

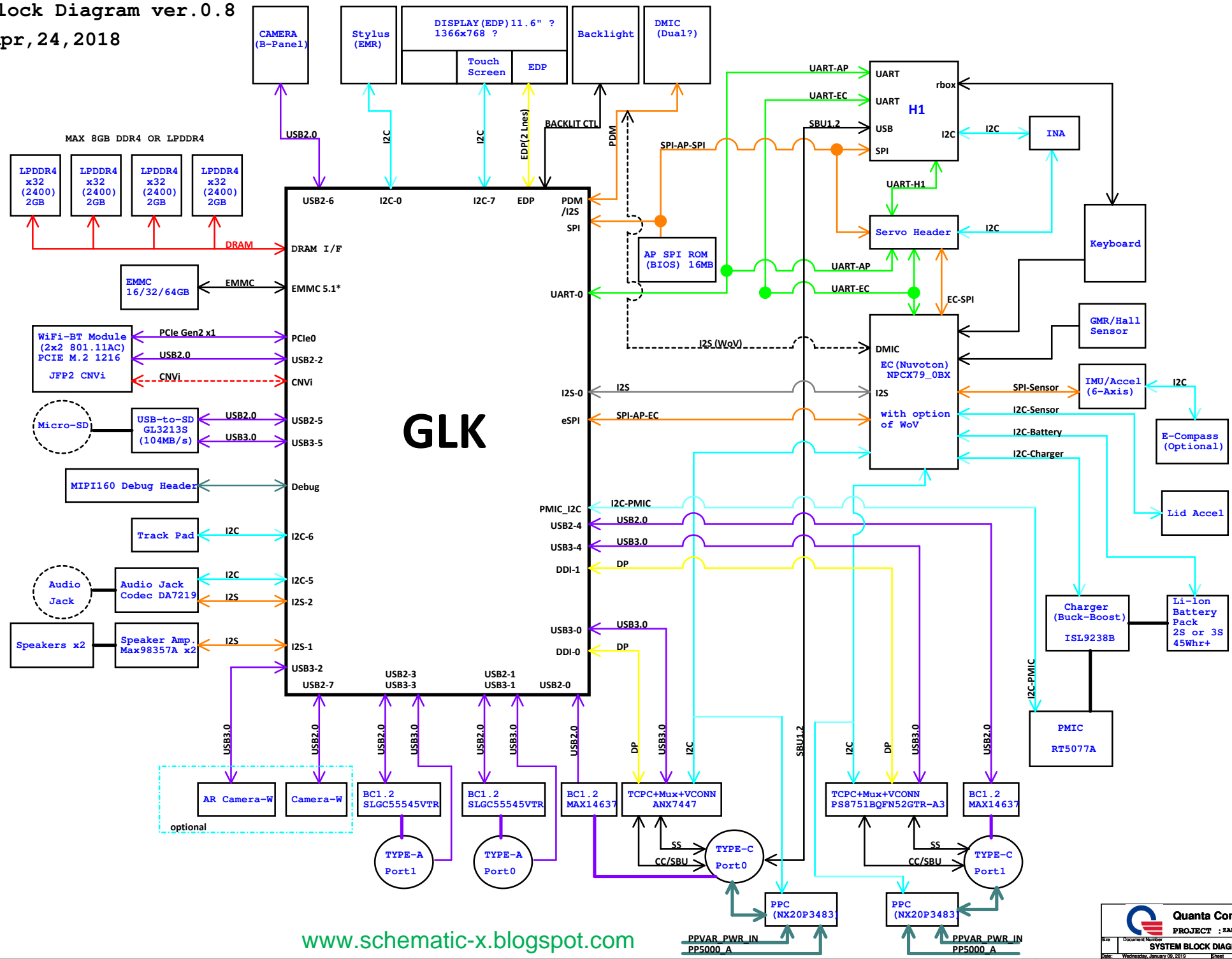
SCH: 650-01771-03-SCH
ASSY:650-01771-03
PCB: 651-01771-03

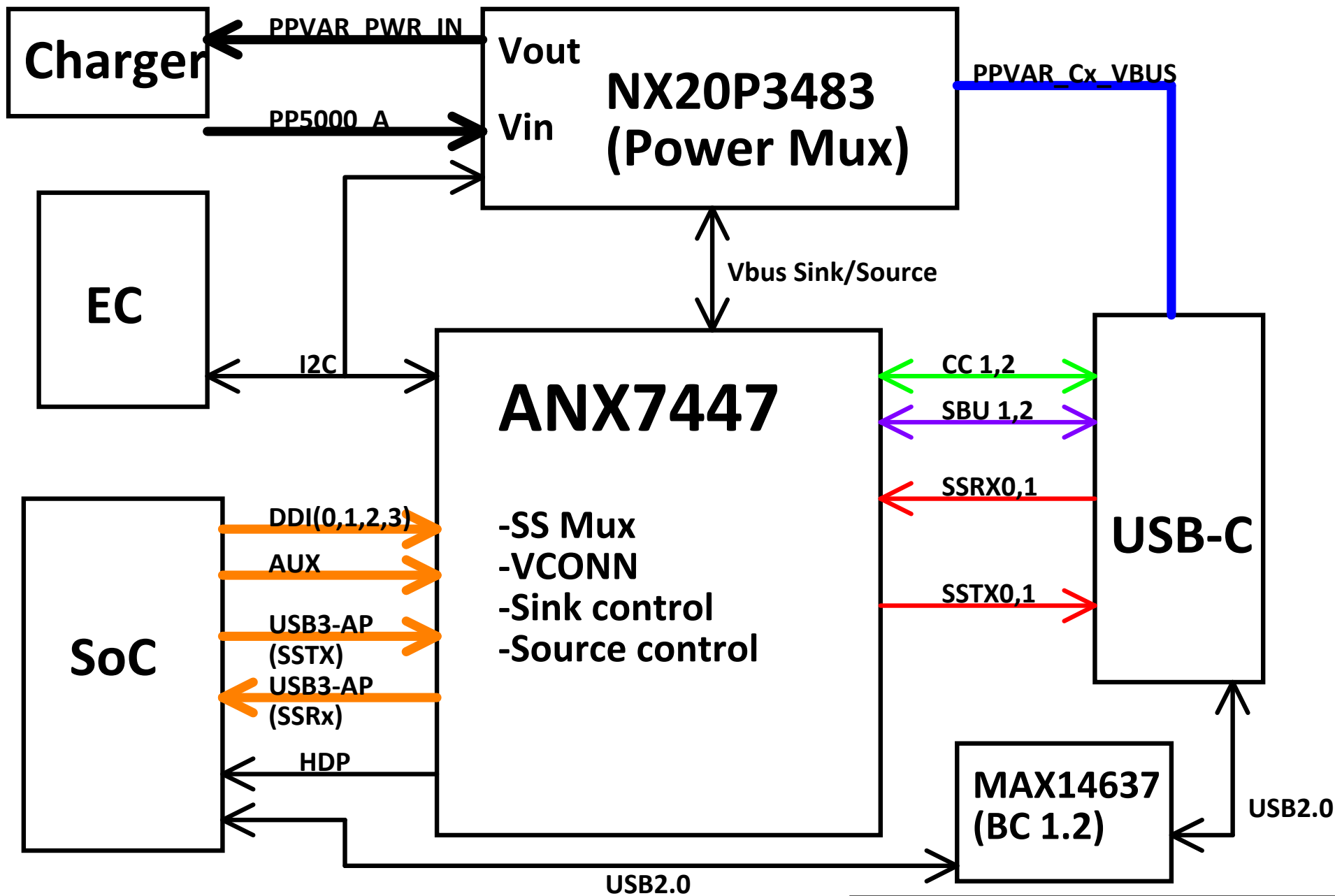
SHEET NO.	SHEET NAME
1	TABLE OF CONTENTS
2	SYSTEM BLOCK DIAGRAM
3	USB TYPE-C BLOCK DIAGRAM
4	POWER TREE
5	I2C MAP
6	SOC DRAM I/F
7	SOC EDP/MIPI/DDI
8	SOC PCIE/USB/SATA
9	SOC AUDIO/EMMC/LPC/SPI
10	SOC I2C/CNVI/UART/SPI
11	SOC PMU/RTC/SVID/THERMAL/MISC
12	SOC JTAG/GPIO/ITP
13	SOC GROUND
14	SOC POWER
15	SOC DECOUPLING
16	MEMORY CH 00/01 LPDDR4
17	MEMORY CH 10/11 LPDDR4
18	EC-NUVOTON
19	SPI ROM
20	MIPI60 DEBUG HEADER
21	H1 SECURE MICROCONTROLLER
22	SERVO
23	eMMC/SD
24	AUDIO
25	KB, TP, PEN
26	LID: eDP, CAM, TOUCH, SENSOR
27	SENSOR: COMPASS, GYRO
28	WIFI/BT CONNECTOR
29	USB C TCPC/MUX
30	USB A CONNECTIONS (MLB)

[illegible]

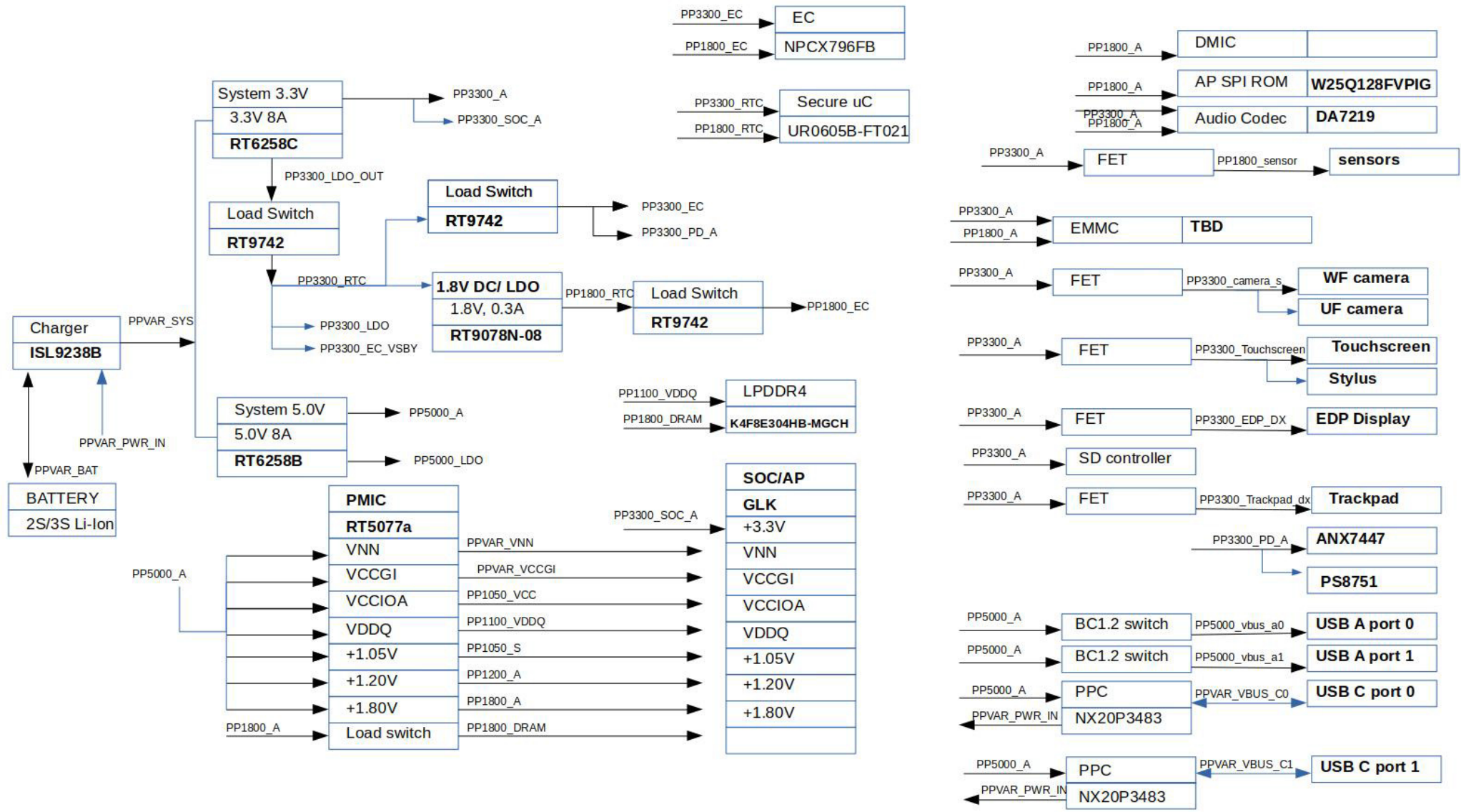
Octopus (Gemini Lake)
Block Diagram ver.0.8

Apr, 24, 2018

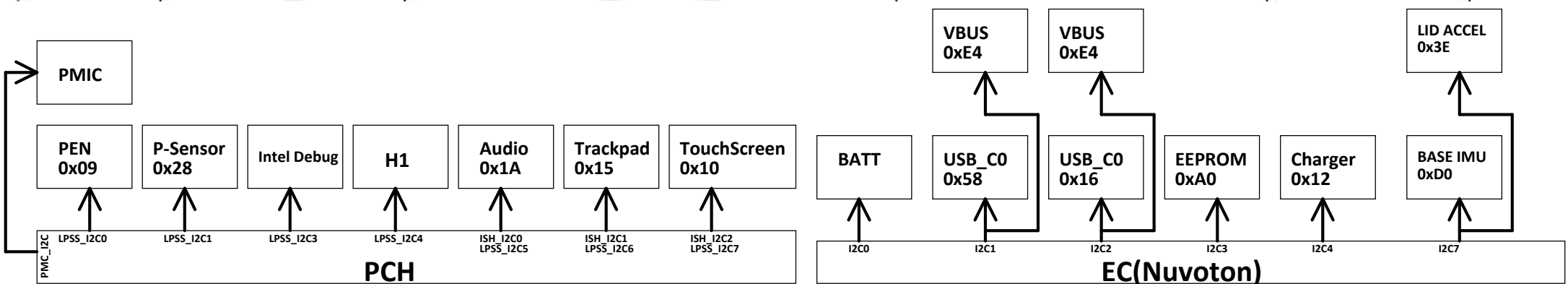




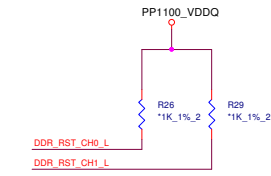
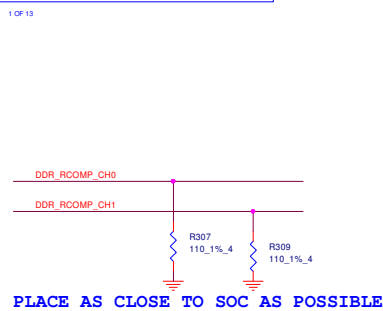
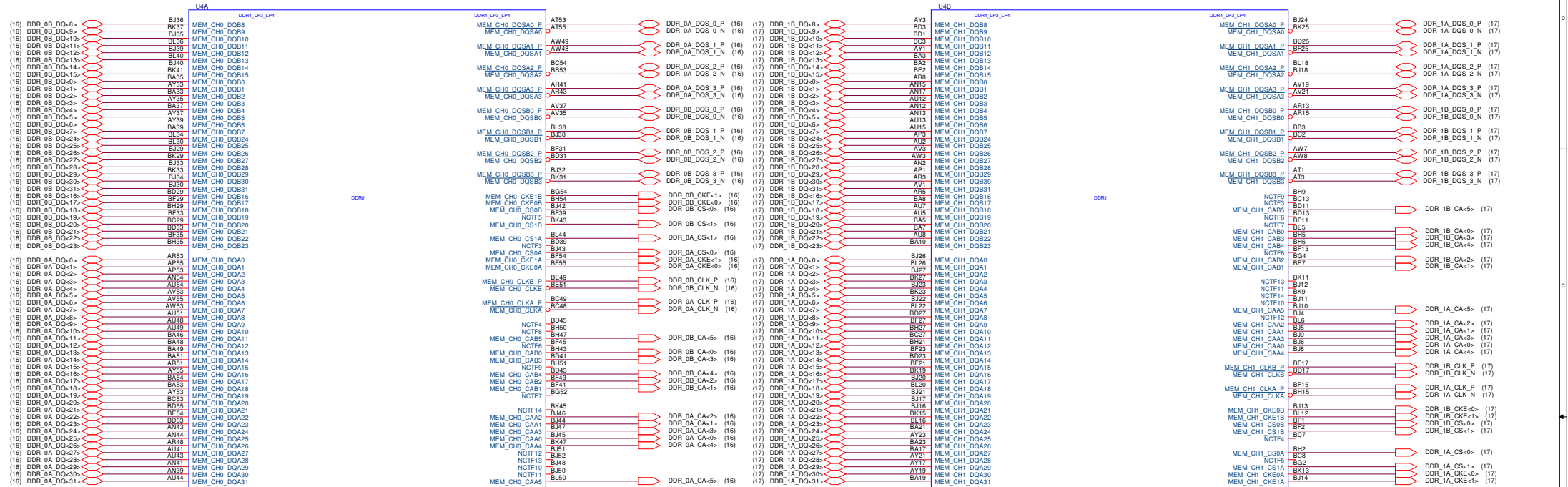
Power Tree



