 of 54



I2C Bus	Functon	Bus Voltage	Module Voltage
I2C_0	Touch Screen	3.3V	3.3V
I2C_1	Track Pad	3.3V	3.3V
I2C_2	PEN	1.8V	1.8V
I2C_3	HP AMP	1.8V	1.8V
I2C_4	N/A	1.8V	N/A

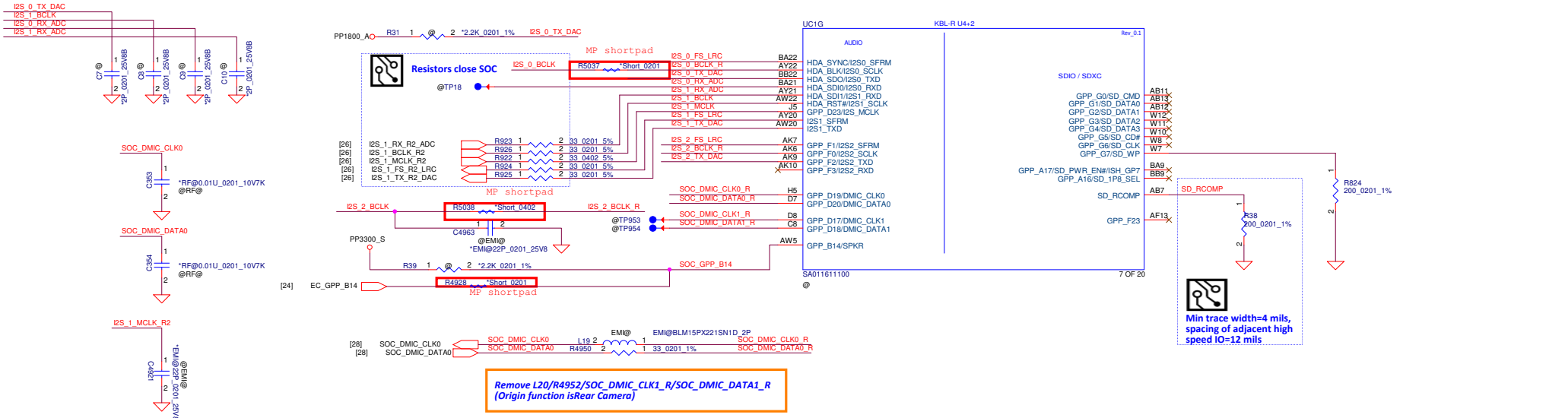
PIN	FUNCTION	INTENT
GPP_B_23/SML1ALERTB#	IPD = EXI BOOT STALL BYPASS DISABLE PU = EXI BOOT STALL BYPASS ENABLED	DISABLE
GPP_B18/GSPI0_MOSI	IPD = DISABLE NO REBOOT MODE PU = ENABLE NO REBOOT MODE	DISABLE
GPP_C2/SMBALERT#	IPD = DISABLE TLS CONFIDENTIALITY PU = ENABLE TLS CONFIDENTIALITY	DISABLE
GPP_B22/GSPI1_MOSI	IPD = BOOT FROM SPI PU = BOOT FROM LPC	SPI
GPP_C5/SML0ALERT#	IPD = LPC IS SELECTED FOR EC PU = ESPI IS SELECTED FOR EC	ESPI

STRAPS ON THIS PAGE

PIN	FUNCTION	INTENT
GPP_E19/DDPB_CTRLDATA	IPD = DO NOT DETECT PORT B PU = DETECT PORT B	DETECT PORT B
GPP_E21/DDPC_CTRLDATA	IPD = DO NOT DETECT PORT C PU = DETECT PORT C	DETECT PORT C

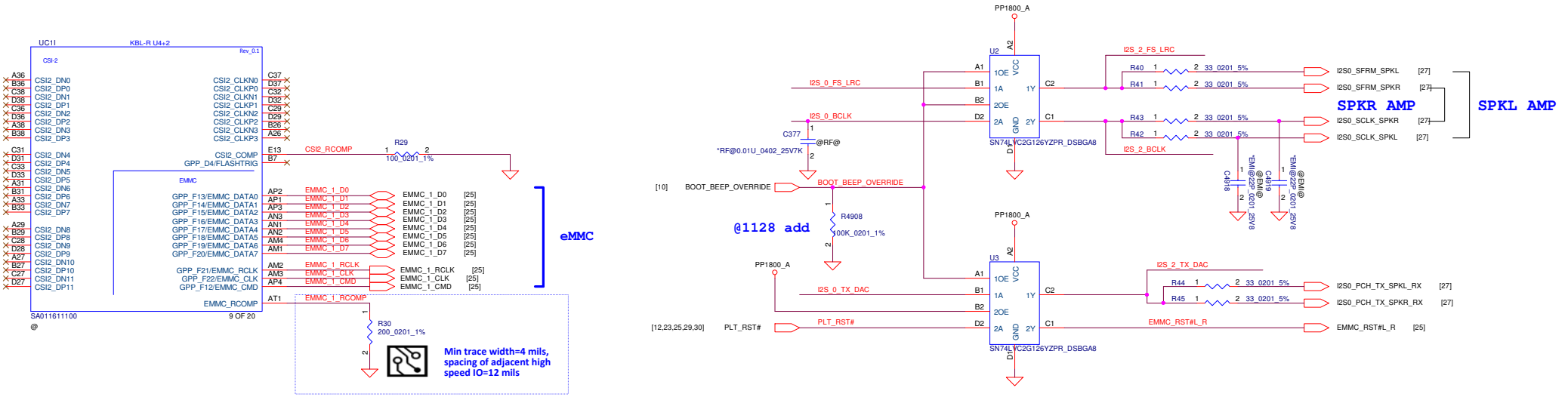
STRAPS ON THIS PAGE

Quanta Computer Inc.
PROJECT : ZAT
Size: Document Number: KBL-U(3/11)SPI/eSPI/I2C/SMB
Rev: 5A
Date: Tuesday, March 26, 2019
Sheet 10 of 54



STRAPS ON THIS PAGE

PIN	FUNCTION	INTENT
PCH_BUZZER	IPD = DISABLE TOP SWAP OVERRIDE PU = ENABLE TOP SWAP OVERRIDE	DISABLE
HDA_SDO/I2S_TXD0	IPD = ENABLE DESCRIPTOR SECURITY PU = DISABLE DESCRIPTOR SECURITY	ENABLE



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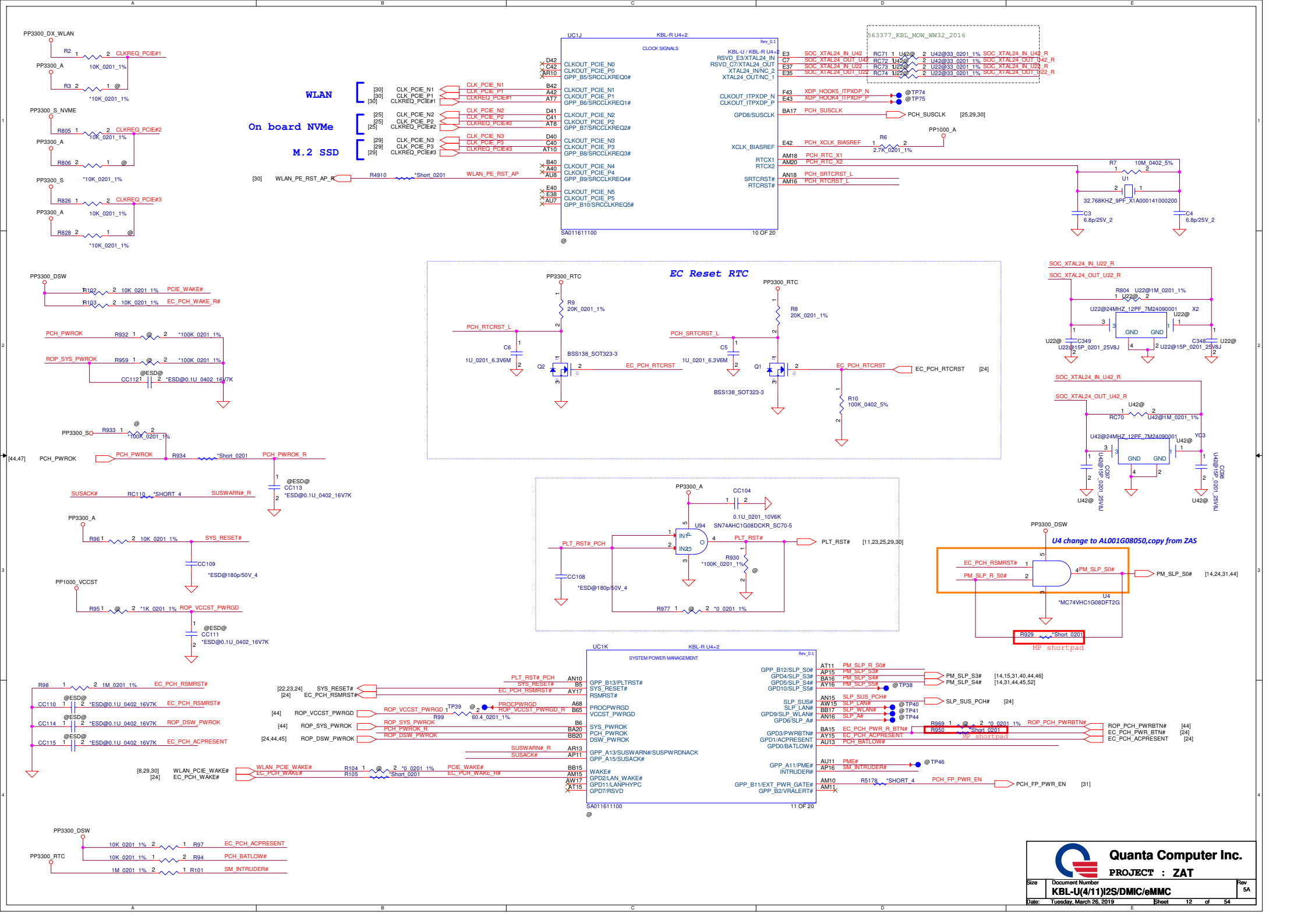
PROJECT : ZAT

Size	Document Number	Rev
	KBL-U(3/11)SPI/eSPI/I2C/SMB	5A

Date: Tuesday, March 26, 2019 Sheet 11 of 54


WLAN
On board NVMe
M.2 SSD
EC Reset RTC
563377_KBL_MOW_WW32_2016
U4 change to AL001G08050,copy from ZAS
MP shortpad
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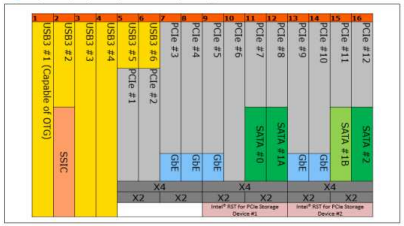
PROJECT : ZAT
KBL-U(4/11)I2S/DMIC/eMMC
Tuesday, March 26, 2019

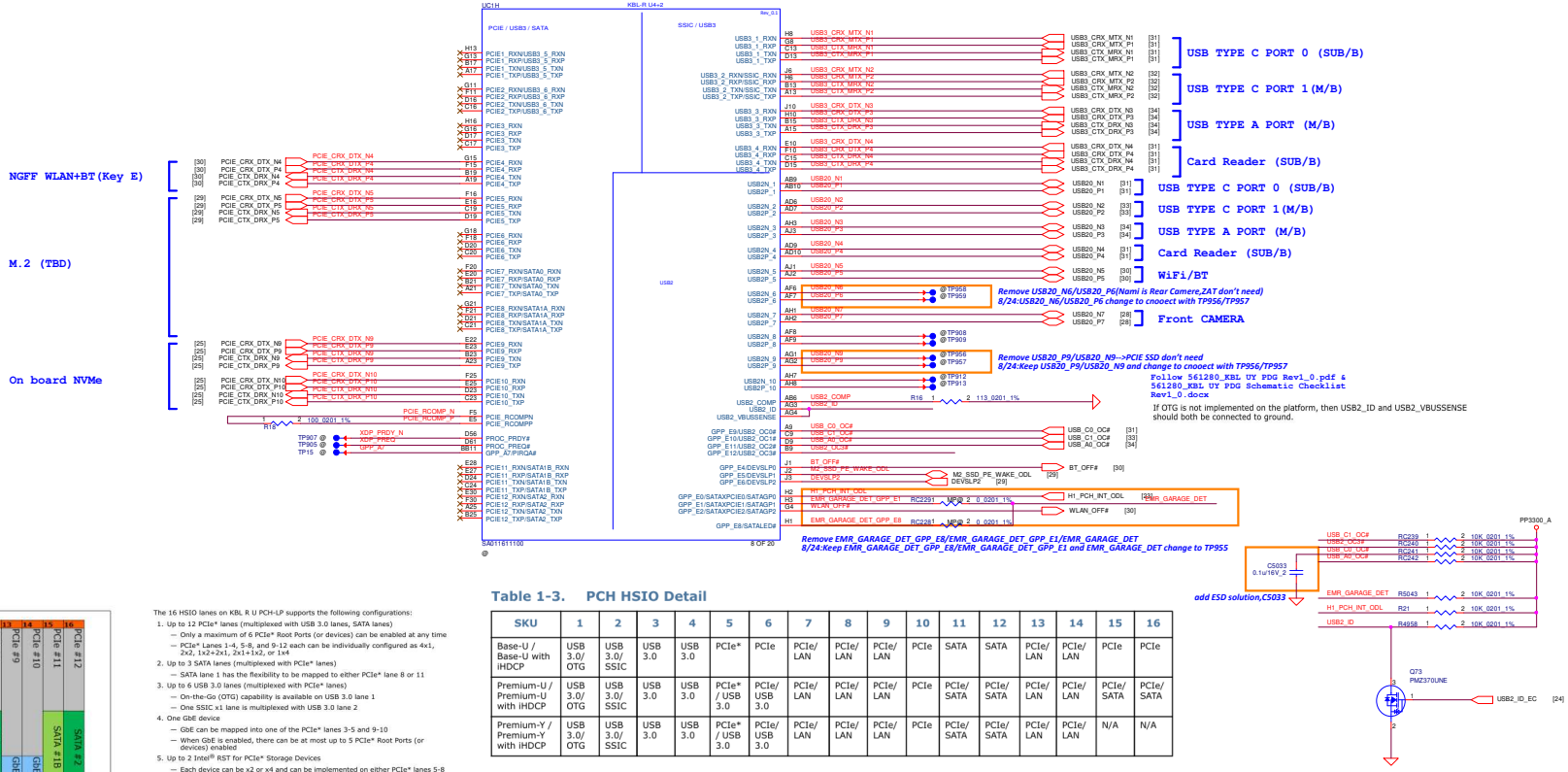


The 16 HSIO lanes on KBL R U PCH-LP supports the following configurations:

1. Up to 12 PCIe* lanes (multiplexed with USB 3.0 lanes, SATA lanes)
   - Only a maximum of 6 PCIe* Root Ports (or devices) can be enabled at any time
   - PCIe* Lanes 1-4, 5-8, and 9-12 each can be individually configured as 4x1, 2x2, 1x2+2x1, 2x1+1x2, or 1x4
2. Up to 3 SATA lanes (multiplexed with PCIe* lanes)
   - SATA lane 1 has the flexibility to be mapped to either PCIe* lane 8 or 11
3. Up to 6 USB 3.0 lanes (multiplexed with PCIe* lanes)
   - On-the-Go (OTG) capability is available on USB 3.0 lane 1
   - One SSIC x1 lane is multiplexed with USB 3.0 lane 2
4. One GbE device
   - GbE can be mapped into one of the PCIe* lanes 3-5 and 9-10
   - When GbE is enabled, there can be at most up to 5 PCIe* Root Ports (or devices) enabled
5. Up to 2 Intel® RST for PCIe* Storage Devices
   - Each device can be x2 or x4 and can be implemented on either PCIe* lanes 5-8 or 9 - 12
6. For unused SATA/PCIe* Combo Lanes, Flex I/O Lanes that can be configured as PCIe* or SATA, the lanes must be statically assigned to SATA or PCIe* via the SATA/PCIe Combo Port Soft Straps discussed in the SPI Programming Guide and through the Intel® Flash Image Tool (FIT) tool. These unused SATA/PCIe* Combo Lanes must not be assigned as polarity based.

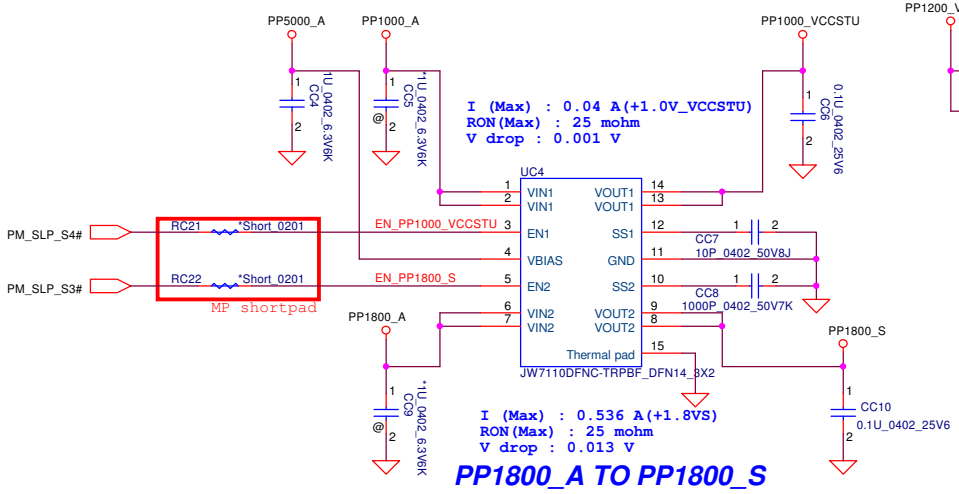
Table 1-3. PCH HSIO Detail

SKU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Base-U / Base-U with iHDCP	USB 3.0/ OTG	USB 3.0/ SSIC	USB 3.0	USB 3.0	PCIe*	PCIe	PCIe/ LAN	PCIe/ LAN	PCIe/ LAN	PCIe	SATA	SATA	PCIe/ LAN	PCIe/ LAN	PCIe	PCIe
Premium-U / Premium-U with iHDCP	USB 3.0/ OTG	USB 3.0/ SSIC	USB 3.0	USB 3.0	PCIe* / USB 3.0	PCIe/ USB 3.0	PCIe/ LAN	PCIe/ LAN	PCIe/ LAN	PCIe	PCIe/ SATA	PCIe/ SATA	PCIe/ LAN	PCIe/ LAN	PCIe/ SATA	PCIe/ SATA
Premium-Y / Premium-Y with iHDCP	USB 3.0/ OTG	USB 3.0/ SSIC	USB 3.0	USB 3.0	PCIe* / USB 3.0	PCIe/ USB 3.0	PCIe/ LAN	PCIe/ LAN	PCIe/ LAN	PCIe	PCIe/ SATA	PCIe/ SATA	PCIe/ LAN	PCIe/ LAN	N/A	N/A



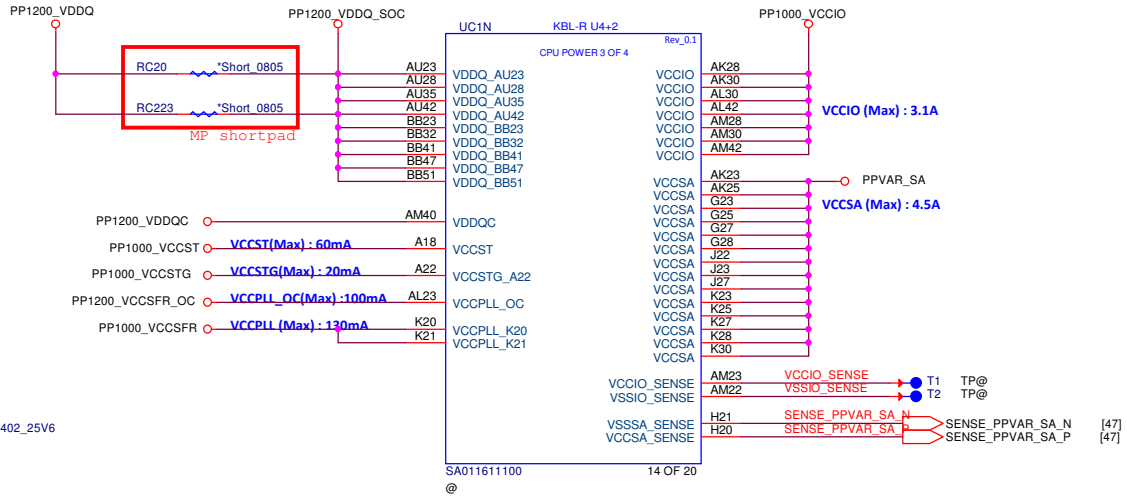
Quanta Computer Inc.
PROJECT : ZAT
Size | Document Number: KBL-U(5I11)CLK/GPIO | Rev: 5A
Date: Tuesday, March 26, 2019 | Sheet 13 of 54

