

1. Schematic Page Description

: Origins Schematic Ver

01

USB3/2 port mapping

USB3 Port No#	Usage	USB2 Port No#	Usage
USB3P0	SD 3.0	USB2P0	SD 3.0
USB3P1	I/O DB	USB2P1	I/O DB
USB3P2	I/O	USB2P2	I/O(3.0)
USB3P3	NA	USB2P3	CCD
		USB2P4	BT

PCIe port mapping

PCIe port No#	Usage	PCIe CLK#	Usage
PCIe_0	Video Codec	PCIe_CLK0	Video Codec
PCIe_1	Video Codec	PCIe_CLK1	NA
PCIe_2	WLAN	PCIe_CLK2	WLAN
PCIe_3	NA	PCIe_CLK3	NA

SoC I2C table

Function	Channel	Address
PMIC	I2C1	0x5E
Audio I2C	I2C4	0x34
Track Pad	I2C5	0x15

EC SMBus/I2C table

Function	Channel	Address
Battery	SMB0	
Thermal	SMB3	
NA	I2C1	
NA	I2C2	
NA	I2C3	

Current sensor Address

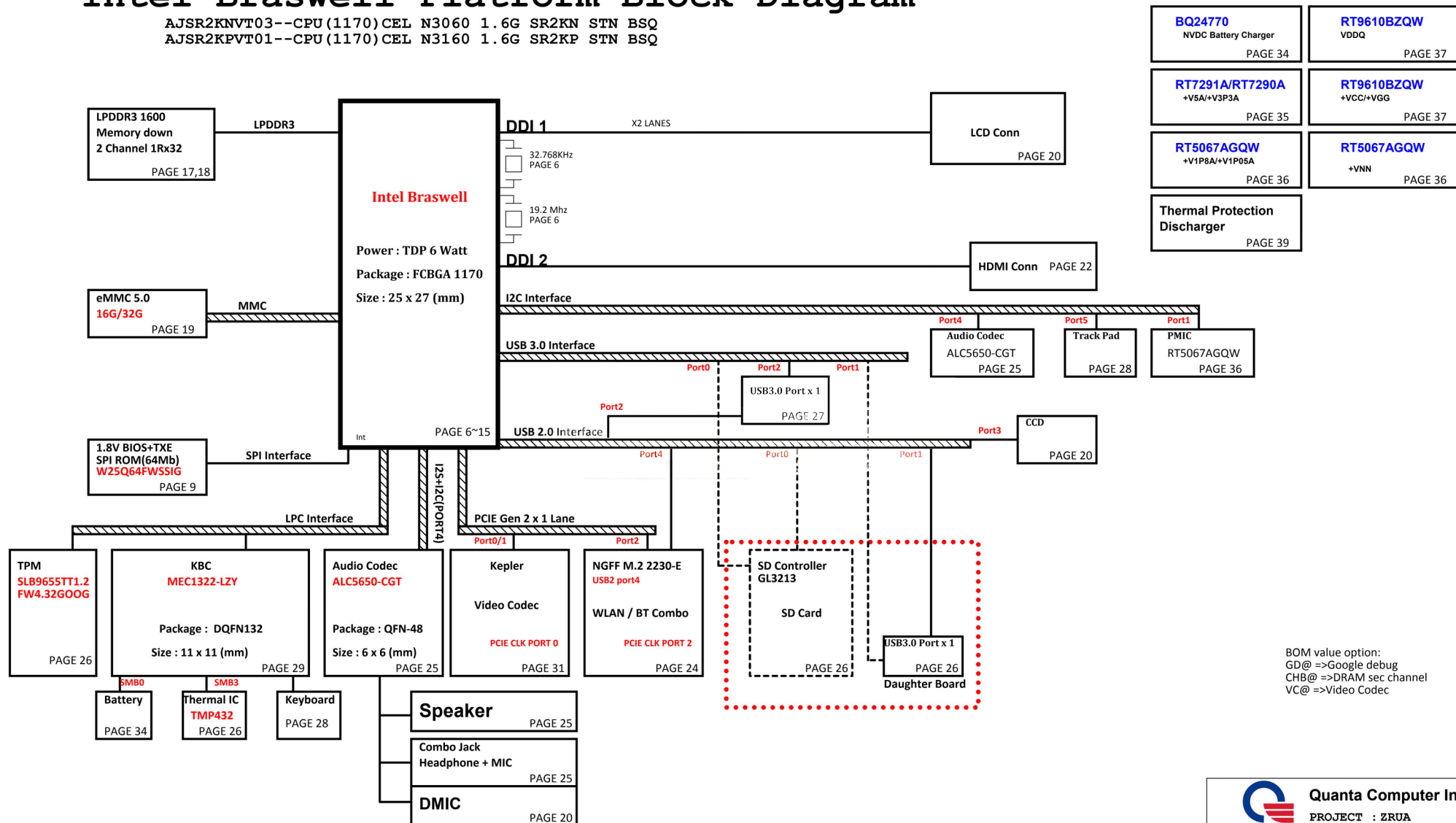
Function	Channel	Function	Channel
+VBATA	0x47	+VCC_OUT	0x40
+V5A	0x43	+VGG	0x44
+V3P3A	0x4B	+VNN	0x45
+V1P05A	0x46	+VDDQ_OUT	0x41
+V1P8A	0x49		

Vichy2: (ZRUA)

Intel Braswell Platform Block Diagram

AJSR2KNVT03--CPU(1170)CEL N3060 1.6G SR2KN STN BSQ
AJSR2KPV01--CPU(1170)CEL N3160 1.6G SR2KP STN BSQ

02

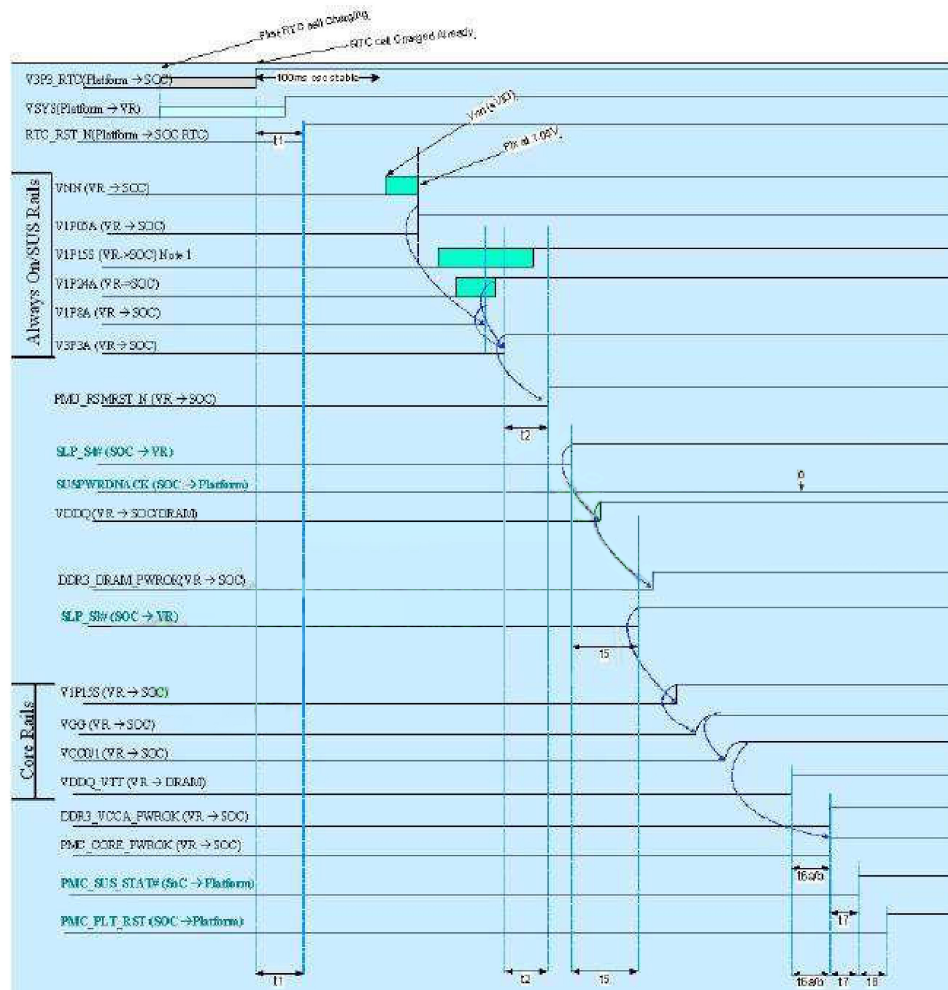


G3 to S0 power sequence

03

Platform Voltage Rails and Power Modes

Power Type	Voltage Range (V)	S0	S3	S4/S5	G3
VCC (0 and 1)	0.5-1.3	On	Off	Off	Off
VGG	0.5-1.2	On	Off	Off	Off
VNN	0.5-1.05 (or 1.05 Fixed)	On	On	On	Off
V1P15S	1.15	On	Off	Off	Off
V1P05A	1.05	On	On	On	Off
V1P24A	1.24	On	On	On	Off
VDDQ	1.35	On	On	Off	Off
V1P8A	1.8	On	On	On	Off
V3P3A	3.3	On	On	On	Off
VSDIO	1.8/3.3	On	Off	Off	Off
V3P3_RTC	3.3	On	On	On	On
VCC_HDA	1.5/1.8	On	On	On	Off