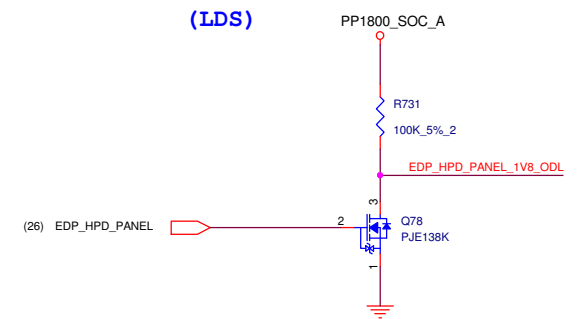
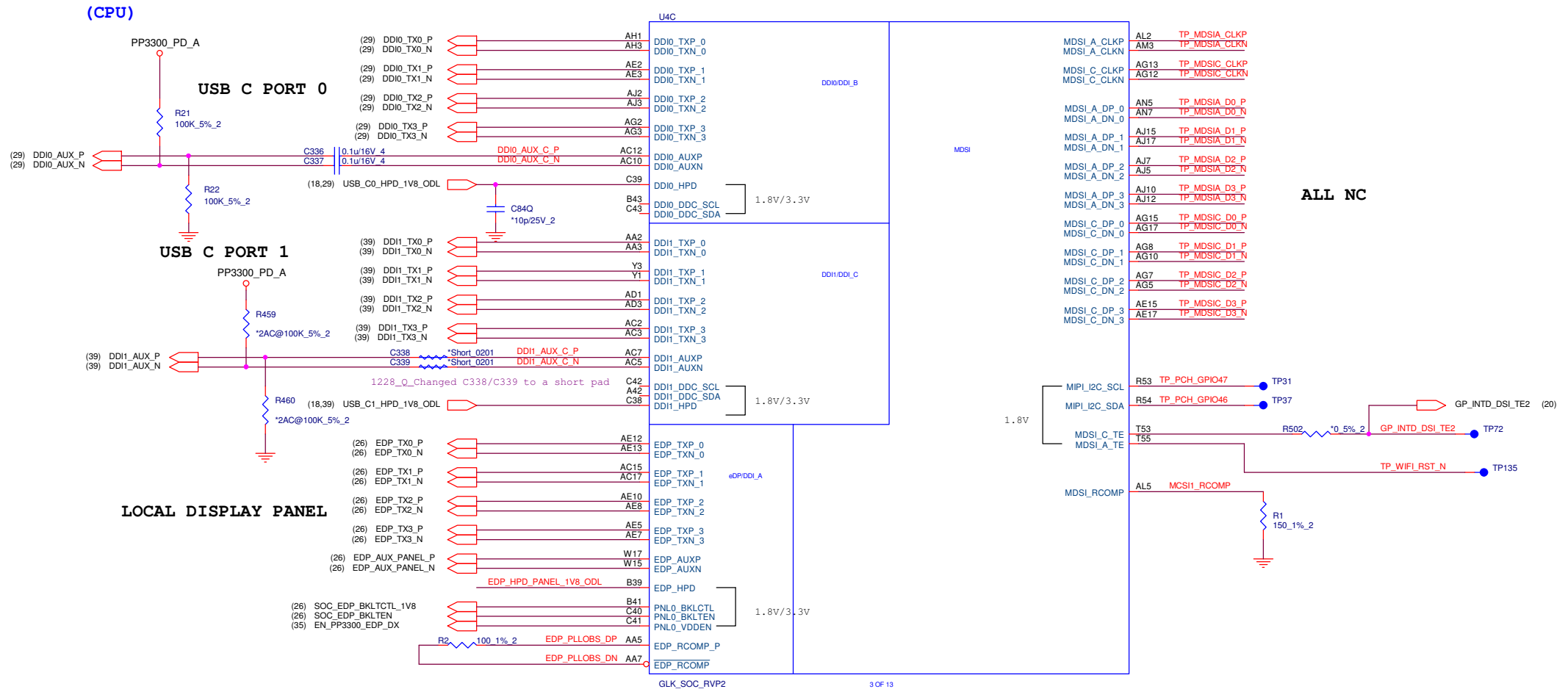
Master	Port	Net Name	Slave Device(S)	Speed
EC	I2C0 0	EC I2C BATTERY 3V3	BATTERY (TBD)	100KHZ
EC	I2C1 0	EC I2C USB C0 MUX	ANX7447, NX20P3483 <i>Check subboard</i>	100KHZ
EC	I2C2 0	EC I2C USB C1 MUX		100KHZ
EC	I2C3 0	EC I2C EEPROM SCL	M34E02	100KHZ
EC	I2C4 1	EC I2C CHARGER 3V3	ISL9238B	100KHZ
EC	I2C5 0	-		
EC	I2C7 0	EC I2C SENSOR U	LSM6DS3TR, LIS2MDLTR	400KHZ
AP	LPSS I2C0	PCH I2C PEN	STYLUS (TBD)	400KHZ
AP	LPSS I2C1	PCH I2C P SENSOR	TBD	100KHZ
AP	LPSS I2C2	-		
AP	LPSS I2C3	DBG PCH I2C	TBD	TBD
AP	LPSS I2C4	PCH I2C H1	H1 (not used)	100KHZ
AP	LPSS I2C5	PCH I2C AUDIO	DA7219	100KHZ
AP	LPSS I2C6	PCH I2C TRACKPAD	TRACKPAD (TBD)	100KHZ
AP	LPSS I2C7	PCH I2C TOUCHSCREEN	TOUCHSCREEN (TBD)	100KHZ
AP	PMC I2C	PCH PMIC I2C	RT5077A	100KHZ



(CPU)

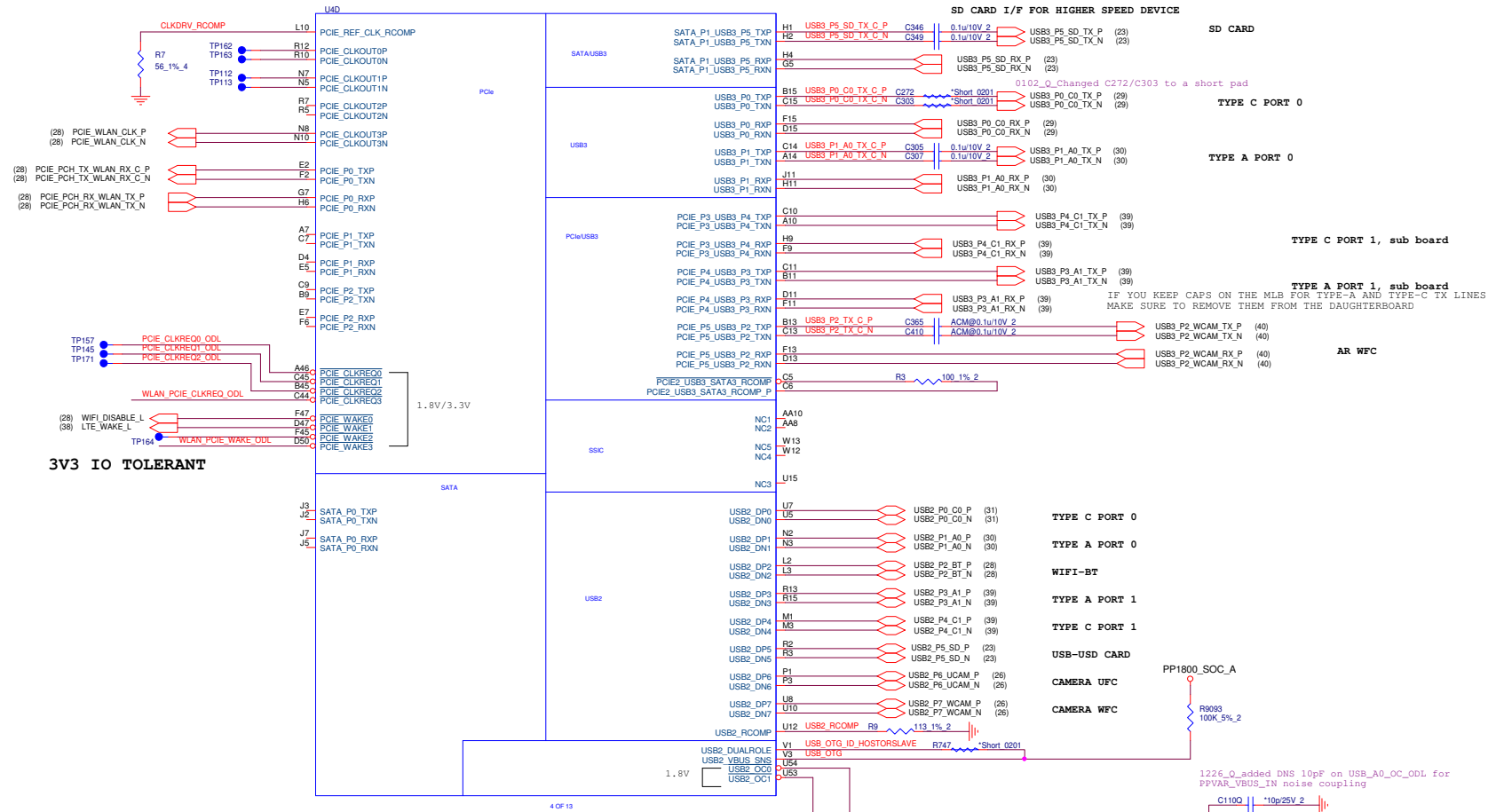


Gemini lake (DISPLAY, eDP)

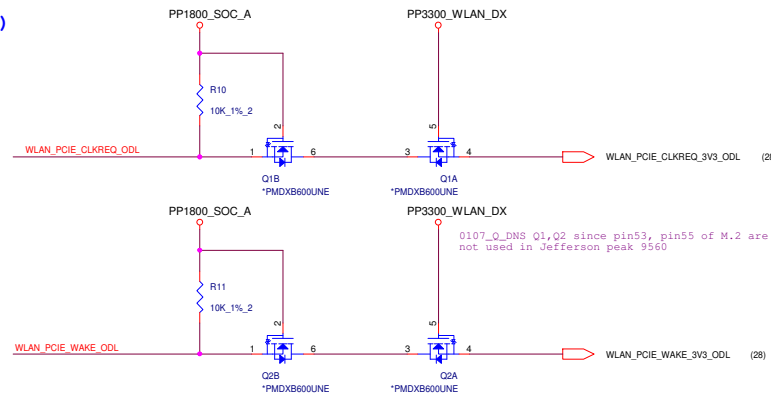


Gemini lake (SATA , ODD, CLK ,USB,PCIE)

(CPU)

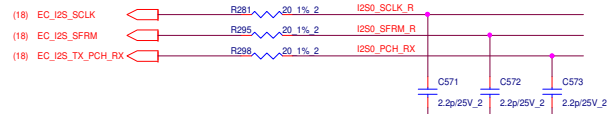


(NGF)

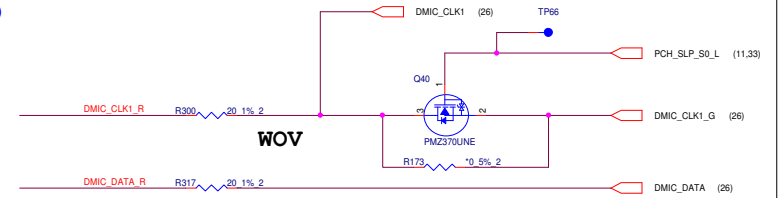


Gemini lake (EMMC/LPC/I2C/GPIO/HDA)

(CPU)



(MIC)



(CPU)

TO-EC

SPEAKER AMP

HEADPHONE

DMIC'S

PP1800_SOC_A

(23) EMMC_RCLK

(23) EMMC_CLK

(23) EMMC_DATA0

(23) EMMC_DATA1

(23) EMMC_DATA2

(23) EMMC_DATA3

(23) EMMC_DATA4

(23) EMMC_DATA5

(23) EMMC_DATA6

(23) EMMC_DATA7

(23) EMMC_CMD

(23) EMMC_RST_ODL

TEST POINTS ON EMMC CLOSE TO SOC

TP70

TP53

TP54

TP57

TP59

(38) LTE_OFF_ODL

(24) I2S_SCLK_HP

(24) I2S_SFRM_HP

(24) I2S_PCH_RX_HP_TX

(24) I2S_PCH_TX_HP_RX

(24) I2S_MCLK_HP

(26,40) DMIC_CLK2

(40) DMIC_CAM2_DATA

R282 4.7K 5% 2

R590 100K 1% 6

TP44

TP41

TP42

TP43

TP43

TP30

TP EN PP1800 EMMC

R284 200 1% 2

TP EN PP1800 EMMC

R284 200 1% 2

TP EN PP1800 EMMC

R284 200 1% 2

TP EN PP1800 EMMC

R284 200 1% 2

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TP EN PP1800 EMMC

R284 200 1% 2

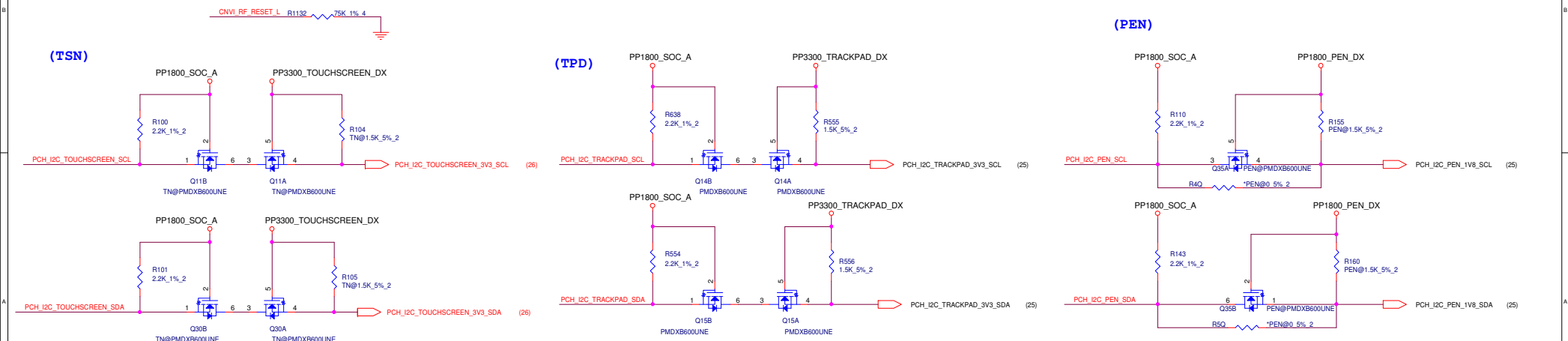
TP EN PP1800 EMMC


R284 200 1% 2

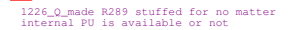
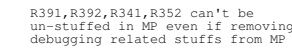
TP EN PP1800 EMMC


R284 200 1% 2

TP EN PP1800 EMMC



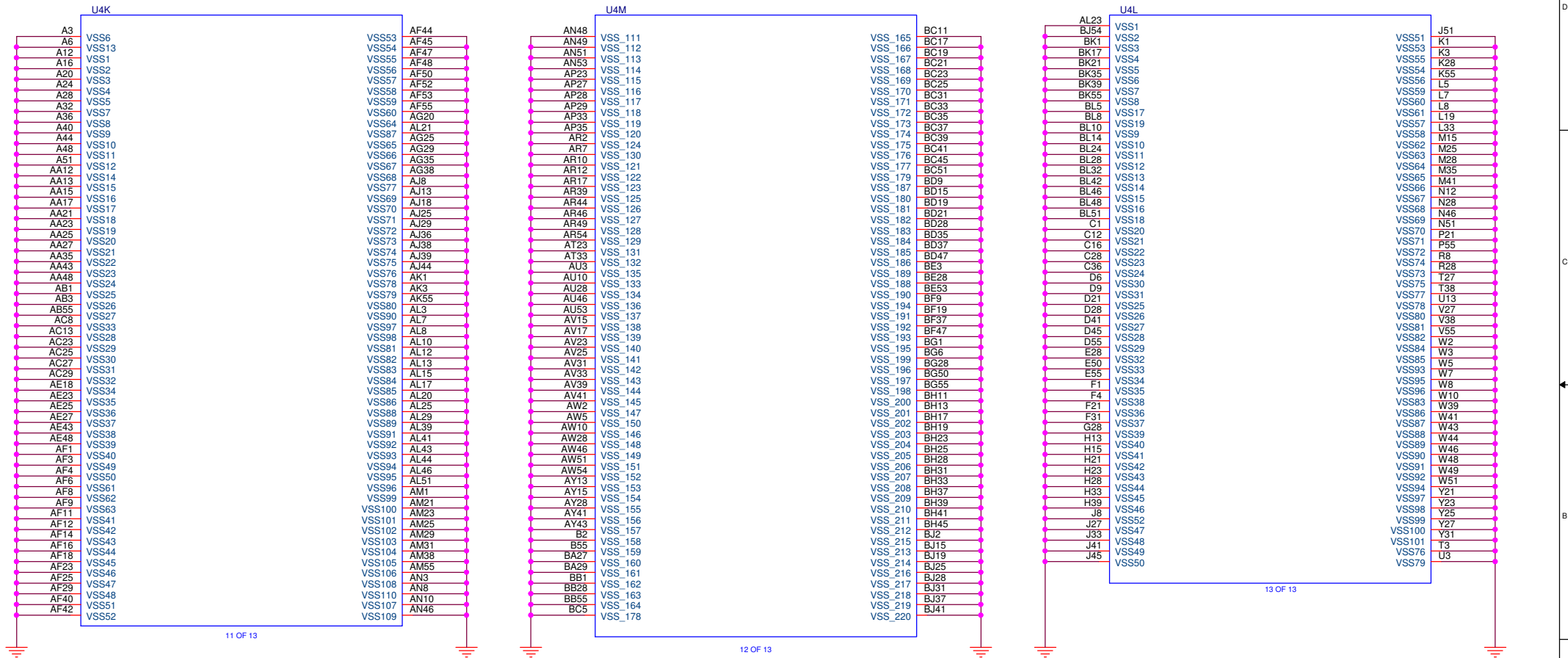
 Quanta Computer Inc. PROJECT : ZAK_ZAN_ZAP_ZAQ	
Size	Document Number
	SOC I2C/CNVI/UART/SPI
Date: Wednesday, January 09, 2019	Sheet 10 of 45



 Quanta Computer Inc. PROJECT : ZAK_ZAN_ZAP_ZAQ			
Size	Document Number	Rev	
	SOC JTAG/GPIO/ITP	1A	
Date:	Wednesday, January 09, 2019	Sheet	12 of 45

(CPU)

GLK ULT (GND)

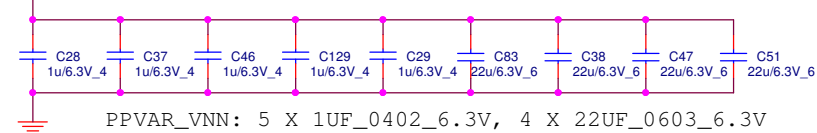


Gemini (POWER)