PP1000_A TO PP1000_VCCSTU

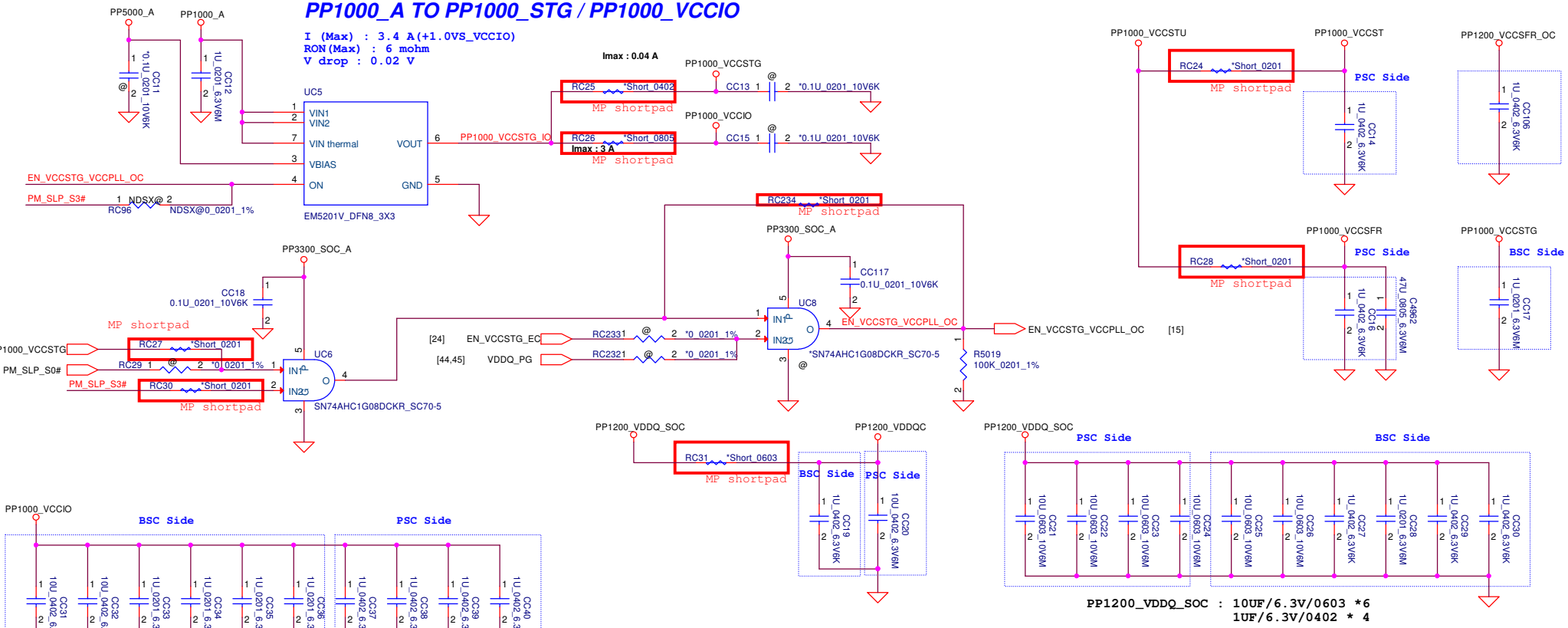


PP1800_A TO PP1800_S

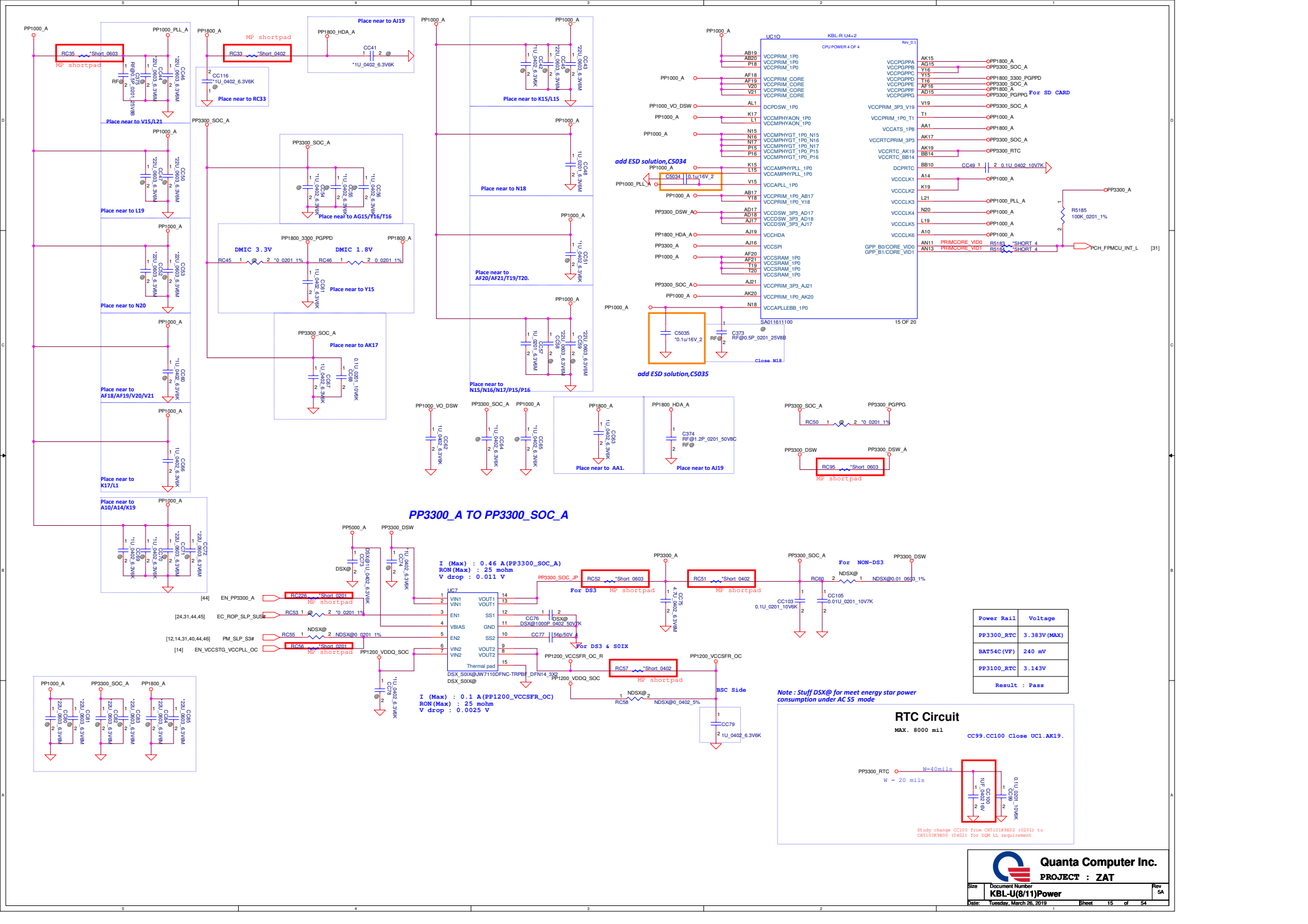
PP1200_VDDQ_SOC I (Max) : 2A

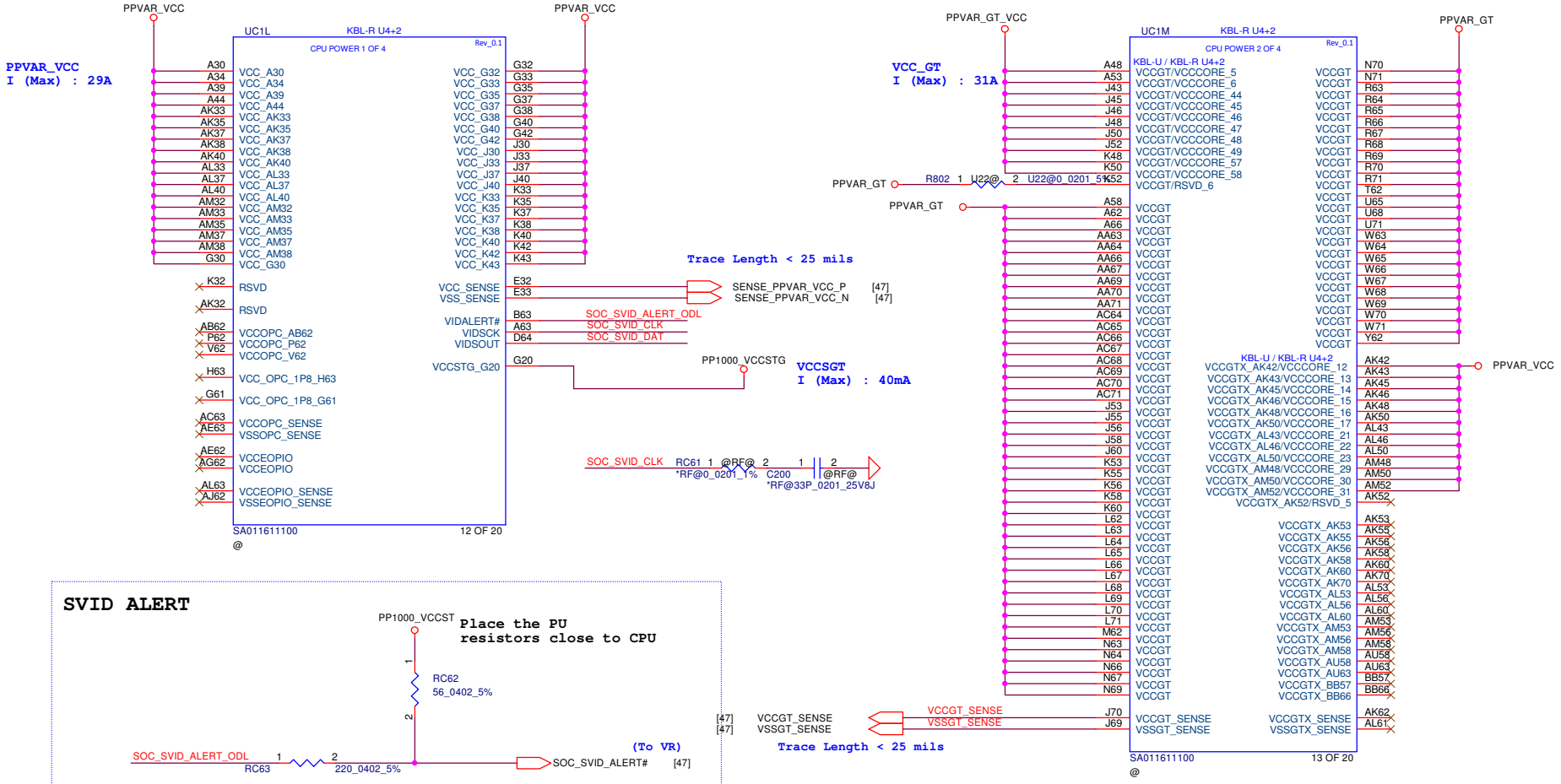


PP1000_A TO PP1000_STG / PP1000_VCCIO



Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: KBL-U(7/11)Power	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 14 of 54	


PP3300_A TO PP3300_SOC_A
I (Max) : 0.46 A(PP3300_SOC_A)
RON(Max) : 25 mohm
V drop : 0.011 V
I (Max) : 0.1 A(PP1200_VCCSFR_OC)
RON(Max) : 25 mohm
V drop : 0.0025 V
add ESD solution,C5034
add ESD solution,C5035
DMIC 3.3V
DMIC 1.8V
MP shortpad
For DS3
For NON-DS3
For DS3 & S0IX
For SD CARD
BSC Side
Place near to AJ19
Place near to K15/L15
Place near to N18
Place near to AG15/T16/T16
Place near to Y15
Place near to AK17
Place near to AF20/AF21/T19/T20.
Place near to N15/N16/N17/P15/P16
Place near to V15/L21
Place near to L19
Place near to N20
Place near to AF18/AF19/V20/V21
Place near to K17/L1
Place near to A10/A14/K19
Place near to AA1.
Place near to AJ19
Note : Stuff DSX@ for meet energy star power consumption under AC S5 mode
RTC Circuit
MAX. 8000 mil
CC99.CC100 Close UC1.AK19.
W=40mils
W = 20 mils
Study change CC100 from CH5101K9E02 (0201) to CH5103K9B00 (0402) for DQM LL requirement
Close N18
15 OF 20
Power Rail | Voltage
PP3300_RTC | 3.383V(MAX)
BAT54C(VF) | 240 mV
PP3100_RTC | 3.143V
Result : Pass
Quanta Computer Inc.
PROJECT : ZAT
Document Number
KBL-U(8/11)Power
Rev 5A
Date: Tuesday, March 26, 2019
Sheet 15 of 54



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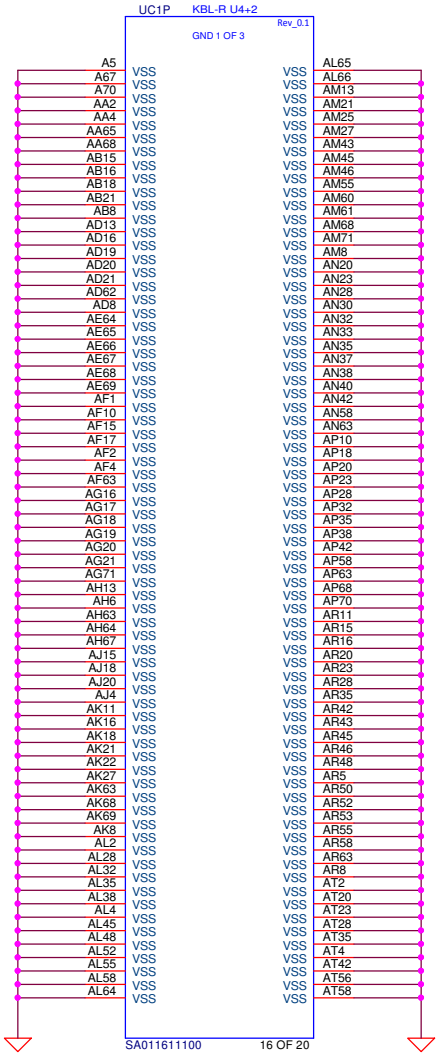
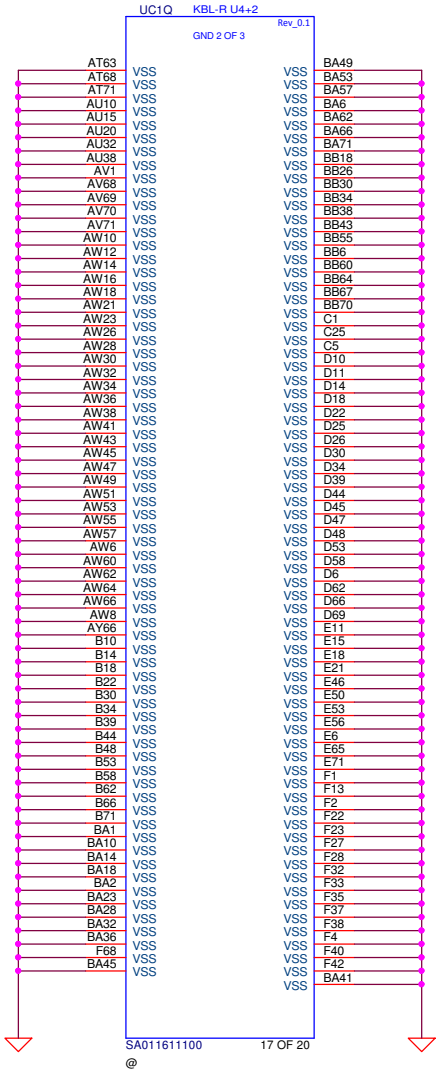
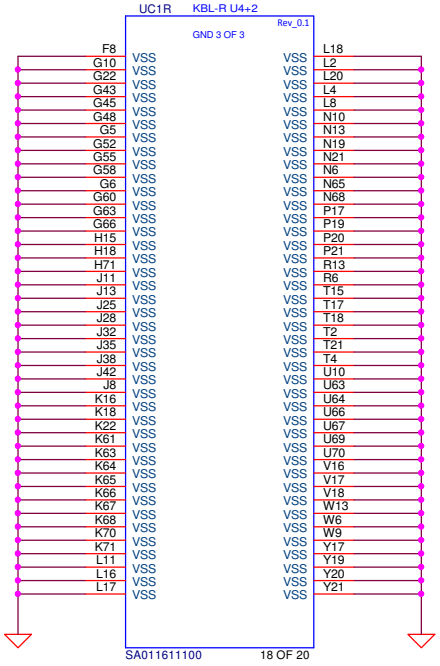
PROJECT : ZAT

Size	Document Number	Rev
	KBL-U(9/11)Power,SVID	5A

Date: Tuesday, March 26, 2019 Sheet 16 of 54





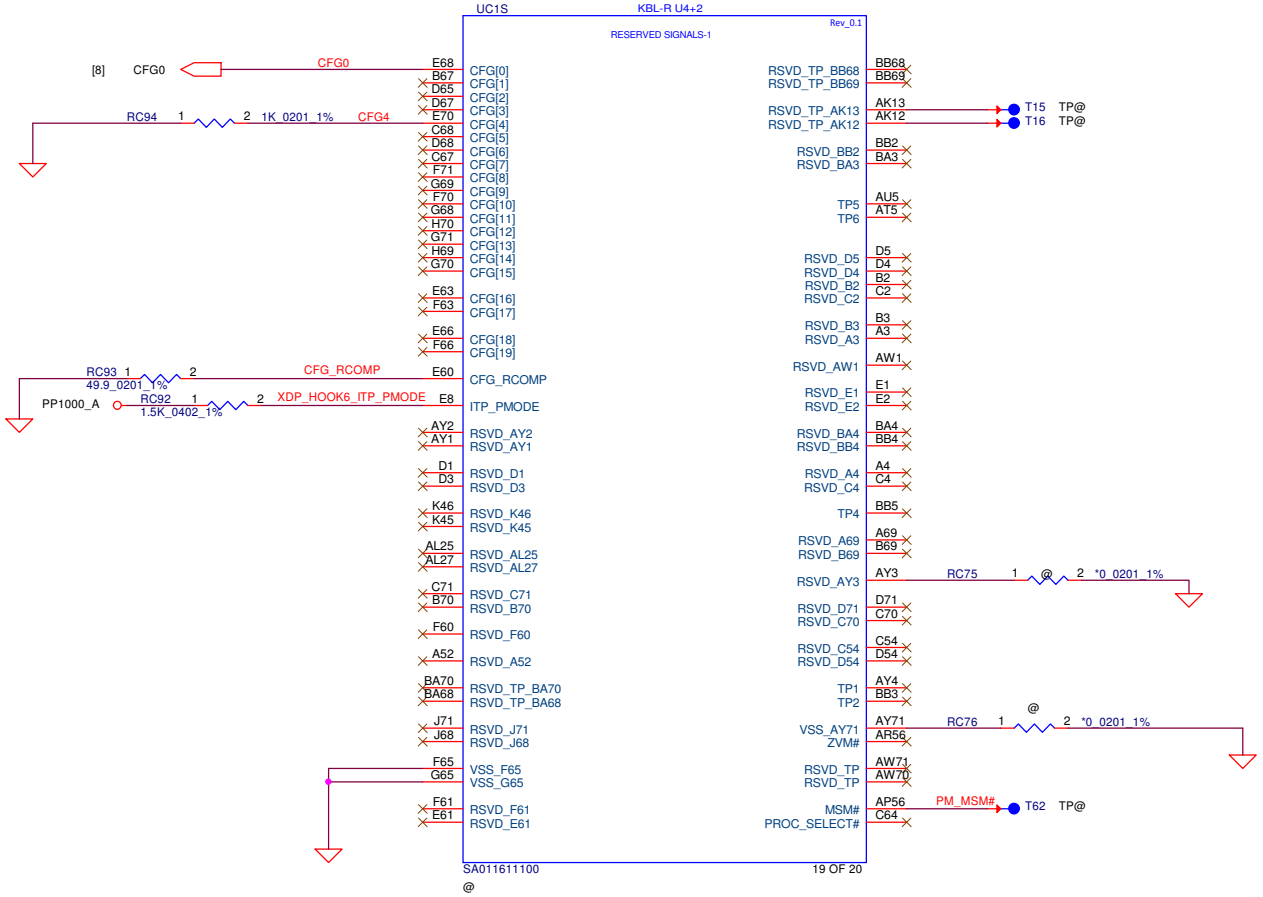


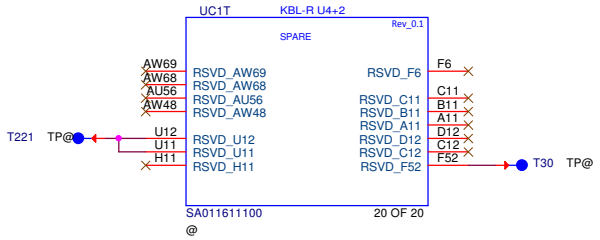
Quanta Computer Inc.

PROJECT : ZAT

Size	Document Number	Rev
	KBL-U(10/11)GND	5A
Date: Tuesday, March 26, 2019	Sheet 17 of 54	

Display Port Presence Strap	
CFG4	1 : Disabled; No Physical Display Port attached to Embedded Display Port 0 : Enabled; An external Display Port device is connected to the Embedded Display Port



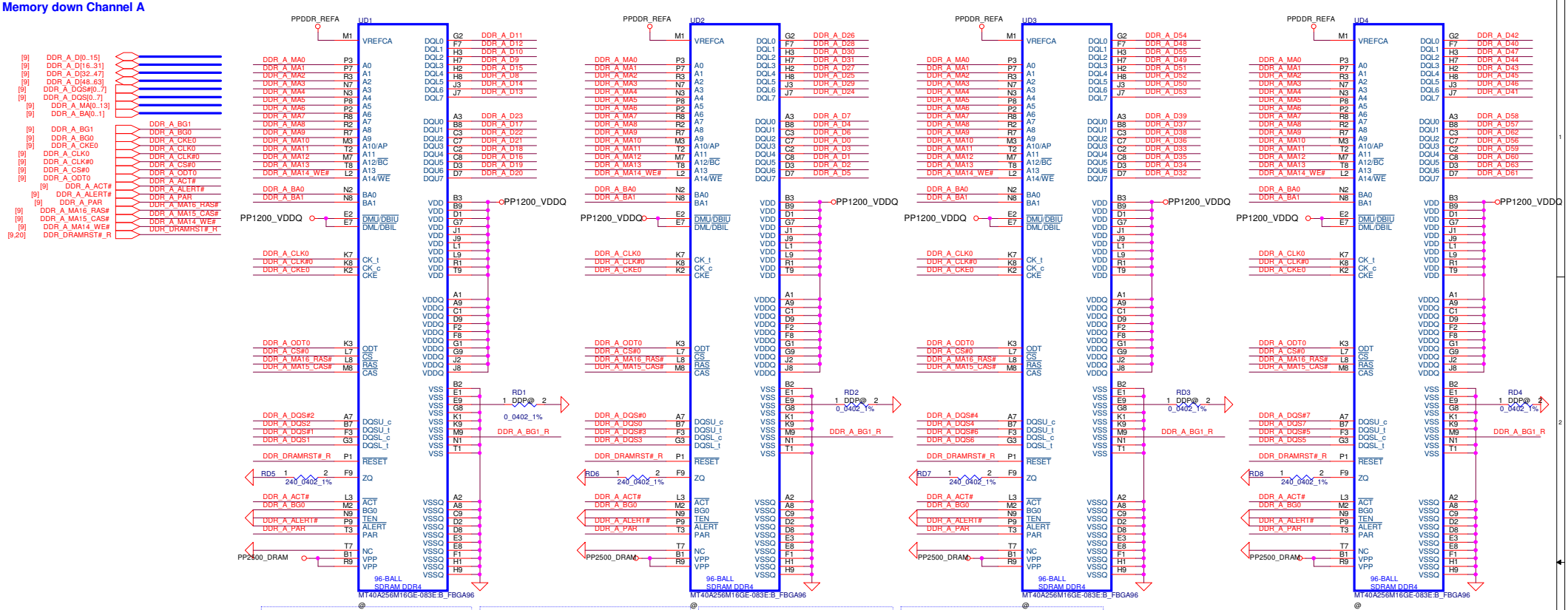


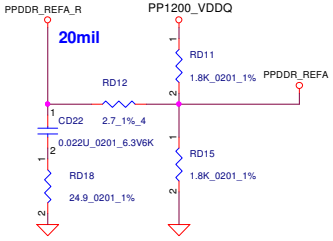
Quanta Computer Inc.

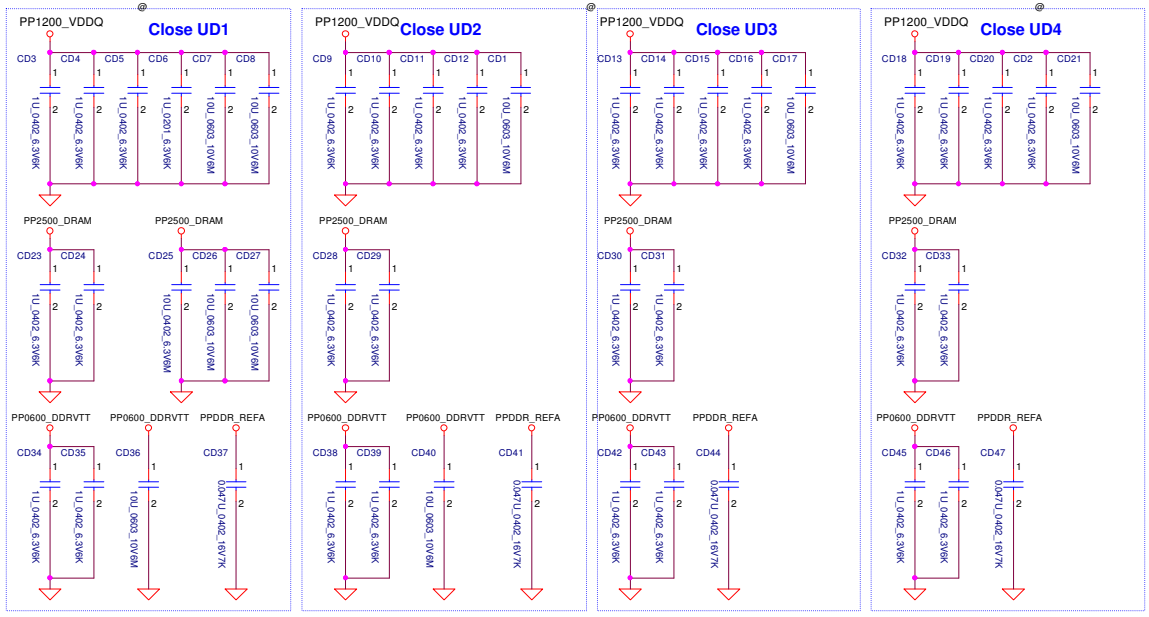
PROJECT : ZAT

Size	Document Number	Rev
	KBL-U(11/11)RSVD	5A
Date: Tuesday, March 26, 2019	Sheet 18 of 54	

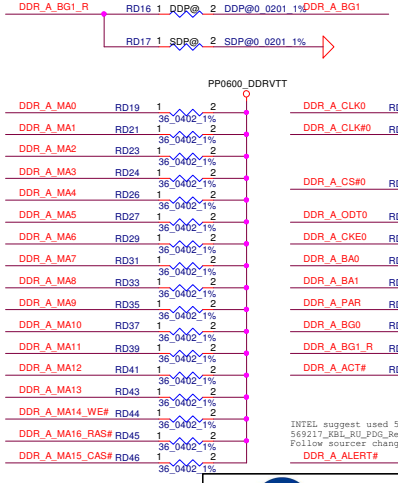
Memory down Channel A





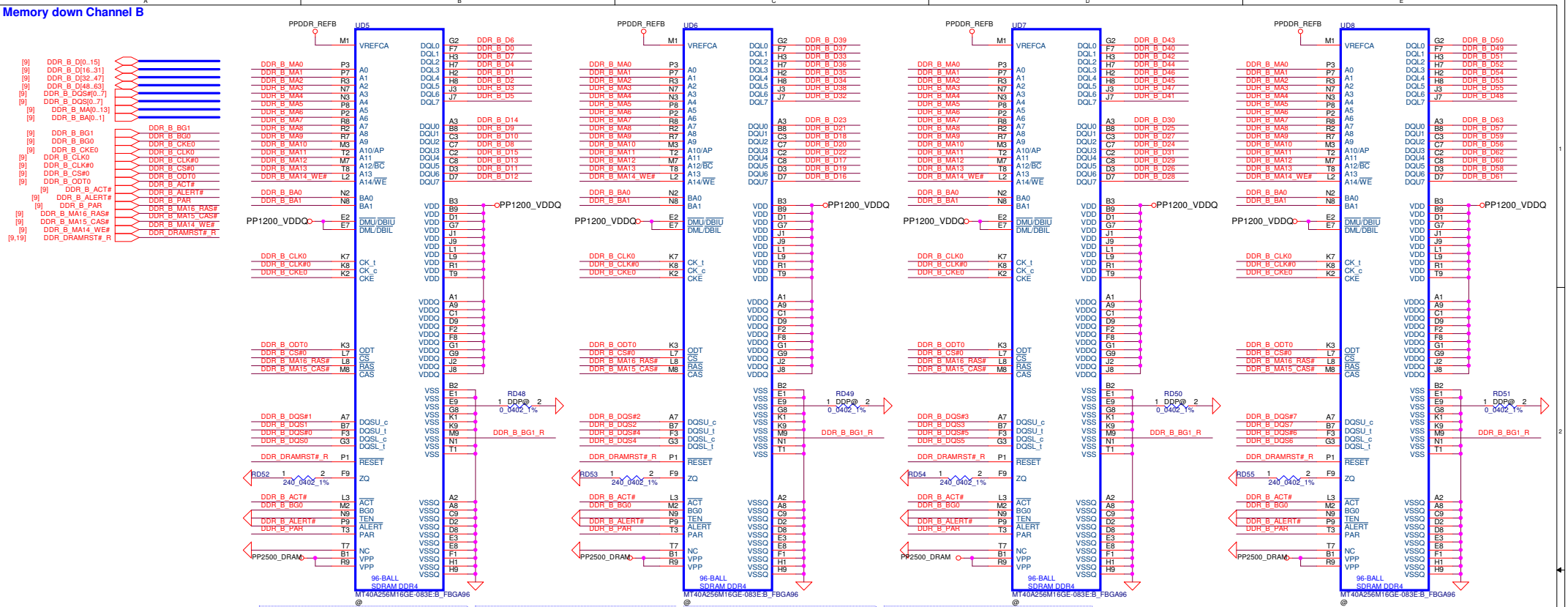


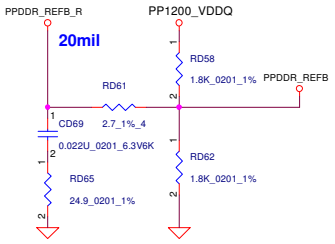
DDR4 mapping	SDP	DDP
E9	VSS	UZQ
M9	VSS	BG1
T7	NC	VSS