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Power Sequence

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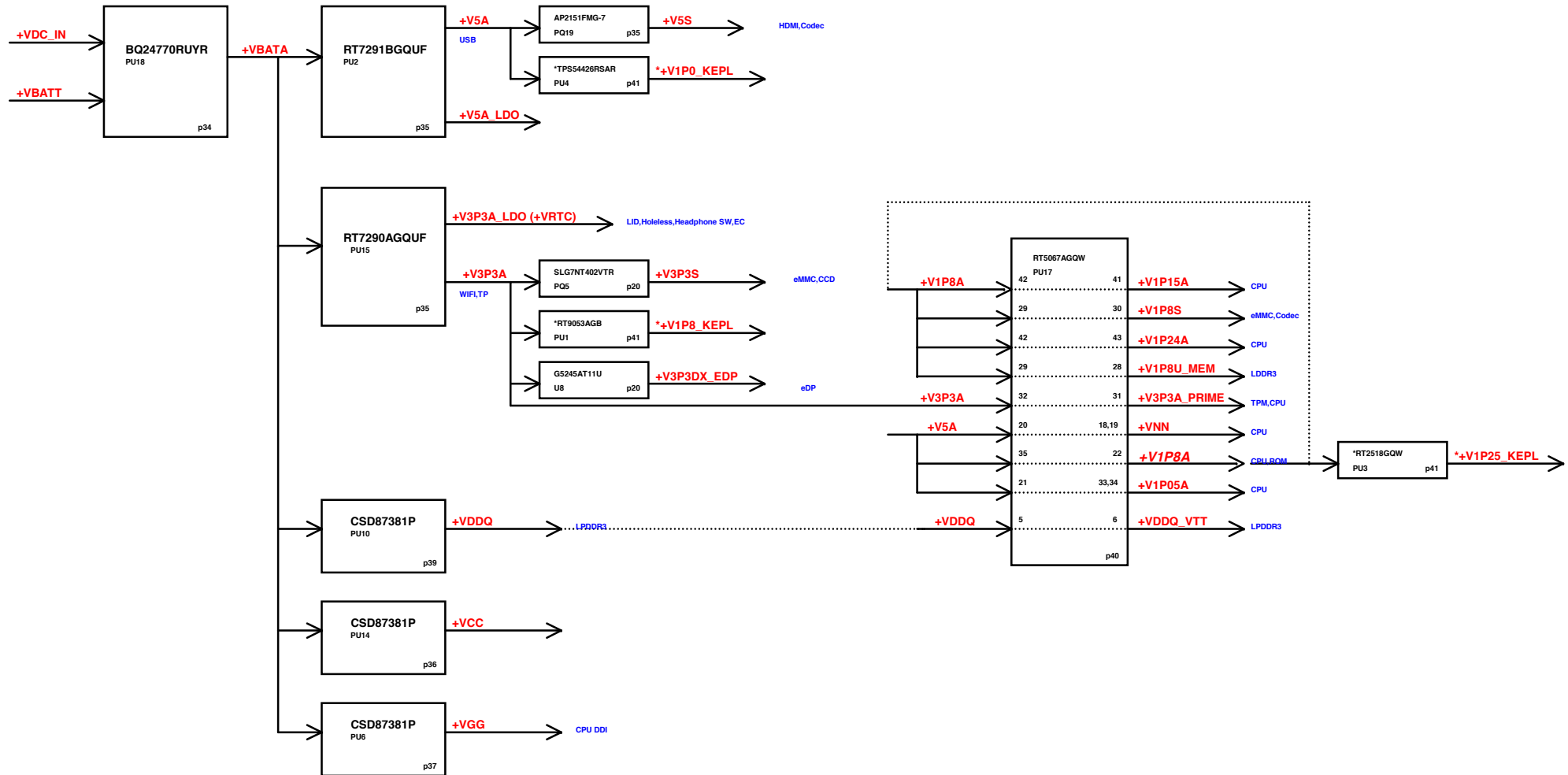


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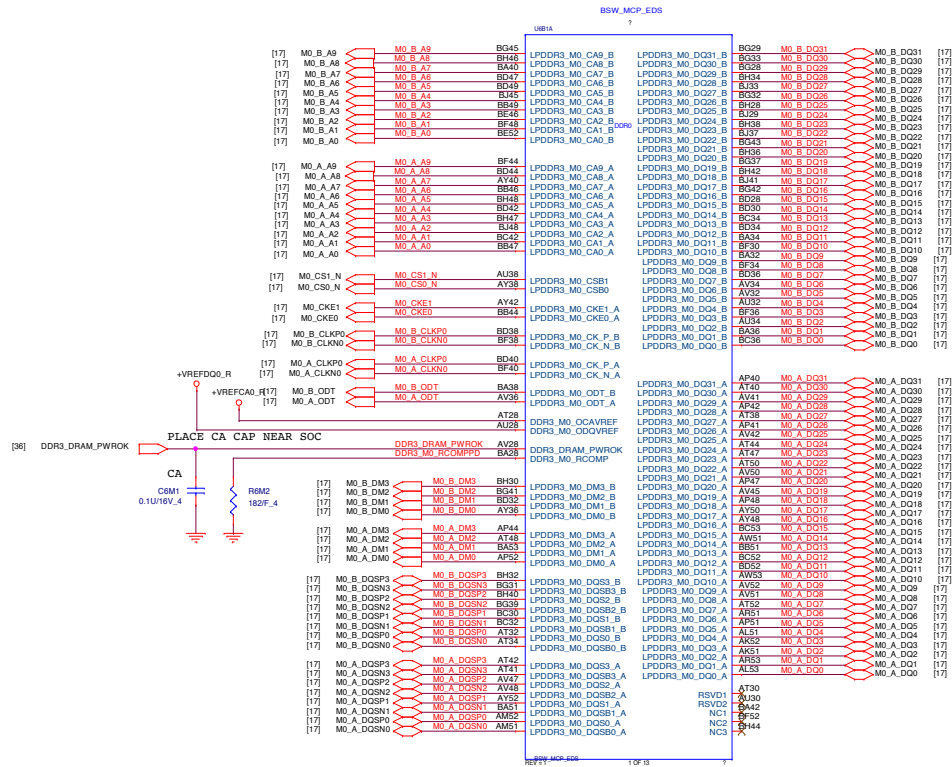
PROJECT : ZRUA

Reserve

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		1A
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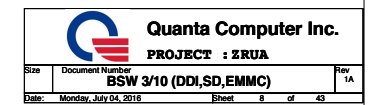


BSW SOC - MEM LPDDR3L CHANNEL A



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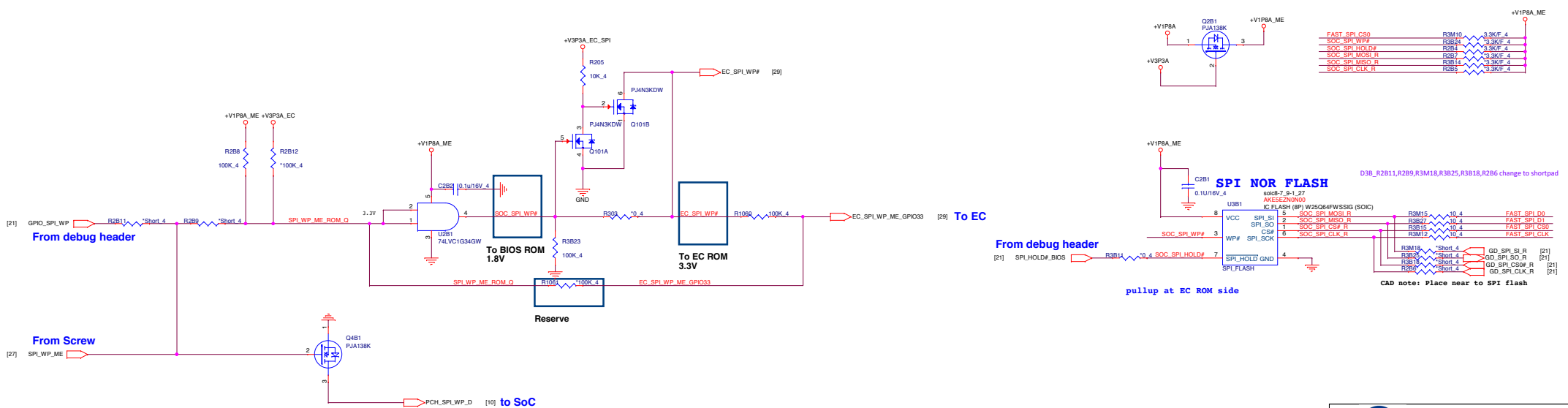
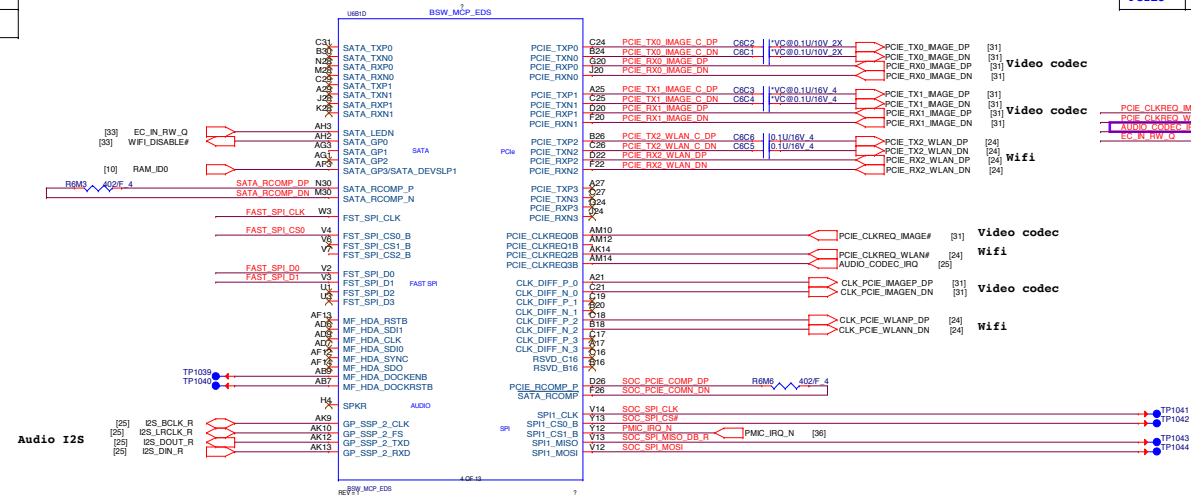
SD MAPPING	
SDMMC1	EMMC
SDMMC2	NC
SDMMC3	SD card