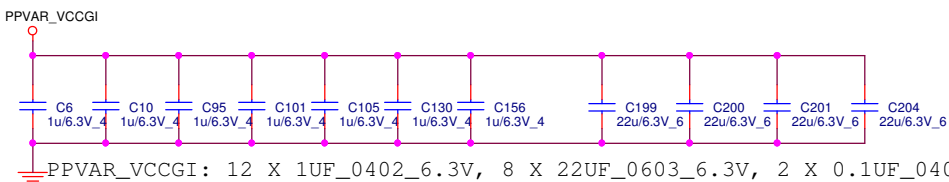


(CPU)
PPVAR_VNN

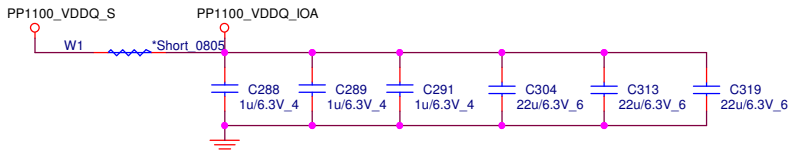
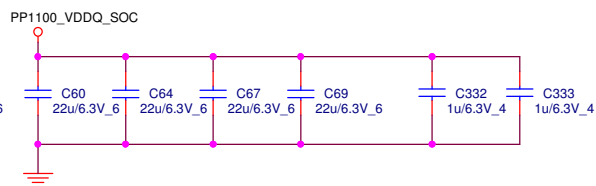
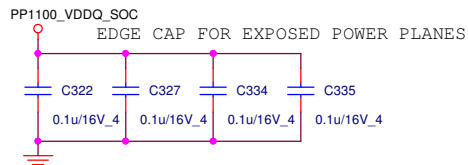
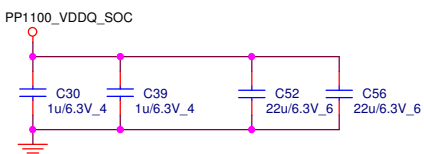
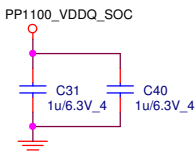
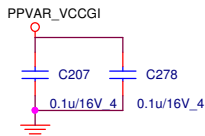
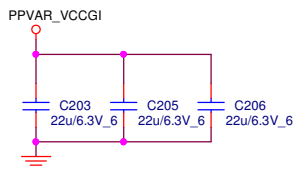
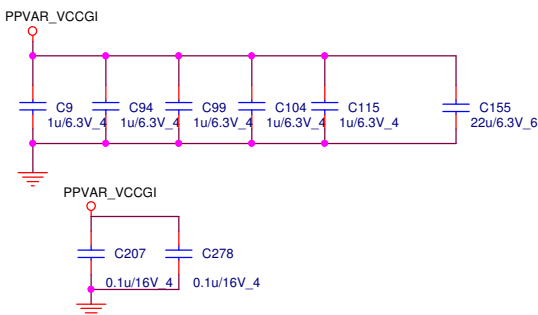
DECOUPLING VALUES AND NUMBER BASED ON THE REFERENCE DOC



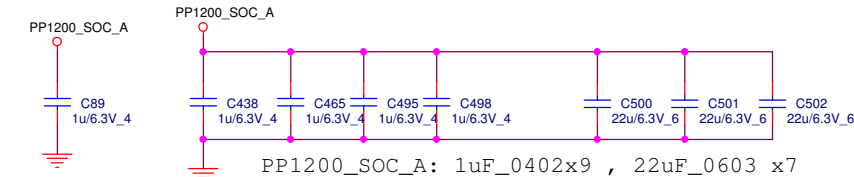
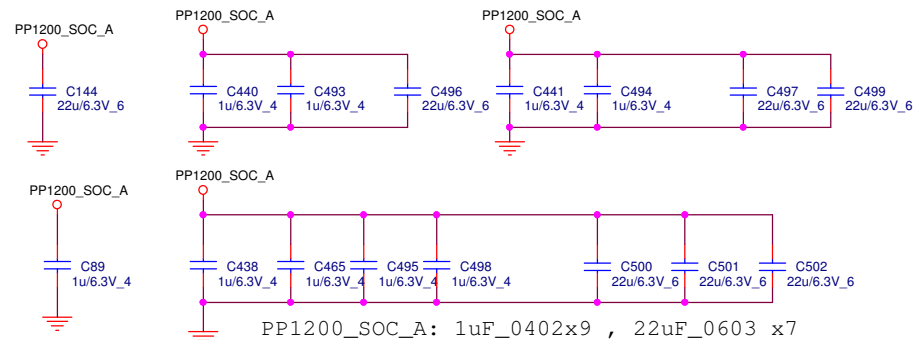
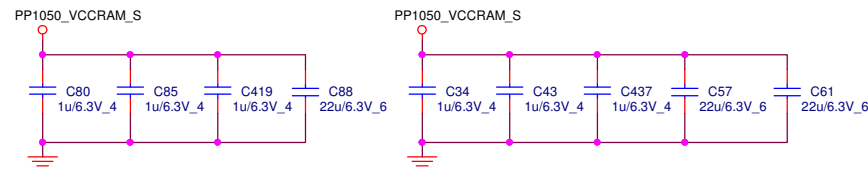
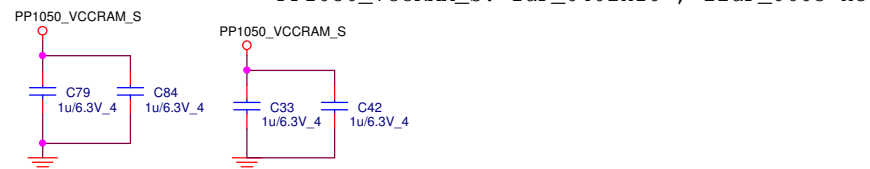
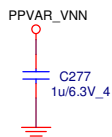
PPVAR_VNN: 5 X 1UF_0402_6.3V, 4 X 22UF_0603_6.3V



PPVAR_VCCGI: 12 X 1UF_0402_6.3V, 8 X 22UF_0603_6.3V, 2 X 0.1UF_0402_16V

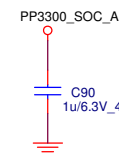
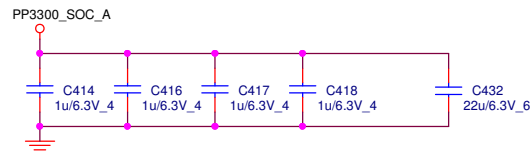
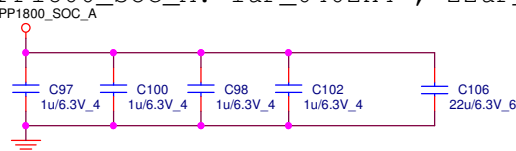


VDDQI: 1uF_0402x8 , 22uF_0603 x10 , 0.1uF_0402x4

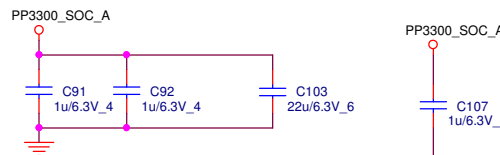


PP1200_SOC_A: 1uF_0402x9 , 22uF_0603 x7

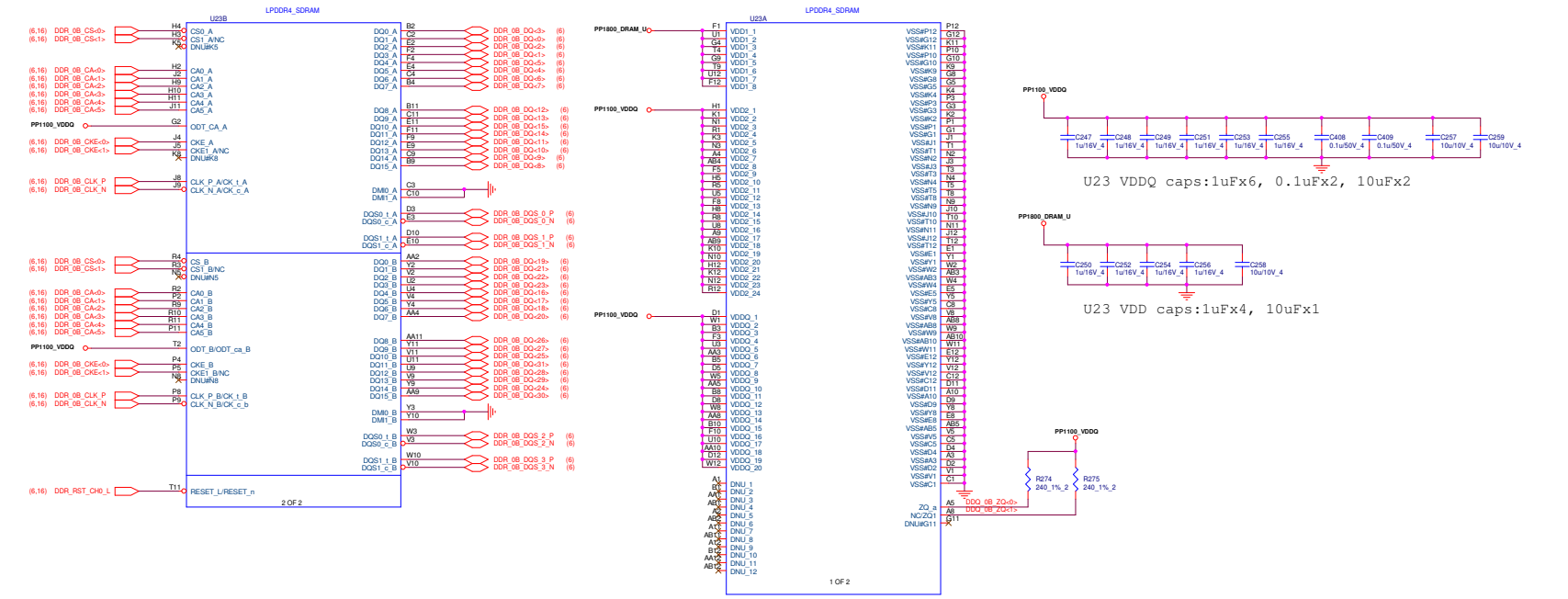
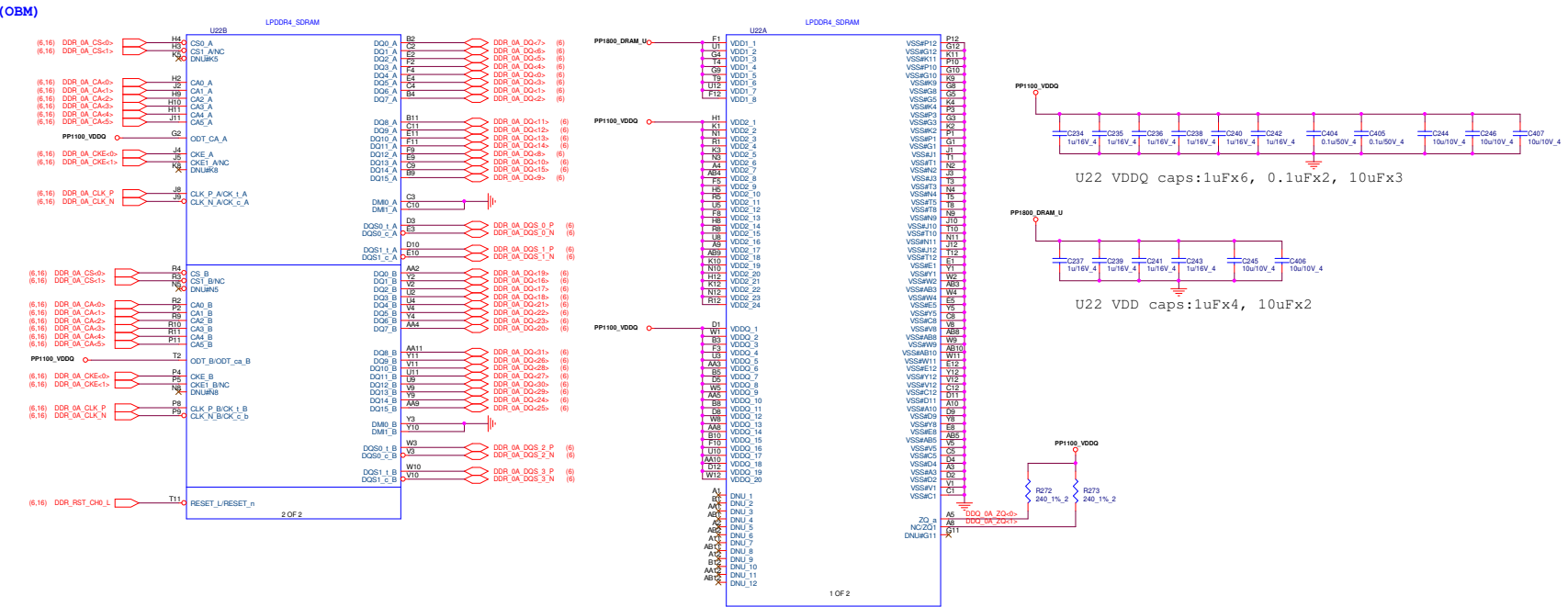
PP1800_SOC_A: 1uF_0402x4 , 22uF_0603 x1

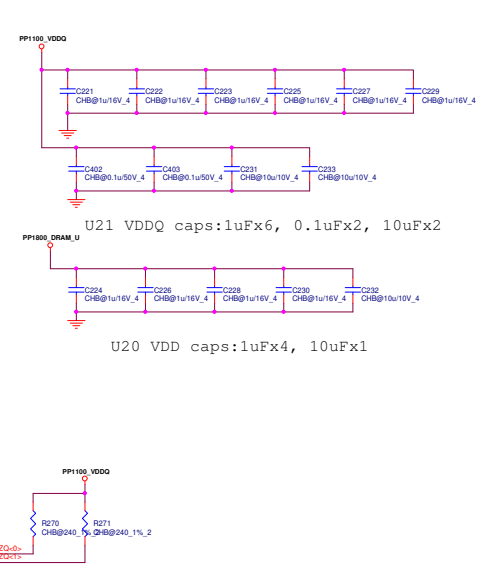
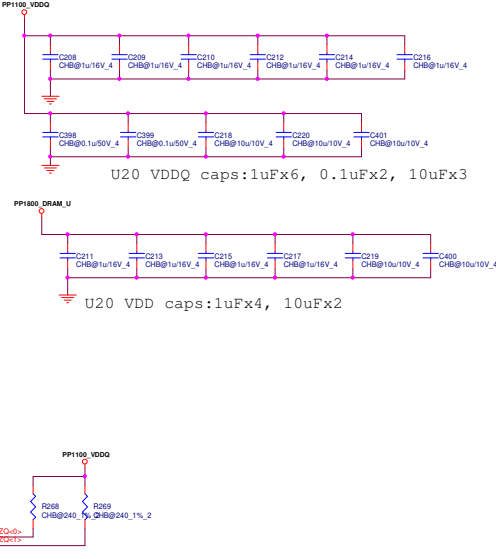


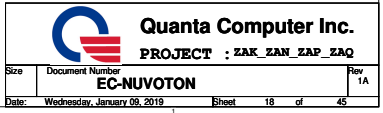
PP3300_SOC_A: 1uF_0402x8 , 22uF_0603 x2



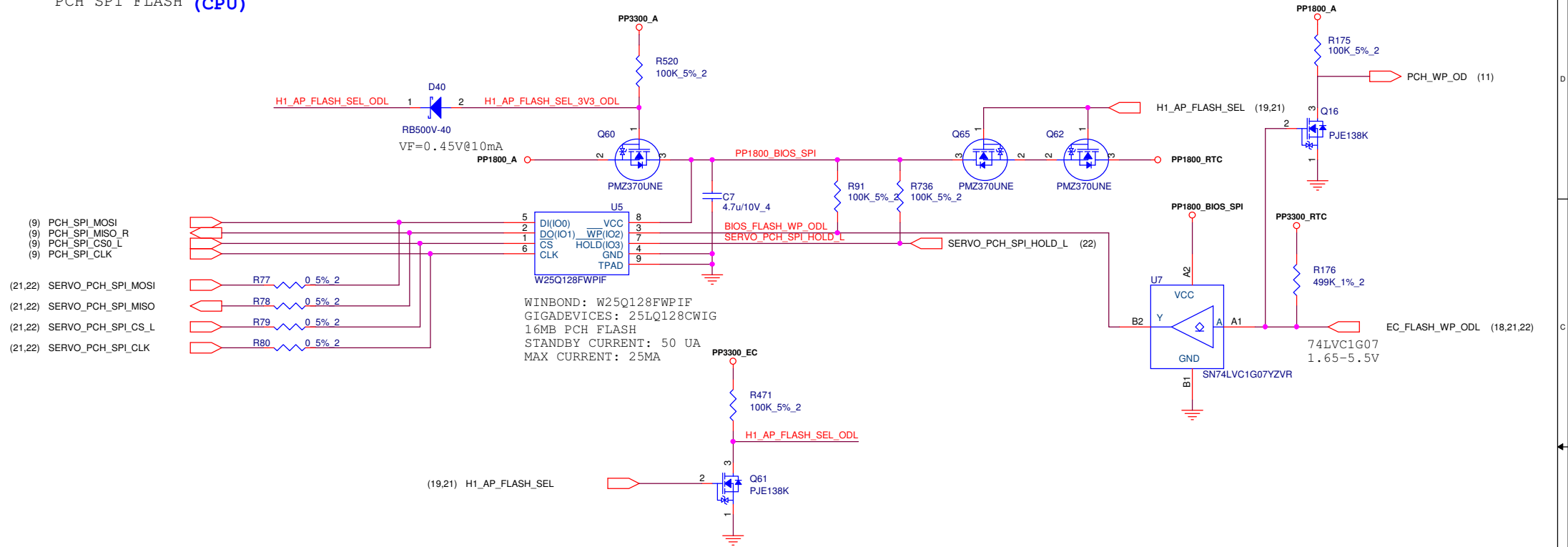
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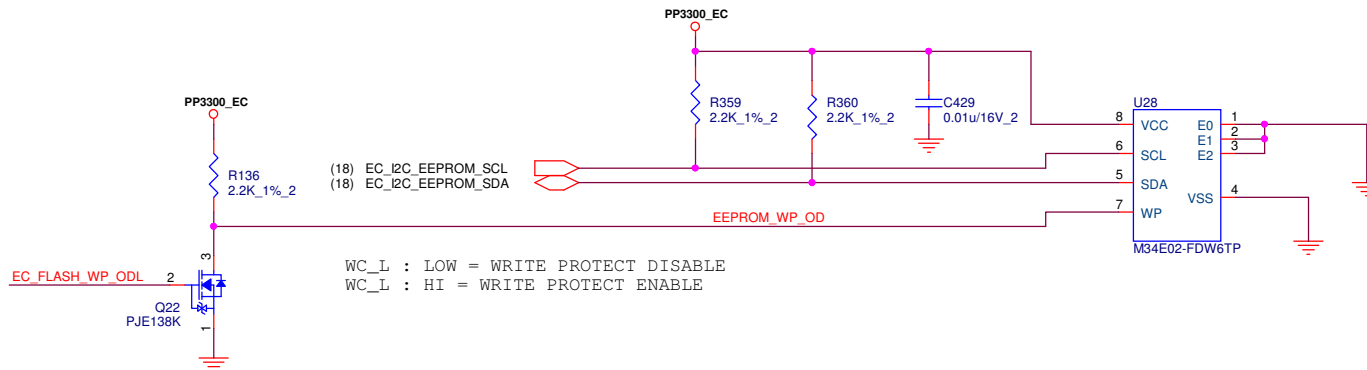



PCH SPI FLASH (CPU)



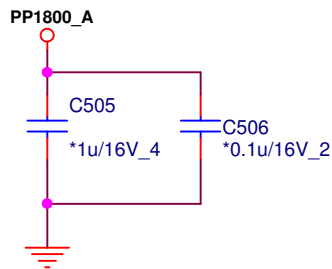
(KBC)

SKU EEPROM

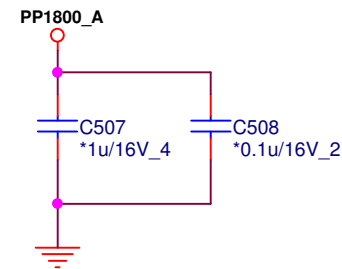


 Quanta Computer Inc. PROJECT : ZAK_ZAN_ZAP_ZAQ		Size	Document Number	Rev 1A
		SPI ROM		
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(INT)