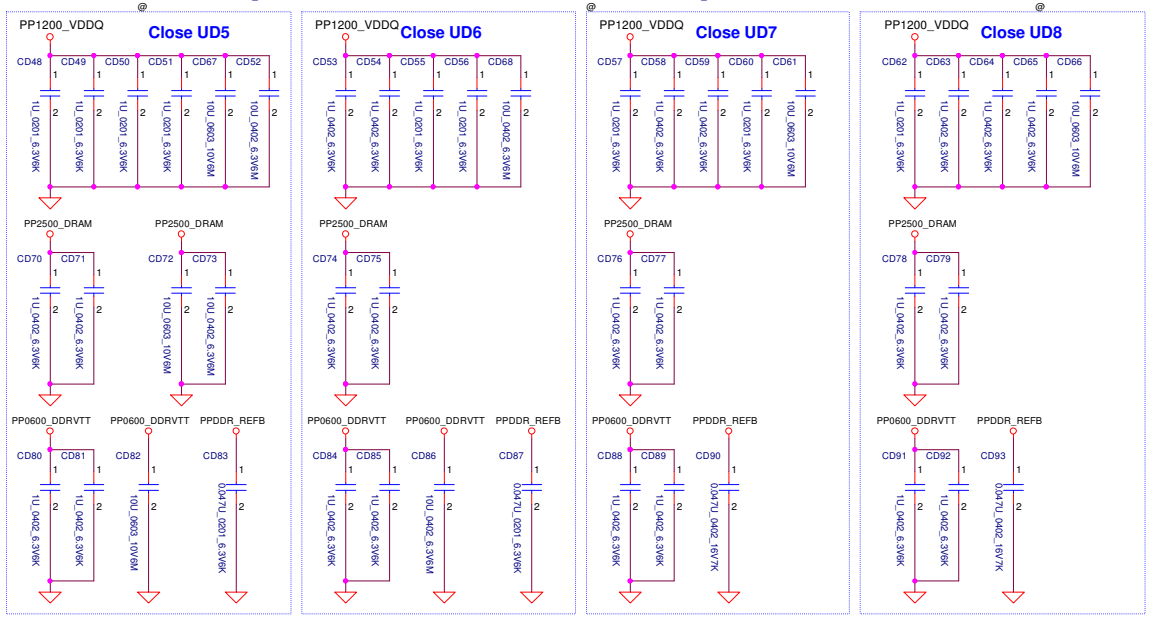


Quanta Computer Inc.			
PROJECT : ZAT			
Size	Document Number		Rev
	DDR4_CHA_Memory Down I		5A
Date:	Tuesday, March 26, 2019	Sheet	19 of 54

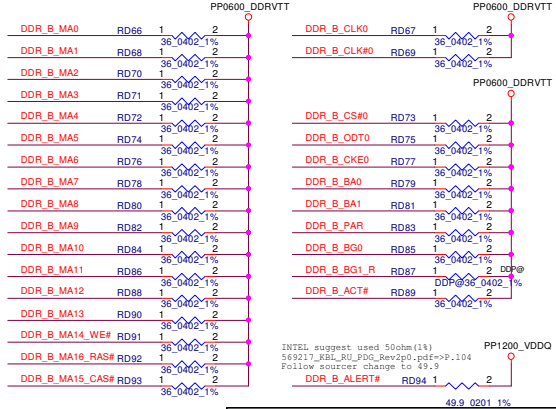
Memory down Channel B





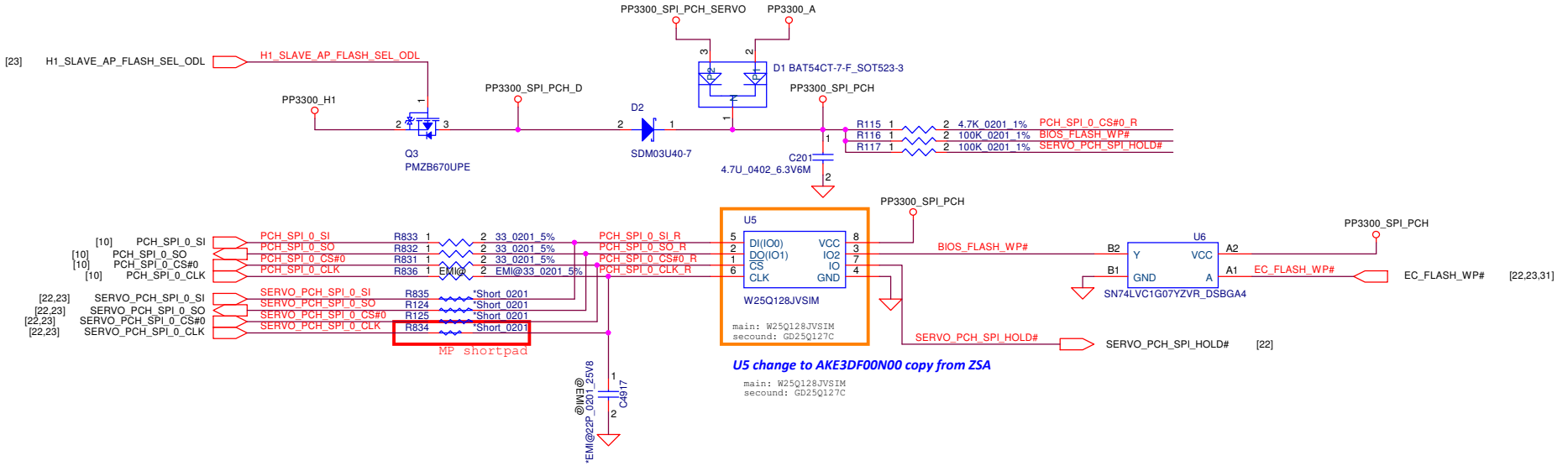


DDR4 mapping	SDP	DDP
E9	VSS	UZQ
M9	VSS	BG1
T7	NC	VSS

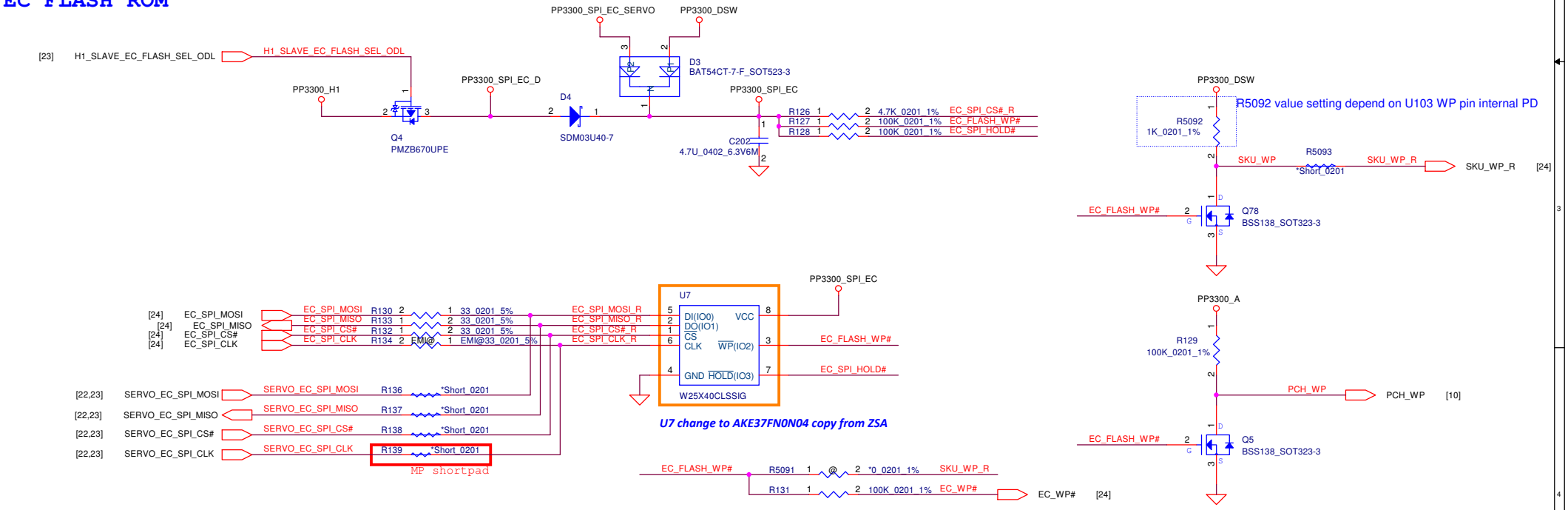


Quanta Computer Inc.			
PROJECT : ZAT			
Size	Document Number		Rev
	DDR4_CHA_Memory Down II		5A
Date:	Tuesday, March 26, 2019	Sheet 20 of 54	

PCH SPI FLASH



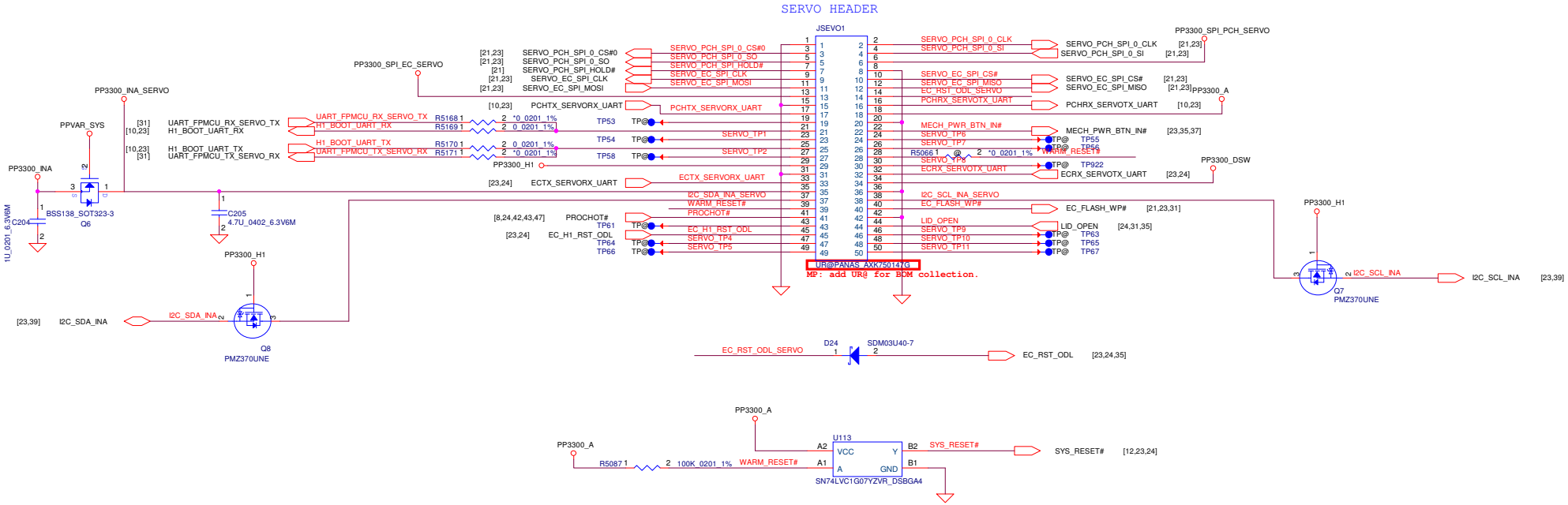
EC FLASH ROM



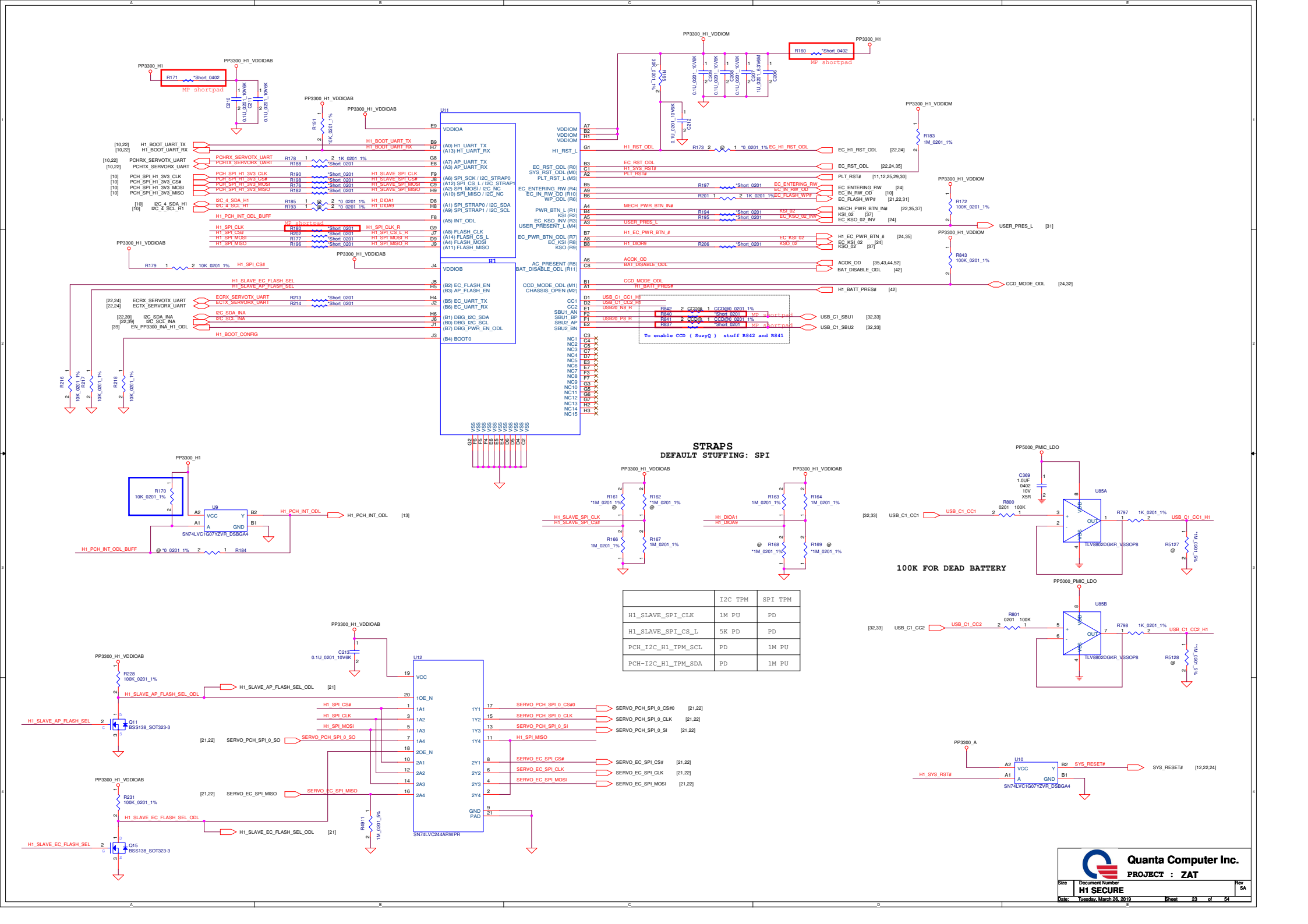
Quanta Computer Inc.

PROJECT : ZAT

Size	Document Number	Rev
	SPI EC ROM	5A
Date: Tuesday, March 26, 2019	Sheet 21 of 54	



Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: SERVO	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 22 of 54	



	I2C TPM	SPI TPM
H1_SLAVE_SPI_CLK	1M PU	PD
H1_SLAVE_SPI_CS_L	5K PD	PD
PCH_I2C_H1_TPM_SCL	PD	1M PU
PCH_I2C_H1_TPM_SDA	PD	1M PU

Quanta Computer Inc.
PROJECT : ZAT

Size	Document Number	Rev
	H1 SECURE	5A

Date: Tuesday, March 26, 2019 Sheet 23 of 54

add ESD solution,R271/C5032

R5111 unstuff for reset IC FW006

For HW ID

Place those test point close JKB1

From Keyboard
From Switch
From Keyboard
From Switch

For project support two FANs:
A2: FAN_SPEED2
D6: FAN_PWM2

To EC

BRD ID

Analog Board ID definition,
Please see page 4.

NPCX586GA0BX_VFBGA128

SP@M34E02-FDW6TP

Quanta Computer Inc.	
PROJECT : ZAT	
Size	Document Number: EC NPCX586GA0BX
Rev	5A
Date: Tuesday, March 26, 2019	Sheet 24 of 54

EMMC STORAGE

NVME STORAGE

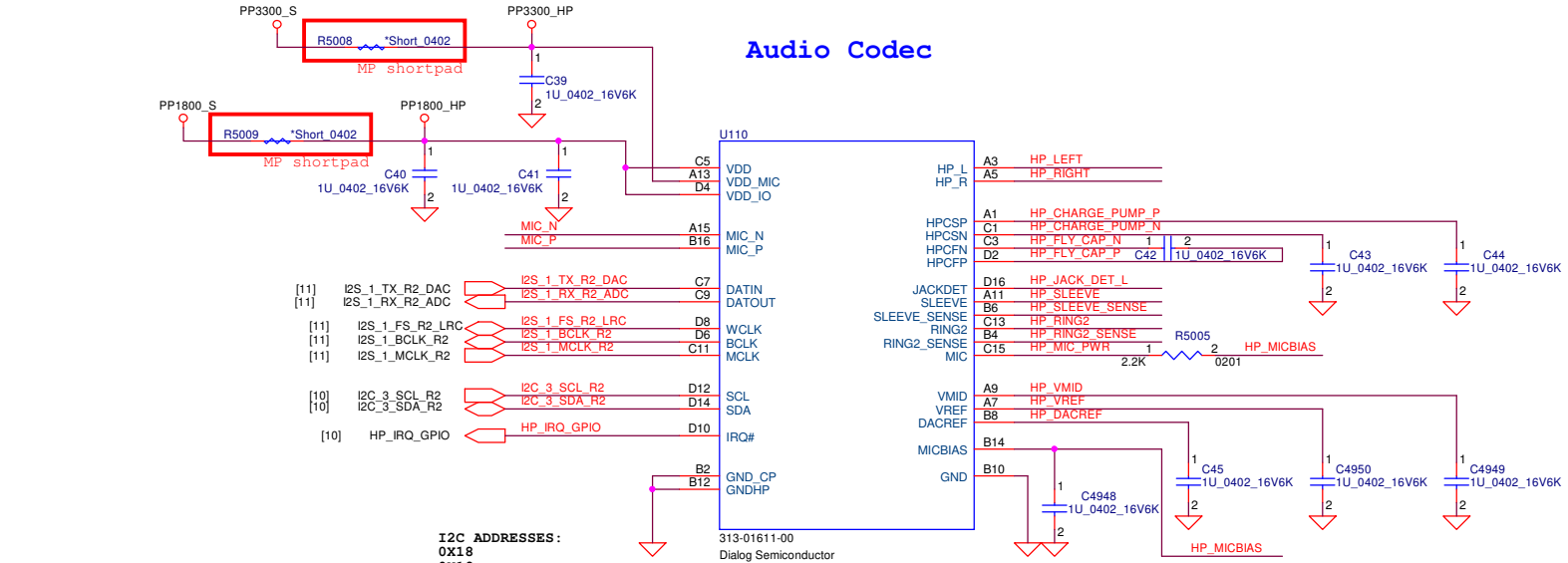
Startup config: For FORESEE PCIe Gen3 BGA SSD P900		
NVME_GPIO0	0 Normal Mode	1 Firmware safe mode
NVME_GPIO1	0 ENABLES eFUSE DISABLES JTAG/UART	1 ENABLES JTAG/UART
NVME_TEST_MODE	0 Normal Mode	1 Test Mode

Quanta Computer Inc.

PROJECT : ZAT

Size	Document Number	Rev
	eMMC / NVMe	5A
Date: Tuesday, March 26, 2019	Sheet 25 of 54	

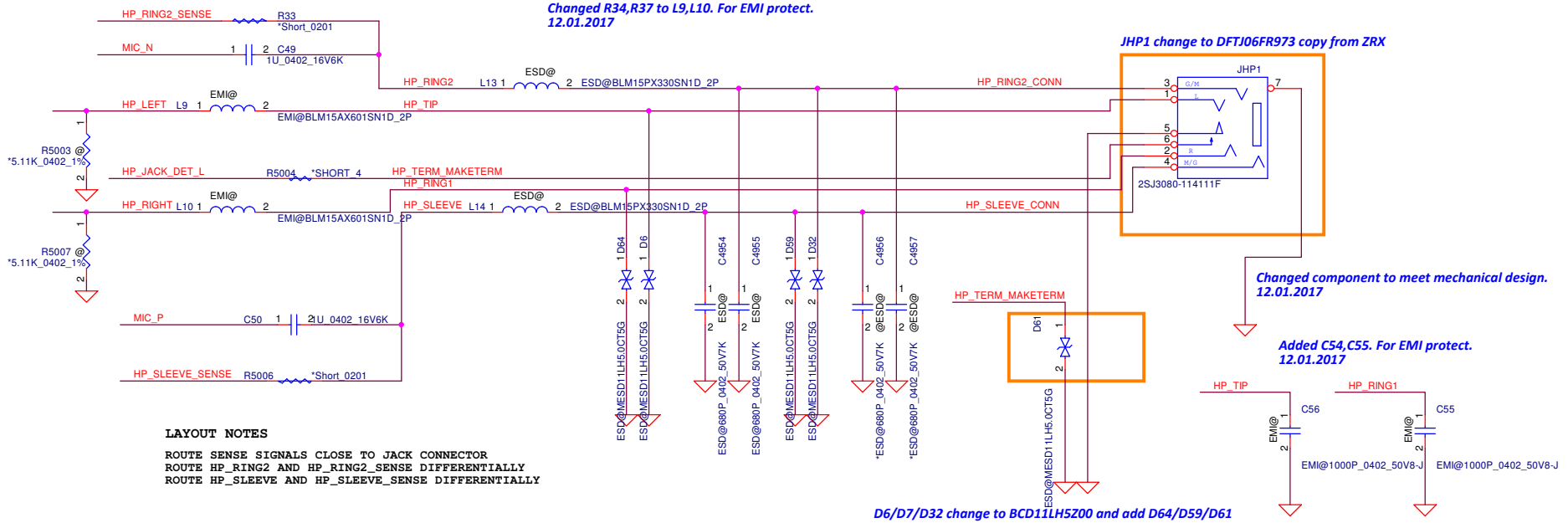
Audio Codec



I2C ADDRESSES:
0X18
0X19
0X1A (DEFAULT)
0X1B

Changed R34,R37 to L9,L10. For EMI protect.
12.01.2017

JHP1 change to DFTJ06FR973 copy from ZRX



Changed component to meet mechanical design.
12.01.2017

Added C54,C55. For EMI protect.
12.01.2017

D6/D7/D32 change to BCD11LH5Z00 and add D64/D59/D61

LAYOUT NOTES

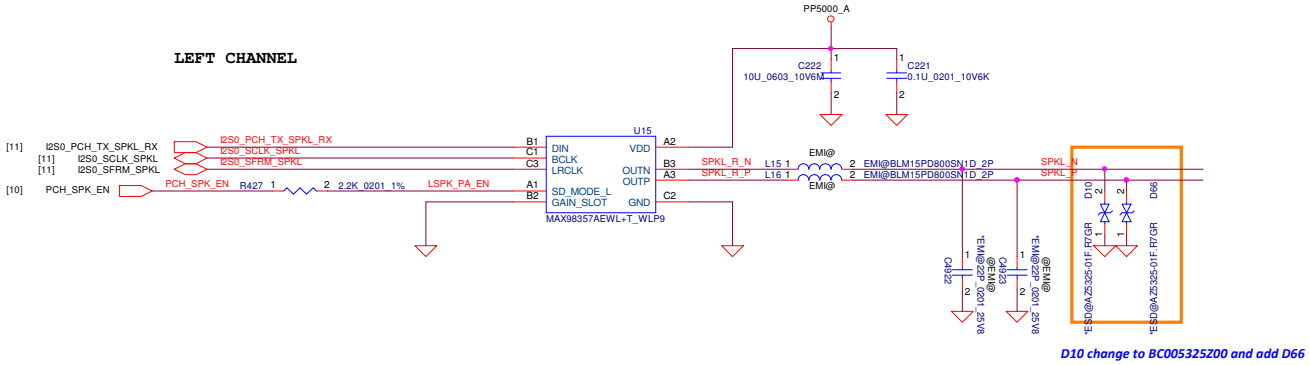
ROUTE SENSE SIGNALS CLOSE TO JACK CONNECTOR
ROUTE HP_RING2 AND HP_RING2_SENSE DIFFERENTIALLY
ROUTE HP_SLEEVE AND HP_SLEEVE_SENSE DIFFERENTIALLY

Quanta Computer Inc.
PROJECT : ZAT

Size	Document Number	Rev
	HP AMP DA7219-02VBA	5A
Date: Tuesday, March 26, 2019	Sheet 26 of 54	