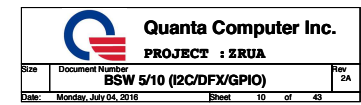
BSW SOC - SATA, PCIe, SPI, I2S

SATA MAPPING	
SATA0	NC
SATA1	SSD

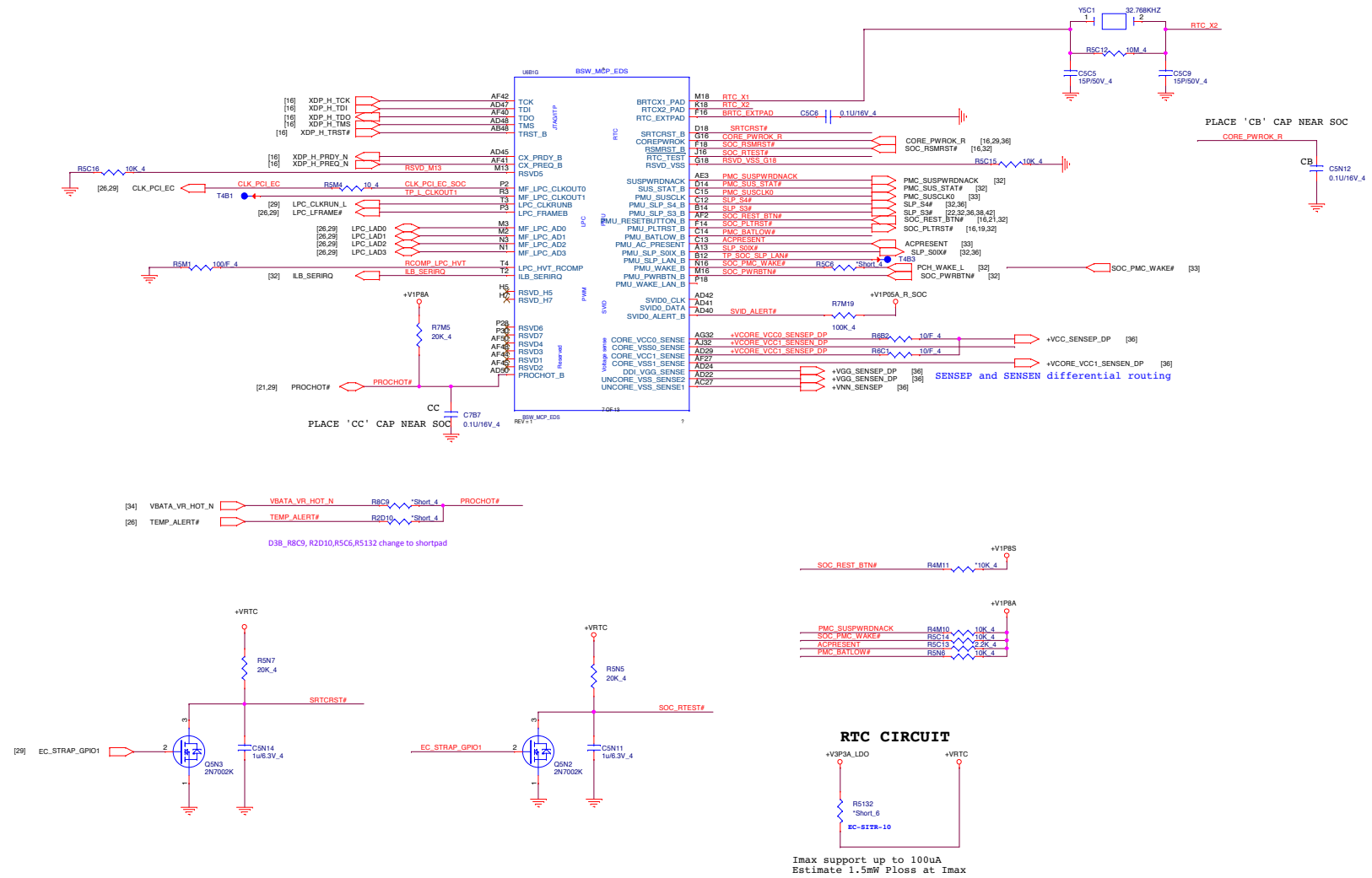
PCIe MAPPING	
PCIE0	Video Codec
PCIE1	Video Codec
PCIE2	WLAN
PCIE3	NC



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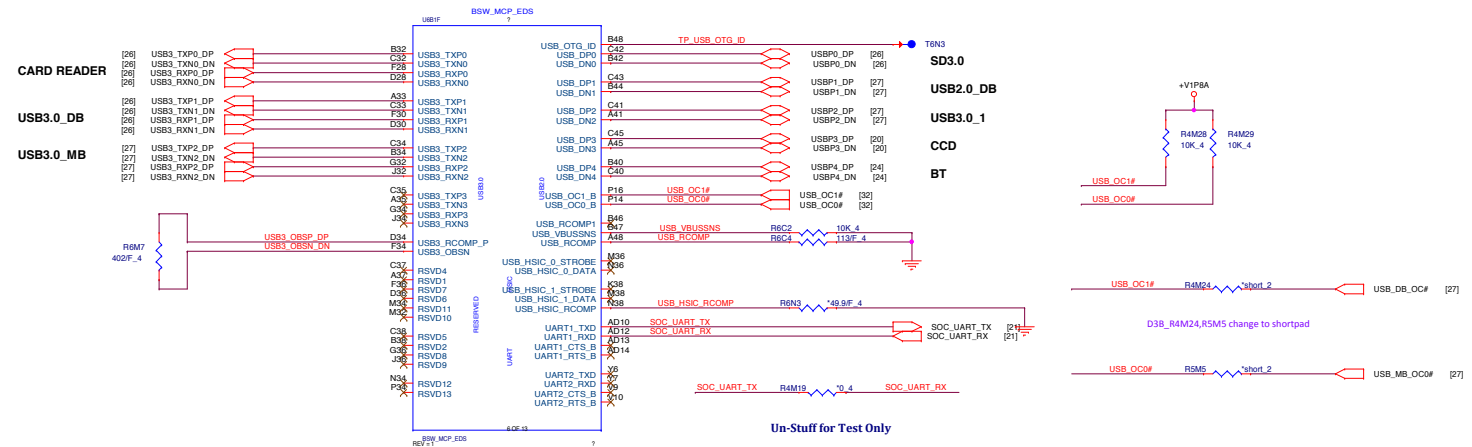


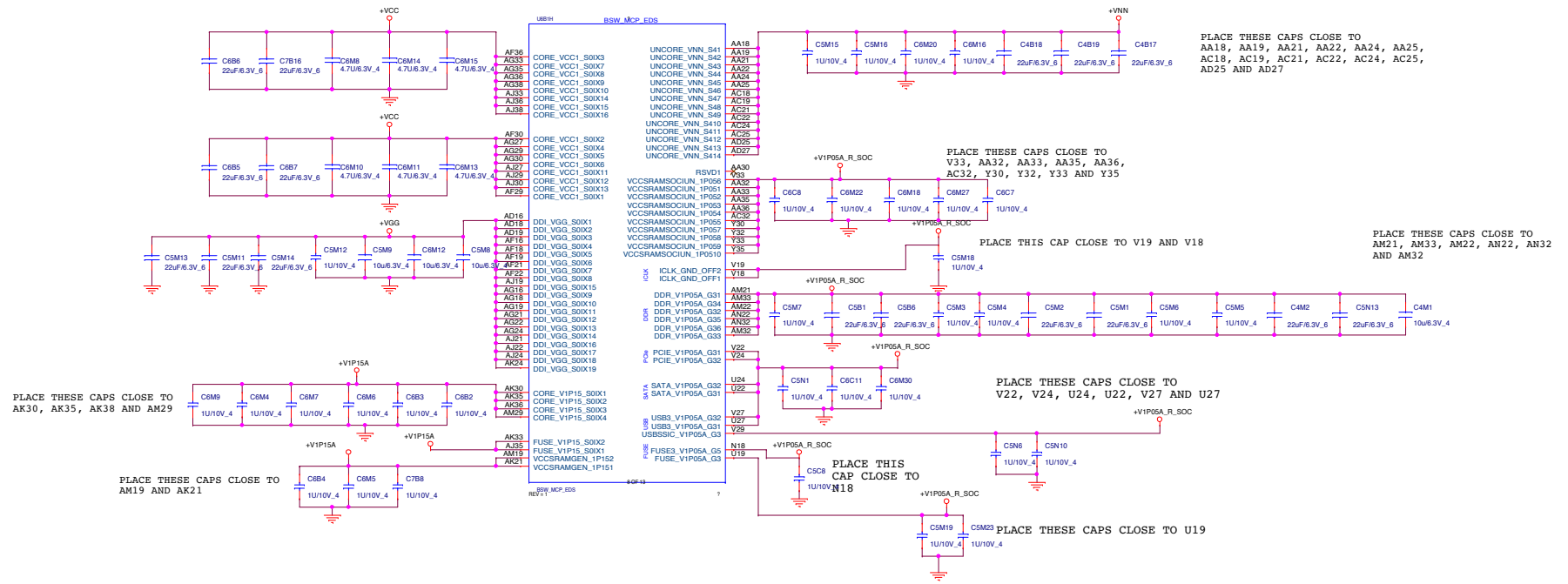
SOC - JTAG, LPC, THERMAL, PMU



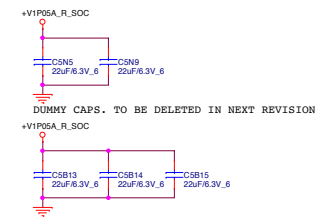
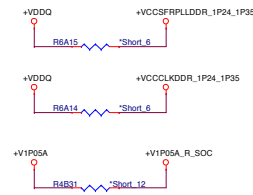
Imax support up to 100uA
Estimate 1.5mW Ploss at Imax