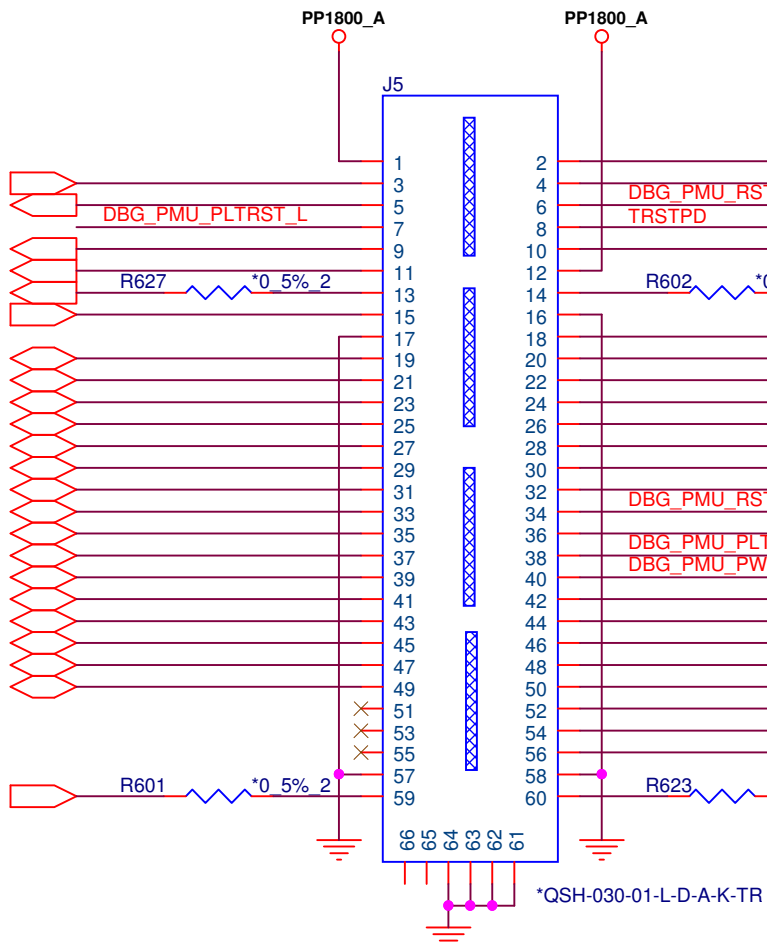


LAYOUT NOTE: PLACING THE SERIAL R'S WITHIN 1 " OF THE DEBUG CONNECTOR



- (12) TCK
- (12) TDI
- (12) TRST_L
- (12) CX_PRDY_L
- (12) DBG_PTI_CLK0
- (7) GP_INTD_DSI_TE2
- (12) DBG_PTI_DATA_0
- (12) DBG_PTI_DATA_1
- (12) DBG_PTI_DATA_2
- (12) DBG_PTI_DATA_3
- (12) DBG_PTI_DATA_4
- (12) DBG_PTI_DATA_5
- (12) DBG_PTI_DATA_6
- (12) DBG_PTI_DATA_7
- (12) DBG_PTI_DATA_8
- (12) DBG_PTI_DATA_9
- (12) DBG_PTI_DATA_10
- (12) DBG_PTI_DATA_11
- (12) DBG_PTI_DATA_12
- (12) DBG_PTI_DATA_13
- (12) DBG_PTI_DATA_14
- (12) DBG_PTI_DATA_15

(12) DBG_PTI_CLK1



TMS (12)
TDO (12)

CX_PREQ_L (12)

DBG_PTI_CLK2 (12)

DBG_PTI_DATA_16 (12)

DBG_PTI_DATA_17 (12)

DBG_PTI_DATA_18 (12)

DBG_PTI_DATA_19 (12)

DBG_PTI_DATA_20 (12)

DBG_PTI_DATA_21 (12)

DBG_PTI_DATA_22 (12)

DBG_PTI_DATA_23 (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

DBG_PTI_RSTBTN_L (12)

DBG_PTI_PLTRST_L (12)

DBG_PTI_PWRBTN_L (12)

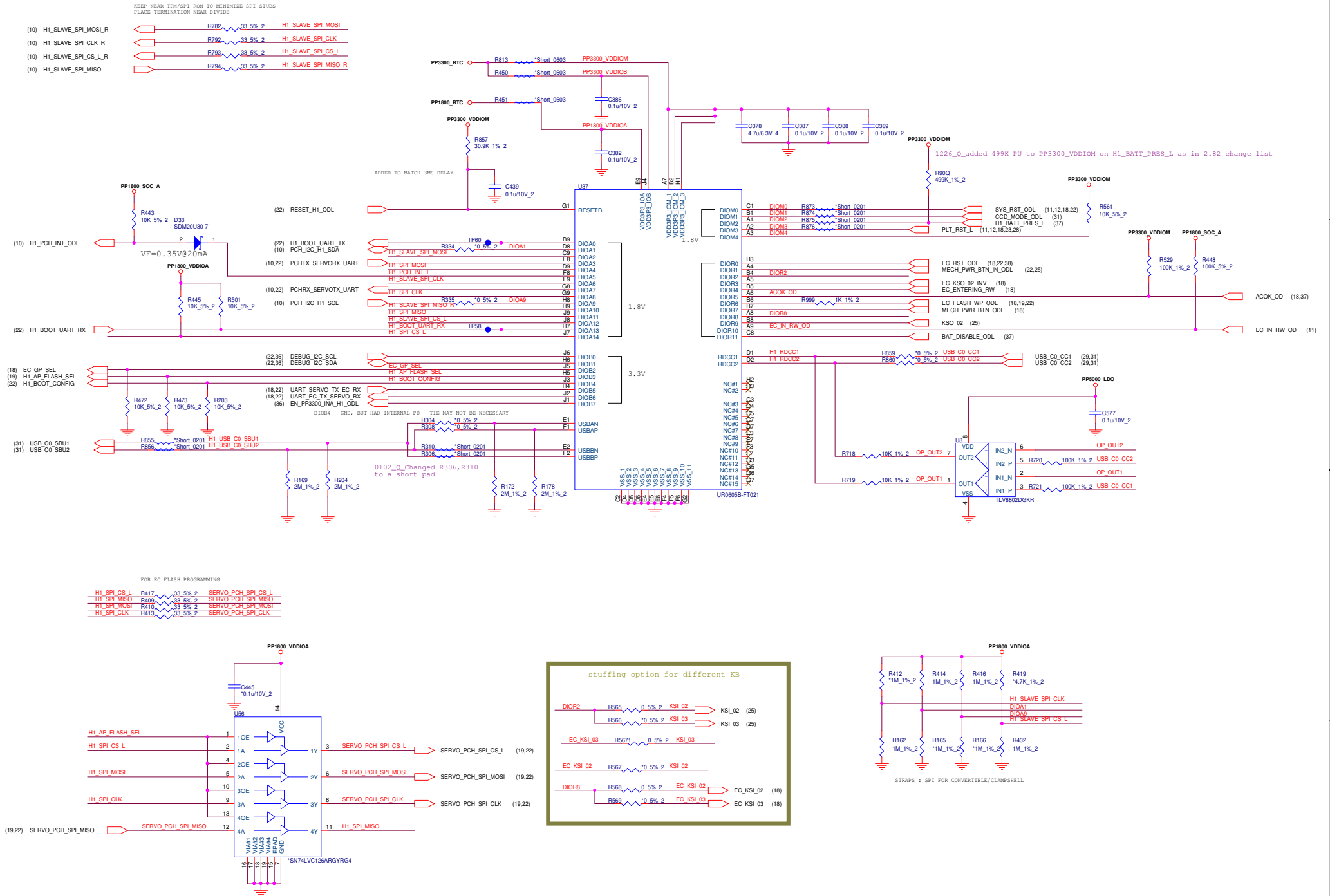
DBG_PTI_RSTBTN_L (12)



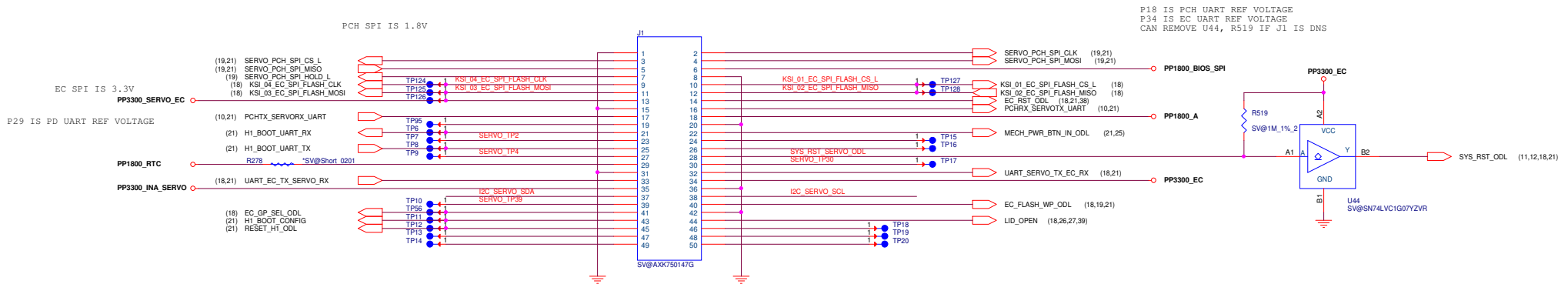
Quanta Computer Inc.

PROJECT : ZAK_ZAN_ZAP_ZAQ

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	MIPI60 DEBUG HEADER	1A
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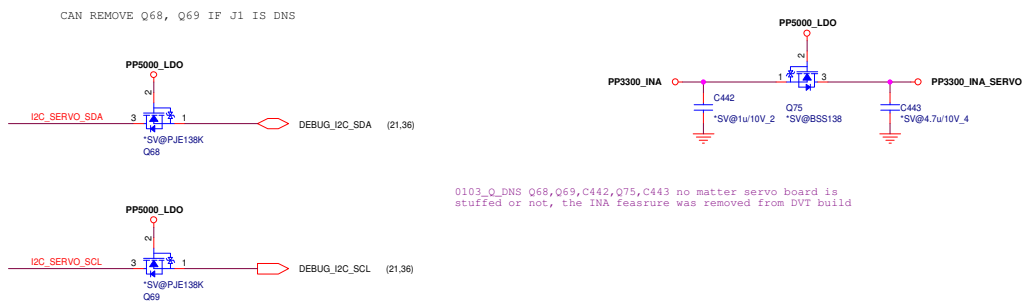
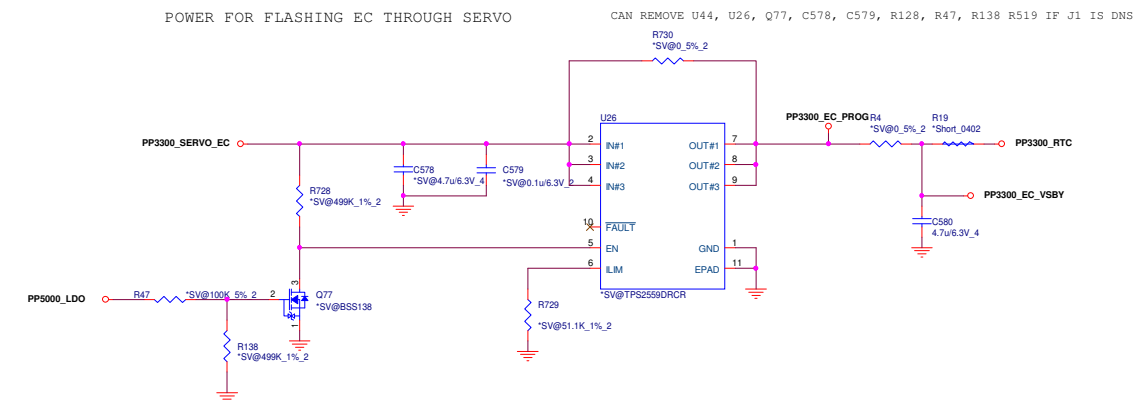


(GOG)



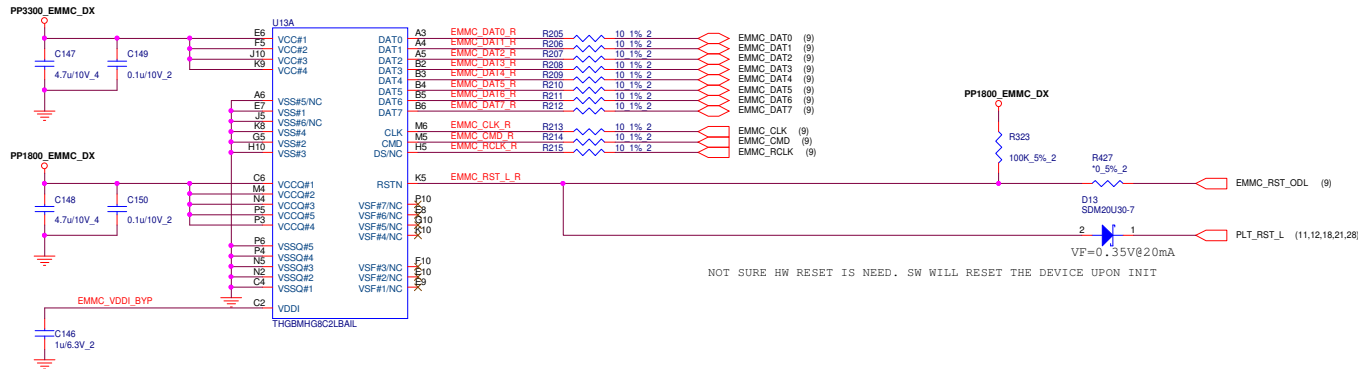
SERVO HEADER

(H1C)



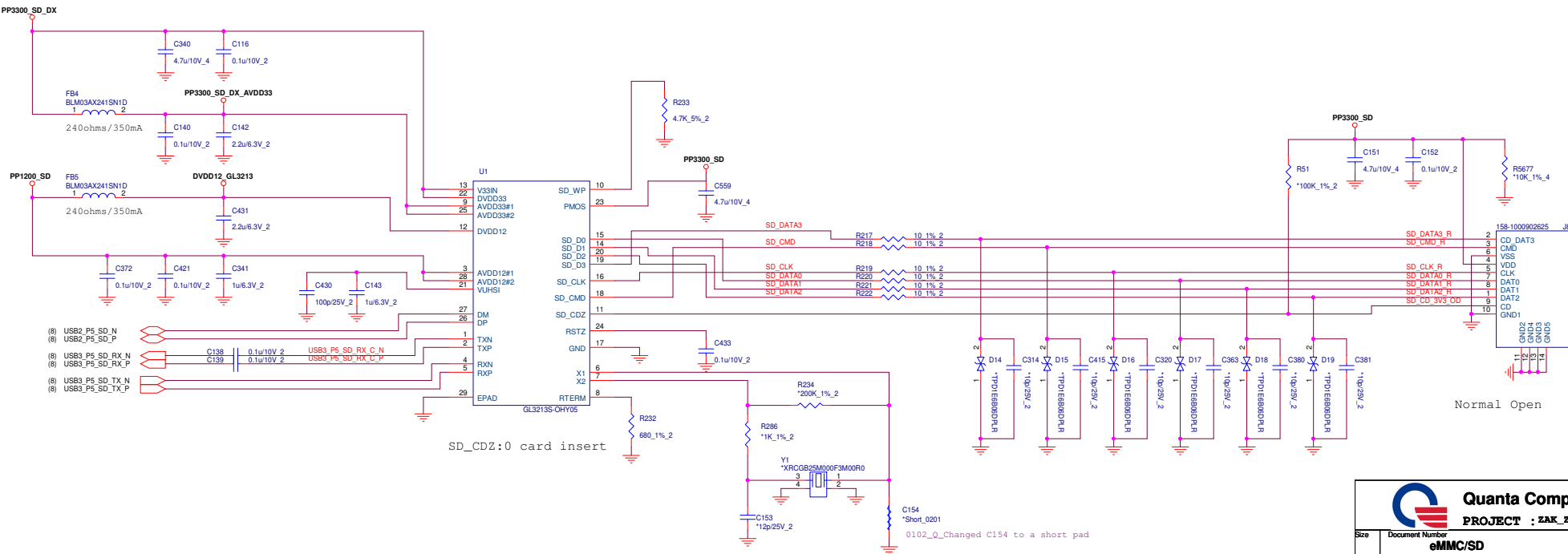
(MMC) 32 GB EMMC STORAGE

150 uA SLEEP CURRENT



U13B		
A1	NC#A1	NC#H2
A2	NC#A2	NC#H3
A7	RFU#A7/NC	NC#H12
A8	NC#A8	NC#H13
A9	NC#A9	NC#H14
A10	NC#A10	NC#J1
A11	NC#A11	NC#J2
A12	NC#A12	NC#J3
A13	NC#A13	NC#J12
A14	NC#A14	NC#J13
B1	NC#B1	NC#J14
B7	NC#B7	NC#K1
B8	NC#B8	NC#K2
B9	NC#B9	NC#K3
B10	NC#B10	NC#K4
B11	NC#B11	NC#K5
B12	NC#B12	NC#K6
B13	NC#B13	NC#K7
B14	NC#B14	NC#K8
C1	NC#C1	NC#L1
C2	NC#C2	NC#L2
C3	NC#C3	NC#L3
C4	NC#C4	NC#L4
C5	NC#C5	NC#L5
C6	NC#C6	NC#L6
C7	NC#C7	NC#L7
C8	NC#C8	NC#L8
C9	NC#C9	NC#L9
C10	NC#C10	NC#L10
C11	NC#C11	NC#M1
C12	NC#C12	NC#M2
C13	NC#C13	NC#M3
C14	NC#C14	NC#M4
D1	NC#D1	NC#M5
D2	NC#D2	NC#M6
D3	NC#D3	NC#M7
D4	NC#D4	NC#M8
D5	NC#D5	NC#M9
D6	NC#D6	NC#M10
D7	NC#D7	NC#M11
D8	NC#D8	NC#M12
D9	NC#D9	NC#M13
D10	NC#D10	NC#M14
D11	NC#D11	NC#N1
D12	NC#D12	NC#N2
D13	NC#D13	NC#N3
D14	NC#D14	NC#N4
E1	NC#E1	NC#N5
E2	NC#E2	NC#N6
E3	NC#E3	NC#N7
E4	NC#E4	NC#N8
E5	NC#E5	NC#N9
E6	NC#E6	NC#N10
E7	NC#E7	NC#N11
E8	NC#E8	NC#N12
E9	NC#E9	NC#N13
E10	NC#E10	NC#N14
F1	NC#F1	NC#P1
F2	NC#F2	NC#P2
F3	NC#F3	NC#P3
F4	NC#F4	NC#P4
F5	NC#F5	NC#P5
F6	NC#F6	NC#P6
F7	NC#F7	NC#P7
F8	NC#F8	NC#P8
F9	NC#F9	NC#P9
F10	NC#F10	NC#P10
F11	NC#F11	NC#P11
F12	NC#F12	NC#P12
F13	NC#F13	NC#P13
F14	NC#F14	NC#P14
G1	NC#G1	NC#P15
G2	NC#G2	NC#P16
G3	NC#G3	NC#P17
G4	NC#G4	NC#P18
G5	NC#G5	NC#P19
G6	NC#G6	NC#P20
G7	NC#G7	NC#P21
G8	NC#G8	NC#P22
G9	NC#G9	NC#P23
G10	NC#G10	NC#P24
G11	NC#G11	NC#P25
G12	NC#G12	NC#P26
G13	NC#G13	NC#P27
G14	NC#G14	NC#P28
H1	NC#H1	NC#P29