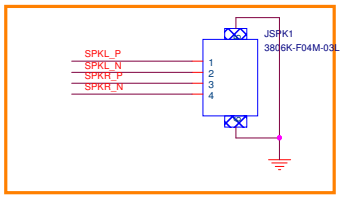
SPEAKER AMP

LEFT CHANNEL



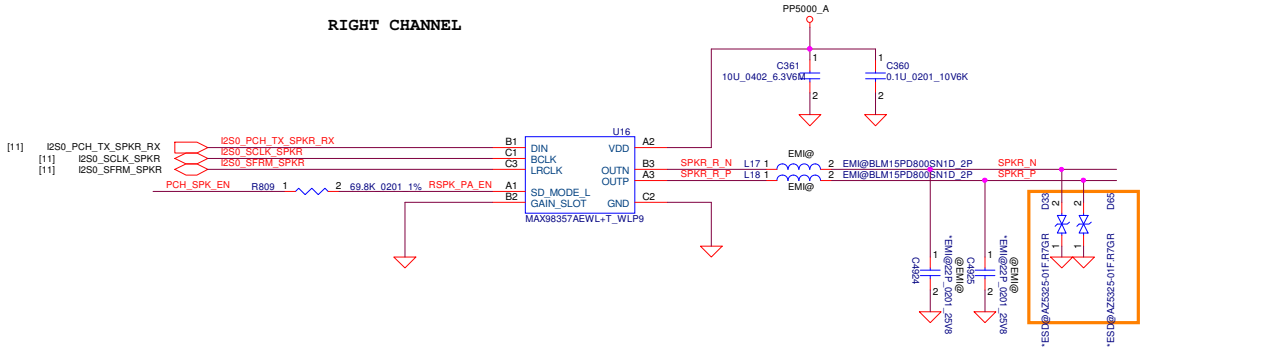
D10 change to BC005325Z00 and add D66

SPEAKER CONNECTOR



JHSPK1 copy from ZSA(Same P/N ,
FP change to wtb-50278-00401-v01-4p-l

RIGHT CHANNEL



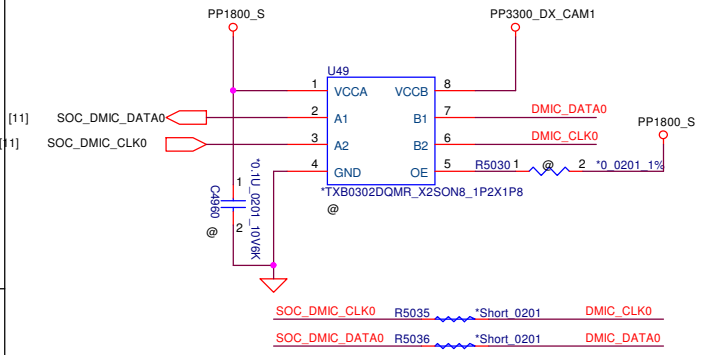
D33 change to BC005325Z00 and add D65

LAYOUT NOTES

SPKL_P, SPKL_N & SPKR_P, SPKR_N SHOULD BE CONNECTED AS CLOSE TO THE SPEAKER CONNECTOR AS POSSIBLE

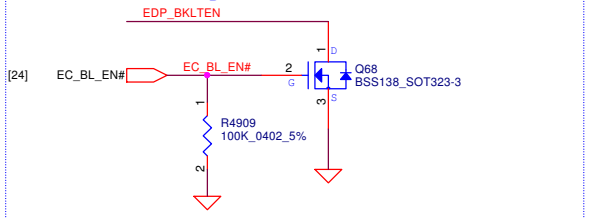
Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: SPEAKER AMP	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 27 of 54	

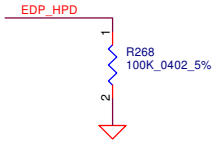
Reserve for DMIC data/clk 3.3V

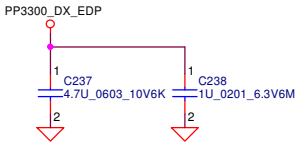


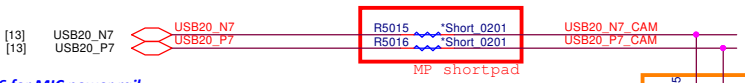
Default for DMIC data/clk 1.8V

LCD Backlight control from EC

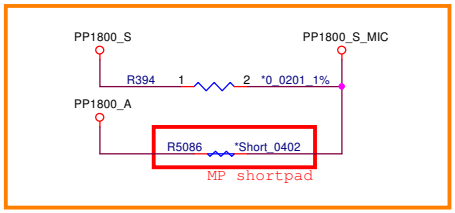


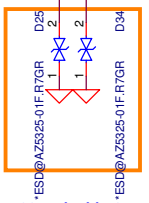






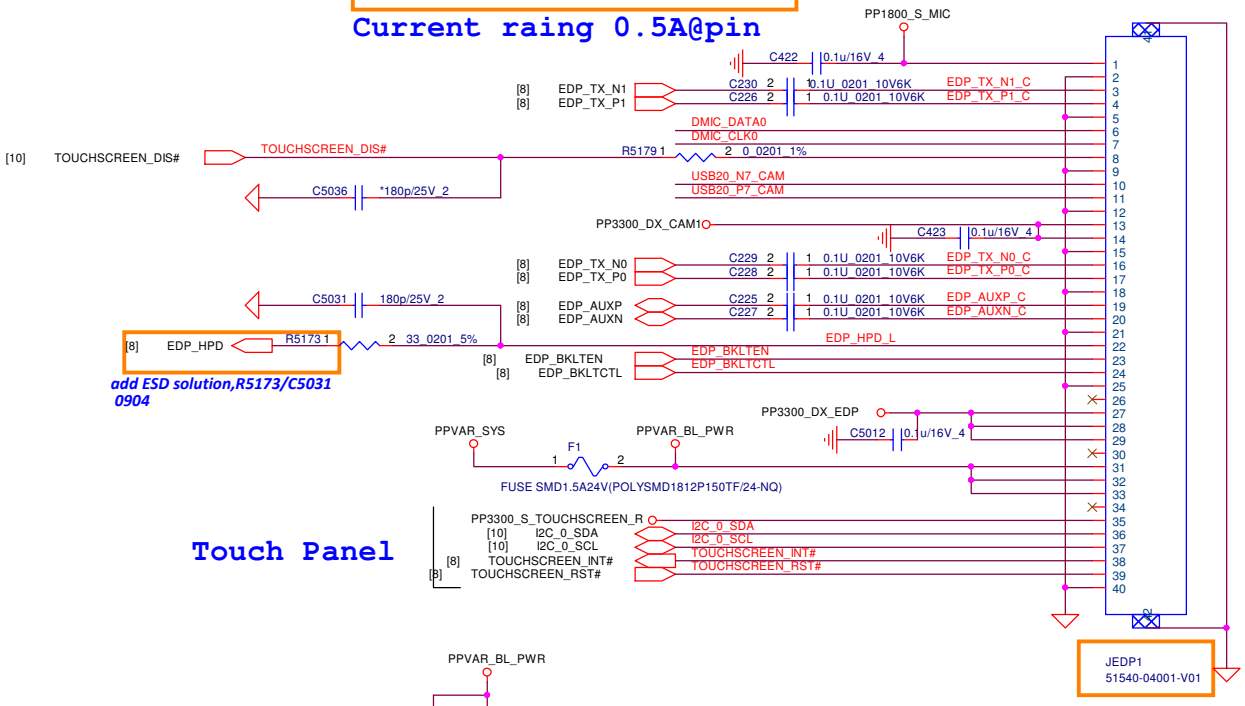
add R5086 for MIC power rail





D34 change to BC005325200 and add D25

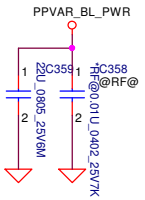
Current raing 0.5A@pin

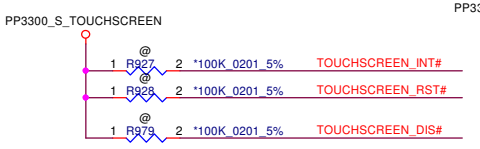


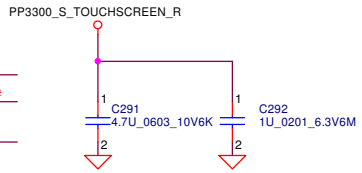
add ESD solution,R5173/C5031 0904

Touch Panel

JEDP1 change to DFFC40FR070, copy from ZSA





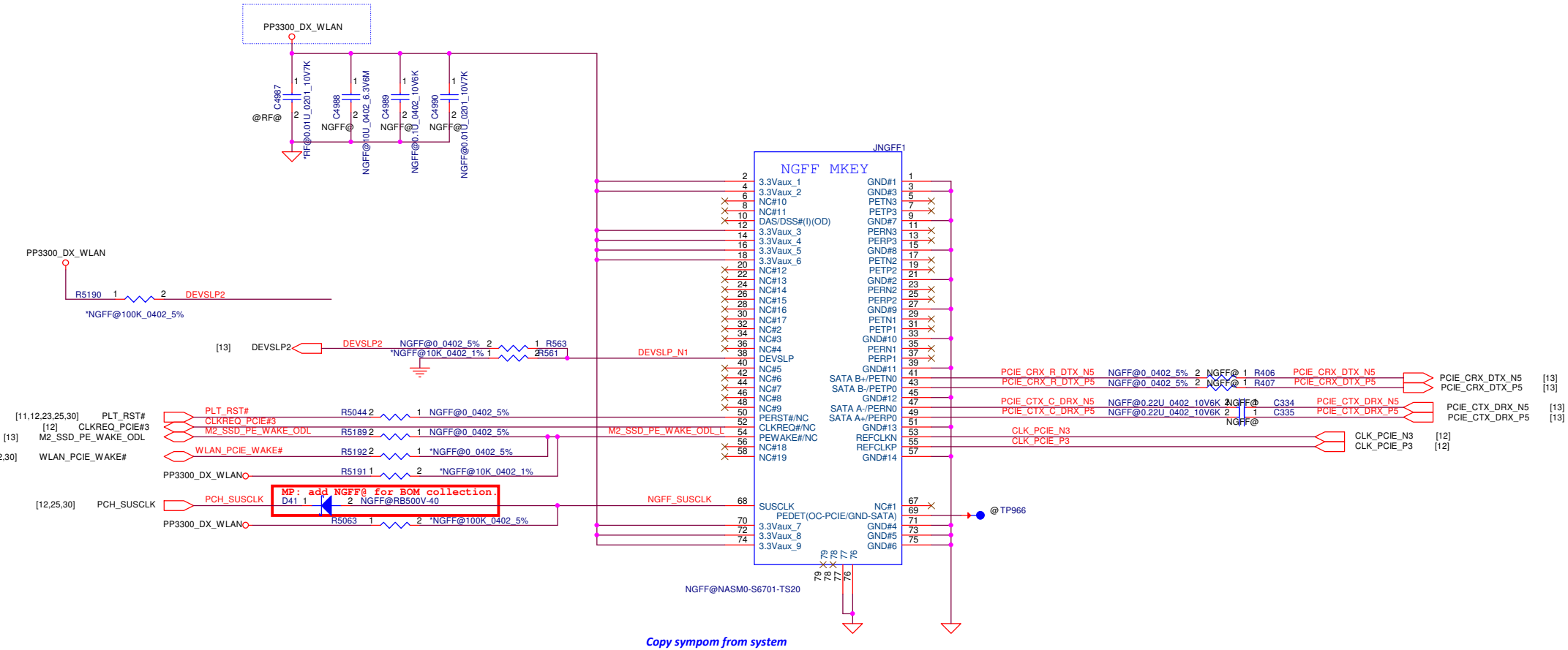


Quanta Computer Inc.

PROJECT : ZAT

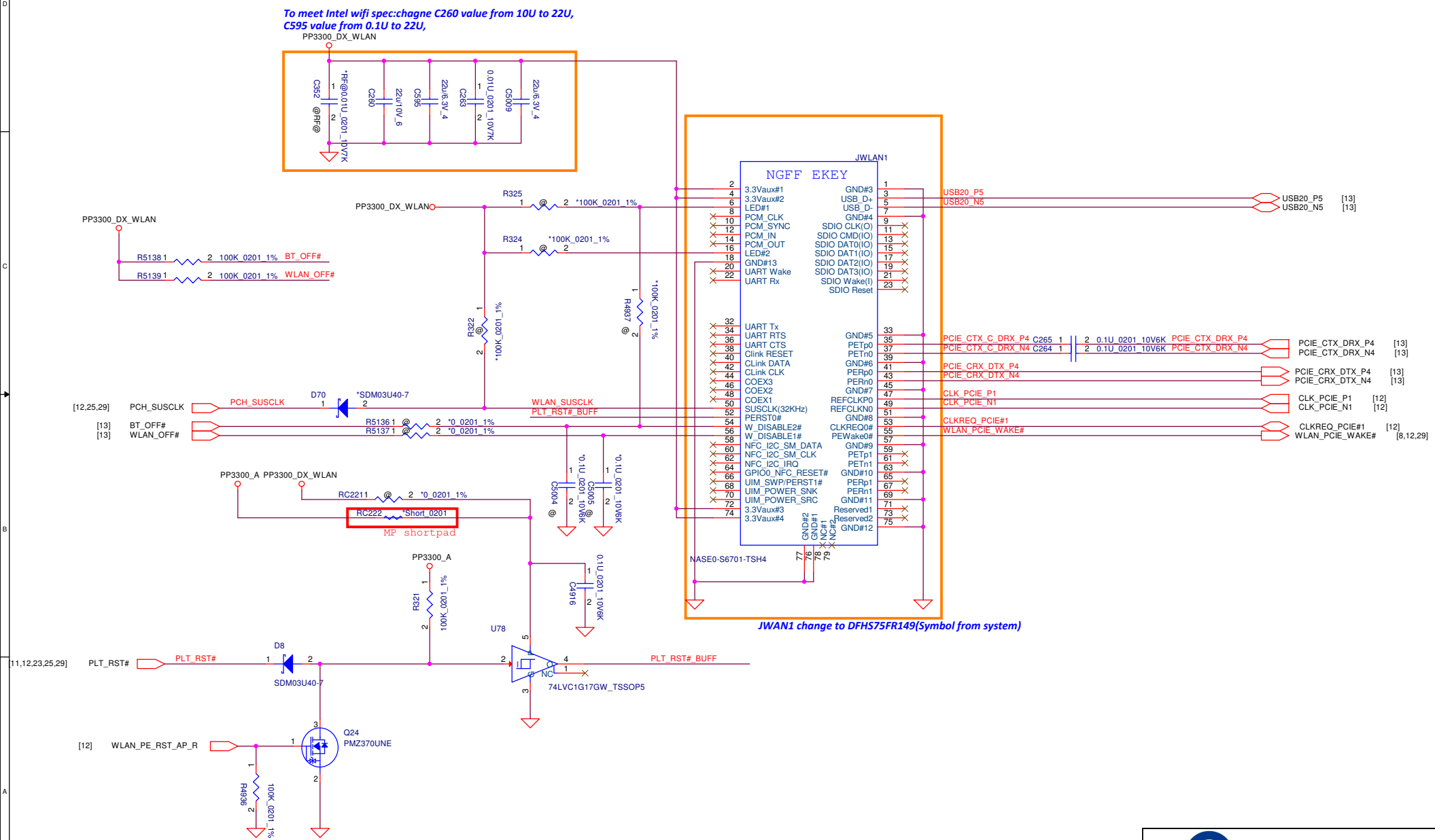
Size	Document Number	Rev
	eDP	5A
Date: Tuesday, March 26, 2019	Sheet 28 of 54	

KEY M



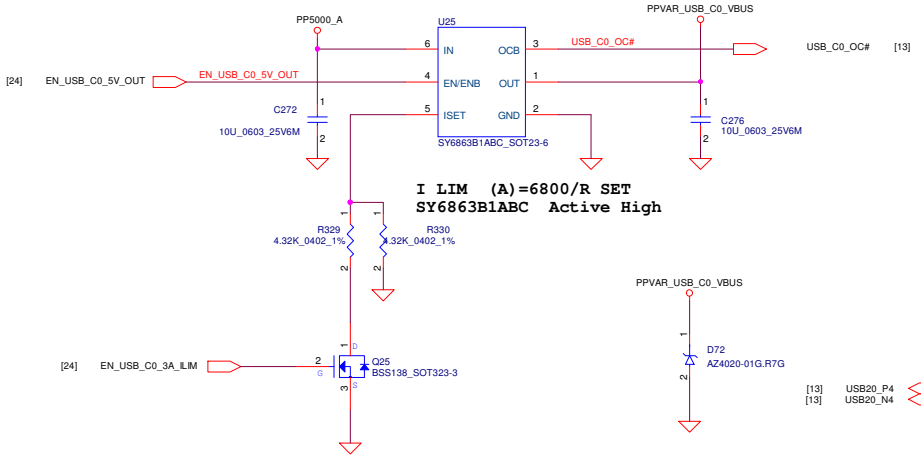
Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: M.2 NVME SSD	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 29 of 54	

NGFF WiFi/BT (KEY E)



Quanta Computer Inc.	
PROJECT : ZAT	
Size	Document Number: M.2 WLAN CONNECTOR
Rev	5A
Date: Tuesday, March 26, 2019	Sheet 30 of 54

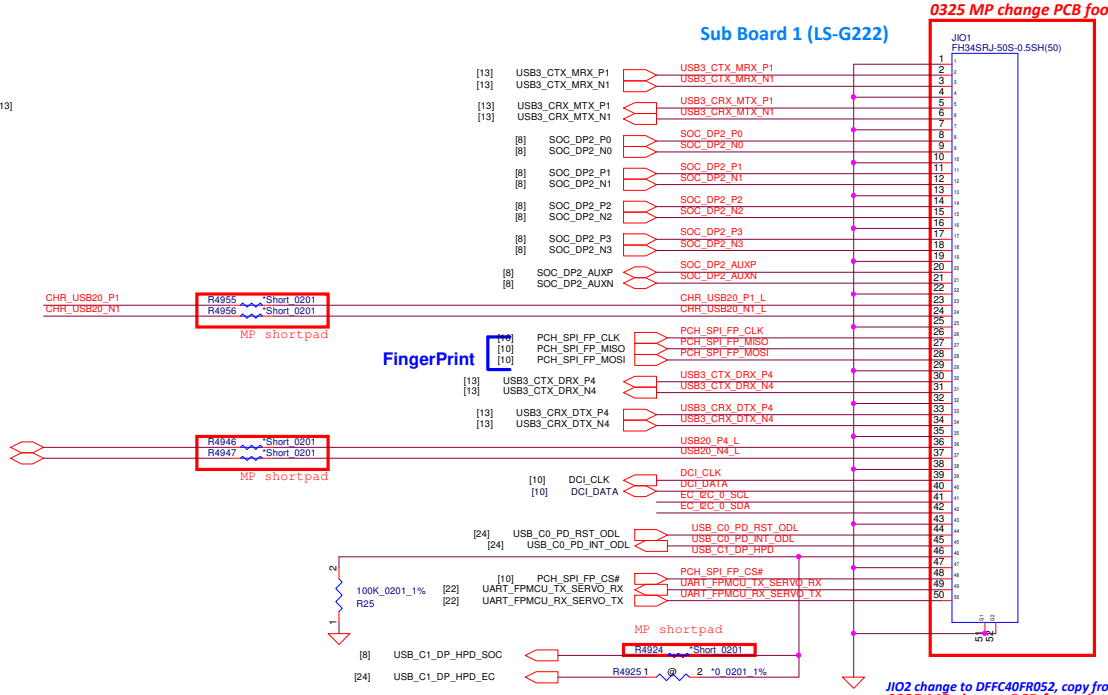
TYPE-C 5V POWER SWITCH



JIO1 change to DFFC50FR048,copy from 0CF

0325 MP change PCB footprint

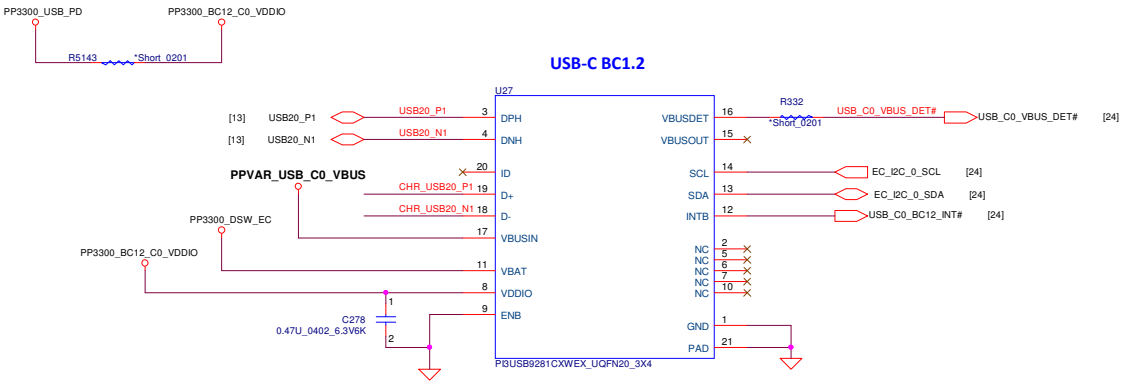
Sub Board 1 (LS-G222)



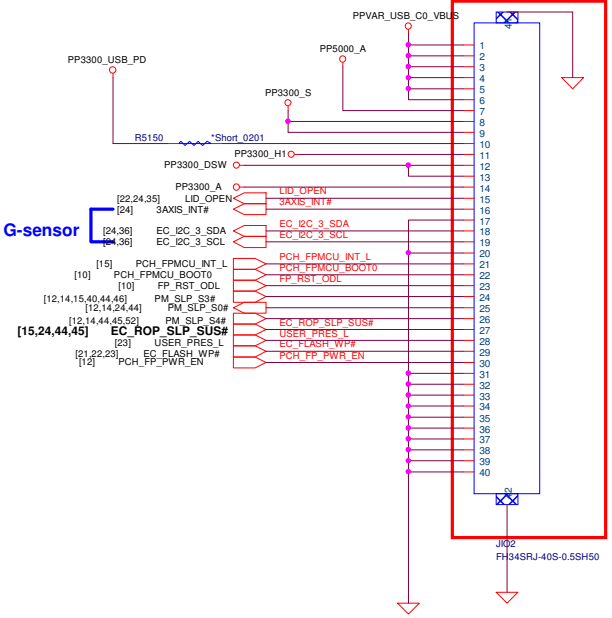
JIO2 change to DFFC40FR052, copy from ZSA

0325 MP change PCB footprint

USB-C BC1.2



G-sensor



Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: USB TyecC DB	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 31 of 54	

The DVDD_IO can be power supplied by 1.8V ~ 3.3V:
If AP or EC's IO type is 1.8V, select 1.8V power for DVDD_IO.
If AP or EC's IO type is 3.3V, select 3.3V power for DVDD_IO.

PP3300_USB_PD — FB2 BLM03AX241SN1D — PP3300_USB_PD_ANX_AVDD — C4967 1U_0402_16V6K, C4968 0.1U_0201_10V6K, C4969 100P_0201_25V7K

Closed Pin 13 and Pin 24.

PP3300_USB_PD_ANX_DVDD — C5008 @ 1U_0402_16V6K, C4971 0.1U_0201_10V6K — PP3300_USB_PD_ANX_AVDD — R5067 *Short_0402 MP shortpad

Closed Pin 39.