SOC - USB INTERFACE

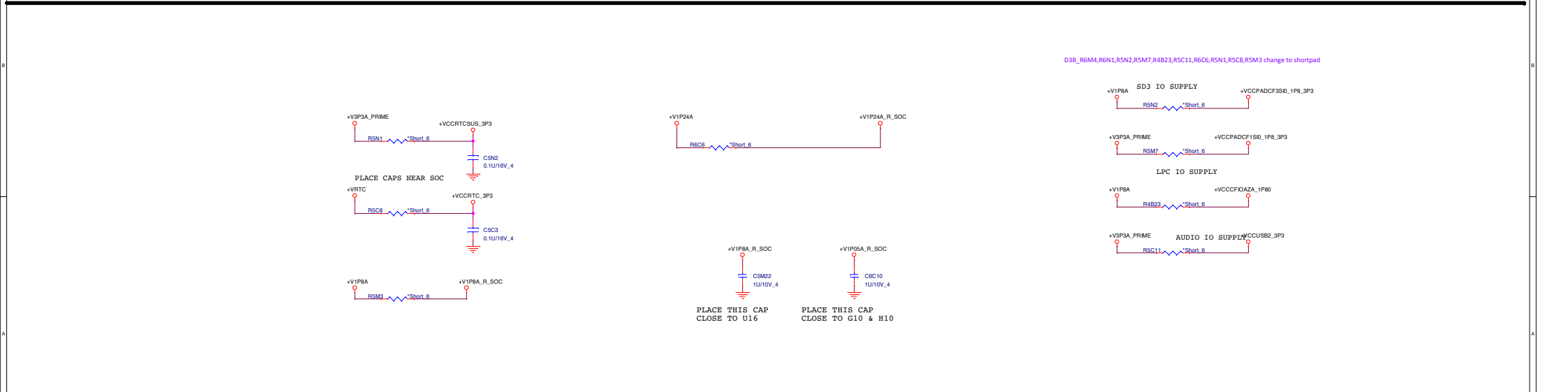




D3B_R6A15,R6A14,R4B31 change to shortpad



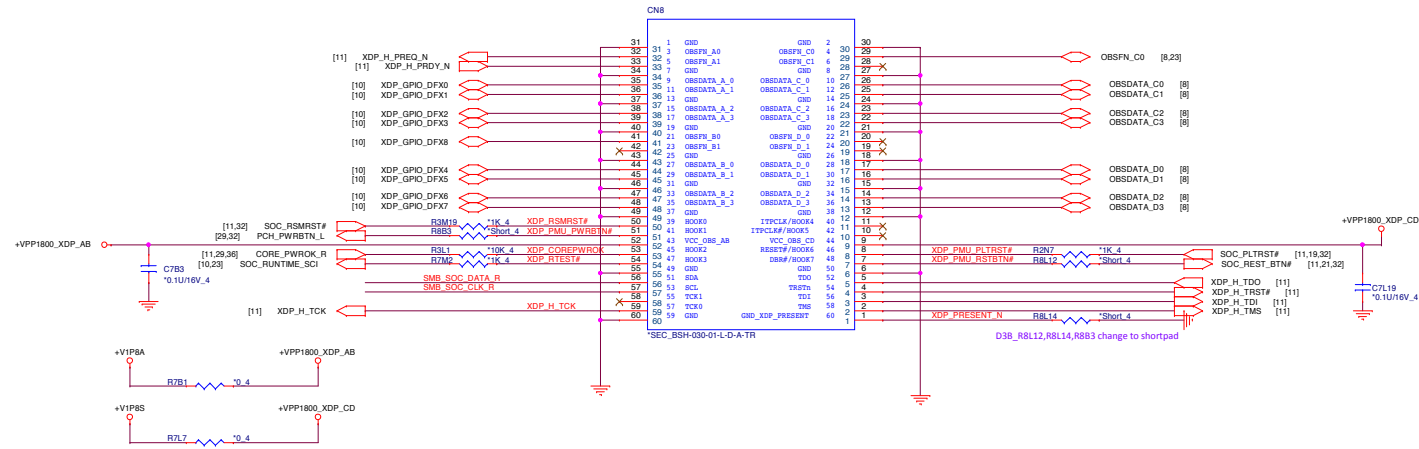
CAD NOTE: PLACE CLOSE TO PIN AM21,
AM33, AM22, AN22, AN32 AND AM32 POWER PLANE

[illegible]

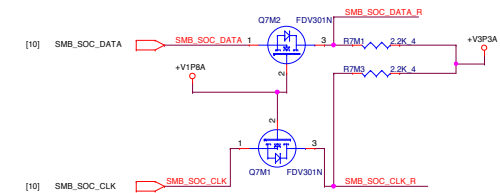
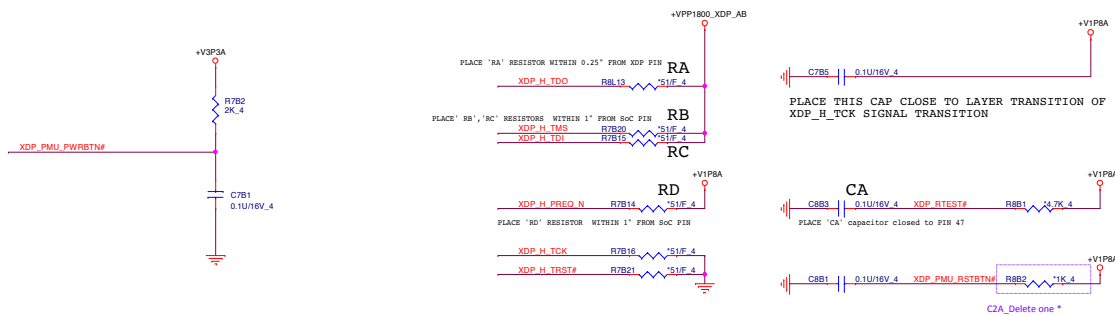
SOC - GND



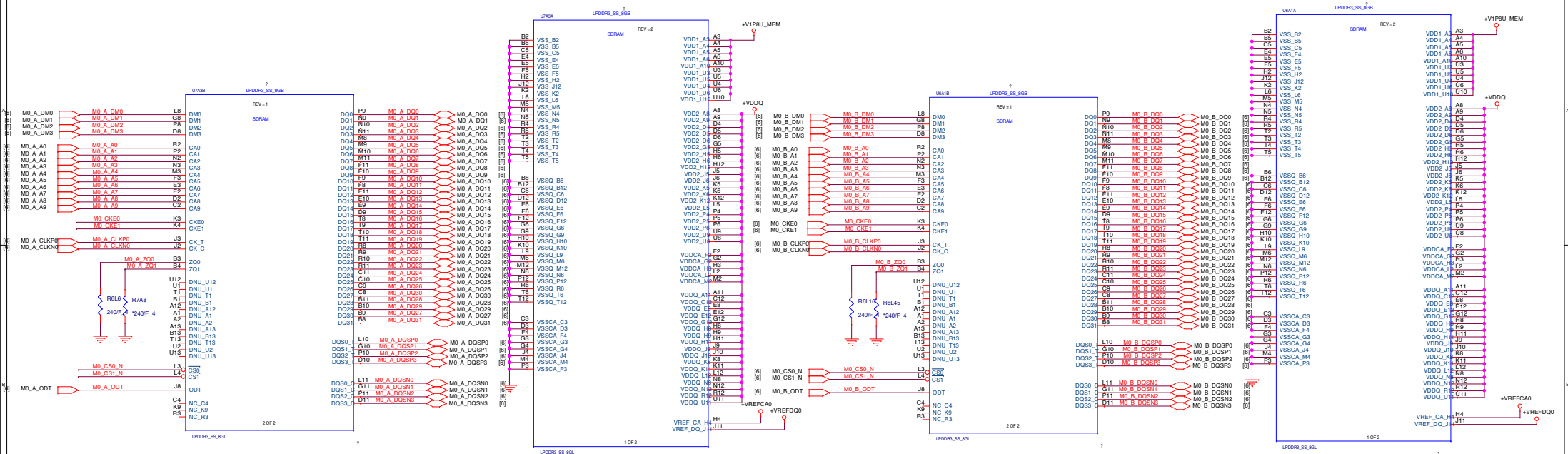
60 PIN XDP



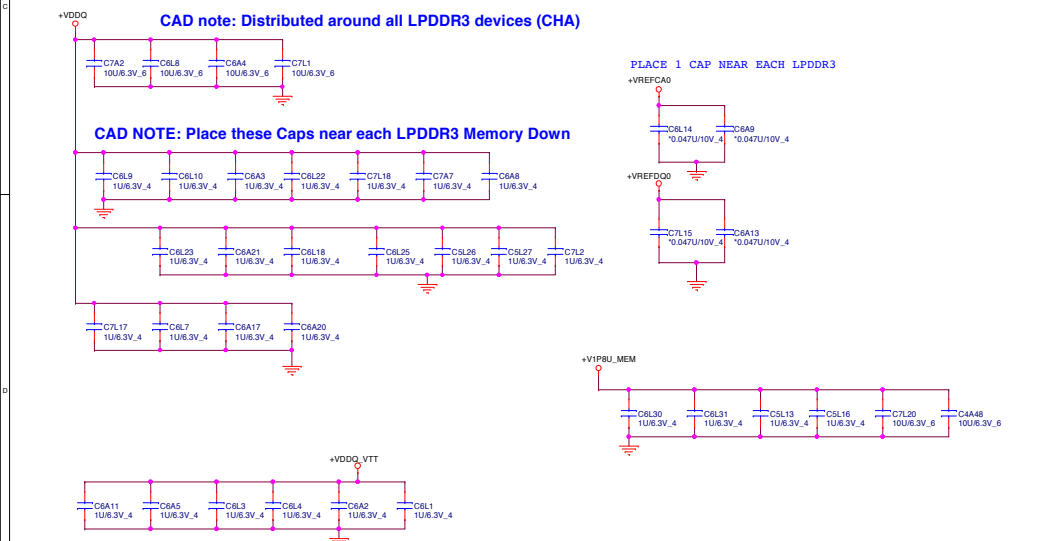
PULL-UPS AND DOWNS FOR XDP SIGNALS



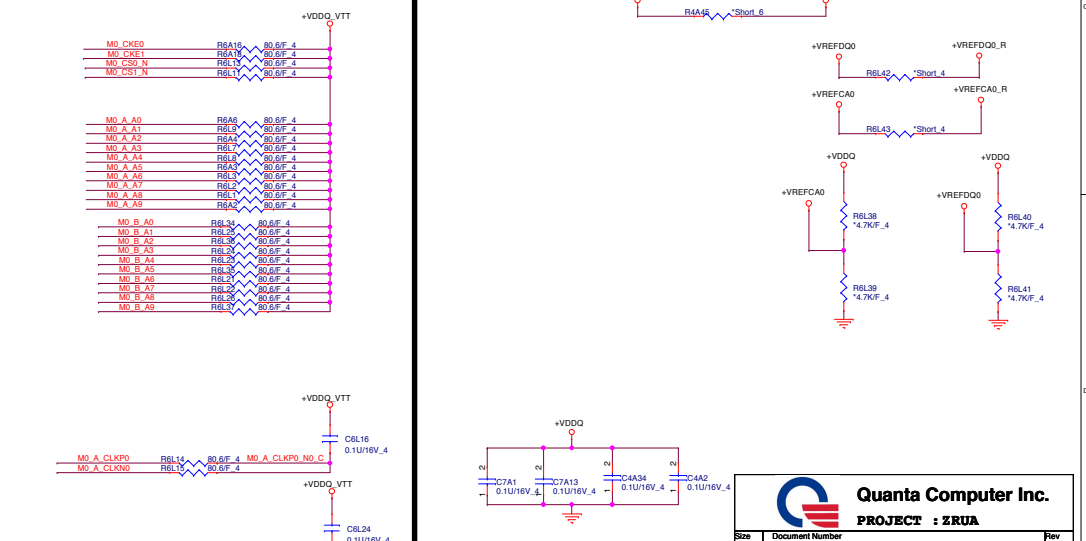
LPDDR3 MEMORY CHANNEL A



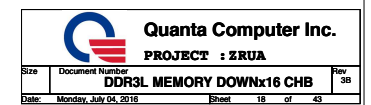
DE-CAPS FOR MEMORY CHANNEL A



VTT TERMINATIONS



DE-CAPS FOR MEMORY CHANNEL B



CAD note: PLACE THE SERIES RESISTORS NEAR EMMC



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LCD (LDS)



Front Camera (FCM)

Power section: +V3P3S (0.5A) connected to C87 (1U/6.3V_4), C88 (10P/50V_4), and C89 (1000P/50V_4).