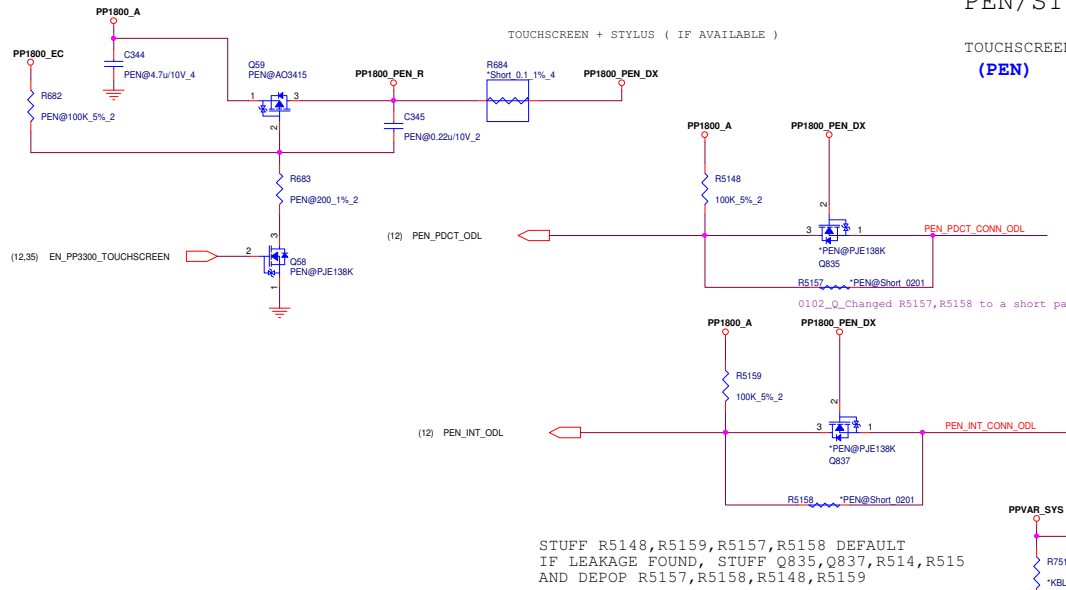
(CRD) MICRO SD CARD



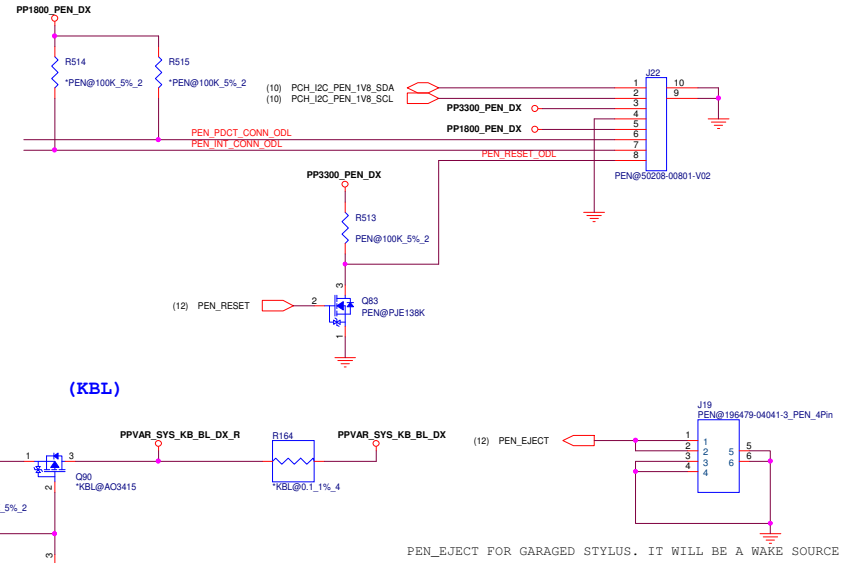
(PEN)

PEN/STYLUS CONNECTOR

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



STUFF R5148,R5159,R5157,R5158 DEFAULT
IF LEAKAGE FOUND, STUFF Q835,Q837,R514,R515
AND DEPOP R5157,R5158,R5148,R5159

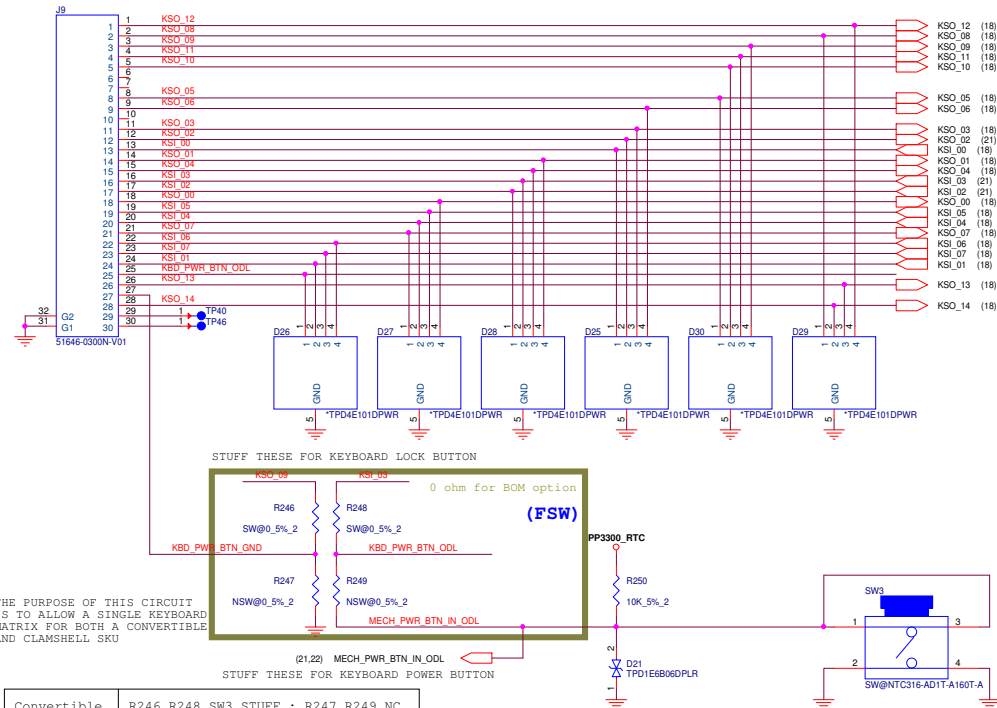


PEN_EJECT FOR GARAGED STYLUS. IT WILL BE A WAKE SOURCE

(KBC)

KEYBOARD

CM TO CHOOSE CONNECTOR- THIS ONE WILL SUPPORT THE KEYPAD SO THE PINOUT MAY NEED TO CHANGE



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

STUFF THESE FOR KEYBOARD LOCK BUTTON

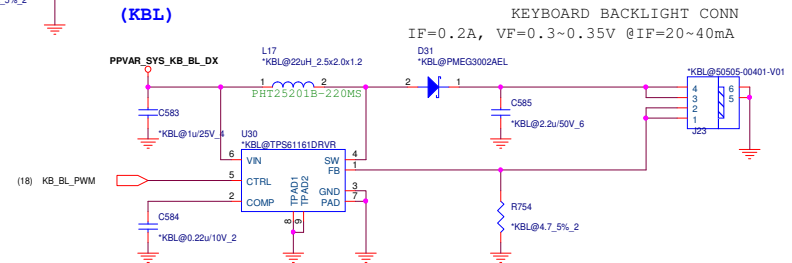
(FS

(21,22) MECH_PWR_BTN_IN_ODL

STUFF THESE FOR KEYBOARD POWER BUTTON

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

(KBL)

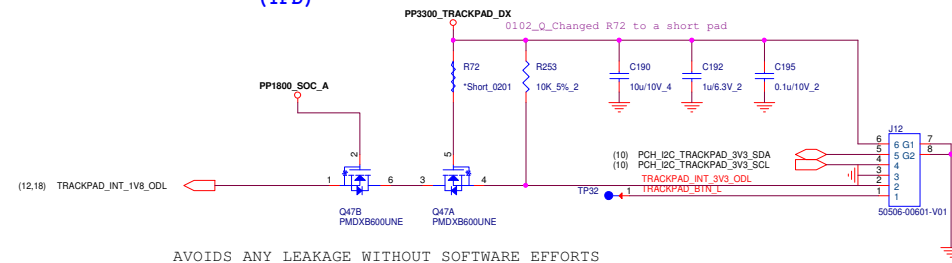


KEYBOARD BACKLIGHT CONN
IF=0.2A, VF=0.3~0.35V @IF=20~40mA

TRACKPAD CONNECTOR

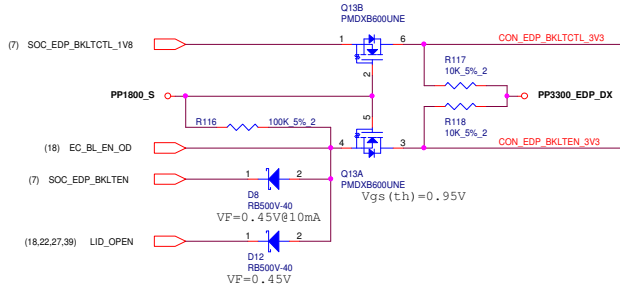
CM TO CHOOSE CONNECTOR

(TPD)

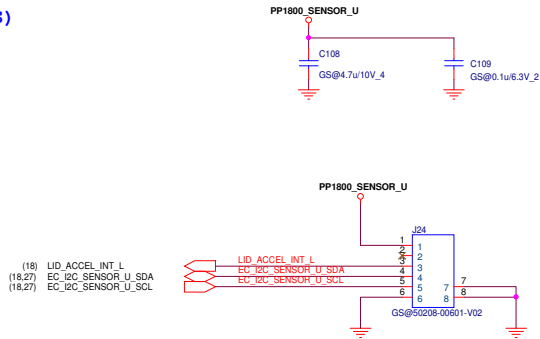


AVOIDS ANY LEAKAGE WITHOUT SOFTWARE EFFORTS

(LDS)

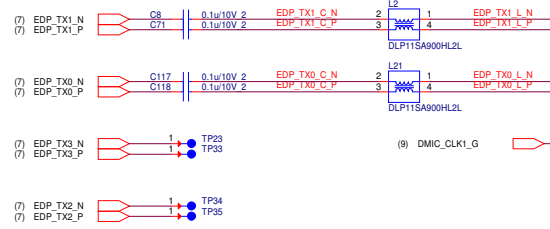


LID ACCEL-CORAL (ACS)

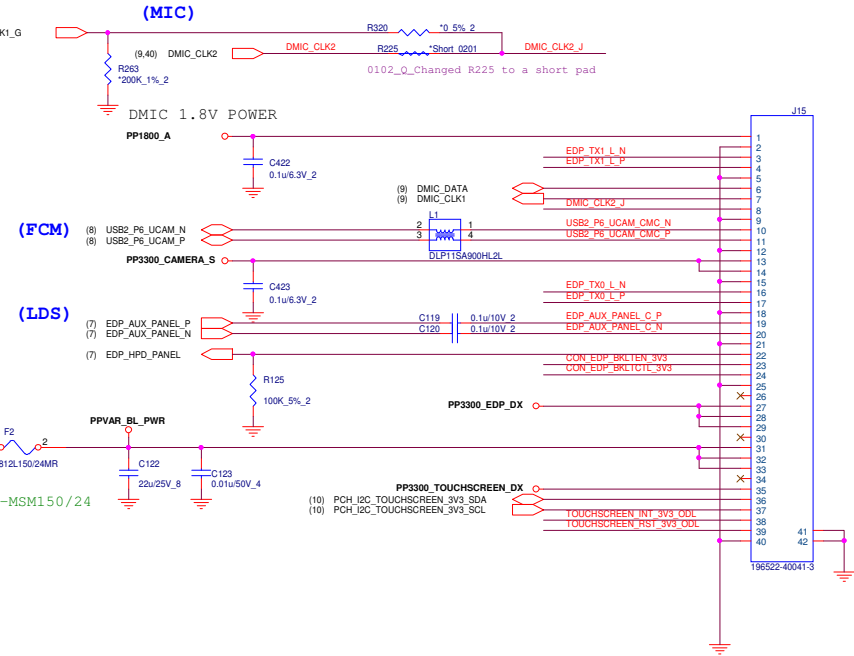


I2C MODE: (SET BY NCS TIE TO VDDIO)
I2C 8bit ADDRESS: 0X3E (SDO_ADDR = VDDIO)
I2C MAX SPEED = 3.4MHZ

EDP2-EDP3 DOES NOT NEED TO ROUTE TO CONNECTOR



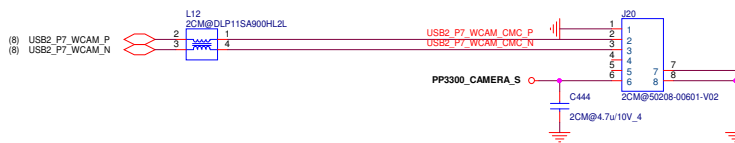
EDP + MIC + SENSOR +CAMERA CONNECTOR



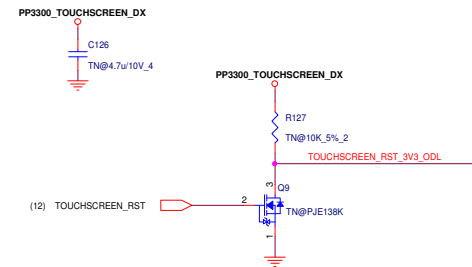
WFC CAMERA

(RCM)

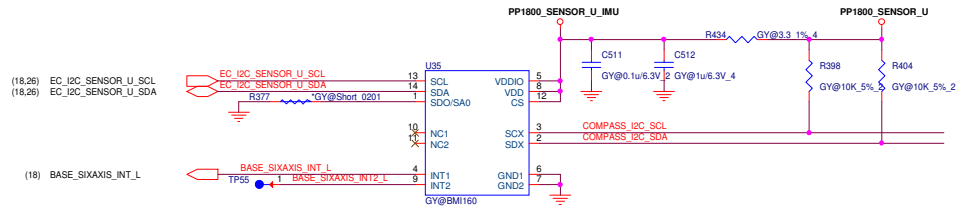
WFC INTERFACE PINOUT TBD. PENDING CHANGE



(TSN)



(GRS)



IMU

MODE 2 (SLAVE TO EC, MASTER TO MAG)
I2C MODE: SET BY CS PIN TO HI
I2C ADDR: 7'0X68 (LSB SET BY SD0/SA0) -->8'0xd0h

(ACM)

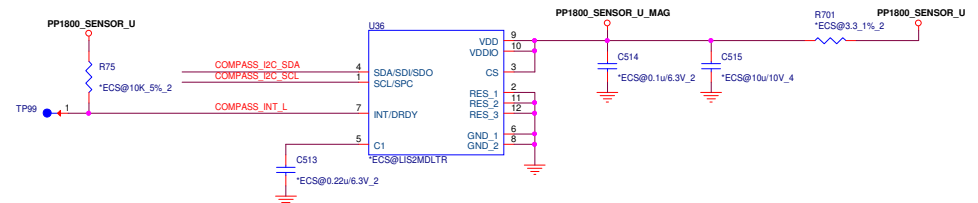
0 ohm for BOM option

R30Q~R32Q place near to IMU U35

EC I2C SENSOR U_SCL R30Q ACM@0.5%_2
EC I2C SENSOR U_SDA R31Q ACM@0.5%_2
BASE SIXAXIS_INT_L R32Q ACM@0.5%_2

for AR Camera, IMU can be DNS, but R30Q,R31Q,R32Q need to be stuffed

(ECS)

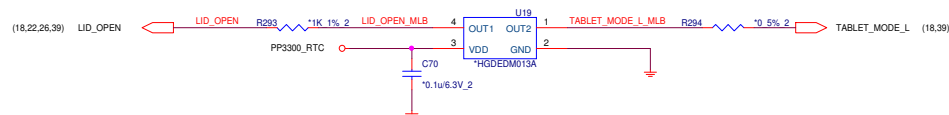


MAGNETOMETER

SLAVE TO IMU SENSOR
I2C MODE: SET BY CS PIN TO HI
I2C ADDR: 0X1E

GMR SENSOR (RESERVED FOR ON BOARD SITUATION)

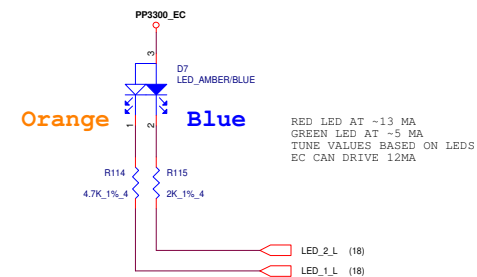
(GMR_MLB) For on board GMR



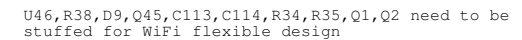
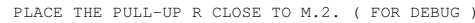
MAKE SURE TO CHECK THE POLARITY OF MAGNET TO ASSIGN THE PIN LID-OPEN AND TABLET-MODE
IF THE GMR SENSOR IS NOT PLACED ON THE MLB, PLEASE CAREFULLY PLAN THE PINOUT ON THE SUB-BOARD INTERFACE.