U115 ANX3447QN-AC-R_QFN48_6X6

DP_LN_0P	SOC_DP1_P0	R5117 *Short_0201	SOC_DP1_P0_R	1	[8] SOC_DP1_P0 / [8] SOC_DP1_N0
DP_LN_0N	SOC_DP1_N0	R5118 *Short_0201	SOC_DP1_N0_R	2	
DP_LN_1P	SOC_DP1_P1	R5119 *Short_0201	SOC_DP1_P1_R	7	[8] SOC_DP1_P1 / [8] SOC_DP1_N1
DP_LN_1N	SOC_DP1_N1	R5120 *Short_0201	SOC_DP1_N1_R	8	
DP_LN_2P	SOC_DP1_P2	R5121 *Short_0201	SOC_DP1_P2_R	9	[8] SOC_DP1_P2 / [8] SOC_DP1_N2
DP_LN_2N	SOC_DP1_N2	R5122 *Short_0201	SOC_DP1_N2_R	10	
DP_LN_3P	SOC_DP1_P3	R5123 *Short_0201	SOC_DP1_P3_R	3	[8] SOC_DP1_P3 / [8] SOC_DP1_N3
DP_LN_3N	SOC_DP1_N3	R5124 *Short_0201	SOC_DP1_N3_R	4	
AUXP	SOC_DP1_AUXP	C4982 1 2 0.1U_0201_10V6K	SOC_DP1_AUXP_C	16	[8] SOC_DP1_AUXP / [8] SOC_DP1_AUXN
AUXN	SOC_DP1_AUXN	C4981 1 2 0.1U_0201_10V6K	SOC_DP1_AUXN_C	17	
HPD	USB_C0_DP_HPD	R5048 *Short_0201	USB_C0_DP_HPD_R	36	
SSTX_P	USB3_CTX_MRX_P2	R5129 *Short_0201	USB3_CTX_MRX_P2_R	12	[13] USB3_CTX_MRX_P2 / [13] USB3_CTX_MRX_N2
SSTX_N	USB3_CTX_MRX_N2	R5130 *Short_0201	USB3_CTX_MRX_N2_R	11	
SSRX_P	USB3_CRX_MTX_P2	R5131 *Short_0201	USB3_CRX_MTX_P2_R	6	[13] USB3_CRX_MTX_P2 / [13] USB3_CRX_MTX_N2
SSRX_N	USB3_CRX_MTX_N2	R5132 *Short_0201	USB3_CRX_MTX_N2_R	5	
TEST_R	USB_C1_PD_RST_ODL	R5140 *Short_0201	USB_C1_PD_RST_ODL_R	46	[24] USB_C1_PD_RST_ODL
CFG_SDA	EC_I2C0_1_SDA	EC_I2C0_1_SDA		37	[24,33] EC_I2C0_1_SDA / [24,33] EC_I2C0_1_SCL
CFG_SCL	EC_I2C0_1_SCL	EC_I2C0_1_SCL		38	
SINK_CTRL	EN_USB_C1_5V_OUT	R5083 1 @ 2 *0_0201_1%	SINK_CTRL	43	[24,33] EN_USB_C1_5V_OUT / [24,42] EN_USB_C1_CHARGE_EC#
SOURCE_CTRL	EN_USB_C1_CHARGE_EC#	R4984 1 @ 2 *0_0201_1%	SOURCE_CTRL	44	
TEST_EN	TEST_EN	TP927 @		45	
DISCHARGE_CTRL	VBUS_C1_DISCHG			35	
ROLE_SELECT	ROLE_SELECT			28	
I2C_ADR_0	PD2_ADD0			48	
I2C_ADR_1	PD2_ADD1			47	
SSTXP1	USB3_DP1_1_MTX_DRX_P1	C4992 1 2 0.1U_0201_10V6K	USB3_DP1_1_MTX_C_DRX_P1	25	USB3_DP1_1_MTX_C_DRX_P1 [33]
SSTXN1	USB3_DP1_1_MTX_DRX_N1	C4993 1 2 0.1U_0201_10V6K	USB3_DP1_1_MTX_C_DRX_N1	26	USB3_DP1_1_MTX_C_DRX_N1 [33]
SSRXN2	USB3_DP1_2_MRX_DTX_N1		USB3_DP1_2_MRX_DTX_N1	33	USB3_DP1_2_MRX_DTX_N1 [33]
SSRXP2	USB3_DP1_2_MRX_DTX_P1		USB3_DP1_2_MRX_DTX_P1	34	USB3_DP1_2_MRX_DTX_P1 [33]
SSTXP2	USB3_DP1_2_MTX_DRX_P1	C4995 1 2 0.1U_0201_10V6K	USB3_DP1_2_MTX_C_DRX_P1	30	USB3_DP1_2_MTX_C_DRX_P1 [33]
SSTXN2	USB3_DP1_2_MTX_DRX_N1	C4996 1 2 0.1U_0201_10V6K	USB3_DP1_2_MTX_C_DRX_N1	29	USB3_DP1_2_MTX_C_DRX_N1 [33]
SSRXN1	USB3_DP1_1_MRX_DTX_N1		USB3_DP1_1_MRX_DTX_N1	32	USB3_DP1_1_MRX_DTX_N1 [33]
SSRXP1	USB3_DP1_1_MRX_DTX_P1		USB3_DP1_1_MRX_DTX_P1	31	USB3_DP1_1_MRX_DTX_P1 [33]
SBU1	DP1_AUXP_SBU1			19	
SBU2	DP1_AUXN_SBU2			18	
CC1	USB_C1_CC1			22	USB_C1_CC1 [23,33]
CC2	USB_C1_CC2			21	USB_C1_CC2 [23,33]
VCONN_POWER				23	
FF0				41	
FF1				42	
INTP_OUT	USB_C1_PD_INT_ODL			40	USB_C1_PD_INT_ODL [24]
VBUS_SENSE	PPVAR_USB_C1_VBUS_SENSE	R4983 348K_1%_4		15	
VBUS_OCP		TP945 @		20	
NC				14	
NC				27	
VSS				49	
AVDD33				13	
AVDD33				24	
DVDD_IO				39	

PP3300_USB_PD — R5068 100K_0201_1% SOC_DP1_AUXN_C; R5069 100K_0201_1% SOC_DP1_AUXP_C

PP3300_USB_PD_ANX_DVDD — R5051 1.8K_0201_1% EC_I2C0_1_SDA; R5052 1.8K_0201_1% EC_I2C0_1_SCL

PPVAR_USB_C1_VBUS_L — R5053 1.2K_0402_5% — Q77 PMZ370UNE — R5054 *100K_0201_5% @

DISCHARGE_CTRL
Auto VBUS discharge pin.
Internal 100K pull down.

PP5000_A — C4991 4.7U_0402_6.3V6M — R5049 1M_0201_5% — R5050 1M_0201_5% — C4965 EMI@ — C4966 EMI@1000P_0201_25V7K

VCONN_POWER is the power source for VCONN:
1) VCONN Voltage range [3.6V, 5.5V]
2) Internal VCONN Switch:Iout Max 400mA,Rdson Max 1.2 ohm
2) VCONN Minimum power is 1W. If DP Alternate Mode is supported, VCONN power is up to 1.5W.

USB_C1_CC1 — D73 — AZ5725-01F.R7G; USB_C1_CC2 — D74 — AZ5725-01F.R7G

PP3300_USB_PD_ANX_AVDD — R5055 4.7K_0201_5% ROLE_SELECT; R5058 @ *4.7K_0201_5%

ROLE_SELECT pin:
Logic 1: DRP Mode.
Logic 0: DFP Mode.
NC: UFP Mode.

[24] USB_C0_DP_HPD_EC — R4927 @ *0_0201_1% — USB_C0_DP_HPD
[8] USB_C0_DP_HPD_SOC — R4926 *Short_0201
USB_C0_DP_HPD — 100K_0201_1% R28

PP5000_A — D42 CCD@SDM03U40-7 — R5110 CCD@100K_0201_1% — CCD_MODE_ODL

PP3300_H1 — Q81 PMZ370UNE

PP3300_USB_PD_ANX_DVDD — R5056 4.7K_0201_5% PD2_ADD0; R5059 4.7K_0201_5% PD2_ADD1; R5057 @ *4.7K_0201_5%; R5060 @ *4.7K_0201_5%

I2C_ADR_1/I2C_ADR_0:
input pin with internal 100k ohm pull-down

I2C_ADR_1	I2C_ADR_0	TCPC Address (Wakeup address)	SPI Address	EMTB Address	EMTB Address	Debug Address_1	Debug Address_2
0	0	0x58	0x7E	0x7A	0x84	0x72	0x70
0	1	0x56	0x6E	0x78	0x86	0x76	0x70
1	0	0x54	0x64	0x68	0x6C	0x5C	0x70
1	1	0x52	0x62	0x6A	0x74	0x82	0x70

R5155 @ *0_0201_1% — Q79 PMZ370UNE — DP1_AUXP_SBU1 — USB_C1_SBU1 [23,33] — C4998 EMI@1000P_0201_25V7K — R5070 2M_0201_5%

Q80 PMZ370UNE — DP1_AUXN_SBU2 — USB_C1_SBU2 [23,33] — R5156 @ *0_0201_1% — C4997 EMI@1000P_0201_25V7K — R5071 2M_0201_5%

To H1

Closed U115

Closed U11

	Stuff	Unstuff
CCD mode:	Q79, Q80, Q81, D42 and R5110	R5155 and R5156
Non CCD mode:	R5155 and R5156	Q79, Q80, Q81, D42 and R5110

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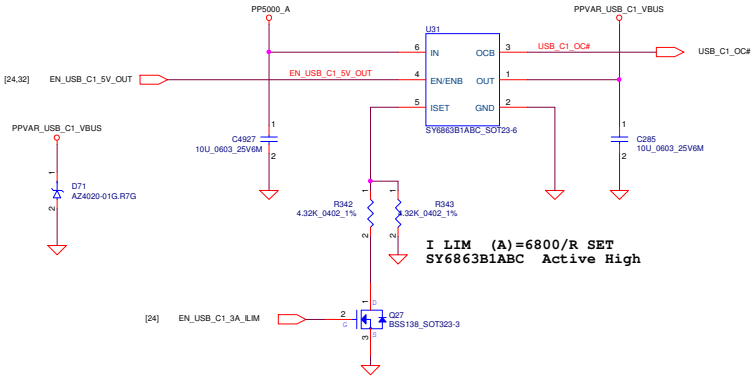
PROJECT : ZAT

Size	Document Number	Rev
	USB TyecC LOAD SWITCH	5A

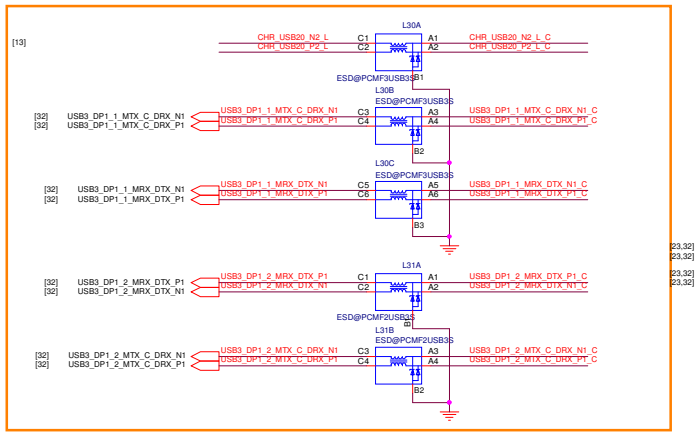
Date: Tuesday, March 26, 2019 Sheet 32 of 54

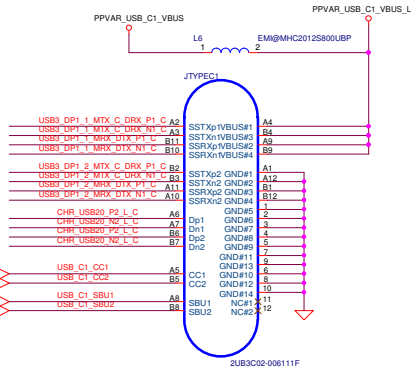
5V Current limit



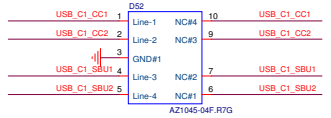
USB TYPE-C Conn

JTYPEC1 change to DFHS24FR413

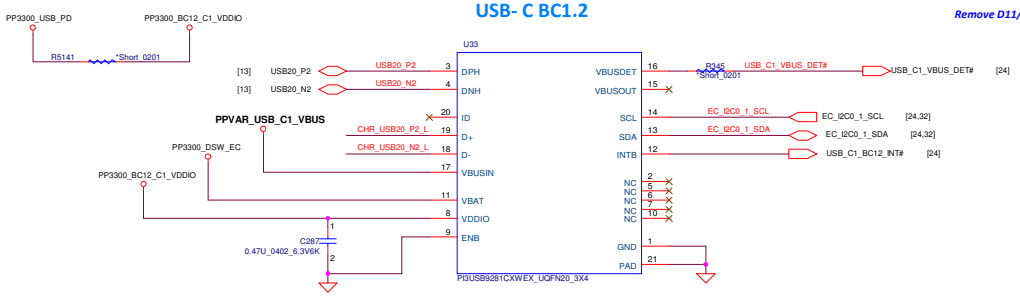


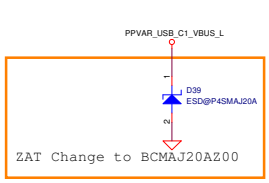


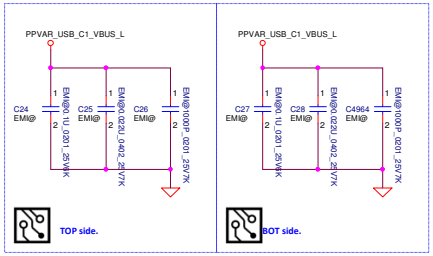
Remove D11/D12/D13/D27/D28/D29/D30/D31/D40 and change to L30/L31/D52

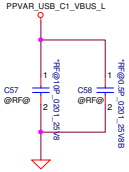


USB- C BC1.2









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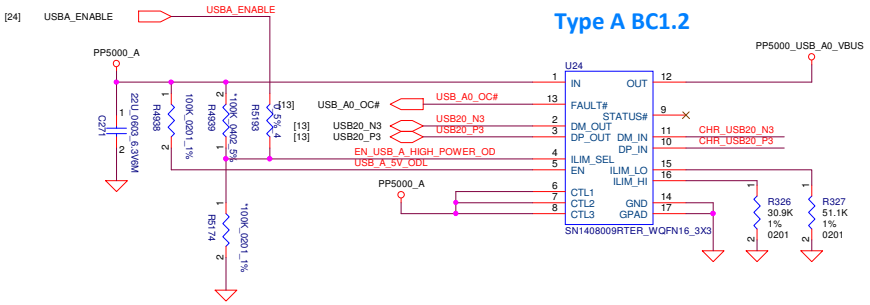
PROJECT : ZAT

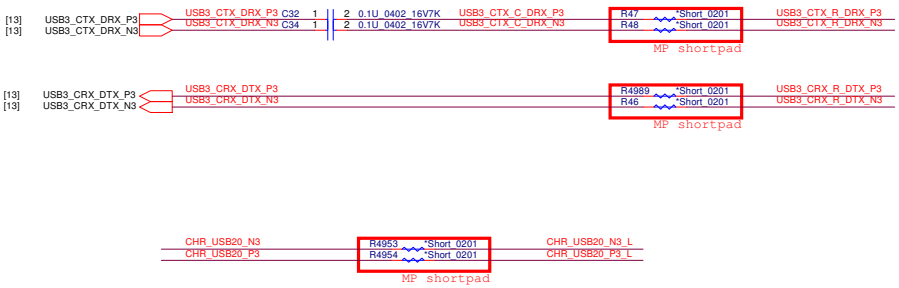
Size	Document Number	Rev
	USB3.0 Type-C Conn.	5A

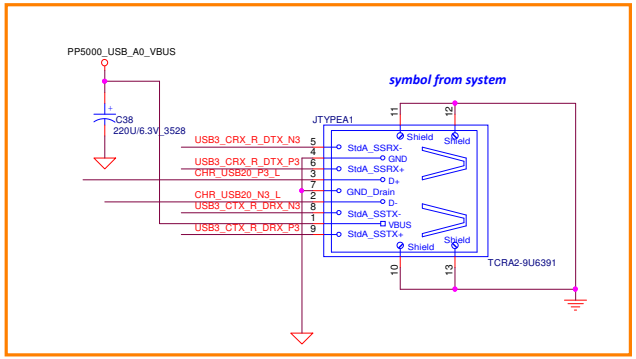
Date: Tuesday, March 26, 2019 Sheet 33 of 54

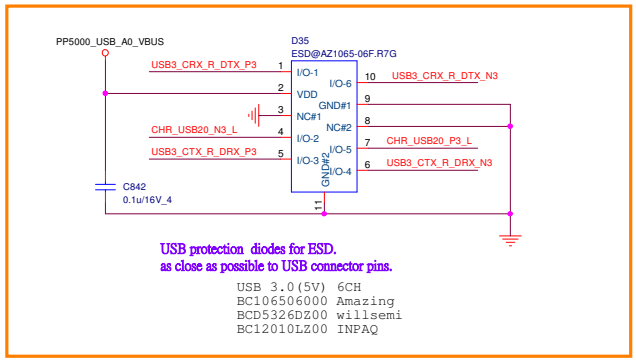
Type A BC1.2



Device Control Pins				
Flow Line Condition	CTL1	CTL2	CTL3	ILIM_SEL
DCH (Discharge)	0	0	0	X
CDP	1	1	1	1
SDP2 (No Discharge from/to CDP)	1	1	1	0
SDP1	1	1	0	X
(Discharge from/to any charging state including CDP)	0	1	0	X
DCP_SHORTED	1	0	0	X
DCP_DIVIDER	1	0	1	X
DCP_Auto	0	1	1	X
	0	0	1	X





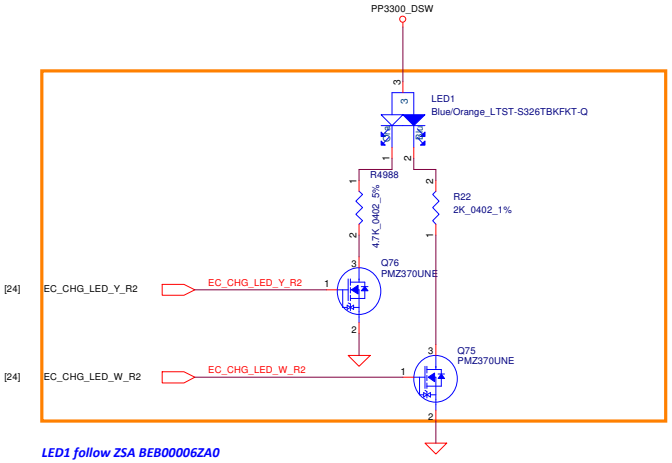


USB protection diodes for ESD.
as close as possible to USB connector pins.

USB 3.0(5V) 6CH
BC106506000 Amazing
BCD5326DZ00 willsemi
BC12010LZ00 INPAQ

Remove D35/D38 chamgr to D35/BC106506000

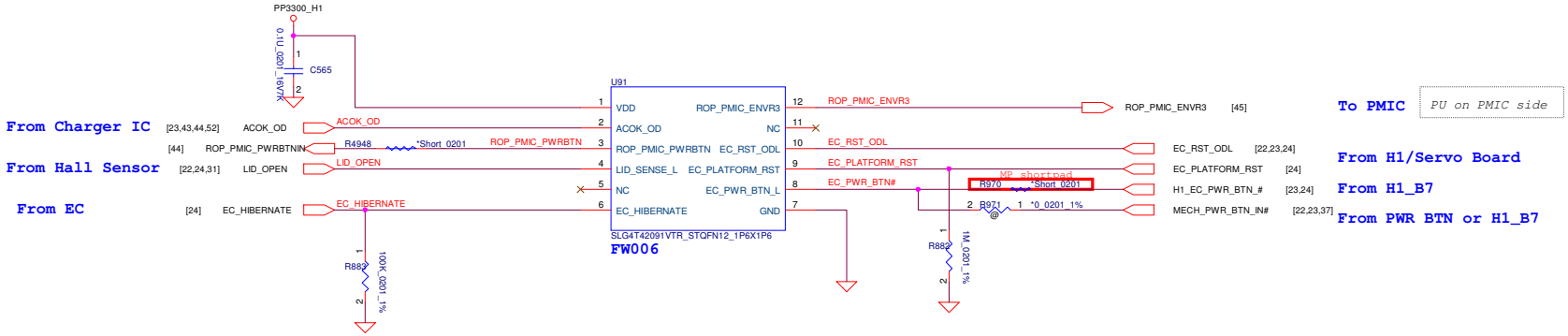
LED Y/W



LED1 follow ZSA BEB00006ZA0

Quanta Computer Inc.
PROJECT : ZAT

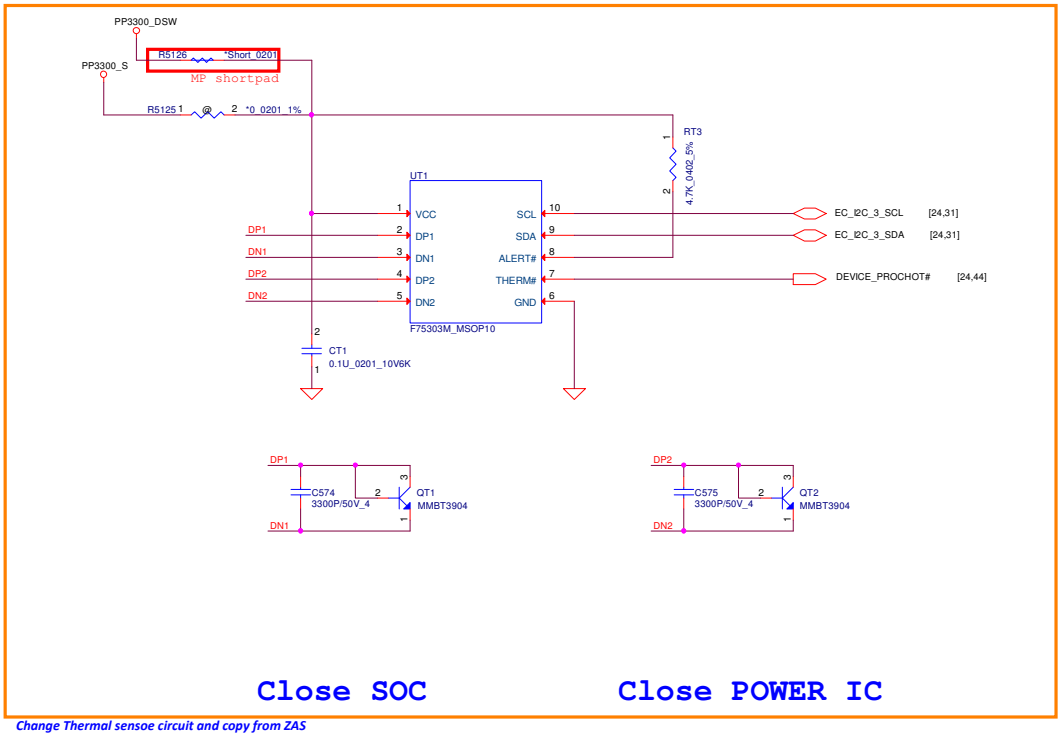
Size	Document Number	Rev
	USB Type-A / LED	5A
Date: Tuesday, March 26, 2019	Sheet 34 of 54	



Pin Configuration

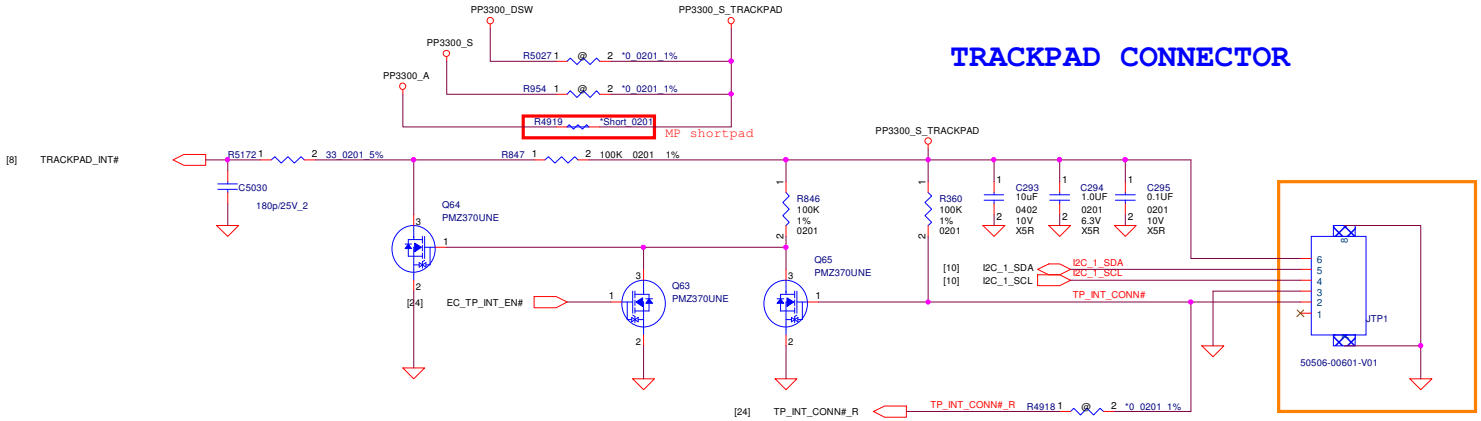
Pin #	Pin Name	Type	Pin Description	Internal Resistor
1	VDD	PWR	Supply Voltage	--
2	ACOK_OD	Digital Input	Digital Input without Schmitt trigger	1MΩ pulldown
3	ROP_PMIC_PWRBTN	Digital Output	Open Drain NMOS 1X	floating
4	LID_SENSE_L	Digital Input	Digital Input without Schmitt trigger	100kΩ pullup
5	NC	--	Keep Floating or Connect to GND	--
6	EC_HIBERNATE	Digital Input	Digital Input without Schmitt trigger	1MΩ pulldown
7	GND	GND	Ground	--
8	EC_PWR_BTN_L	Digital Input	Digital Input without Schmitt trigger	100kΩ pullup
9	EC_PLATFORM_RST	Digital Input	Digital Input with Schmitt trigger	1MΩ pulldown
10	EC_RST_ODL	Bi-directional	Digital Input without Schmitt trigger / Push Pull 1X	100kΩ pullup
11	NC	--	Keep Floating or Connect to GND	--
12	ROP_PMIC_ENVR3	Digital Output	Open Drain NMOS 1X	floating

Thermal Sensor



Change Thermal sensoe circuit and copy from ZAS

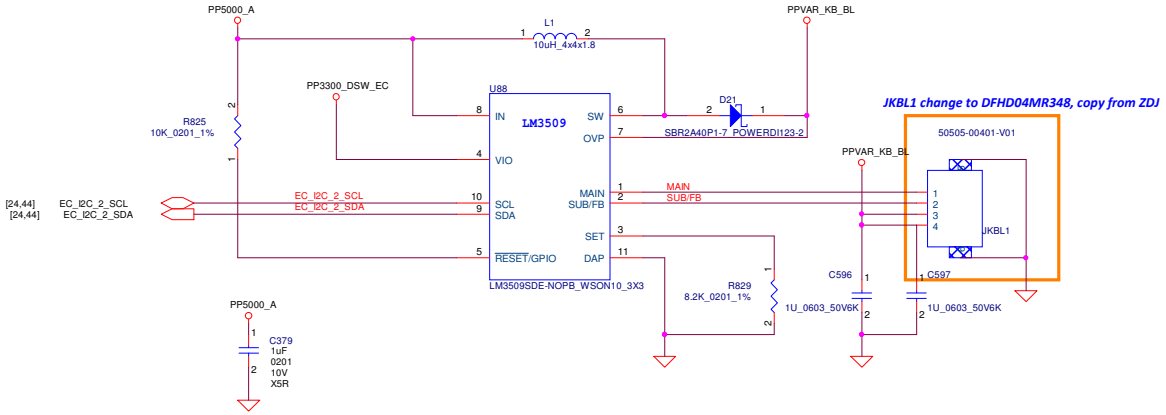
TRACKPAD CONNECTOR



JTP1 change to DFFC06FR090, copy from ZDJ

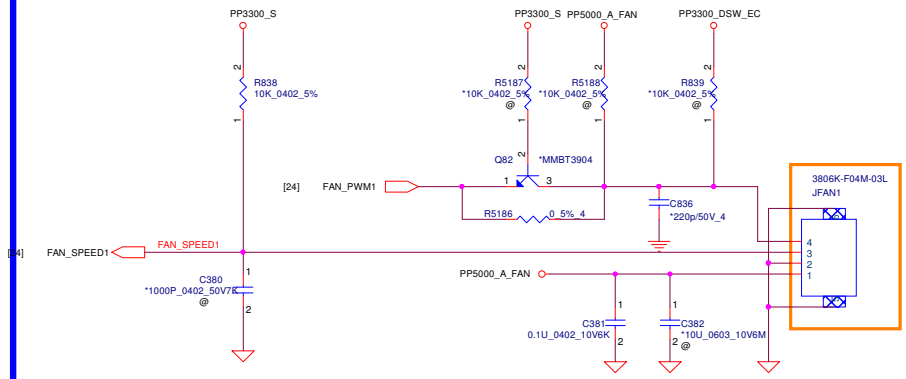
Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: Trapckpad/Camera/Thermal	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 36 of 54	