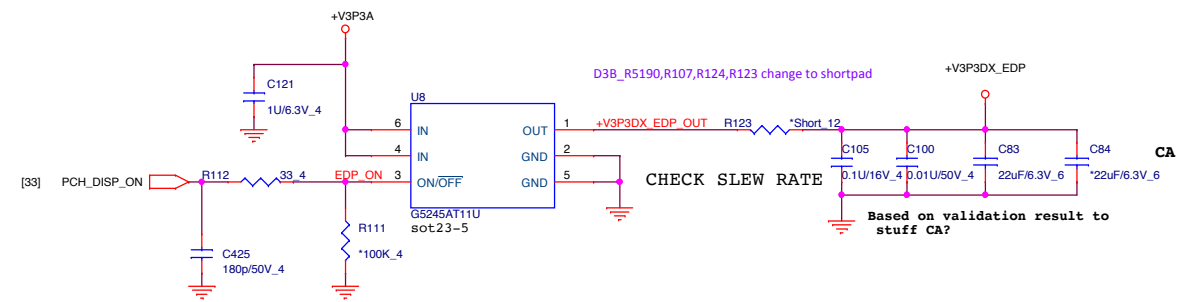
Signal section: [12] USBP3_DN and [12] USBP3_DP connected to USBP3_R_DN and USBP3_R_DP through resistors R474 and R475, both labeled '*Short_4'.

D38_Remove L10; R474,R475 change to shortpad

LCD (LDS)

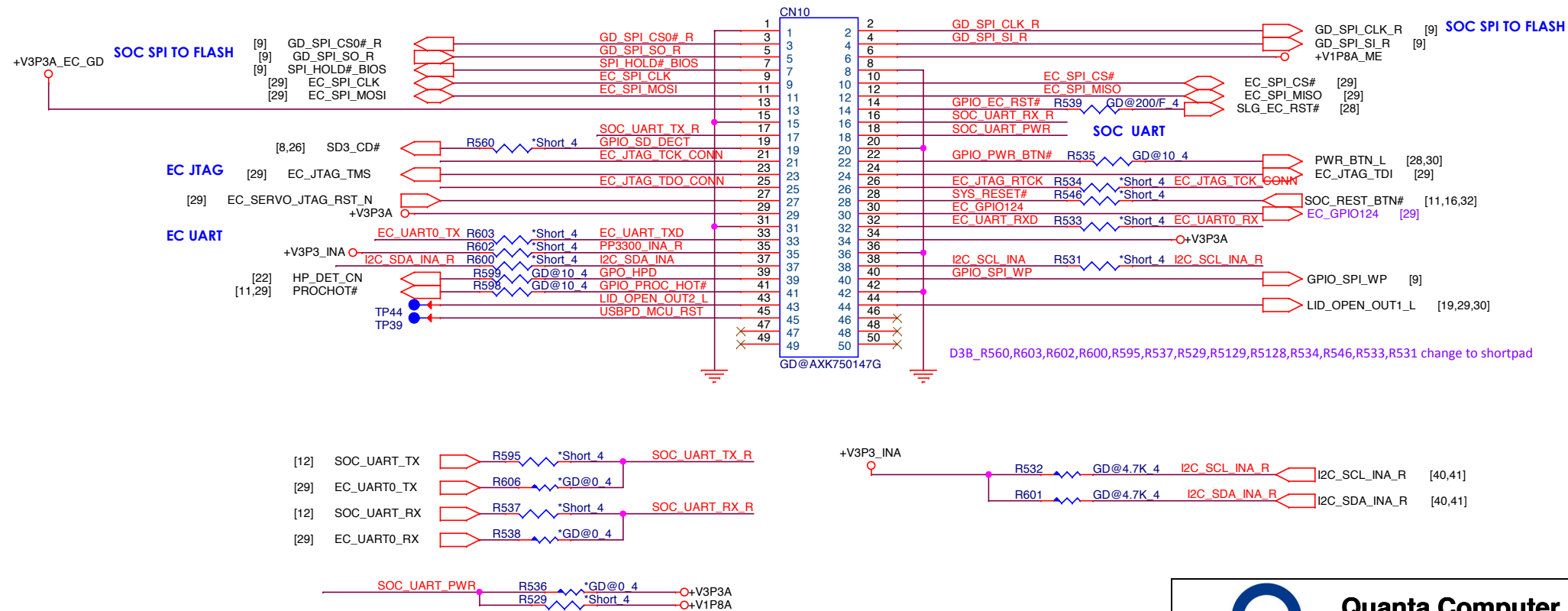


LCD (LDS)



 Quanta Computer Inc. PROJECT : ZRUA		
Size	Document Number	Rev
	eDP/CCD/DMIC/Touch-panel	3C
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PIN7 OD	PIN39 OD	PIN49 OD
PIN14 OD	PIN41 OD	PIN50 OD
PIN19 OD	PIN43 OD	
PIN22 OD	PIN44 OD	
PIN28 OD	PIN45 OD	
PIN30 OD	PIN46 OD	
PIN37 OD	PIN47 OD	
PIN38 OD	PIN48 OD	

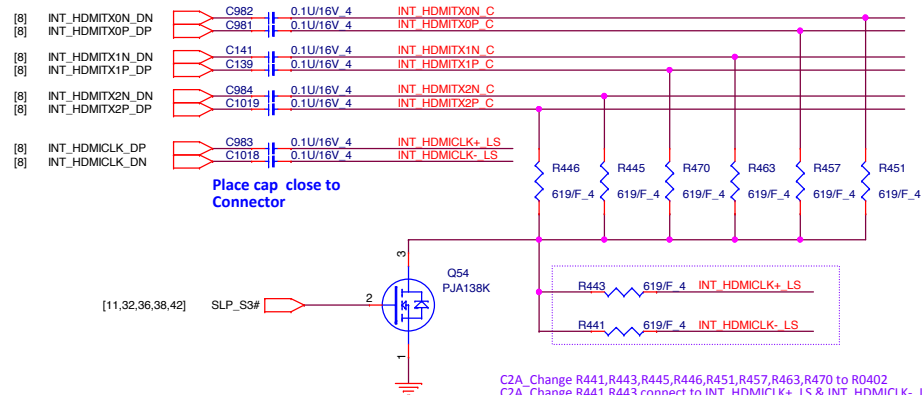


D3B_R560,R603,R602,R600,R595,R537,R529,R5129,R5128,R534,R546,R533,R531 change to shortpad

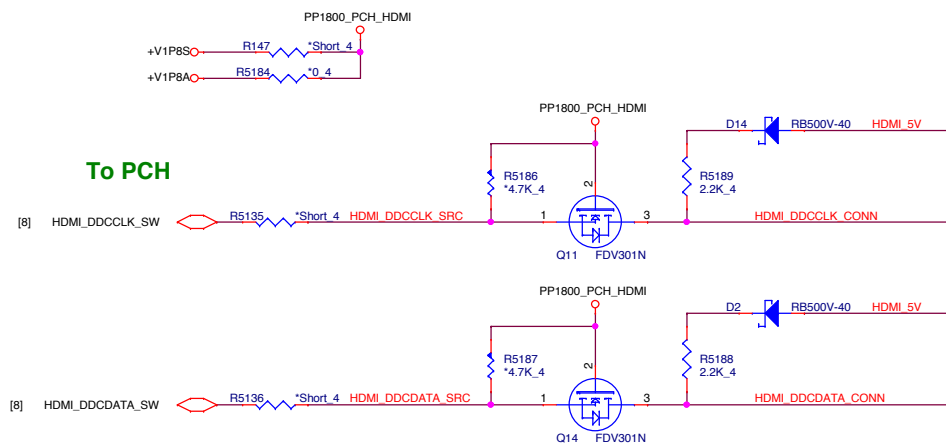
[29] BOARD_ID1 R5129 *Short 4 EC_JTAG_TCK_CONN
[29] BOARD_ID2 R5128 *Short 4 EC_JTAG_TDO_CONN

 Quanta Computer Inc. PROJECT : ZRUA		Size	Document Number	Rev
				3B
Google Debug & FP header		Date:	Monday, July 04, 2016	Sheet 21 of 43