(UIF)

CHARGE/BATTERY LED



(NGF)



(UTC1)

FOR USB-C PORT 0

TO MLB CONNECTOR

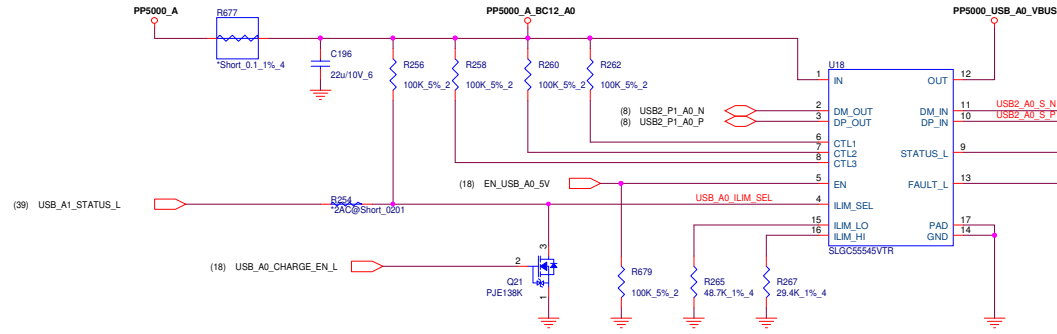
leave USB_C0_DISCHARGE/EN_USB_C0_5V_3A_ILIM
NC and keep components being stuffed for
debug purpose

WITH THE NX20P3483, THE VBUS DISCHARGE CAN BE SW CONTROL

USB_C0_PD_RST IS ACTIVE HIGH WITH 100K INTERNAL PD

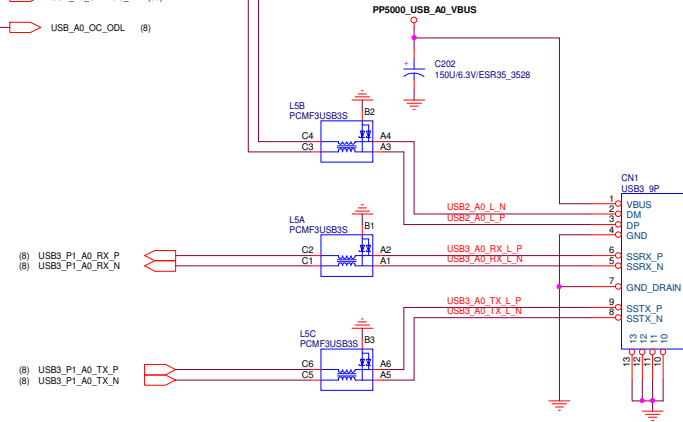
BC 1.2 FOR THE TYPE-A PORT A0

(UBC1)

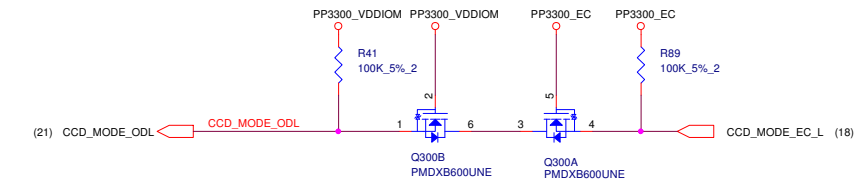
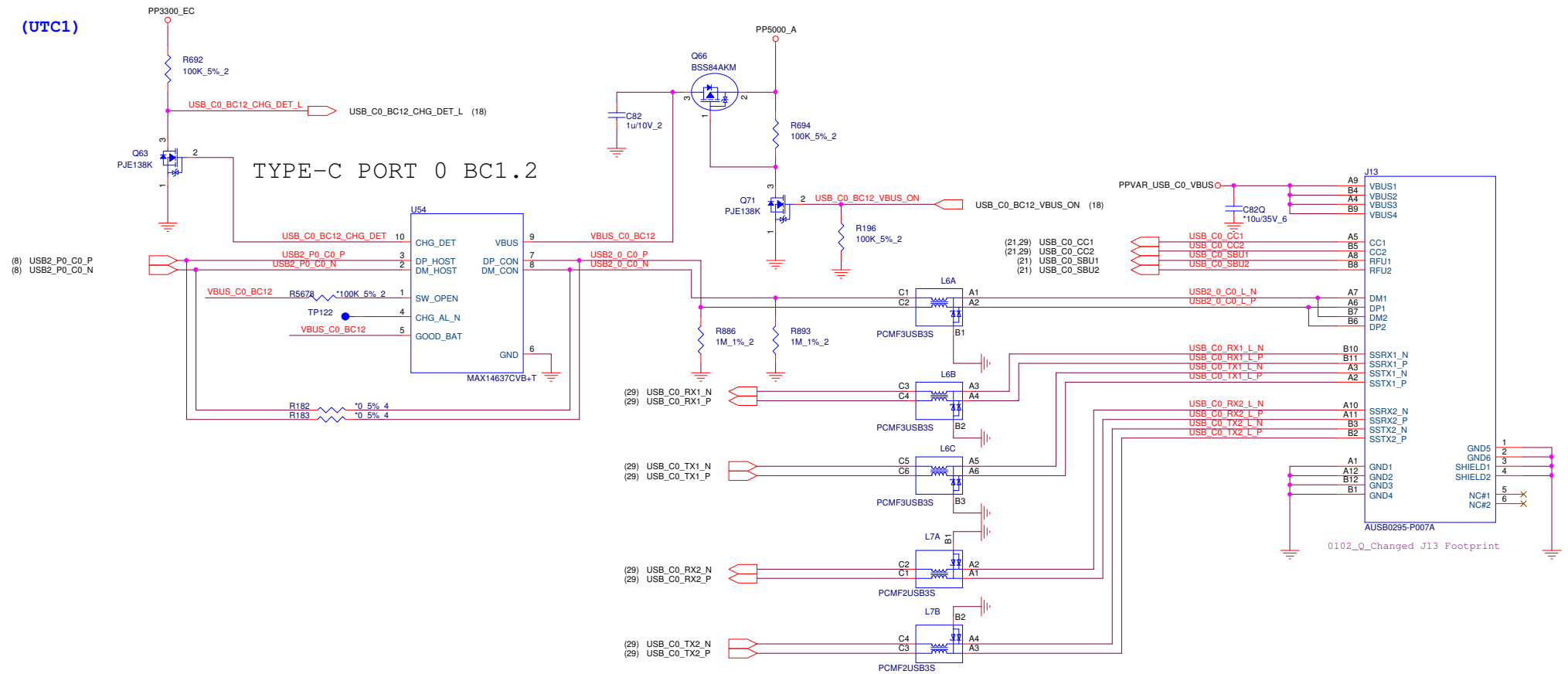


(UB31)

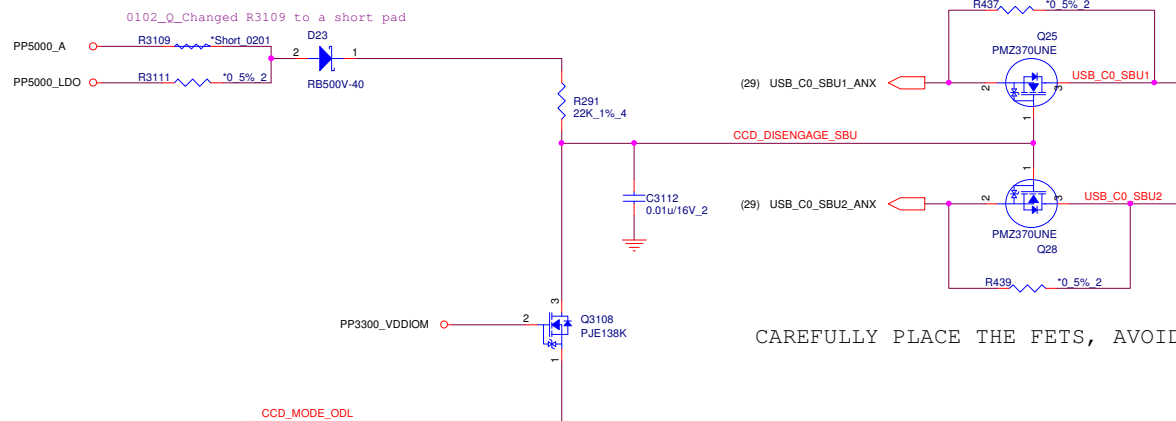
CM TO CHOOSE CONNECTOR



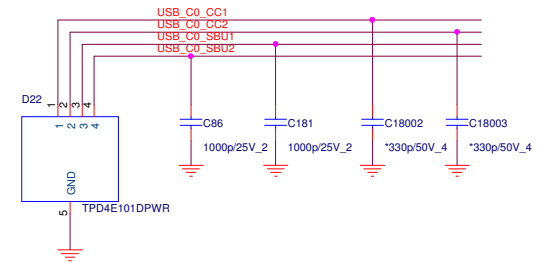
(UTC1)



ONLY TIME CCD_DISENGAGE_SBU IS HIGH WHEN CCD_MODE IS INACTIVE AN THERE IS POWER TO THE TCPC



CAREFULLY PLACE THE FETS, AVOID LONG STUB

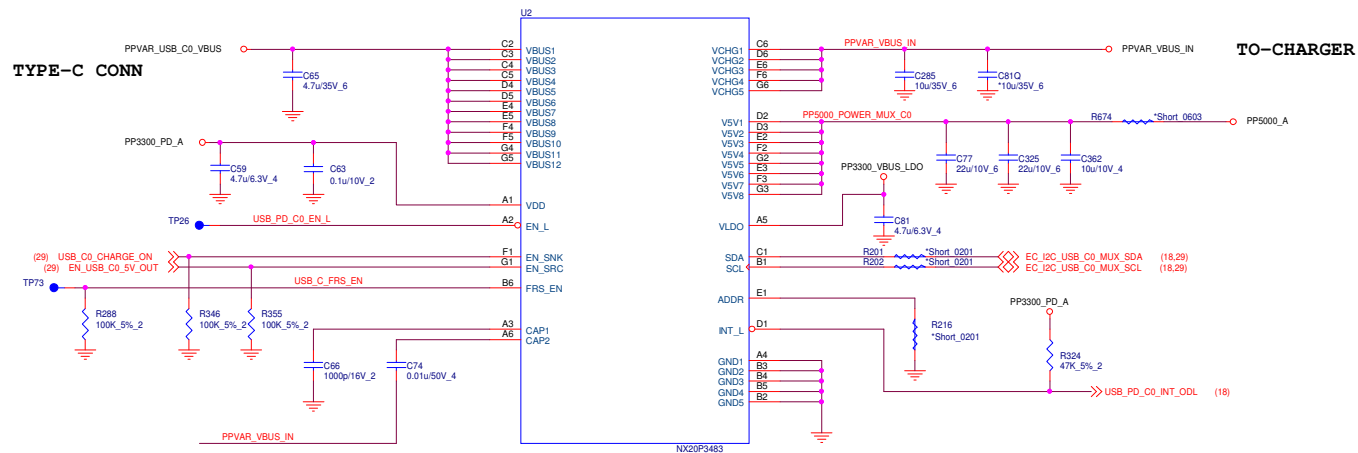


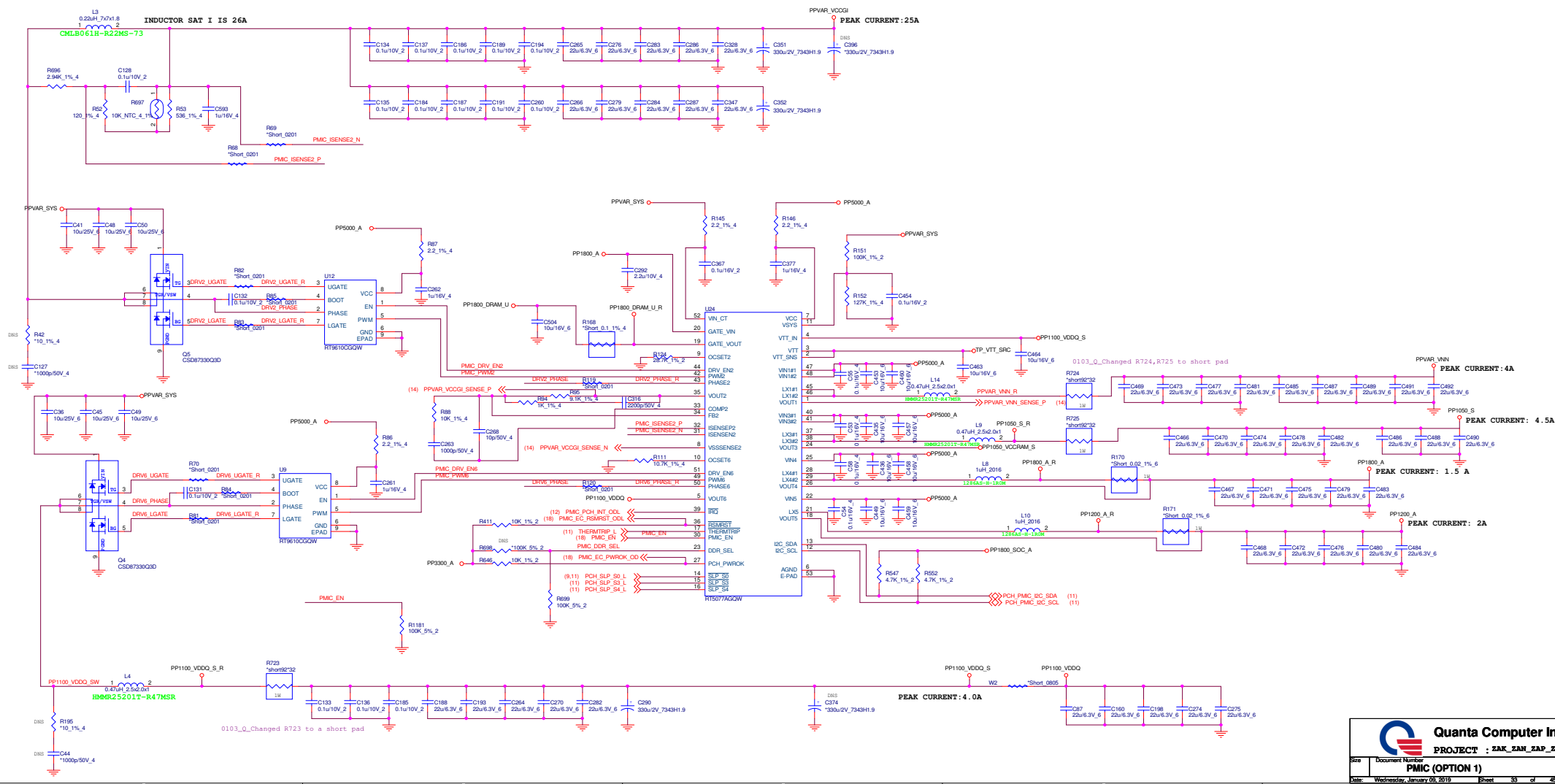
PORT 0

PROVIDES ESD PROTECTION, PLACE CLOSE TO CONNECTOR

(PUB1)

TYPE-C CONN



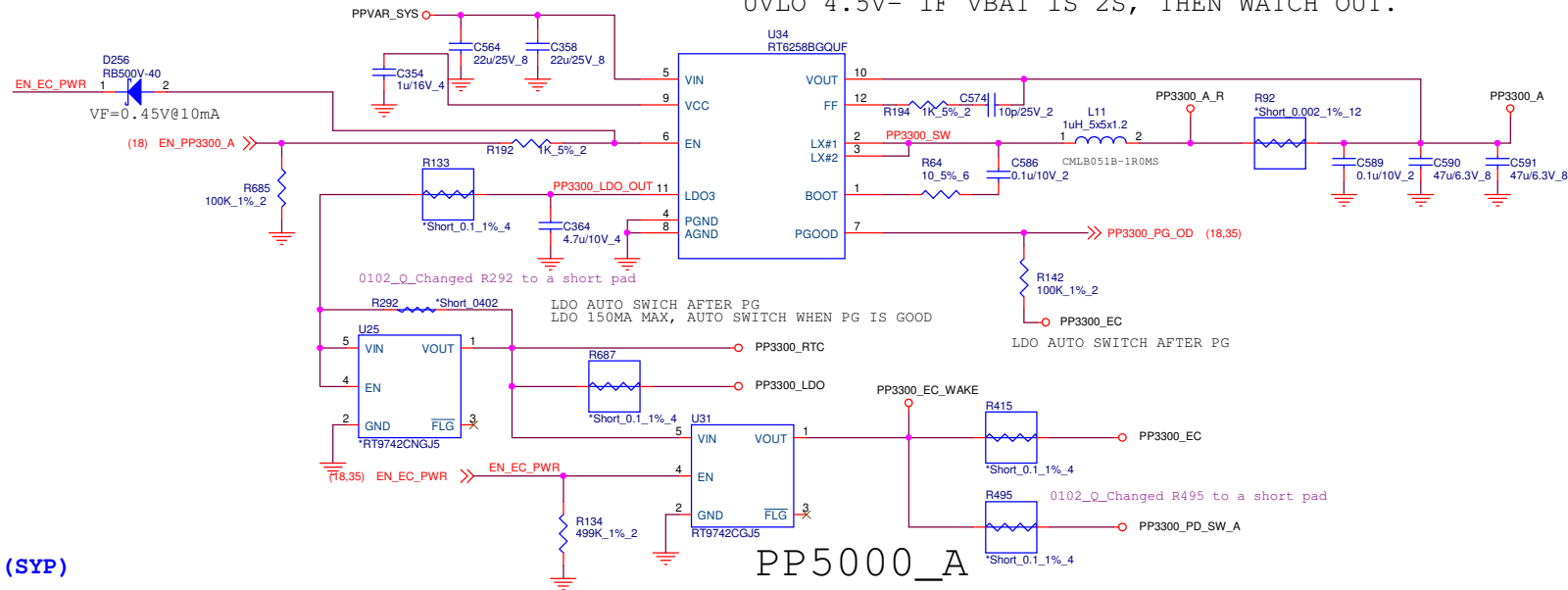


(SYP)

PP3300_A

UVLO 4.5V- IF VBAT IS 2S, THEN WATCH OUT.