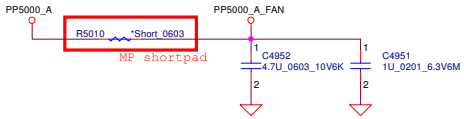
KEYBOARD BACKLIGHT



ILED_MAX = 192×1.244V/RSET.
==>192 X 1.244/8.2K = 29.128 mA

CPU Fan Control Circuit

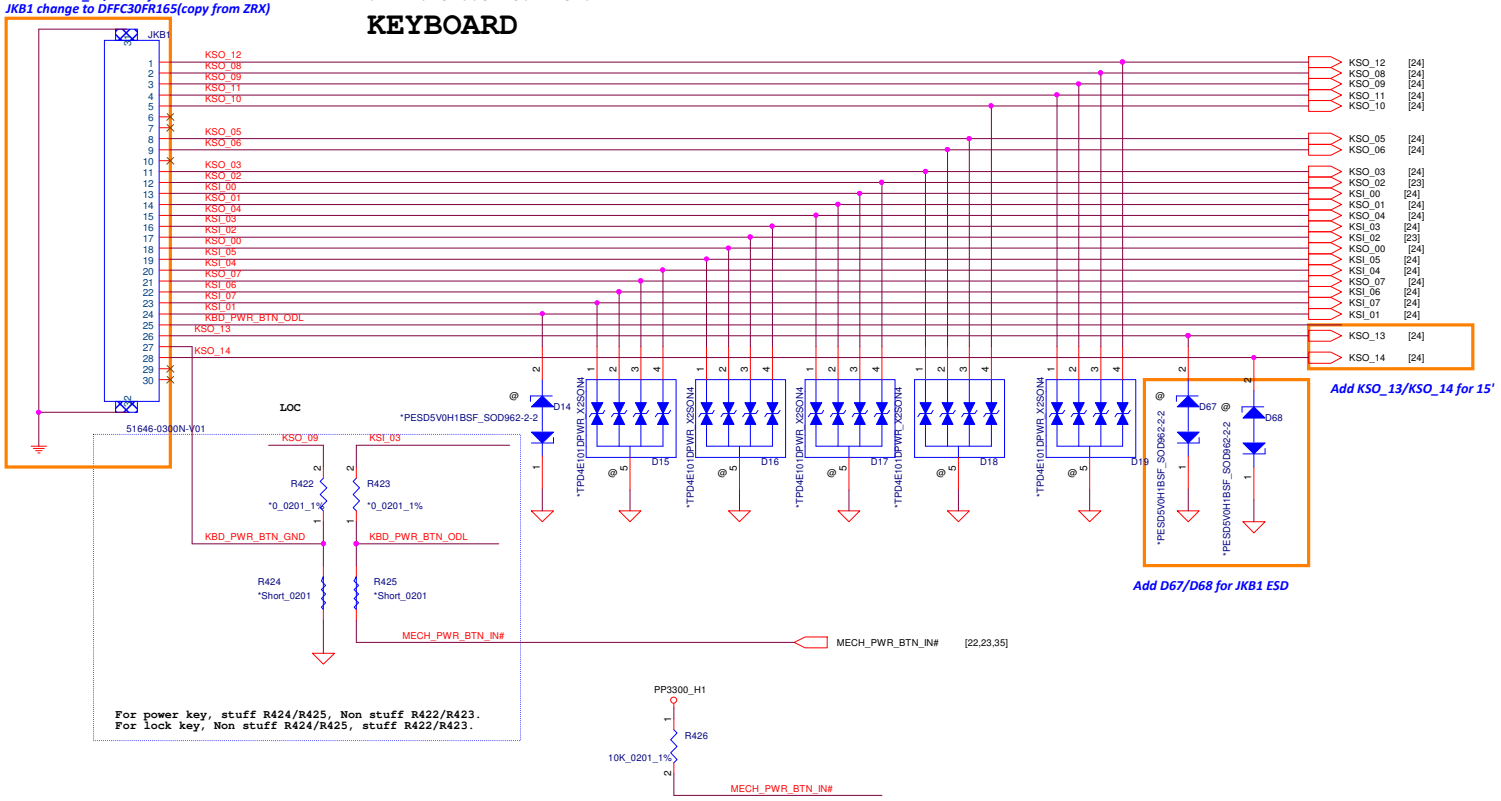




JKB1 add KIO_14/KIO13 for 15"
JKB1 change to DFFC30FR165(copy from ZRX)

ODM TO CHOOSE CONNECTOR

KEYBOARD



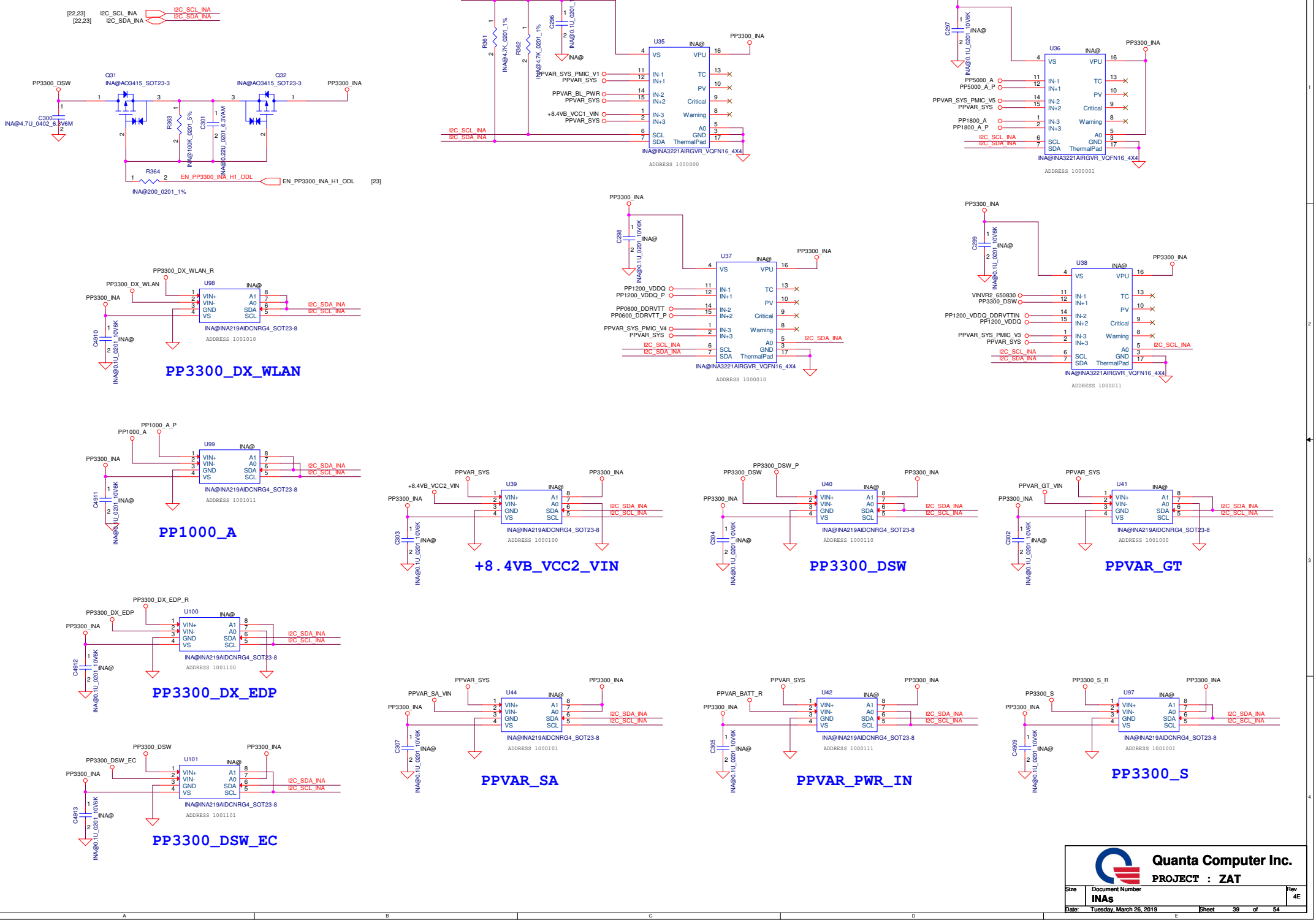
Quanta Computer Inc.
PROJECT : ZAT
Size | Document Number: KB, KB Backlight, FAN | Rev 5A
Date: Tuesday, March 26, 2019 | Sheet 37 of 54

Quanta Computer Inc.

PROJECT : ZAT

Size	Document Number	Rev
	Finger Print	5A

Date: Tuesday, March 26, 2019 Sheet 38 of 54


[22,23] I2C_SCL_INA
[22,23] I2C_SDA_INA
I2C_SCL_INA
I2C_SDA_INA
Q31
INA@AO3415_SOT23-3
Q32
INA@AO3415_SOT23-3
PP3300_DSW
PP3300_INA
C300
INA@4.7U_0402_6.3V6M
R363
INA@100K_0201_5%
C301
INA@0.22U_0201_6.3VAM
R364
INA@200_0201_1%
EN_PP3300_INA_H1_ODL
EN_PP3300_INA_H1_ODL [23]
PP3300_INA
R361
INA@4.7K_0201_1%
R362
INA@4.7K_0201_1%
C296
INA@0.1U_0201_10V6K
U35
INA@
PPVAR_SYS_PMIC_V1
PPVAR_SYS
PPVAR_BL_PWR
PPVAR_SYS
+8.4VB_VCC1_VIN
PPVAR_SYS
I2C_SCL_INA
I2C_SDA_INA
INA@INA3221AIRGVR_VQFN16_4X4
ADDRESS 1000000
PP3300_INA
C297
INA@0.1U_0201_10V6K
U36
INA@
PP5000_A
PP5000_A_P
PPVAR_SYS_PMIC_V5
PPVAR_SYS
PP1800_A
PP1800_A_P
I2C_SCL_INA
I2C_SDA_INA
INA@INA3221AIRGVR_VQFN16_4X4
ADDRESS 1000001
PP3300_DX_WLAN_R
PP3300_DX_WLAN
PP3300_INA
U98
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001010
C4910
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP3300_DX_WLAN
PP3300_INA
C298
INA@0.1U_0201_10V6K
U37
INA@
PP1200_VDDQ
PP1200_VDDQ_P
PP0600_DDRVTT
PP0600_DDRVTT_P
PPVAR_SYS_PMIC_V4
PPVAR_SYS
I2C_SCL_INA
I2C_SDA_INA
I2C_SDA_INA
INA@INA3221AIRGVR_VQFN16_4X4
ADDRESS 1000010
PP3300_INA
C299
INA@0.1U_0201_10V6K
U38
INA@
VINVR2_650830
PP3300_DSW
PP1200_VDDQ_DDRVTTIN
PP1200_VDDQ
PPVAR_SYS_PMIC_V3
PPVAR_SYS
I2C_SCL_INA
I2C_SDA_INA
I2C_SCL_INA
INA@INA3221AIRGVR_VQFN16_4X4
ADDRESS 1000011
PP1000_A_P
PP1000_A
PP3300_INA
U99
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001011
C4911
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP1000_A
PPVAR_SYS
+8.4VB_VCC2_VIN
PP3300_INA
U39
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1000100
C303
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
+8.4VB_VCC2_VIN
PP3300_DSW_P
PP3300_DSW
PP3300_INA
U40
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1000110
C304
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP3300_DSW
PPVAR_SYS
PPVAR_GT_VIN
PP3300_INA
U41
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001000
C302
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PPVAR_GT
PP3300_DX_EDP_R
PP3300_DX_EDP
PP3300_INA
U100
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001100
C4912
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP3300_DX_EDP
PPVAR_SYS
PPVAR_SA_VIN
PP3300_INA
U44
INA@
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I2C_SDA_INA
I2C_SCL_INA
PPVAR_SA
PPVAR_SYS
PPVAR_BATT_R
PP3300_INA
U42
INA@
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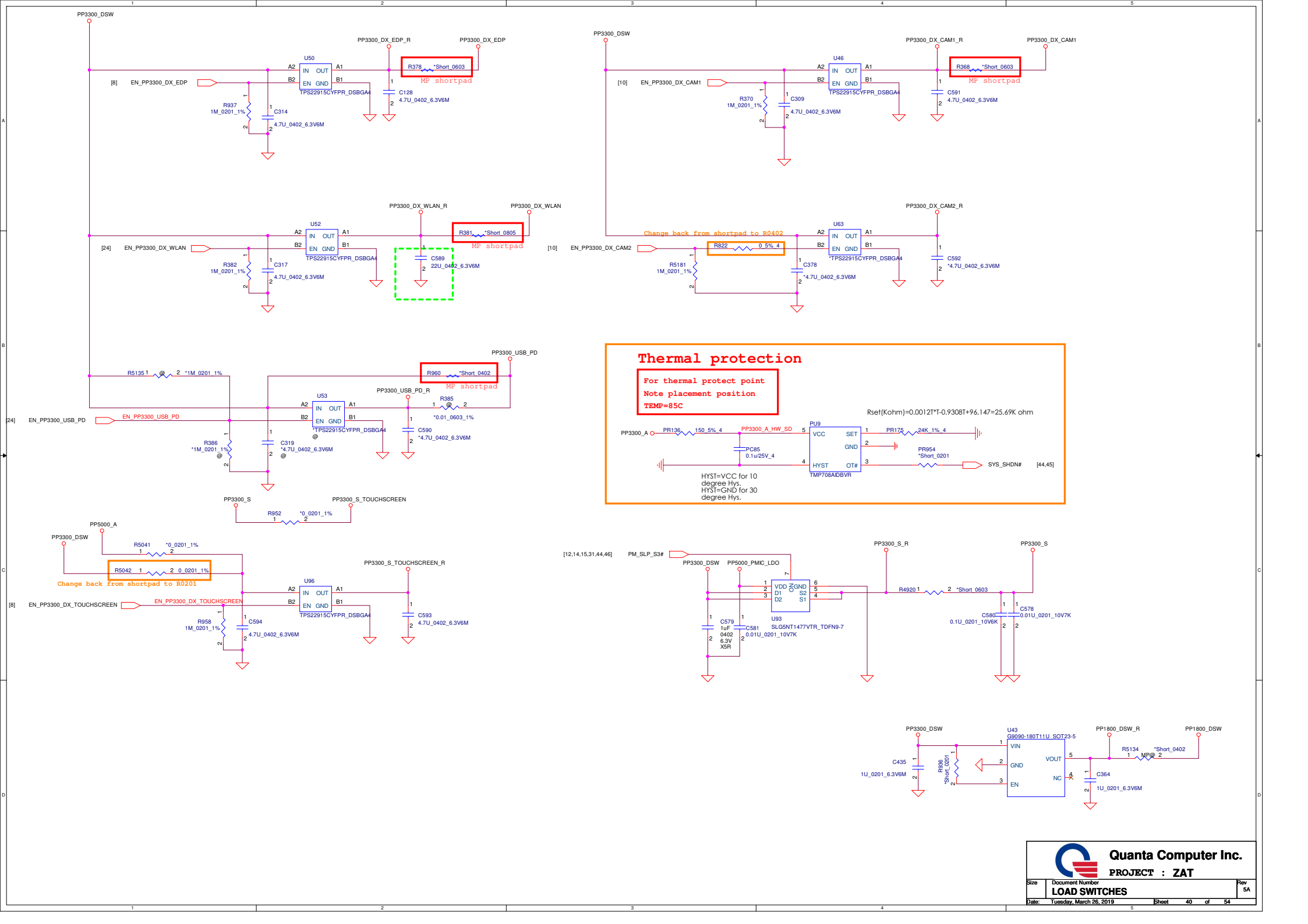
C305
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PPVAR_PWR_IN
PP3300_S_R
PP3300_S
PP3300_INA
U97
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001001
C4909
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP3300_S
PP3300_DSW_EC
PP3300_DSW
PP3300_INA
U101
INA@
INA@INA219AIDCNRG4_SOT23-8
ADDRESS 1001101
C4913
INA@0.1U_0201_10V6K
I2C_SDA_INA
I2C_SCL_INA
PP3300_DSW_EC
Quanta Computer Inc.
PROJECT : ZAT
Size
Document Number
INAs
Rev
4E
Date: Tuesday, March 26, 2019
Sheet 39 of 54



Quanta Computer Inc.

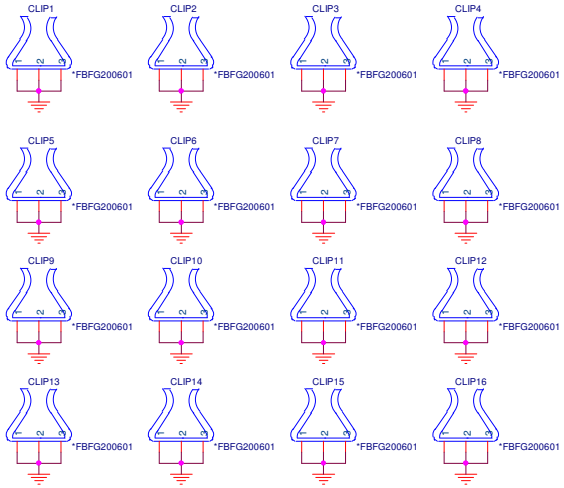
PROJECT : ZAT

Size	Document Number	Rev
	LOAD SWITCHES	5A

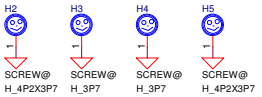
Date: Tuesday, March 26, 2019 Sheet 40 of 54

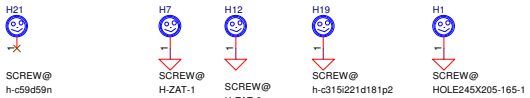
[PCB]

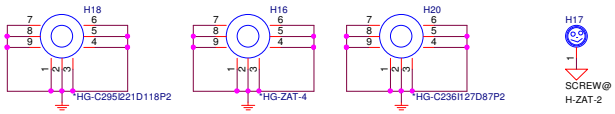
[CLIP]

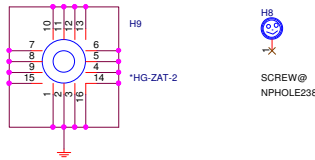


[Screw Hole]

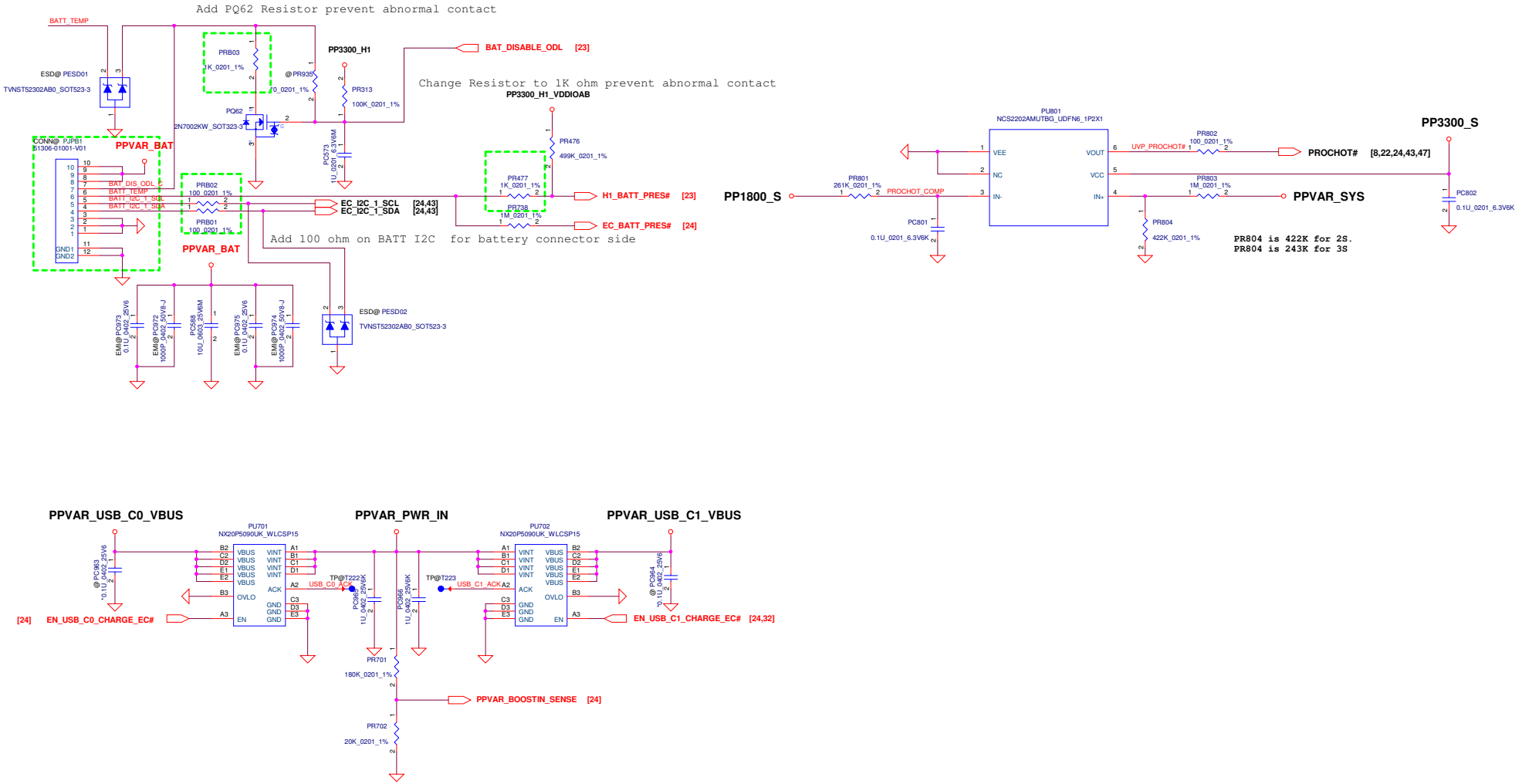








Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: PCB, Screw, CLIP	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 41 of 54	



Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: PWR_AC/DC CONN/OTP	Rev: 5A
Date: Tuesday, March 26, 2019	Sheet 42 of 54	