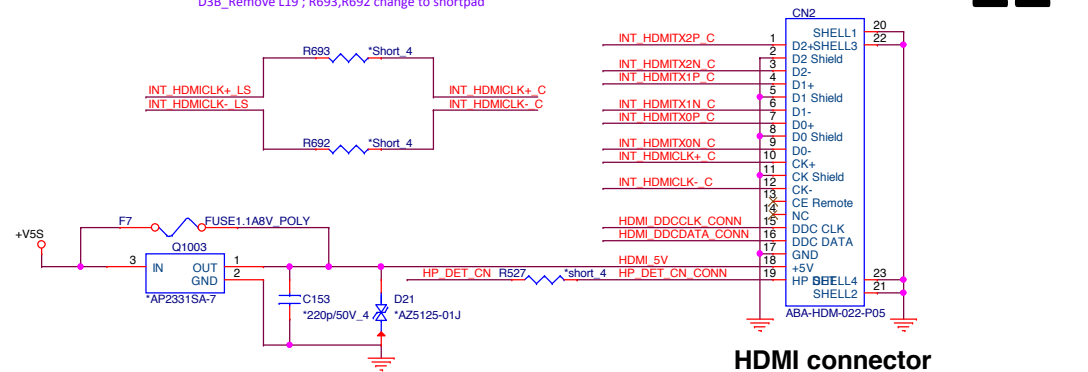
From PCH



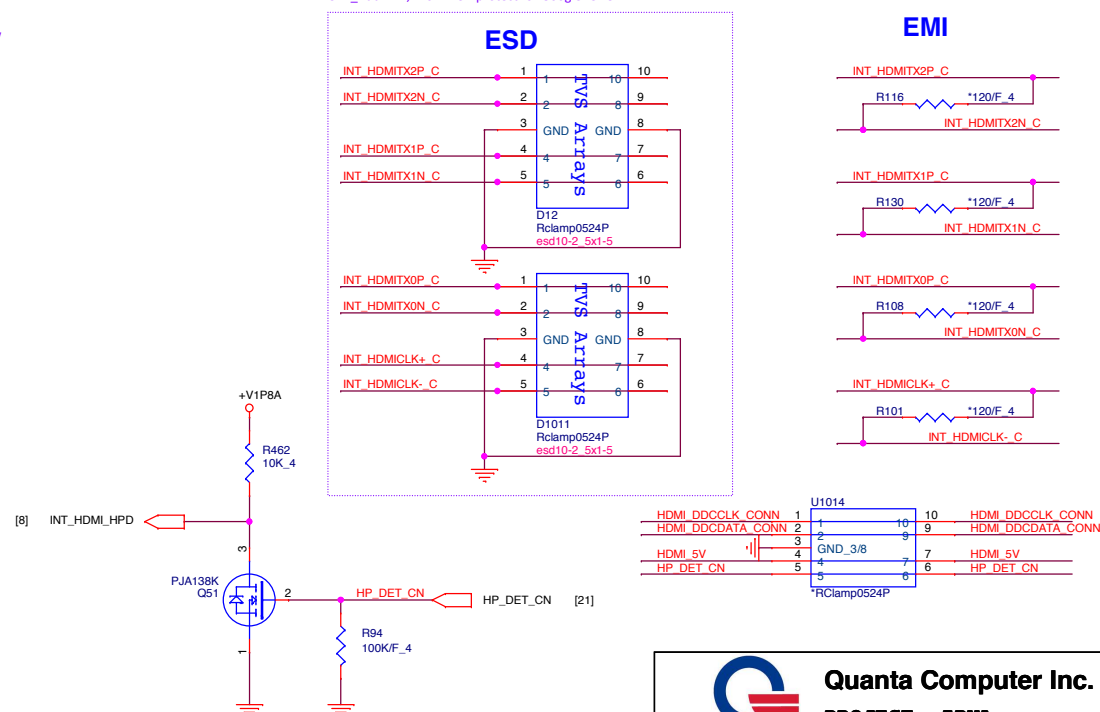
D3B_R147,R5135,R5136 change to shortpad



D3B_Remove L19 ; R693,R692 change to shortpad



C2A_Add D12,D1011 ESD protect for Google review

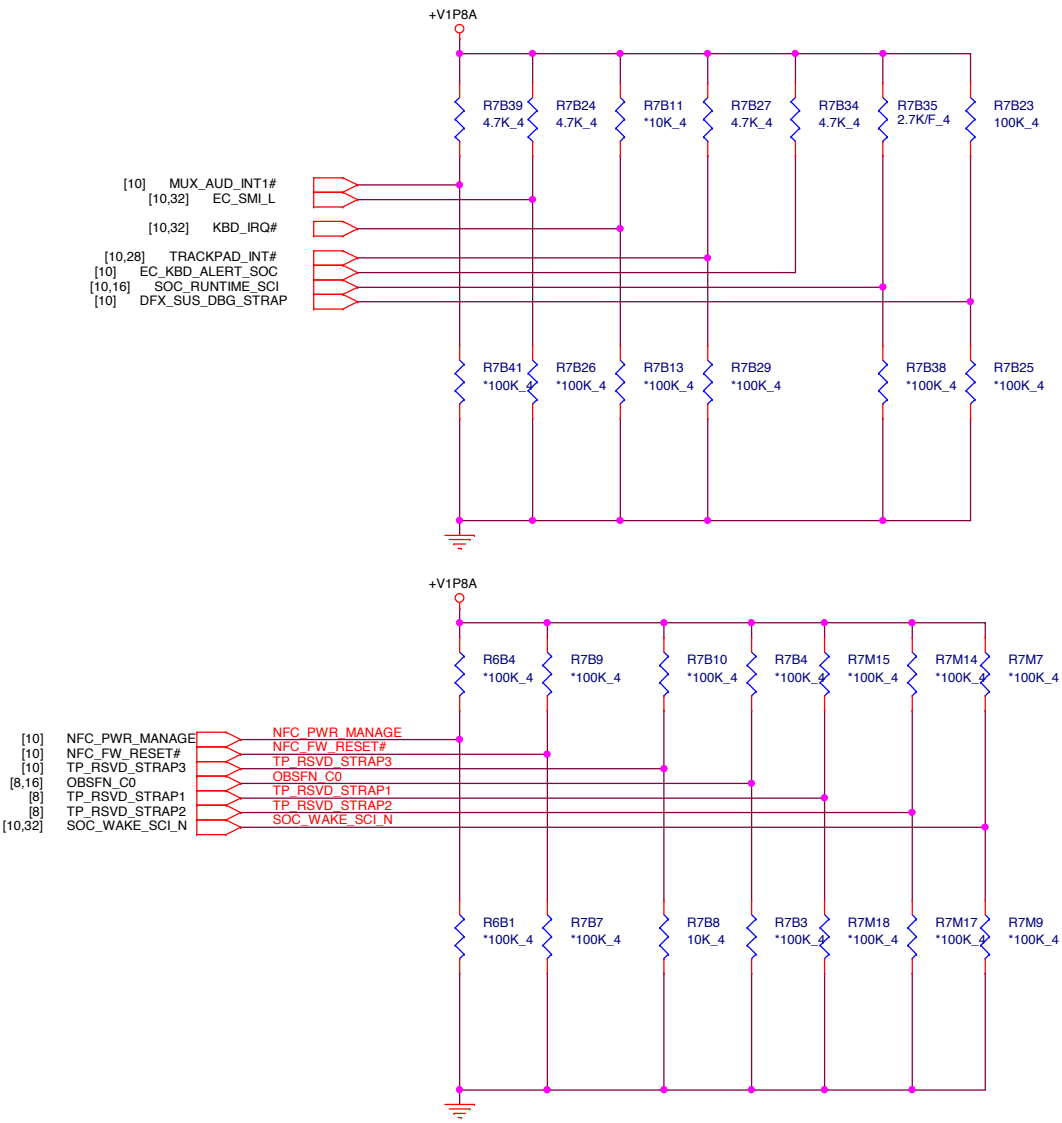


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Size	Document Number	HDMI	
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			Rev 3B

SoC (CPU)

BSW Strapping Table (based on EDS V1.0), sampled on the rising edge of PMU_RSMRST_N

Pin Name	Strap description	Configuration
GPIO_SUS0	DDI0 Detect	0 = DDI0 not detected 1 = DDI0 detected
GPIO_SUS1	DDI1 Detect	0 = DDI1 not detected 1 = DDI1 detected
GPIO_SUS2	Top Swap (A16 Override)	0 = change boot loader address 1 = Normal operation
GPIO_SUS3	DSI Display Detect (Leave floating if GPIO functionality is not used, it is not POR)	0 = DSI not detected 1 = DSI detected
GPIO_SUS4	BIOS Boot Selection	0 = No SPI 1 = SPI
GPIO_SUS5	Security Flash Descriptors	0 = Not support 1 = Normal operation
GPIO_SUS6	Halt Boot strap	1 = Normal operation (MUST be high at RSMRST# de-assert to ensure proper platform operation and use of GPIO_DFX[8:0])
GPIO_SUS7	DFX SUS DEBUG strap	0 = SUSDUG 1 = No SUSDUG
GPIO_SUS8	PLLs,ICLK,USB2,DDI ,SFR,supply select	0 = Supply is 1.25V 1 = Supply is 1.35V
GPIO_SUS9	ICLK,USB2,DDI,SFR Bypass	0 = No Bypass(Default) 1 = Bypass with 1.05V
GPIO_CAMERASB08	ICLK Xtal OSC Bypass	0 = No Bypass(Default) 1 = Bypass
GPIO_CAMERASB09	CCU SUS RO Bypass	0 = No Bypass(Default) 1 = Bypass
GPIO_CAMERASB11	RTC OSC Bypass	0 = No Bypass(Default) 1 = Bypass



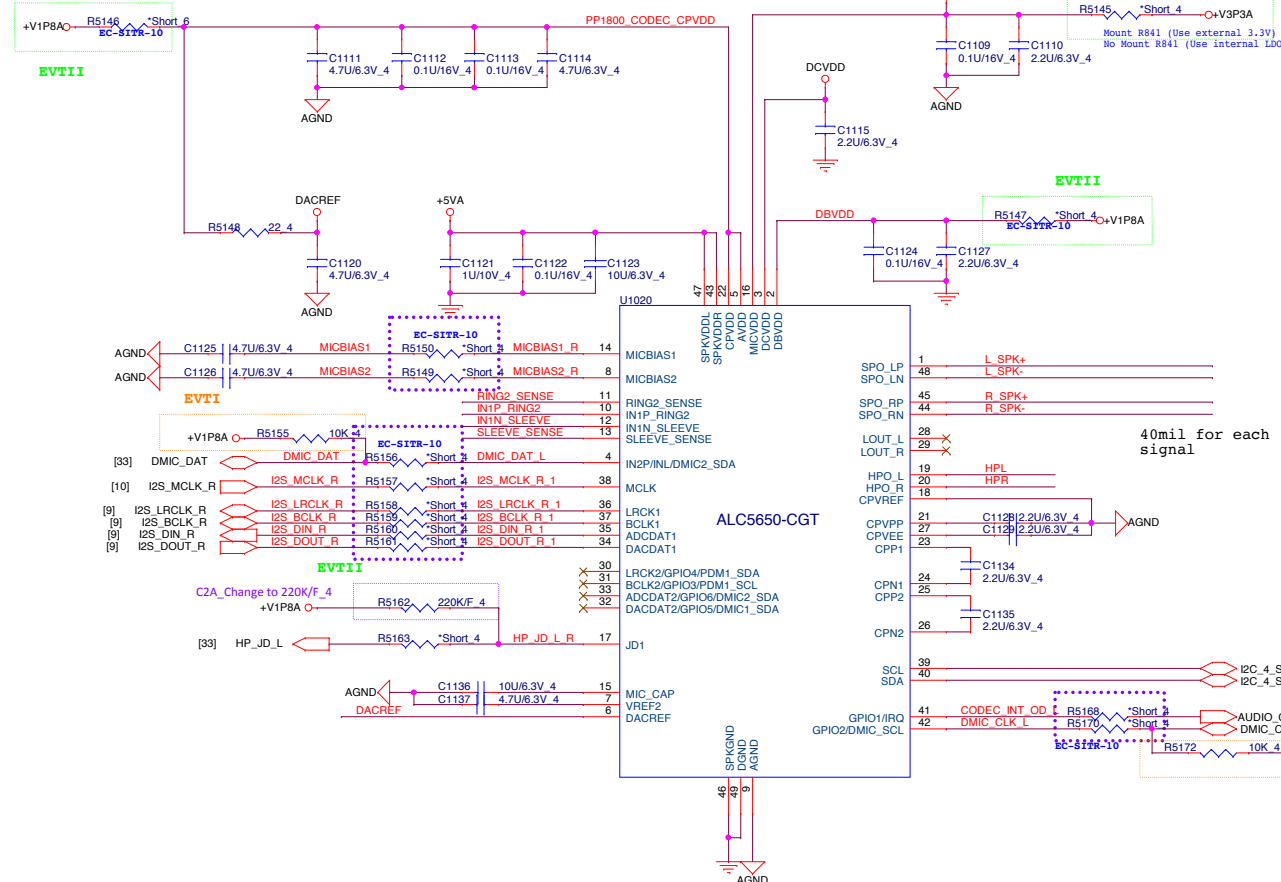
WIFI/BT COMBO (NGFF E KEY)