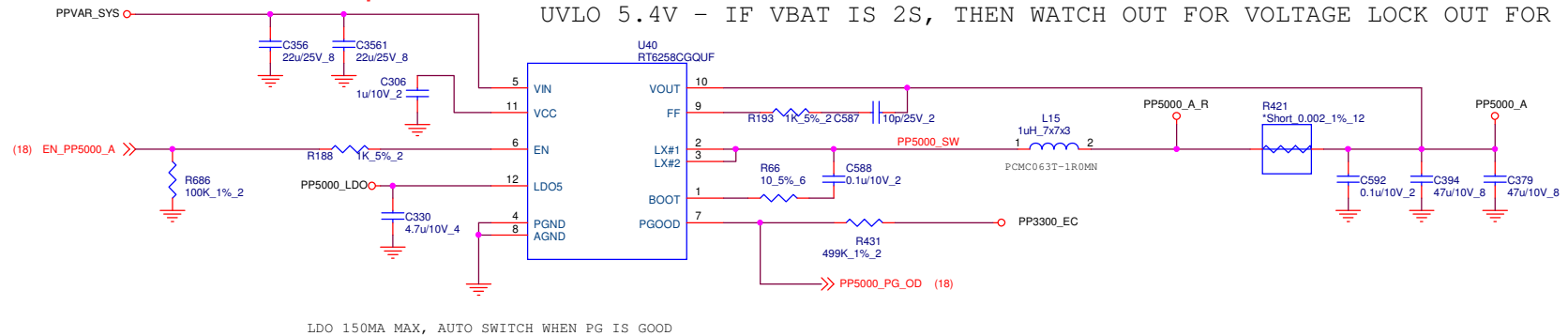
34



(SYP)

PP5000_A

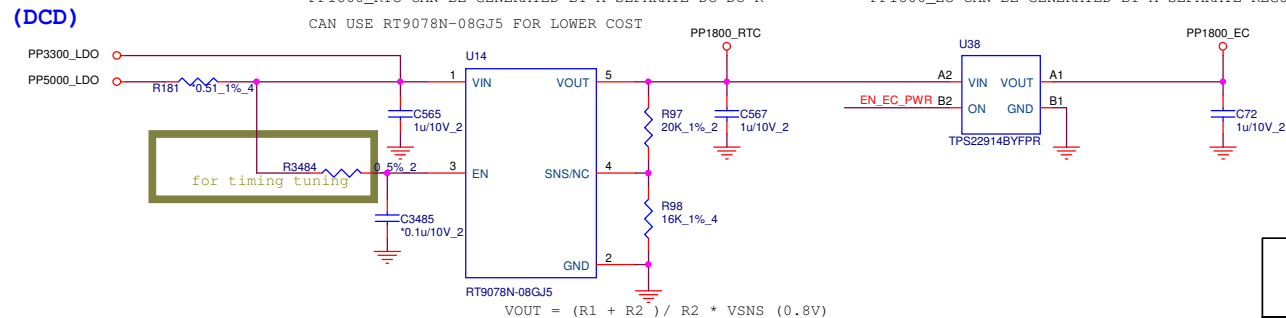
UVLO 5.4V - IF VBAT IS 2S, THEN WATCH OUT FOR VOLTAGE LOCK OUT FOR 1.8V

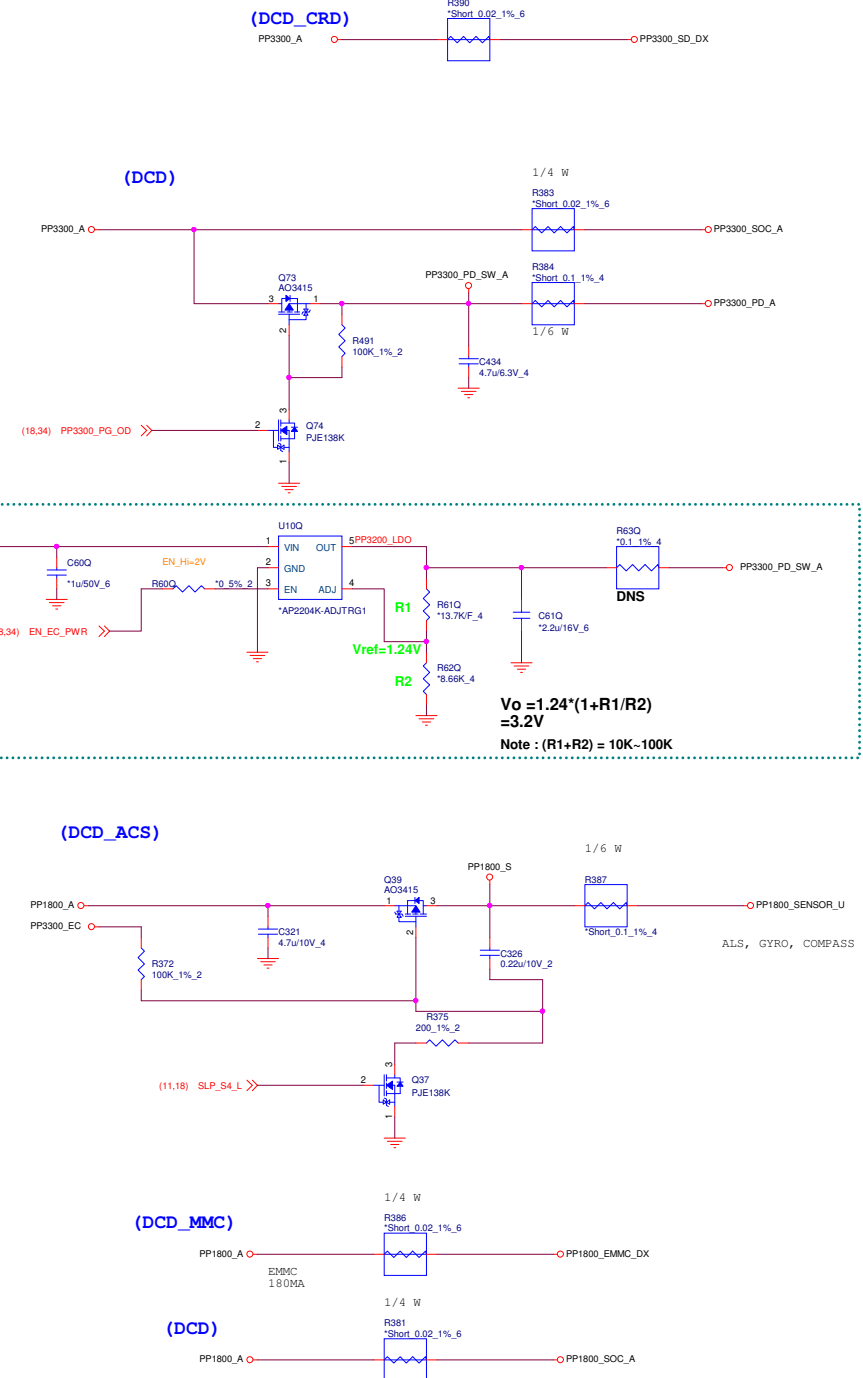


PP1800_RTC, PP1800_EC

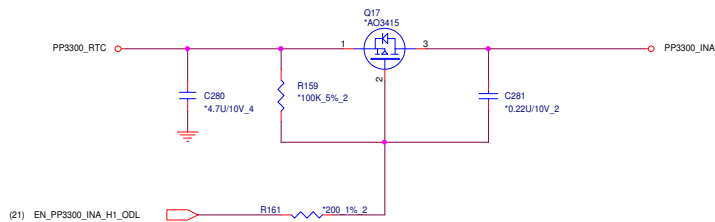
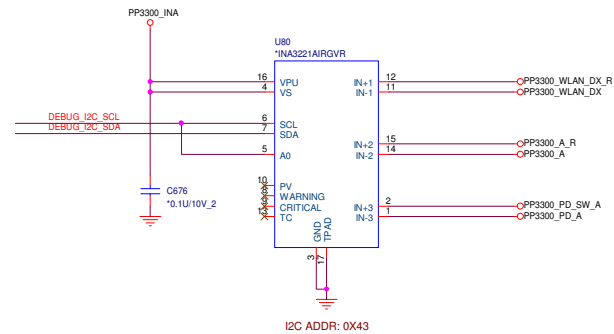
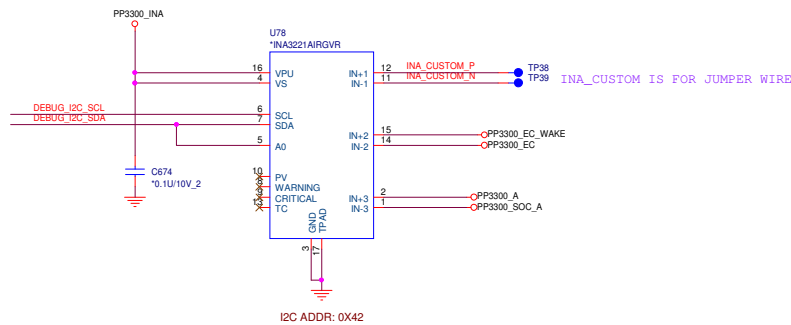
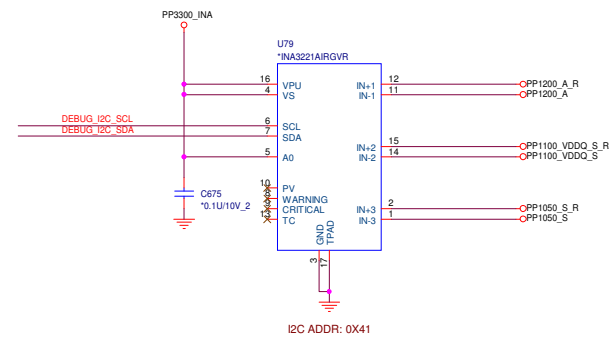
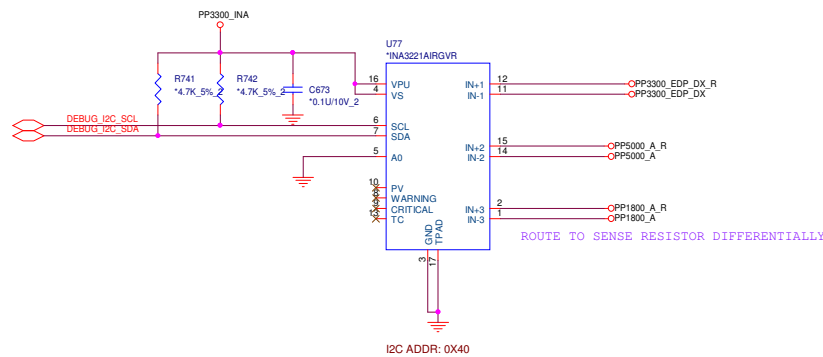
PP1800_RTC CAN BE GENERATED BY A SEPARATE DC-DC R
CAN USE RT9078N-08GJ5 FOR LOWER COST

PP1800_EC CAN BE GENERATED BY A SEPARATE REGULATOR

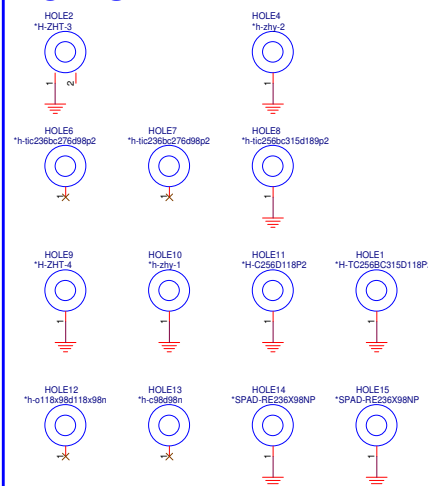




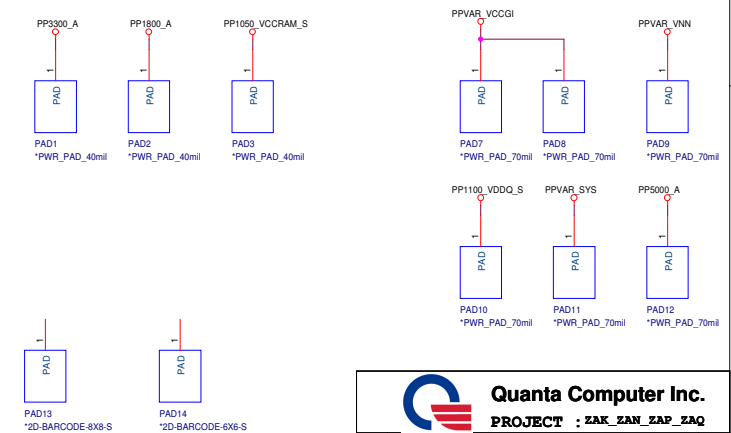
(INA)



HOLES (OTH)



POWER TEST PAD (OTH)



INTERSIL BUCK - BOOST CHARGER

INCREASE OR ADD POSCAPS IF AUDIBLE NOISE IS HEARD

RECOMMENDED VALUE
FROM DATASHEET

RECOMMENDED VALUE
FROM DATASHEET

REQUIRE HIGHER
OUTPUT CAPACITANCE

RATING
HIGH ENOUGH?

0102_Q_removed R475,R479,R480,R481 used as 0 ohm in
EVT/DVT builds for layout optimization

C541 GND PIN SHOULD GOES TO PIN E1 AVSS OF U45

BATGONE LOW
INDICATES
BATTERY PRESENT

FOR 0.476A ADAPTER CURRENT LIMIT
AND 733KHz SWITCHING FREQUENCY:
2CELL : 93.1K
3CELL : 105K

I2C ADDR : 0X12

CV: 12.6V
3S1P Battery

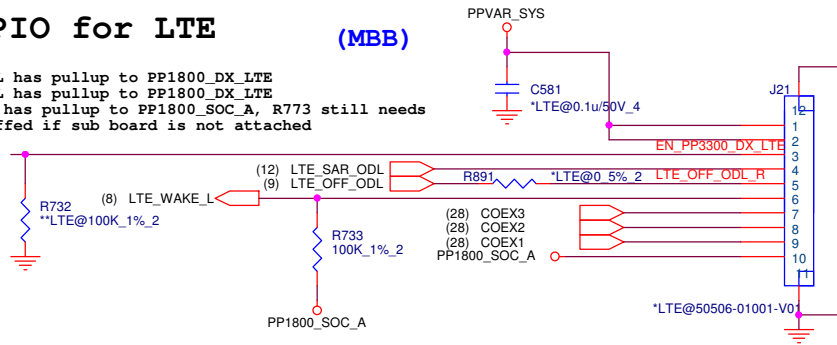
(DCD_THM)

GPIO for LTE

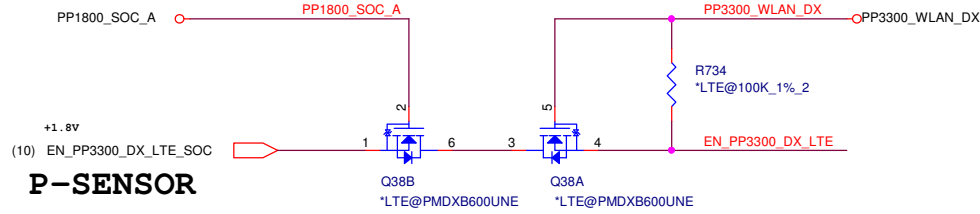
(MBB)

Coral sub board

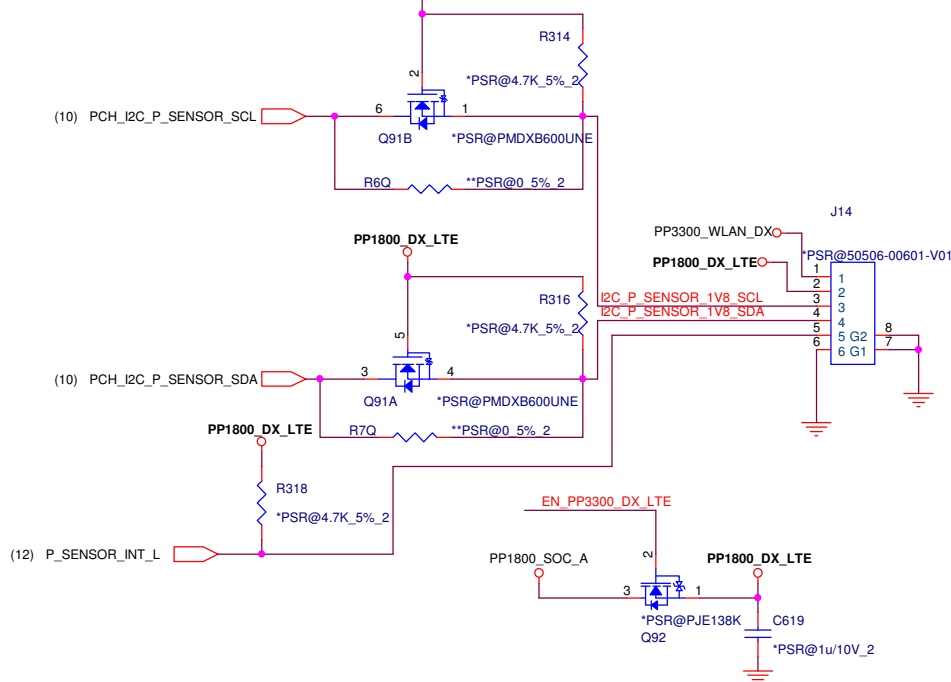
- LTE_SAR_ODL has pullup to PP1800_DX_LTE
- LTE_OFF_ODL has pullup to PP1800_DX_LTE
- LTE_WAKE_L has pullup to PP1800_SOC_A, R773 still needs to be stuffed if sub board is not attached



LEVERAGING CORAL BOARD!



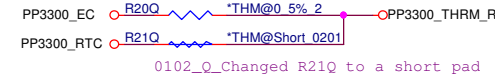
(PXS)



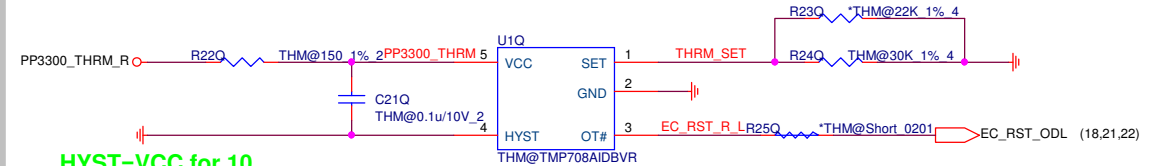
(SYS_THM)

Thermal Protector

Need fine tune
for thermal protect point
Note placement position
TEMP=76.3C



$$R_{set}(Kohm) = 0.0012T - 0.9308T + 96.147$$



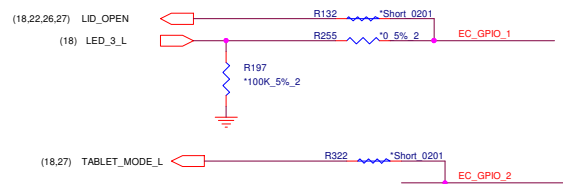
HYST=VCC for 10
degree Hys.
HYST=GND for 30
degree Hys.