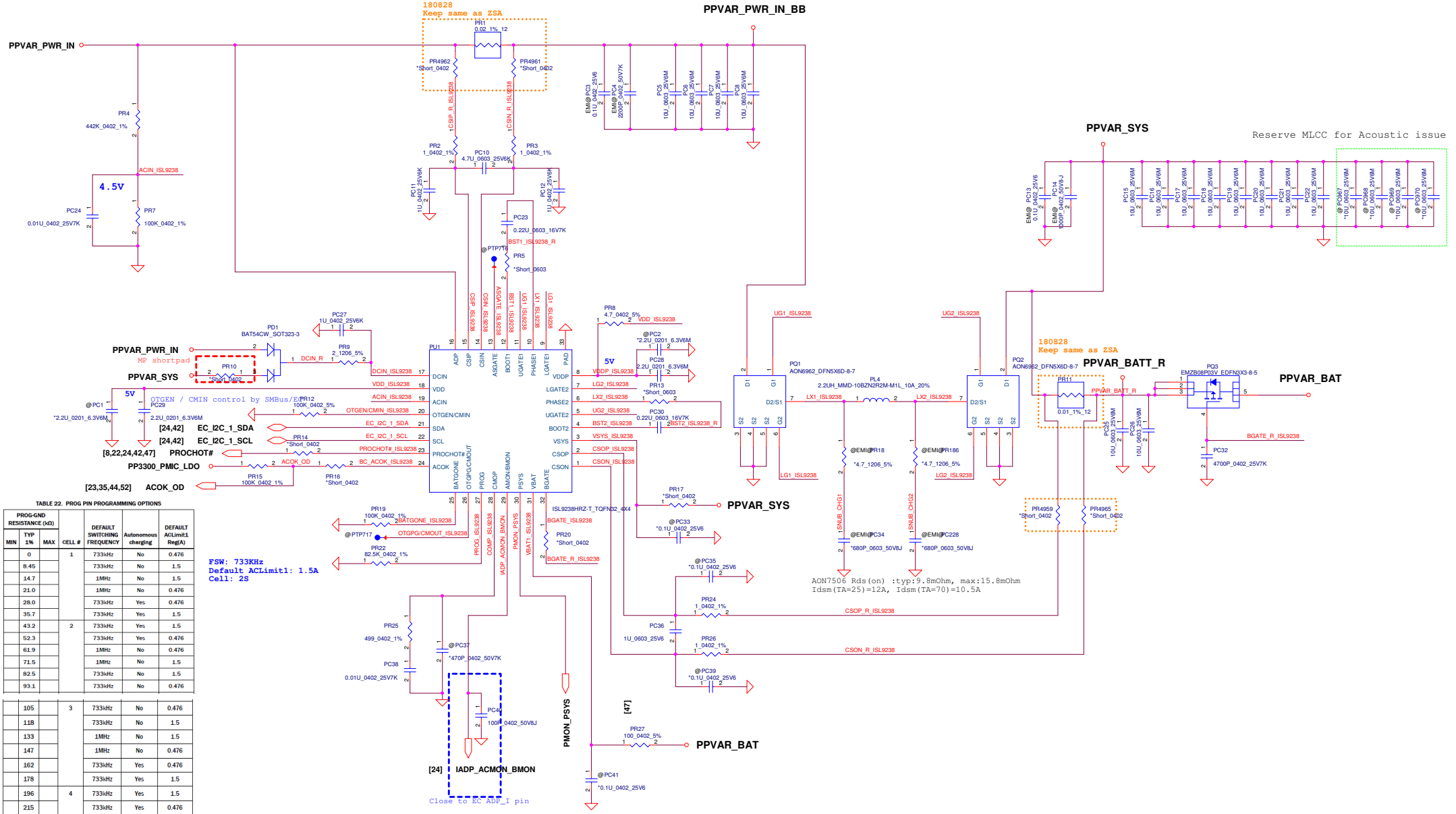


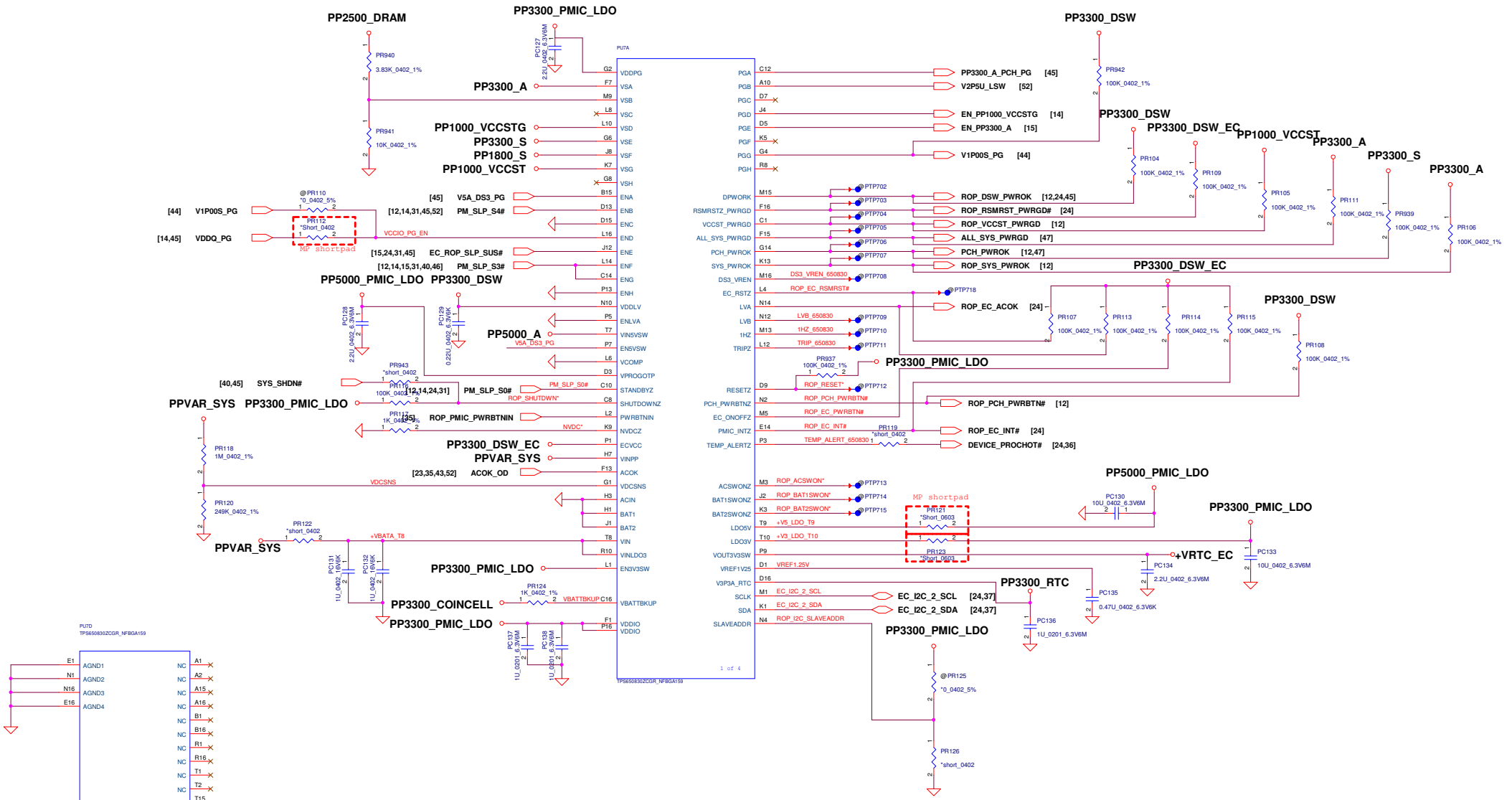
TABLE 22. PROG PIN PROGRAMMING OPTIONS

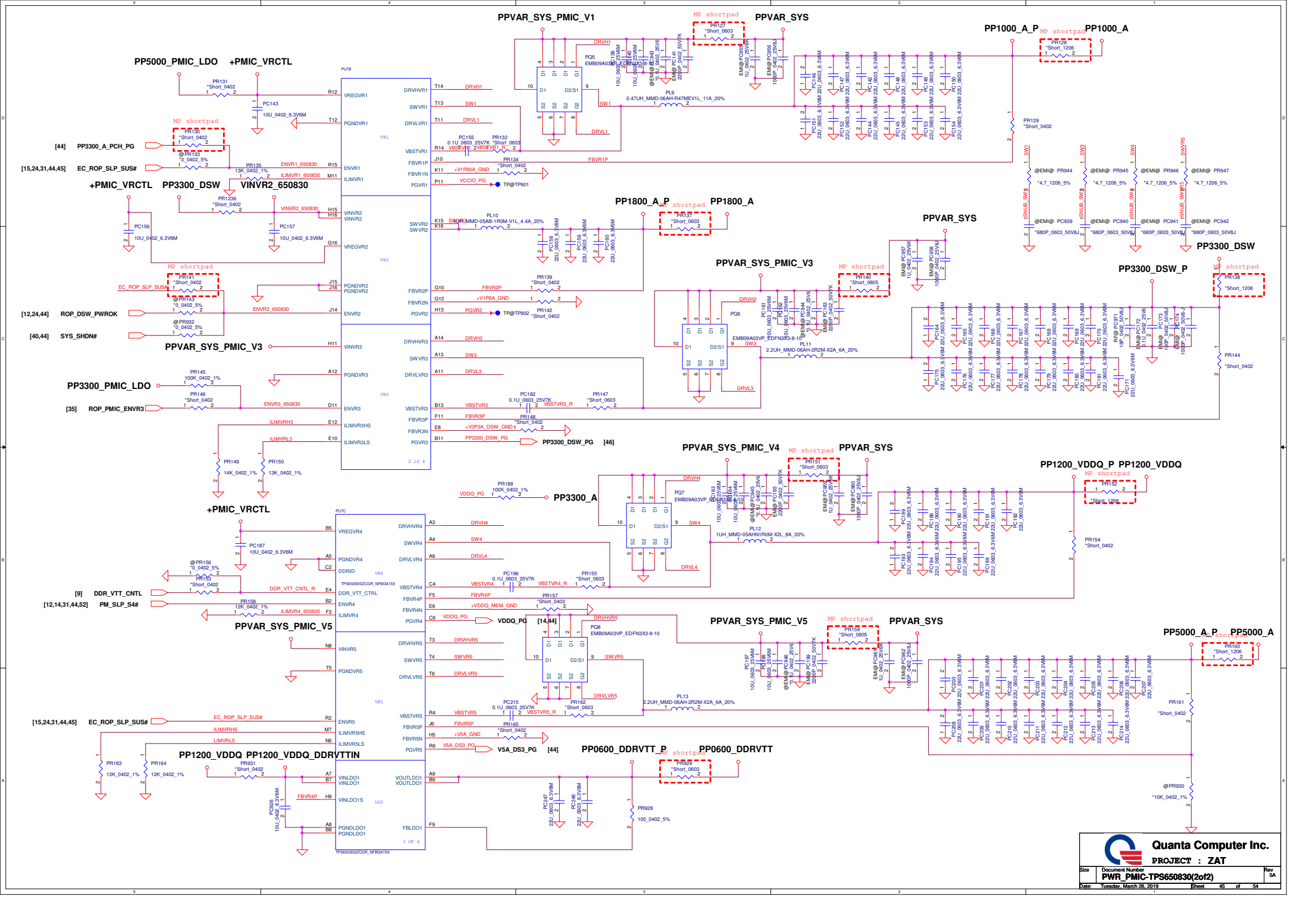
PROG GND RESISTANCE (kΩ)				DEFAULT SWITCHING FREQUENCY	Autonomous charging	DEFAULT ACLimit1 Reg(A)
MIN	TYP 1%	MAX	CELL #			
	0		1	733kHz	No	0.476
	8.45			733kHz	No	1.5
	14.7			1MHz	No	1.5
	21.0			1MHz	No	0.476
	28.0			733kHz	Yes	0.476
	35.7			733kHz	Yes	1.5
	43.2		2	733kHz	Yes	1.5
	52.3			733kHz	Yes	0.476
	61.9			1MHz	No	0.476
	71.5			1MHz	No	1.5
	82.5			733kHz	No	1.5
	93.1			733kHz	No	0.476
	105		3	733kHz	No	0.476
	118			733kHz	No	1.5
	133			1MHz	No	1.5
	147			1MHz	No	0.476
	162			733kHz	Yes	0.476
	178			733kHz	Yes	1.5
	196		4	733kHz	Yes	1.5
	215			733kHz	Yes	0.476
	237			1MHz	No	0.476
	261			1MHz	No	1.5
	287			733kHz	No	1.5
	316			733kHz	No	0.476
	348		1	733kHz	No	0.476

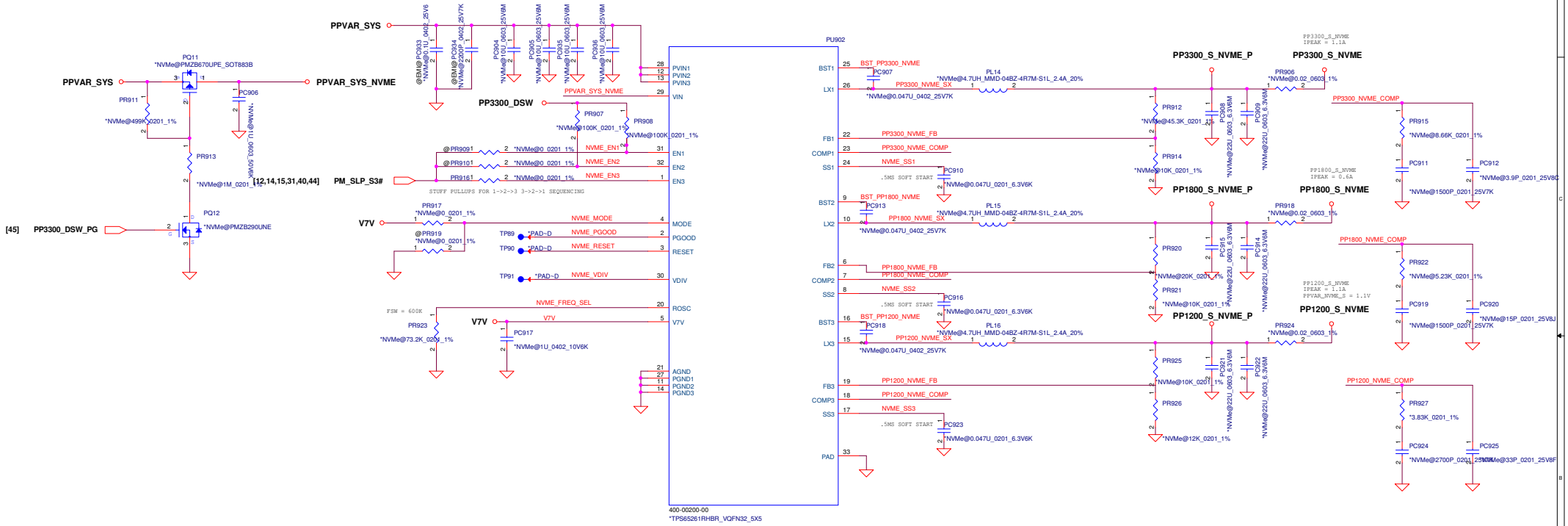
Quanta Computer Inc.
PROJECT : ZAT

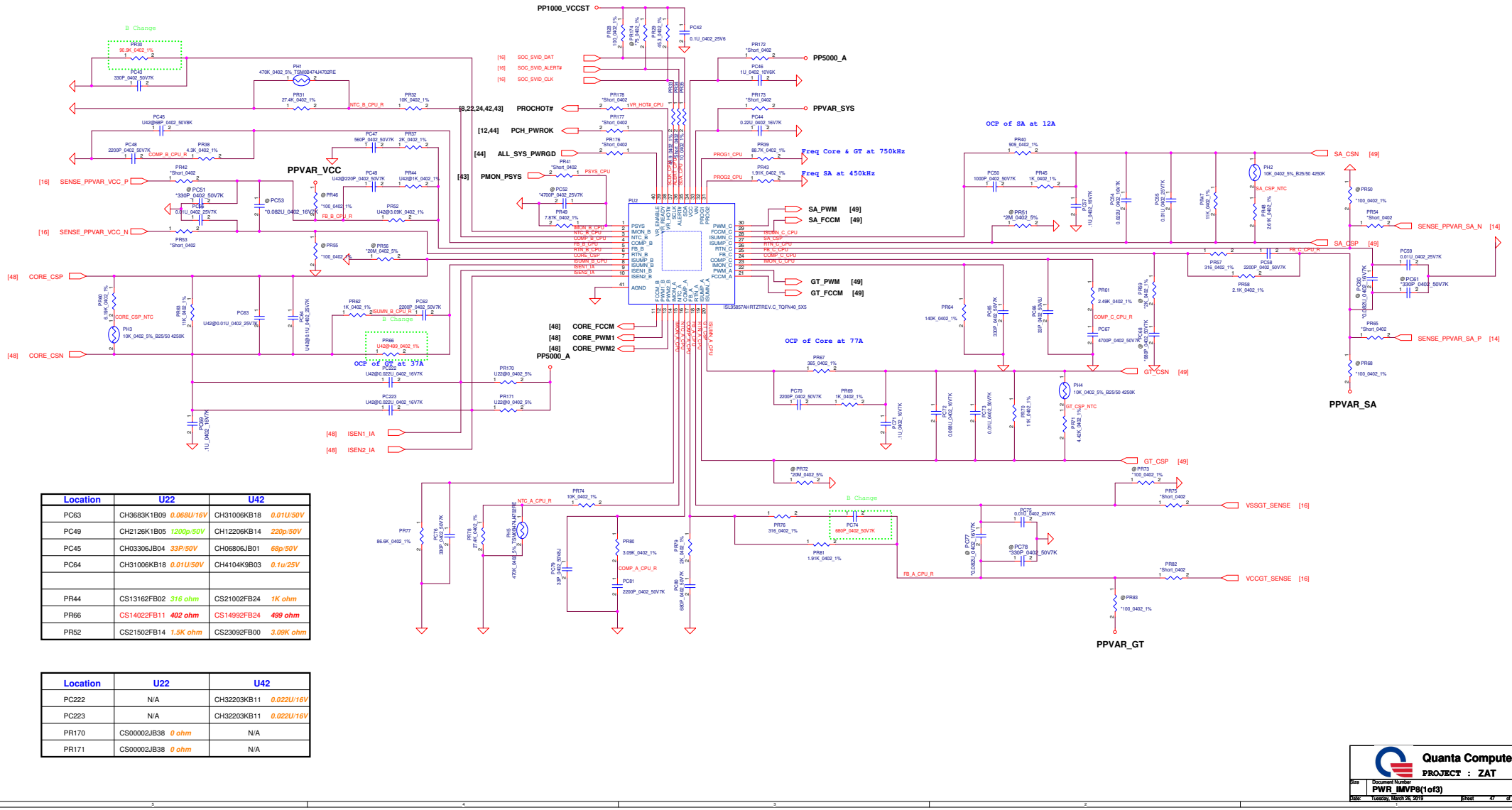
Size	Document Number	Rev
	CHARGER_ISL9238	5A

Date: Tuesday, March 26, 2019 Sheet 43 of 54


PP2500_DRAM
PP3300_PMIC_LDO
PP3300_DSW
PR940
3.83K_0402_1%
PR941
10K_0402_1%
PC127
2.2U_0402_6.3V6M
PU7A
PP3300_A
PP1000_VCCSTG
PP3300_S
PP1800_S
PP1000_VCCST
PP3300_DSW_EC
PP1000_VCCST
PP3300_A
PP3300_S
PP3300_A
PR104
PR109
PR105
PR111
PR939
PR106
100K_0402_1%
@PR110
*0_0402_5%
PR112
*Short_0402
MP shortpad
[44] V1P00S_PG
[14,45] VDDQ_PG
VCCIO_PG_EN
[45] V5A_DS3_PG
[12,14,31,45,52] PM_SLP_S4#
[15,24,31,45] EC_ROP_SLP_SUS#
[12,14,15,31,40,46] PM_SLP_S3#
PP5000_PMIC_LDO
PP3300_DSW
PC128
PC129
2.2U_0402_6.3V6M
0.22U_0402_6.3V6K
PP5000_A
VSA_DS3_PG
PR943
*short_0402
PR113
100K_0402_1%
[40,45] SYS_SHDN#
[12,14,24,31] PM_SLP_S0#
PM_SLP_S0#
ROP_SHUTDOWN*
PPVAR_SYS
PP3300_PMIC_LDO
PR114
1K_0402_1%
[35] ROP_PMIC_PWRBTNIN
NVDC*
PR118
1M_0402_1%
PR120
249K_0402_1%
PP3300_DSW_EC
PPVAR_SYS
[23,35,43,52] ACOK_OD
VDCSNS
PR122
*short_0402
+VBATA_T8
PPVAR_SYS
PC131
PC132
1U_0402_16V6K
PP3300_PMIC_LDO
PR124
1K_0402_1%
VBATTBKUP
PP3300_COINCELL
PP3300_PMIC_LDO
PC137
PC138
1U_0201_6.3V6M
PU7D
TPS650830ZCGR_NFBGA159
4 OF 4
1 of 4
TPS650830ZCGR_NFBGA159
PP3300_A_PCH_PG [45]
V2P5U_LSW [52]
EN_PP1000_VCCSTG [14]
EN_PP3300_A [15]
V1P00S_PG [44]
ROP_DSW_PWROK [12,24,45]
ROP_RSMRST_PWRGD# [24]
ROP_VCCST_PWRGD [12]
ALL_SYS_PWRGD [47]
PCH_PWROK [12,47]
ROP_SYS_PWROK [12]
PP3300_DSW_EC
PP3300_DSW
PR107
PR113
PR114
PR115
PR108
100K_0402_1%
PR937
100K_0402_1%
PP3300_PMIC_LDO
ROP_EC_ACOK [24]
ROP_PCH_PWRBTN# [12]
ROP_EC_INT# [24]
DEVICE_PROCHOT# [24,36]
PP5000_PMIC_LDO
PP3300_PMIC_LDO
PR121
PR123
*Short_0603
MP shortpad
PC130
10U_0402_6.3V6M
+VRTC_EC
PC133
10U_0402_6.3V6M
PC134
2.2U_0402_6.3V6M
PP3300_RTC
PC135
0.47U_0402_6.3V6K
PC136
1U_0201_6.3V6M
EC_I2C_2_SCL [24,37]
EC_I2C_2_SDA [24,37]
PP3300_PMIC_LDO
@PR125
*0_0402_5%
PR126
*short_0402
Quanta Computer Inc.
PROJECT : ZAT
Size
Document Number
PWR_PMIC-TPS650830(1of2)
Rev
5A
Date: Tuesday, March 26, 2019
Sheet 44 of 54


PPVAR_SYS_PMIC_V1
PPVAR_SYS
PP1000_A_P
PP1000_A
PP5000_PMIC_LDO
+PMIC_VRCTL
[44] PP3300_A_PCH_PG
[15,24,31,44,45] EC_ROP_SLP_SUS#
+PMIC_VRCTL
PP3300_DSW
VINVR2_650830
PP1800_A_P
PP1800_A
PPVAR_SYS
PP3300_DSW
PPVAR_SYS_PMIC_V3
PP3300_DSW_P
[12,24,44] ROP_DSW_PWROK
[40,44] SYS_SHDN#
PP3300_PMIC_LDO
[35] ROP_PMIC_ENVR3
PPVAR_SYS_PMIC_V4
PPVAR_SYS
PP1200_VDDQ_P
PP1200_VDDQ
PP3300_A
+PMIC_VRCTL
[9] DDR_VTT_CNTL
[12,14,31,44,52] PM_SLP_S4#
PPVAR_SYS_PMIC_V5
PPVAR_SYS
PP5000_A_P
PP5000_A
[15,24,31,44,45] EC_ROP_SLP_SUS#
PP1200_VDDQ
PP1200_VDDQ_DDRVTTIN
PP0600_DDRVTT_P
PP0600_DDRVTT
Quanta Computer Inc.
PROJECT : ZAT
PWR_PMIC-TPS650830(2of2)
Rev 5A
Tuesday, March 26, 2019
Sheet 45 of 54


PPVAR_SYS
PQ11
*NVMe@PMZB670UPE_SOT883B
PR911
*NVMe@499K_0201_1%
PC906
*NVMe@1U_0603_16V6K
PR913
*NVMe@1M_0201_1%
PQ12
*NVMe@PMZB290UNE
[45] PP3300_DSW_PG
[12,14,15,31,40,44]
PPVAR_SYS_NVME
PP3300_DSW
PM_SLP_S3#
STUFF PULLUPS FOR 1->2->3 3->2->1 SEQUENCING
V7V
PR907
*NVMe@100K_0201_1%
PR908
*NVMe@100K_0201_1%
NVME_EN1
NVME_EN2
NVME_EN3
NVME_MODE
NVME_PGOOD
NVME_RESET
NVME_VDIV
NVME_FREQ_SEL
PR923
*NVMe@73.2K_0201_1%
PC917
*NVMe@1U_0402_10V6K
PU902
400-00200-00
*TPS65261RHBR_VQFN32_5X5
PP3300_S_NVME_P
PP3300_S_NVME
PP1800_S_NVME_P
PP1800_S_NVME
PP1200_S_NVME_P
PP1200_S_NVME
PP3300_NVME_SX
PP3300_NVME_FB
PP3300_NVME_COMP
PP1800_NVME_SX
PP1800_NVME_FB
PP1800_NVME_COMP
PP1200_NVME_SX
PP1200_NVME_FB
PP1200_NVME_COMP
.5MS SOFT START

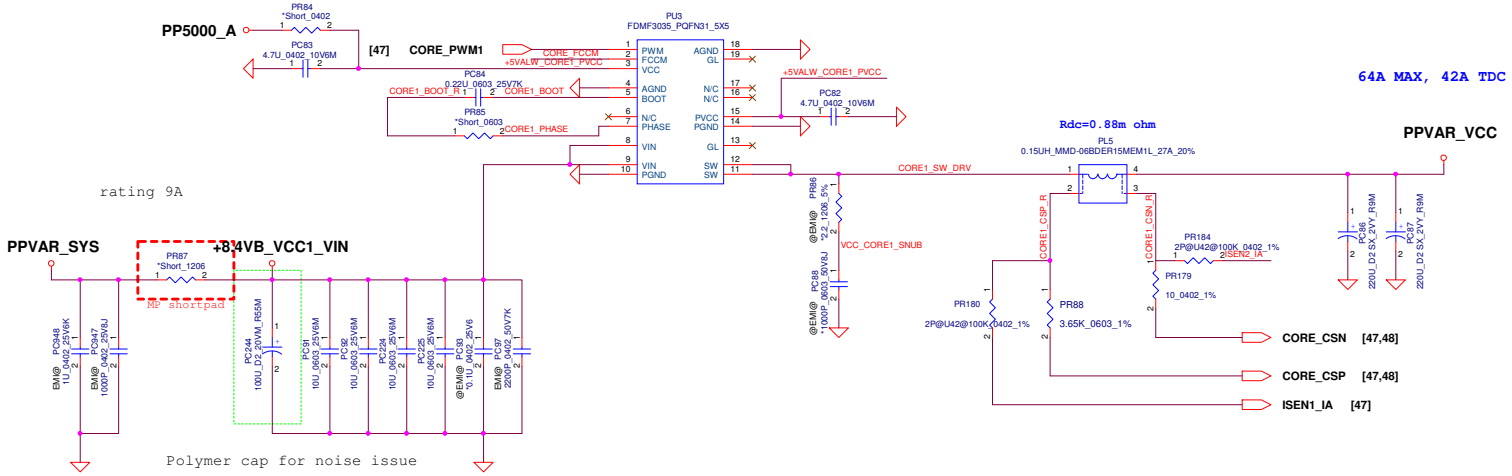


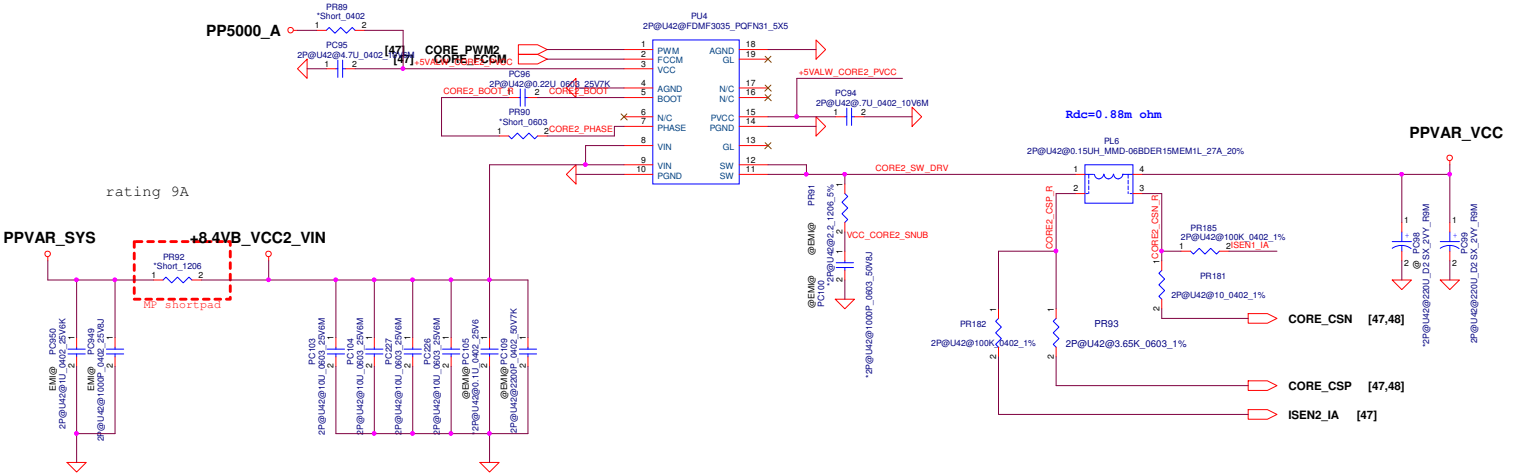
Location	U22	U42
PC63	CH3683K1B09 *0.068U/16V*	CH31006KB18 *0.01U/50V*
PC49	CH2126K1B05 *1200p/50V*	CH12206KB14 *220p/50V*
PC45	CH03306JB04 *33P/50V*	CH06806JB01 *68p/50V*
PC64	CH31006KB18 *0.01U/50V*	CH4104K9B03 *0.1u/25V*
PR44	CS13162FB02 *316 ohm*	CS21002FB24 *1K ohm*
PR66	CS14022FB11 ***402 ohm***	CS14992FB24 ***499 ohm***
PR52	CS21502FB14 *1.5K ohm*	CS23092FB00 *3.09K ohm*