24

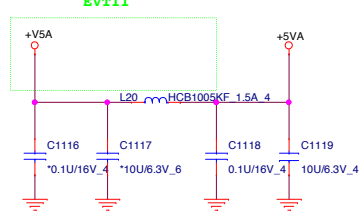


Audio Codec (ADO)

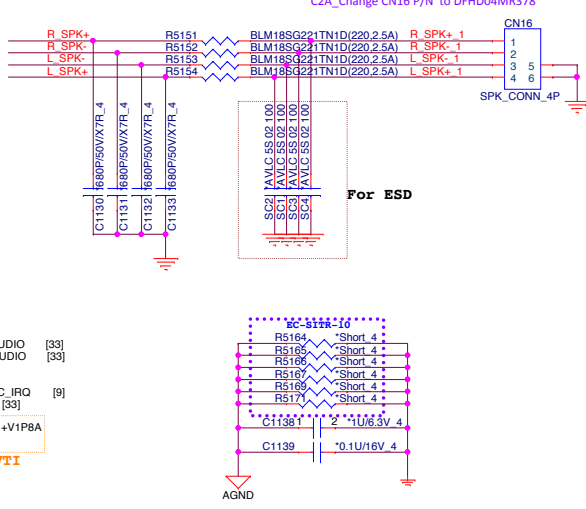
D3B_R5146,L21,L22,R5174,R5175,R5178,R5179,R5164,R5165,R5166,R5167,R5169,R5171,R5168,R5170,R5145,R5147,R5163,R5150,R5149 change to shortpad
D3B_R5156,R5157,R5158,R5159,R5160,R5161 change to shortpad



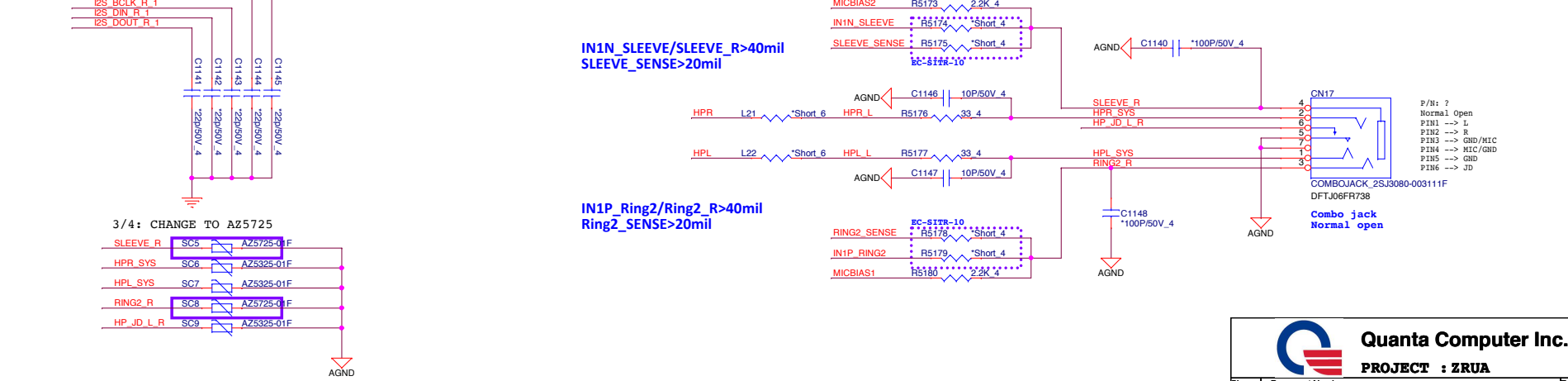
Codec PWR 5V (ADO)



Internal Speaker (ADO)

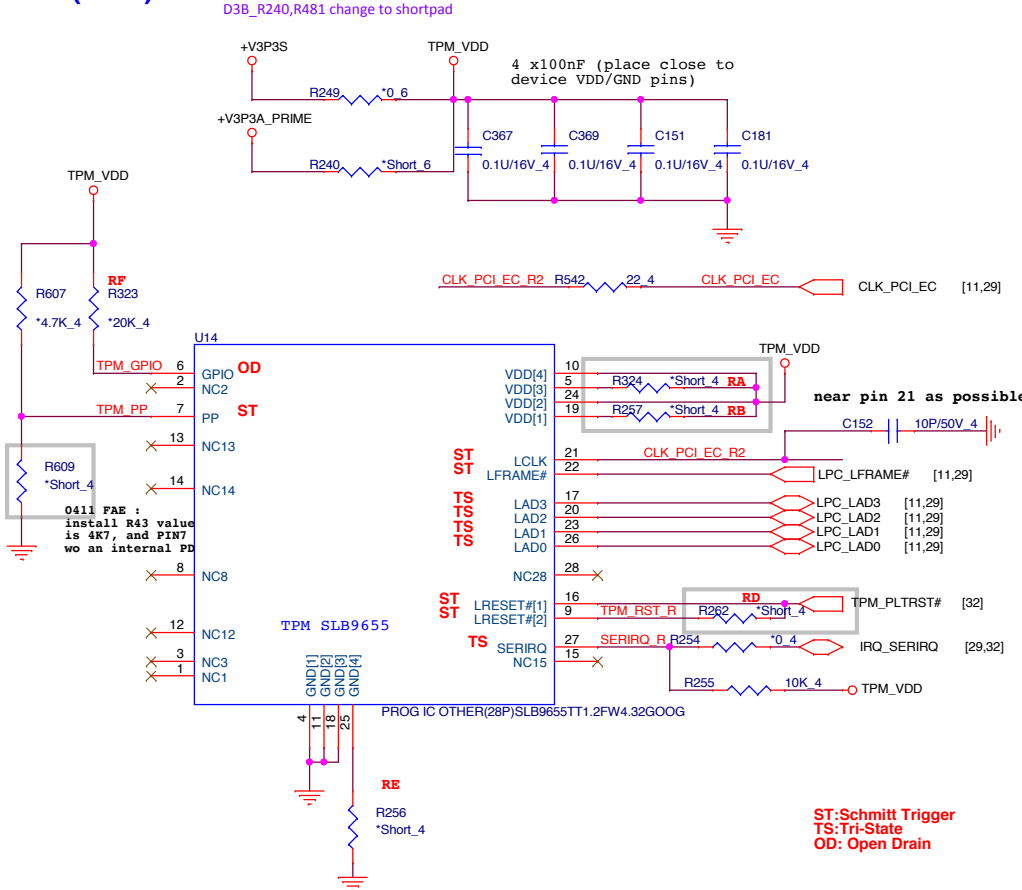


Combo Jack (ADO)



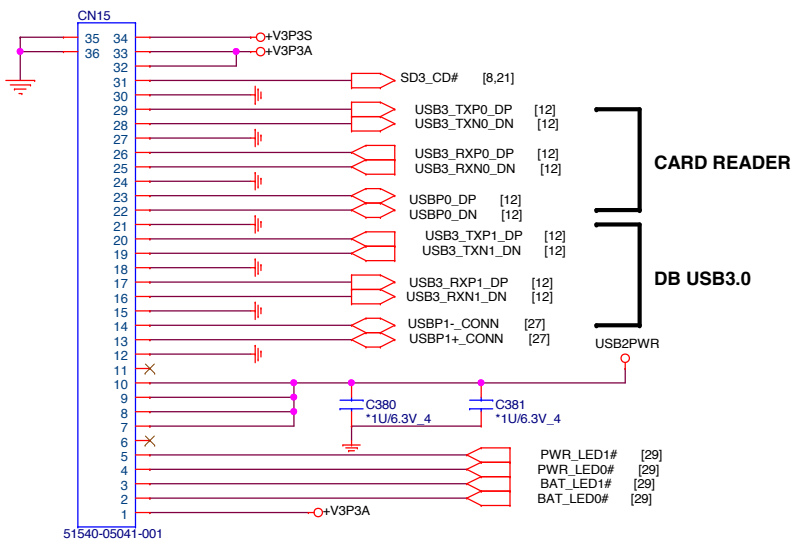
TPM/DAUGHTER BOARD CONNECTOR

TPM(TPM)



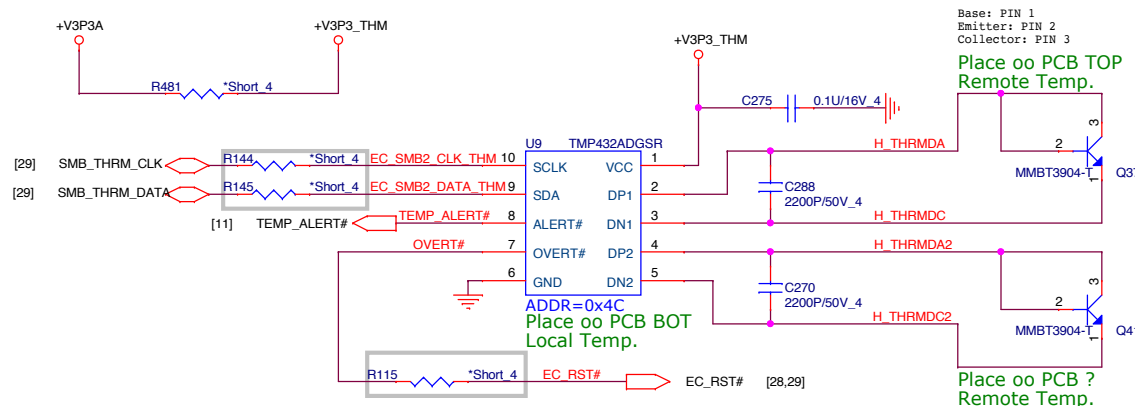
DB(UIF)