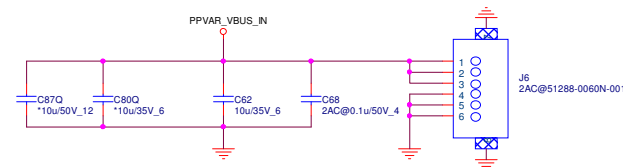
Quanta Computer Inc.
PROJECT : ZAK_ZAN_ZAP_ZAQ

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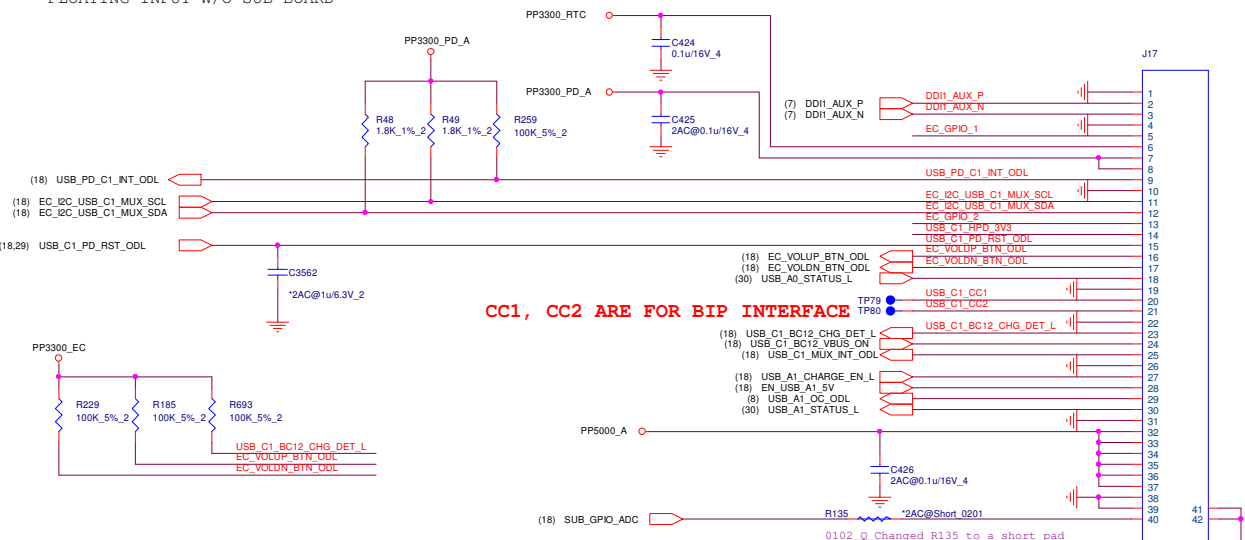
(UTC2)



EC_GPIO1,2 CAN BE USED FOR CONNECTING THE GMR SENSOR ON THE SUB-BOARD
OR IT CAN BE USED TO CONNECT AN SPARE EC GPIO PINS FOR ADDITIONAL CONTROL FROM EC



PULL-DOWN RESISTORS TO AVOID
FLOATING INPUT W/O SUB-BOARD

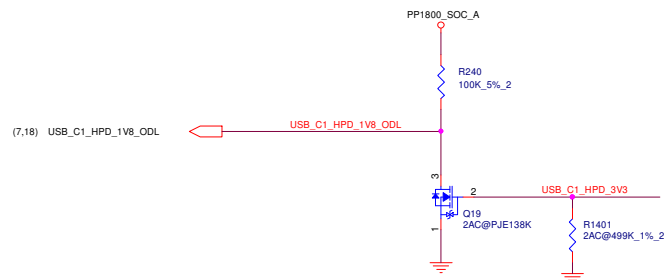


SUB_GPIO_ADC GOES TO AN ADC PIN OF EC WITH STUFFING OPTIONS
THE PIN CAN BE USED FOR VBUS DETECT OR FOR BOARD ID DETECT, OR USE AS A GENERAL GPIO FROM EC

- (8) USB3_P4_C1_TX_P
- (8) USB3_P4_C1_TX_N
- (8) USB2_P3_A1_N
- (8) USB2_P3_A1_P
- (8) USB3_P4_C1_RX_P
- (8) USB3_P4_C1_RX_N
- (8) USB2_P4_C1_P
- (8) USB2_P4_C1_N
- (7) DD11_TX3_N
- (7) DD11_TX3_P
- (7) DD11_TX2_N
- (7) DD11_TX2_P
- (7) DD11_TX1_N
- (7) DD11_TX1_P
- (7) DD11_TX0_N
- (7) DD11_TX0_P
- (8) USB3_P3_A1_TX_N
- (8) USB3_P3_A1_TX_P
- (8) USB3_P3_A1_RX_N
- (8) USB3_P3_A1_RX_P

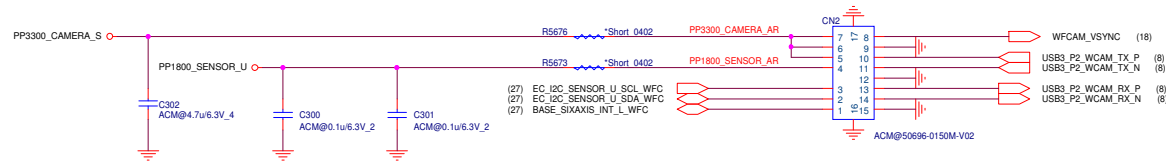
SELECT PER SEL SI TEAM

SELECT PER SEL SI TEAM
CM TO ADJUST PINOUT/PIN COUNT

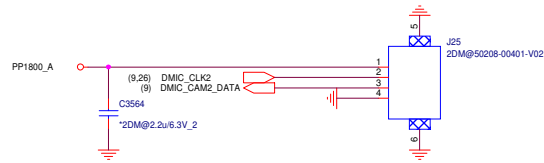


MOTHER BOARD INTERFACE

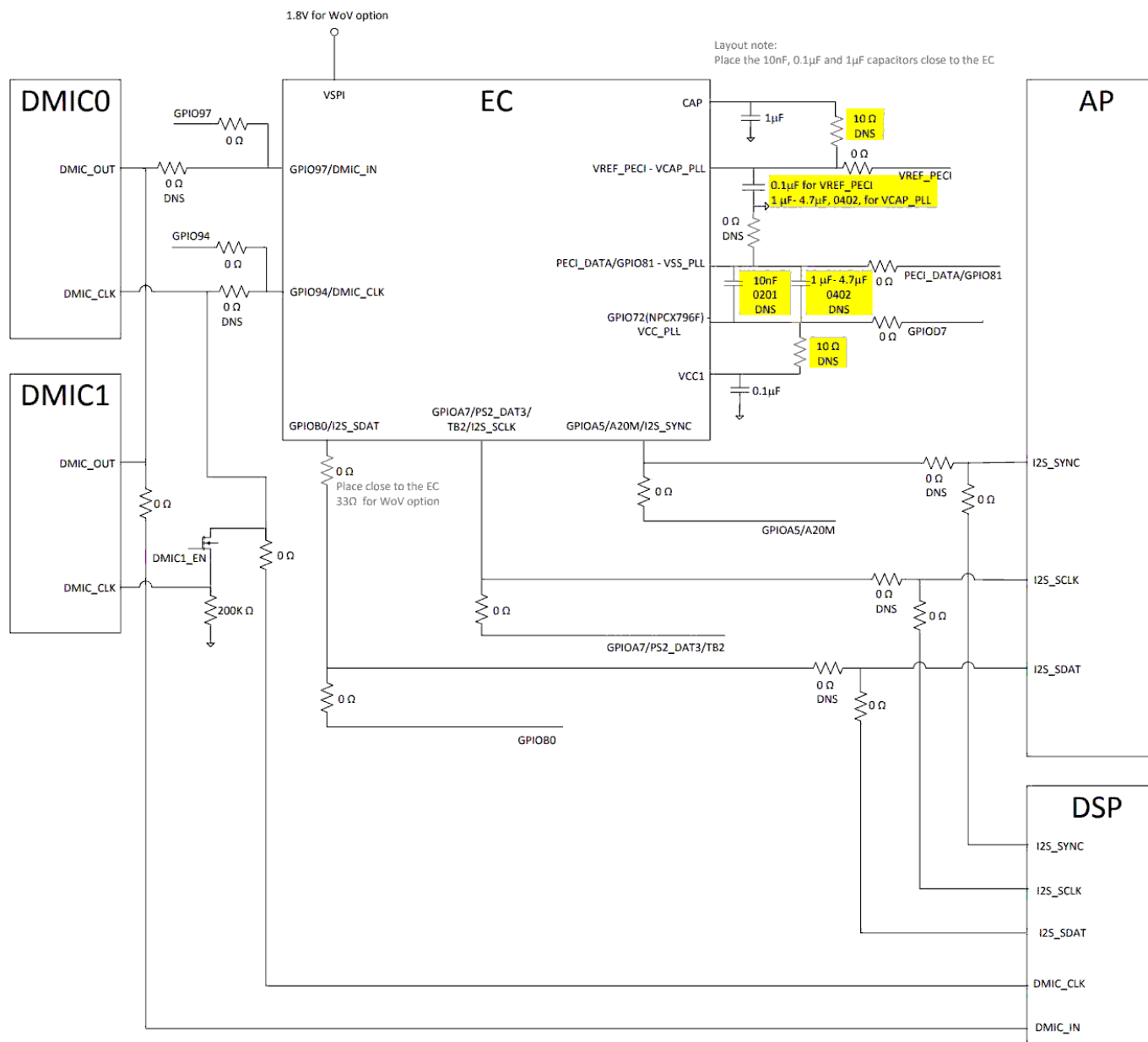
AR CAMERA CONN (ACM)

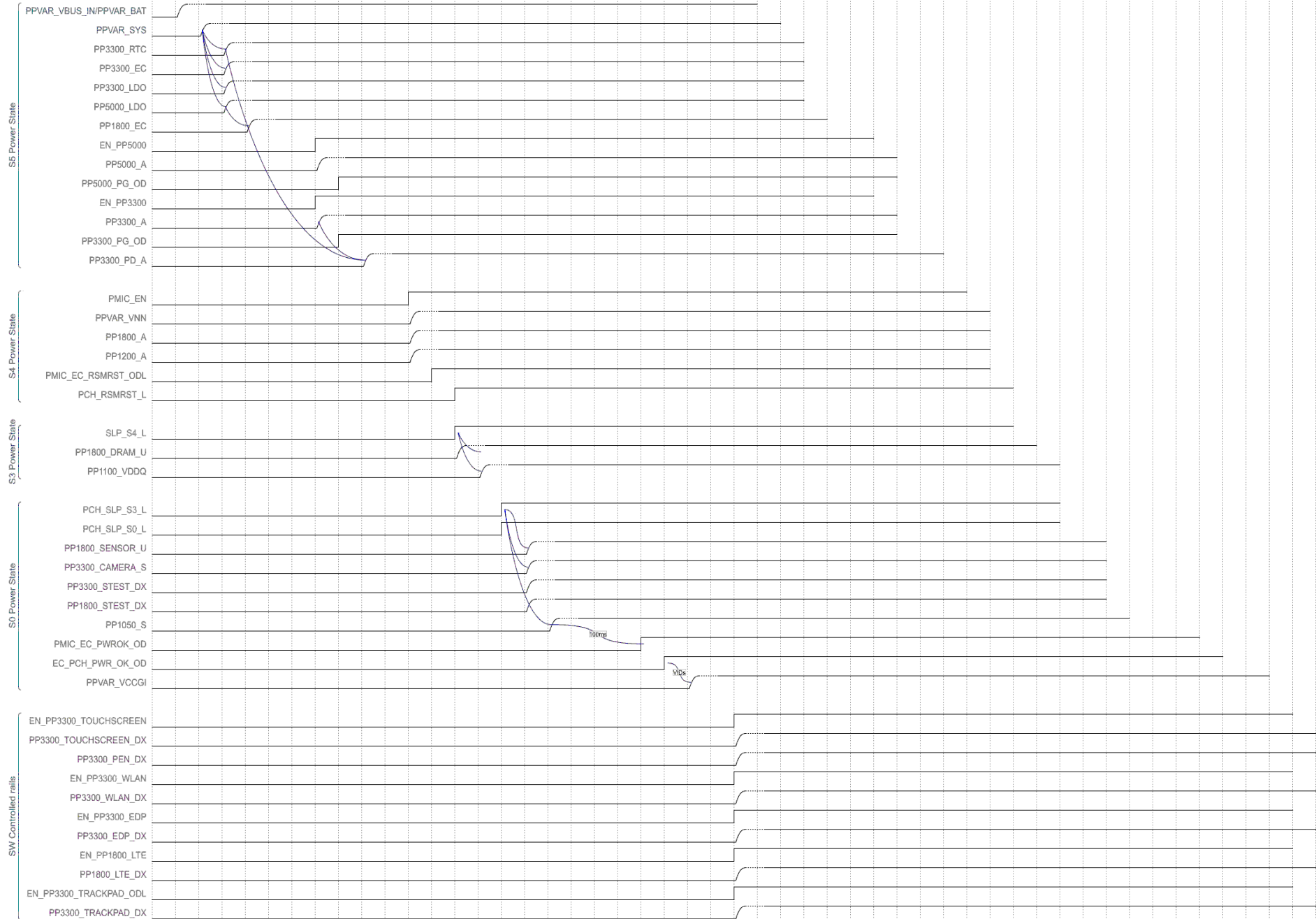


DMIC CONN (MIC2)



PREFERRED DMIC CHANNEL CONFIG
INTERFACE 1: STRAP MIC TO LEFT=CHANNEL 0
INTERFACE 2: STRAP MIC TO RIGHT=CHANNEL 3





GPIO #	Bump Name	Voltage	Bootstrap Termination	Default Termination	Bootstrap Purpose	Bootstrap Usage	Bootstrap	Octopus Signal Name
GPIO_27	GPIO_27	1.8V	20K PU	20K PD	eMMC as boot Source 20K PU internal	1 = enable (default) 0 = disable	eMMC Boot	DBG_PTI_DATA_16
GPIO_28	GPIO_28	1.8V	20K PU	20K PD	SPI as boot Source 20K PU internal	1 = enable (default) 0 = disable	SPI Boot	DBG_PTI_DATA_17
GPIO_42	GP_INTD_DS1_TE1	1.8V	20K PD	20K PD	Flash Descriptor Override for SPI security features	1 = Override 0 = No Override (default)	Flash Descriptor	TP_WIFI_RST_N, TP135
GPIO_43	GP_INTD_DS1_TE2	1.8V	20K PU	20K PD	RSVD	1 = Disable (default) 0 = Do Not Use	RSVD	GP_INTD_DS1_TE2
GPIO_44	USB_OC0_B	1.8V	20K PD	20K PU	RVSD	1 = Do Not Use 0 = disable (default)	RSVD	USB_A_OC_ODL
GPIO_45	USB_OC1_B	1.8V	20K PD	20K PU	Top Swap Override. Have core look for BIOS code in SPI ROM	1 = Enable 0 = disable (default)	Top Swap	USB_C_OC_ODL
GPIO_61	LPSS_UART0_TXD	1.8V	20K PD	20K PU	TXE to bypass ROM in SoC and go to patch space	1 = enable bypass 0 = disable (default)	TXE ROM Bypass	PCHTX_MIP160RX_UART
GPIO_62	LPSS_UART0_RTS	1.8V	20K PD	20K PU	RSVD	1 = Do Not Use 0 = disable (default)	RSVD	stest_INT_L
GPIO_65	LPSS_UART2_TXD	1.8V	20K PD	20K PU	TXE to perform DnX for new FW Image over USB.	1 = Force DnX 0 = Do Not Force (default)	DnX FW Load	PCHTX_UART2
GPIO_66	LPSS_UART2_RTS	1.8V	20K PD	20K PU	LPC Boot BIOS strap	1 = LPC Boot 0 = No LPC Boot (default)	LPC Boot	LTE_OFF_ODL
GPIO_79	LPSS_SPI_0_CLK	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Normal Operation	RSVD	H1_SLAVE_SPI_CLK_R
GPIO_80	LPSS_SPI_0_FSD	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = No halt (default)	RSVD	H1_SLAVE_SPI_CS_L_R
GPIO_81	LPSS_SPI_0_FS1	1.8V	20K PU	20K PU	RSVD	1 = Disable (default) 0 = Do Not Use	RSVD	GPIO_81_DEBUG (Boot halt)
GPIO_83	LPSS_SPI_0_TXD	1.8V	20K PD	20K PD	Sets the LPC buffer to 1.8V or 3.3V mode	1 = 1.8V mode 0 = 3.3V mode (default)	LPC Voltage Select	H1_SLAVE_SPI_MOSI_R
GPIO_84	LPSS_SPI_2_CLK	1.8V	20K PU	20K PD	SPI Boot BIOS Strap	1 = Don't SPI Boot (default) 0 = SPI Boot Debug if Secure boot fuse is set to 0	SPI Boot Source	stest_SPI1_CLK_R
GPIO_85	LPSS_SPI_2_FSD	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = disable (default)	RSVD	stest_SPI_CS_L_R
GPIO_86	LPSS_SPI_2_FS1	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = enable (default)	RSVD	stest_CNTRL
GPIO_87	LPSS_SPI_2_FS2	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Default	RSVD	TP_PCH_GPIO_87_PD
GPIO_89	LPSS_SPI_2_TXD	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Default	RSVD	stest_SPI1_MOSI_R
GPIO_159	AVS_I2S0_SDI	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Default	RSVD	I2S0_PCH_RX
GPIO_163	AVS_I2S1_WS_SYN	1.8V	20K PD	20K PD	SMBus 3.3V/1.8V mode select	1 = 1.8V mode 0 = 3.3V mode (default)	Buffers 1.8V/3.3V	I2S_SFRM_5PKR
GPIO_164	AVS_I2S1_SDI	1.8V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Default	RSVD	WLAN_PE_RST
GPIO_168	AVS_HDA_SDI	1.8V	20K PD	20K PD	PMU 3.3V/1.8V mode select	1 = 1.8V mode 0 = 3.3V mode (default)	PMU 1.8V/3.3V	I2S2_PCH_RX
GPIO_172	AVS_M_CLK_B1	1.8V	20K PD	20K PD	SMBus No Reboot. Handled by PMC	1 = Enable 0 = disable (default)	SMBus Reboot	DMIC_CLK2_R
GPIO_174	AVS_M_CLK_AB2	1.8V	20K PD	20K PD	VDD2 Voltage Select	1 = 1.24V 0 = 1.20V (default)	VDD2 Voltage	(Open, TP_GPIO_174)
GPIO_175	AVS_M_DATA_2	1.8V	20K PD	20K PD	eSPI vs. LPC	1 = eSPI mode 0 = LPC mode (default)	eSPI/LPC mode	DMIC_CAM2_DATA
GPIO_177	SMB_CLK	1.8V/3.3V	20K PD	20K PD	RSVD	1 = Do Not Use 0 = Default	RSVD	(Open, TP160)
GPIO_191	CNV_BRI_DT	1.8V	20K PD	None	eSPI Flash Sharing Mode. Set to 0 if GPIO_175 is set to 0	1 = Slave attached Share 0 = Master attached (default)	Flash Sharing	CNVI_BRI_DT_R
GPIO_192	CNV_BRI_RSP	1.8V	20K PD	20K PU	RSVD	1 = Do Not Use 0 = Normal Operation	RSVD	CNVI_BRI_RSP
GPIO_193	CNV_RGI_DT	1.8V	20K PU	None	RSVD	1 = Normal Operation 0 = Do not use	RSVD	CNVI_RGI_DT_R
GPIO_194	CNV_RGI_RSP	1.8V	20K PD	20K PU	RSVD	1 = Do Not Use 0 = Normal Operation	RSVD	CNVI_RGI_RSP
GPIO_195	CNV_RF_RESET_B	1.8V	20K PD	None	RSVD	1 = Do Not Use 0 = Normal Operation	RSVD	CNVI_RF_RESET_L
GPIO_196	XTAL_CLKREQ	1.8V	20K PD	None	RSVD	1 = Do Not Use 0 = Normal Operation	RSVD	(Not available)