Location	U22	U42
PC222	N/A	CH32203KB11 *0.022U/16V*
PC223	N/A	CH32203KB11 *0.022U/16V*
PR170	CS00002JB38 *0 ohm*	N/A
PR171	CS00002JB38 *0 ohm*	N/A

Quanta Computer Inc.
PROJECT : ZAT

Size	Document Number	Rev
	PWR_IMVP8(1of3)	5A
Date: Tuesday, March 26, 2019	Sheet 47 of 54	





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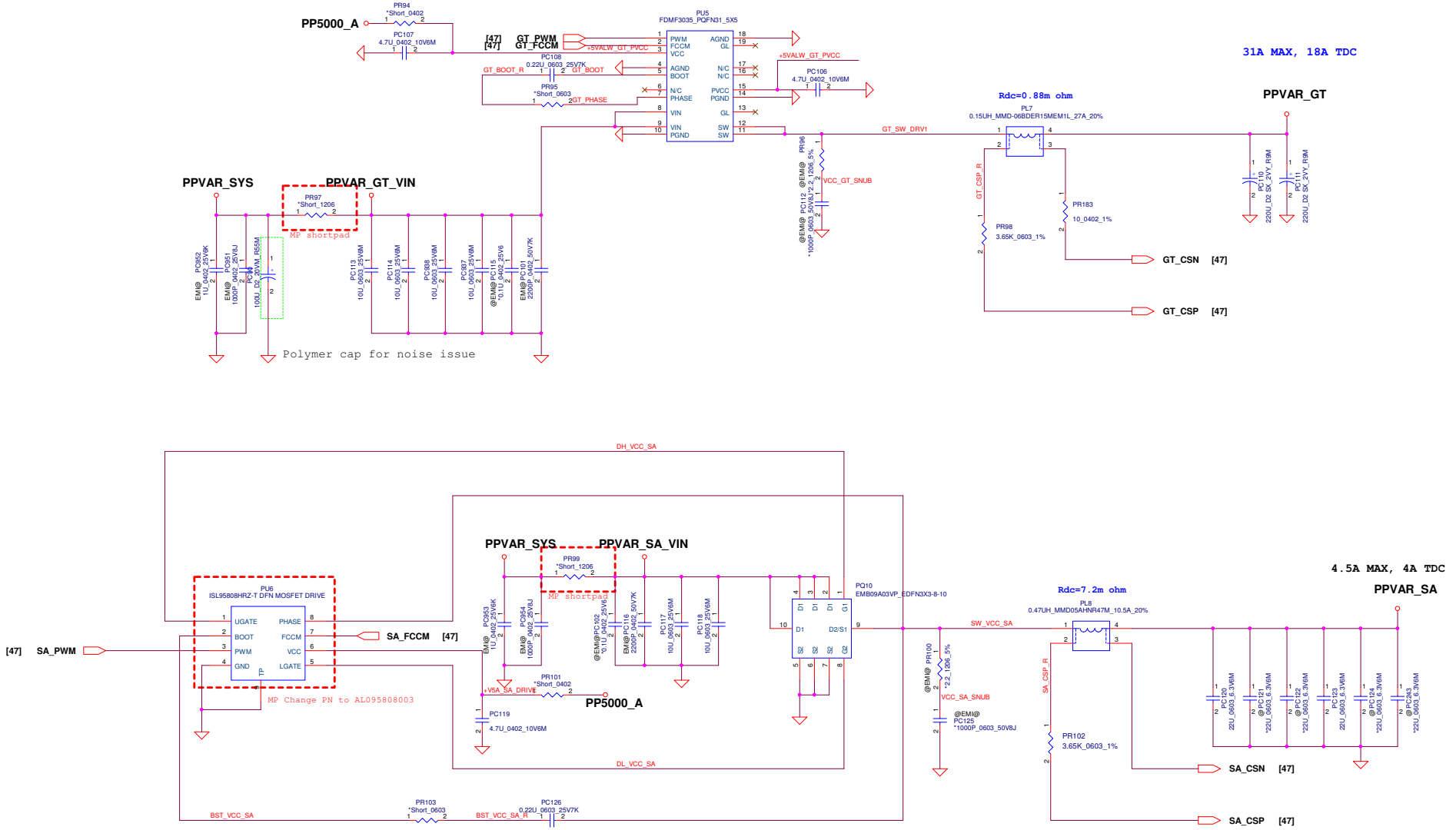
PROJECT : ZAT

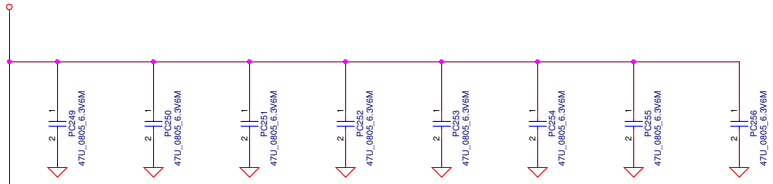
Size	Document Number	Rev
	PWR_IMVP8(2of3)	5A
Date: Tuesday, March 26, 2019	Sheet 48 of 54	



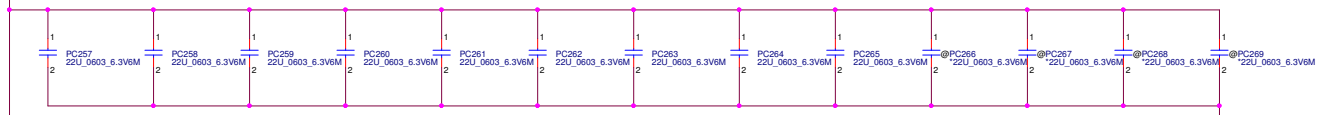
Quanta Computer Inc.		
PROJECT : ZAT		
Size	Document Number: PWR_IMVP8(3of3)	Rev: 5A
Date: Friday, March 29, 2019	Sheet 49 of 54	

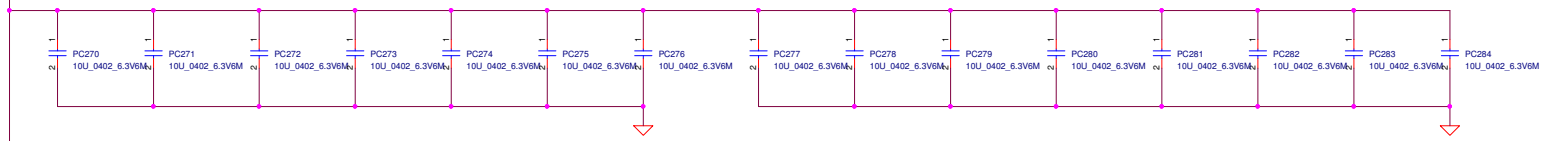
+VCC_CORE
220U_R9 * 3 pcs
47U_0805 * 8 pcs
22U_0603 * 9 pcs
10U_0402 * 7 pcs
1U_0201 * 26 pcs

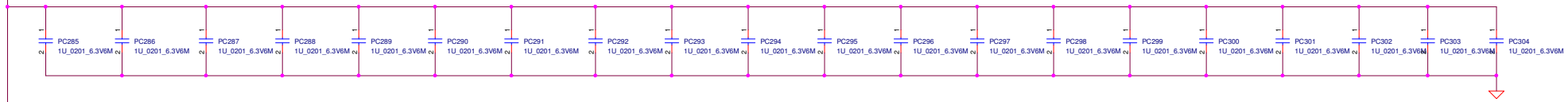
PPVAR_VCC

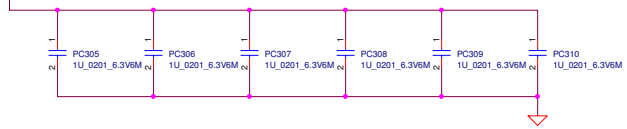


CAPS PLACE ON OPPOSITE SIDE OF SOC



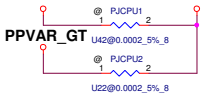






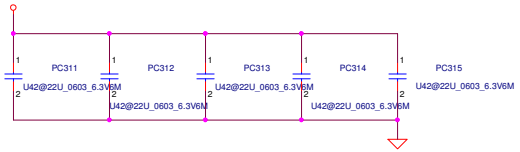
based on Intel PDG recommand

PPVAR_VCC PPVAR_GT_VCC



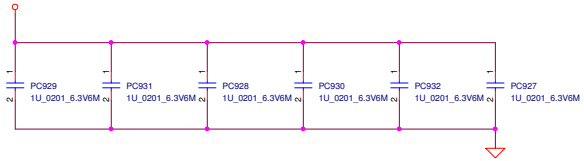
For CPU U42/U42R: PJCPU1
For CPU U22: PJCPU2

PPVAR_VCC



Based on Intel PDG recommand

PPVAR_GT_VCC



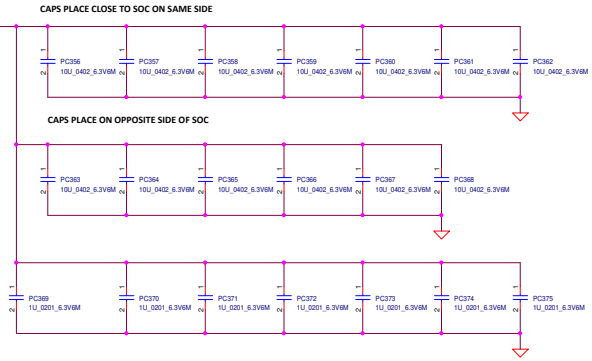
Quanta Computer Inc.
PROJECT : ZAT
Size | Document Number: CPU : CPU POWER (1/2) | Rev 5A
Date: Tuesday, March 26, 2019 | Sheet 50 of 54

+VCC_GT
220U_R9 * 2 pcs
47U_0805 * 3 pcs
22U_0603 * 7 pcs
10U_0402 * 12 pcs
1U_0201 * 14 pcs

PPVAR_GT

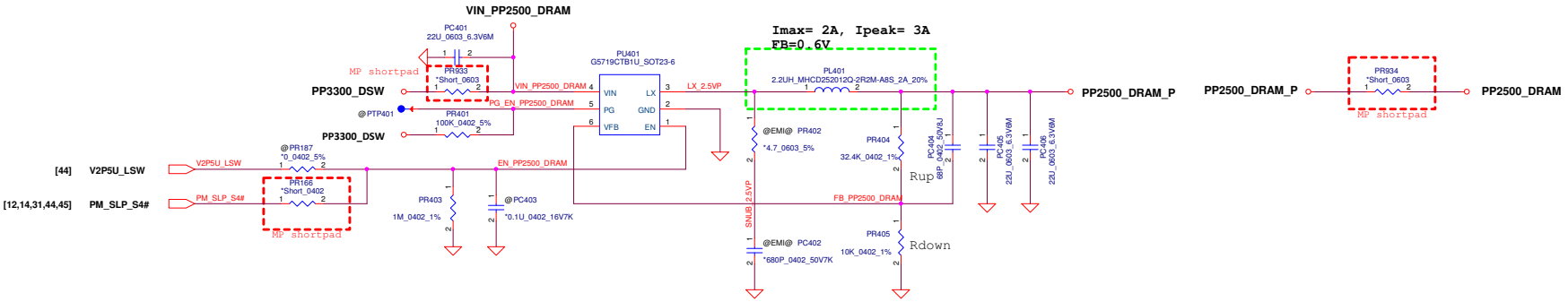
+VCC_SA
10U_0402 * 13 pcs
1U_0201 * 7 pcs

PPVAR_SA



Quanta Computer Inc.
PROJECT : ZAT
Size | Document Number: CPU : CPU POWER (2/2) | Rev: 5A
Date: Tuesday, March 26, 2019 | Sheet 51 of 54

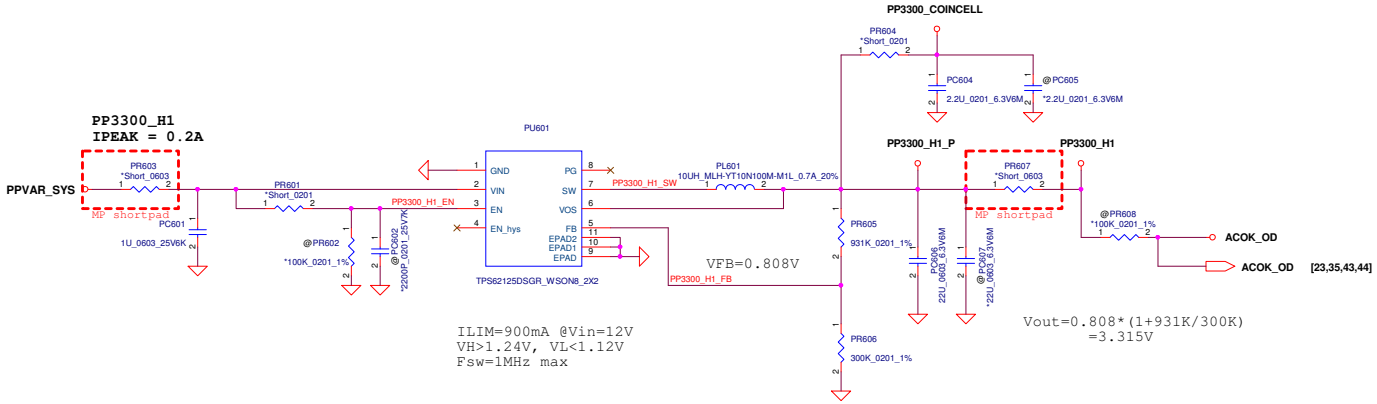
Change PP2500_DRAM solution from G9661 to G5719 for Intel Deep S3 mode



Note:
When design Vin=5V, please stuff snubber to prevent Vin damage

Vout=0.6V* (1+Rup/Rdown)

Vout=2.544V



Quanta Computer Inc.
PROJECT : ZAT

Size	Document Number	Rev
	PWR_2.5VP	5A
Date: Tuesday, March 26, 2019	Sheet 52 of 54	

Model	Version	CHANGE LIST
	1A	**EE portion:** **P08:EDP_TX_N3/EDP_TX_N2/EDP_TX_P3/EDP_TX_P2->remove (Nami is Rear Camere,ZAT don't need)** **P08/P31:SOC_DP2_CTRL_CLK and SOC_DP2_CTRL_DATA ,Remove connection to JIO2** **P10:Remove UC1.M2,PEN_IRQ# and UC1.M3,PEN_PDCT# out connection and UC1.J4,PEN_RST# set TP963** **P10:Keep R4905/R4904 Pull high with PP1800_S_PEN at P10** **P10:Remove I2C_2_SDA_PEN/I2C_2_SCL_PEN and R972/R973 and Set TP952/TP951,Unstuff R782/R792** **P10:Change FP_INT to PCH_FPMCU_INT_L** **P10:Remove TP26~TP32 to connect with U116** **P10:UC1F.M4 to connect PCH_FPMCU_BOOT0/UC1F.N3 connect to PCH_MPMCU_INT_L** **P10/P31:Remove I2C_3_SDA_R1/I2C_3_SCL_R1 and R963/R964 fromJIO2** **P10/P36:Remove TRACKPAD_DISABLE# from JTP1 and set TP961** **P11:Remove L20/R4952/SOC_DMIC_CLK1_R/SOC_DMIC_DATA1_R/C355/C356** **P11:Remove C4920 and I2S_1_MCLK_R1** **P11/P31:Remove I2S_1_BCLK_R1/I2S_1_MCLK_R1/I2S_1_TX_R1_DAC/I2S_1_RX_R1_ADC/I2S_1_FS_R1_LRC ,due to no releated function** **P11/P36:Remove L20/R4952/SOC_DMIC_CLK1/SOC_DMIC_DATA1/C356/C355/U114/R5031/C4961/R5088/R5089/** **JCAM1/D26/L12/R5017/R5018"** **P12:Change C349/C348/CC97/CC98 value from 50V to 25 V** **P12:U4 change to AL001G08050,copy from ZSA** **P12/P25:CC97/CC98/C348/C349/C4914/C4915 change to CH01543J0E03(Nami spec is 50,We only have 25V)** **P13/P22/P24/P30/P34/P36:Q89Q63Q64Q65Q73Q17Q24Q75Q76Q77Q79Q80Q81 COPY from ZSA** **P13/P29:Remove USB20_P9/USB20_N9 change to connect with TP956/TP957,remove from JNGFF1** **P13/P31:Keep EMR_GARAGE_DET_GPP_E8/EMR_GARAGE_DET_GPP_E1 and EMR_GARAGE_DET change to TP955,EMR_GARAGE_DET remove from JIO2** **P13/P31:USB20_N6/USB20_P6 change to cnonect with TP958/TP959** **P19/P20:RD12/RD61 change footprint from 0201 to 0402** **P21:U5 change to AKE3DF00N00 copy from ZSA** **P21:U7 change to AKE3TF0HN04 copy from ZSA** **P22:Remove TP52/TP57 to add UART_FPMCU_RX_SERVO_TX/UART_FPMCU_TX_SERVO_RX** **P22:Add R5168~R5171 for UART_FPMCU_RX_SERVO_TX/H1_BOOT_UART_RX/H1_BOOT_UART_TX/UART_FPMCU_TX_SERVO_RX** **P24:U110 change to AKE3AZBK603** **P24:Remove R4912/R4914** **P24:Change U103 to AKE3AZBK603,copy from ZSA** **P24:R5111 unstuff for reset IC FW006** **P24/P31:Remove EC_CHG_LED_W_R1/EC_CHG_LED_Y_R1/R965/R967** **P24/P31:Remove EC_VOLDN_BTN/EC_VOLUP_BTN from JIO2** **P24/P31:Remove TABLET_MODE from JIO2** **P24/P31:Remove 6AXIS_INT# from JIO2 and set TP960** **P24/P31:Remove ALS_INT# from JIO2 and set TP962** **P25/P32:D22/D23/D42 change to BC003U40Z02 follow ZSA** **P26:JHP1 change to DFTJ06FR973 copy from ZRX** **P26:D6/D7/D32 change to BCD11LH5Z00 and add D64/D59/D61** **P27:D10 change to BC00525Z00 and add D66** **P27:D33 change to BC00525Z00 and add D65** **P27:JSPK1 copy from ZSA(Same P/N ,FP change to wtb-50278-00401-v01-4p-l** **P28:D34 change to BC00525Z00 and add D25** **P28:Add R394/R5086 for MIC power rail** **P28:Set PP1800_S_MIC to be Mic power and power source from PP1800_A** **P28:Remove PP3300_S_PEN with C372/C371/R395/R5085** **P28:Remove PP1800_S_PEN with C323/C324/R5086/R394/R4905/R4904** **P28:Remove Q36/R400/R399/R397/JEMIR1** **P28:Remove PP5000_A_TOUCHSCREEN with C291/C292 and remove from JIO2** **P28:Remove C231~C234 and EDP_TX_P2_C/EDP_TX_N2_C/EDP_TX_P3_C/EDP_TX_N3_C from JEDP1** **P28:JEDP1 change to DFFC40FR070, copy from ZSA** **P28:Del PP3300_DSW_SENSOR from JIO2** **P28:Add C5012 on PP3300_DX_EDP** **P29:Copy sympol from system and change PN to DFHS75FR371** **P29:Remove WLAN_PCIE_WAKE#/BT_OFF#/WLAN_OFF#/PCH_SUSCLK/CLKREQ_PCIE#3/WLAN_PCIE_WAKE#** **P29:Remove TP937~TP944** **P30:To meet Intel wifi spec:chagne C260 value from 10U to 22U,C595 value from 0.1U to 22U, del C5011/C5010** **P30:JWAN1 change to DFHS75FR149(Symbol from system)** **P30:To meet Intel wifi spec:chagne C260 value from 10U to 22U, C595 value from 0.1U to 22U, del C5011/C5010** **P31:JIO1 change to DFFC50FR048,copy from 0CF** **P31:JIO2 change to DFFC40FR052, copy from ZSA** **P31:Remove HP_IRQ_GPIO from JIO2** **P31:MECH_PWR_BTN_IN# from JIO2** **P33:JTYPEC1 change to DFHS24FR413 (Symbol and copy from ZAK)** **P33:Remove D11/D12/D13/D27/D28/D29/D30/D31/D40 and change to L30/L31/D52** **P33:D39 Change to BC1B2LPSZ00** **P34:Remove D35/D38 change to D35/BC106506000** **P34:JTYPEA1** **P34:LED1 follow ZSA BEB00006ZA0** **P34:C38 change to CH7221M8600** **P34:JTYPEA1 symbol use DFHS09FR706(Confrim with RDC),new F/P is ub3-tcra2-9v1391-9p** **P36:JTP1 change to DFFC06FR090, copy from ZDJ** **P37:JFAN1 change to DFHD04MR348, copy from ZDJ,Pin define follow ZSA** **P37:JKBL1/JFAN1 change to DFHD04MR348, copy from ZDJ** **P37:Add D67/D68 for JKB1 ESD** **P37:Add KSO_13/KSO_14 for 15'** **P37:JKB1 change to DFFC30FR165(copy from ZRX)** **P37:R426 put MECH_PWR_BTN_IN# to connect with PP3300_H1 for pull high to P37** **P37:For power key, stuff R424/R425, Non stuff R422/R423.** **P38:Add U116 Finger print function** **P38:Remove U107/U116 HALL IC to Sub-board** **P41:Add H17~H20** **P41:Change H17~H20 and H8 value from layout request** **P10:Change R4905 power source from PP1800_S_PEN to PP1800_A** **P24:Remove TP962 and R4957** **P22:Follow Google guide to un-stuff R5158/R5171 for UART_FPMCU_TX(RX)_SERVO** **P33:D39 change ESD solution to P4SMAJ20A** **P21/P22/P25/P30/P32:Change D2/D4/D8/D9/D24 P/N to BC003U40Z02 follow ZSA** **P36:Add ESD solution R5172/C5030 on TRACKPAD_INT#** **P28:Add ESD solution,R5173/C5031 on EDP_HPD** **P24:R271 change value to 2.2ohm and add C5032** **P8:Add ESD solution CC123 on PROCHOT#** **P13:Add ESD solution C5033 on USB_C0_OC#** **P15:Add ESD solution C5034 on PP1000_PLL_A** **P15:Add ESD solution C5035 on PP1000_A** **P38:Remove FP circuit to Sub-board** **P29:Change Key E description Key M** **Power portion:** **P40 :Change C589 to 22uF** **P40 :Add PU9,PR136,PC85,PR175,PR954 for acer H/W shutdown sensor requestion (backup package test protection)** **P42 :Change PJPB1 Battery connector ace-504858-01001-v02 for acer new Battery pack and pin define reversel.**
	2A	**EE portion:** **P31:Change R329/R330/R342/R343 Footprint from 0201 to 0402 and P/N change from CS24321FE01 to CS24322FB14** **P12:C3/C4 change to 6.8pf to follow vendor suggestion**
	3A	**EE portion:** **P10:Del PCH_FPMCU_INT_L from GPP_C8 & GPP_D6 and change to test point about UC1.AB1(TP964)/UC1.N3 (TP965)** **P10:PCH_FPMCU_INT_L add R5185 pull high with PP3300_A** **P15:UC1.AN11/UC1.AN13 add R5183/R5184 to connect with PCH_FPMCU_INT_L**
	4A	**EE portion:** **P37:add level shift circuit about Q82,R5186,R5187,C836 and R5188 into FAN JFAN1;Mount R839 on JFAN1** **P8,P10,P12,P21,P23,P24,P25,P26,P28,P31,P32,P33,P35,P37:Change to 0201 shortpad** **RC6,R33,R56,R105,R124,R125,R136,R137,R138,R176,R177,R182,R188,R190,R194,R195,** **R196,R197,R198,R202,R206,R213,R214,R301,R332,R345,R424,R425,R819,R835,R848,** **R849,R853,R854,R855,R856,R860,R862,R866,R904,R934,R961,R962,R966,R968,R4910,** **R4916,R4917,R4926,R4948,R5006,R5035,R5036,R5048,R5093,R5117,R5118,R5119,** **R5120,R5121,R5122,R5123,R5124,R5129,R5130,R5131,** **R5132,R5140,R5141,R5143,R5150,R5154** **P12,P16,P26,P40:Change to 0402 shortpad RC110,R822,R5004,R5178,R5183,R5184**

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Change list
Date: Tuesday, March 18, 2014 Sheet 36 of 46

Model	Version	CHANGE LIST

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