D3B_Change CN15 pin32 pin33 to +V3P3A for cardreader issue



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THERMAL SENSOR Thermal (THM)

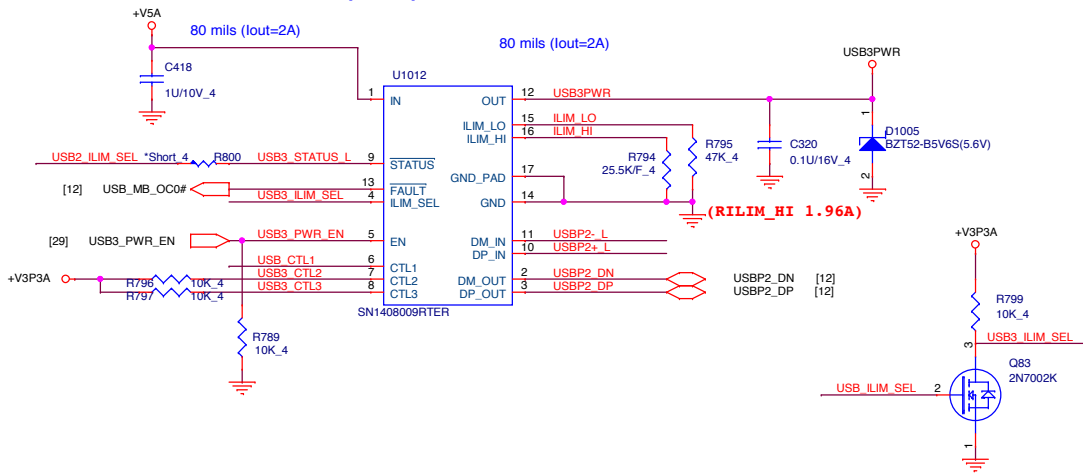


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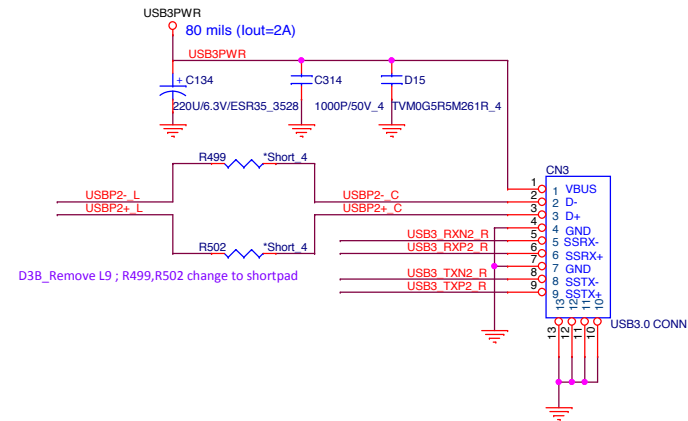
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PROJECT : ZRUA

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	DB /TPM	3B
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USB3 Charger USB3.0 (UBC)

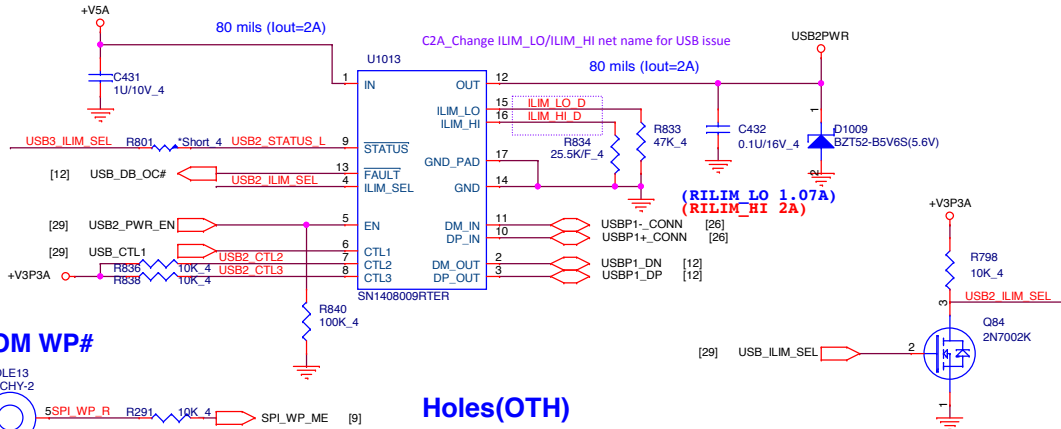


USB3 CONN

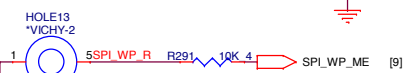


27

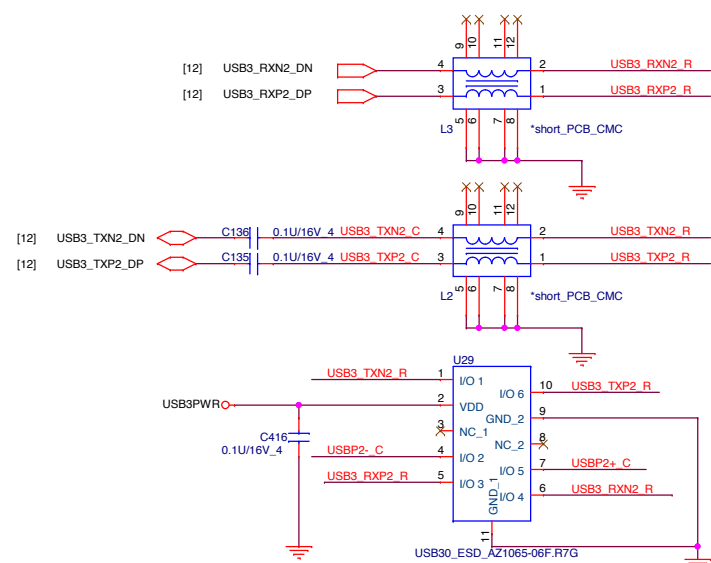
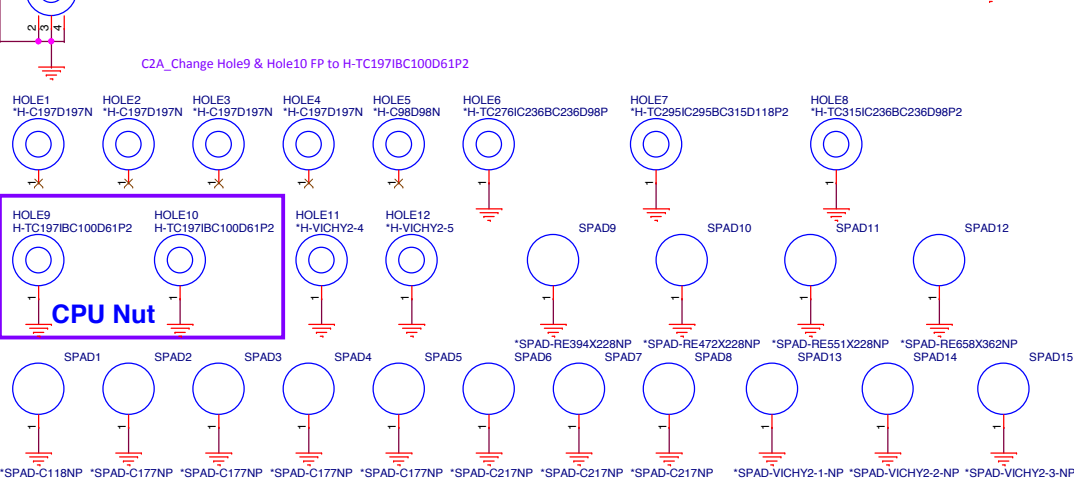
USB Charger(UBC)



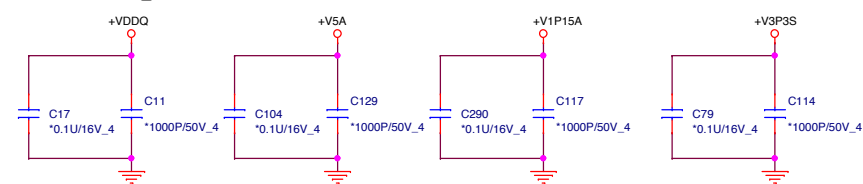
ROM WP#

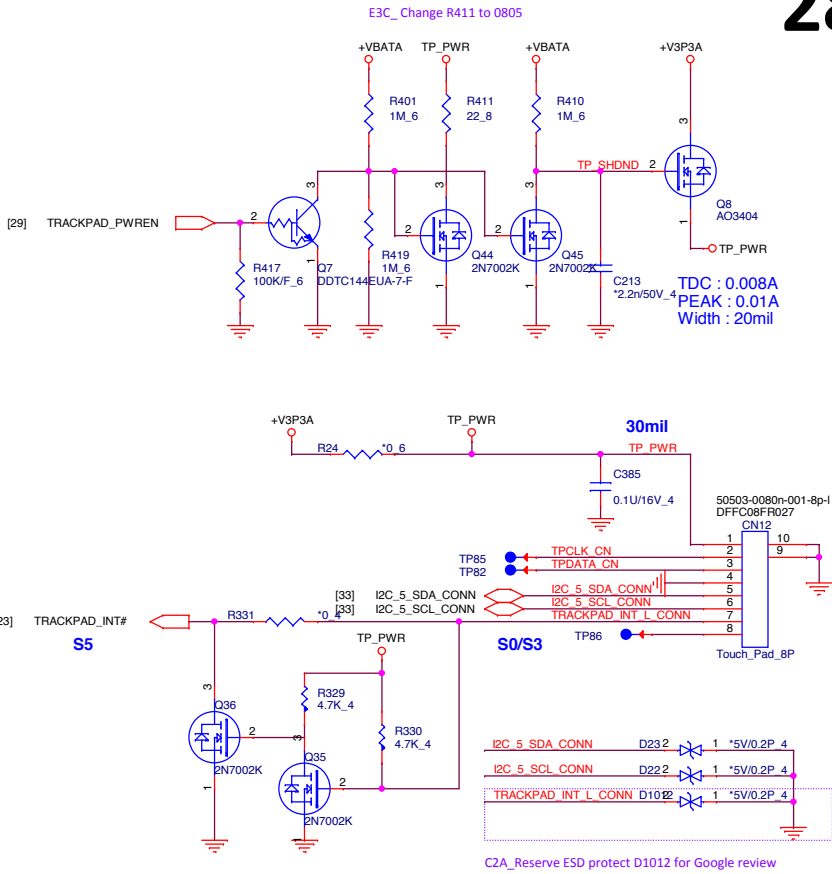
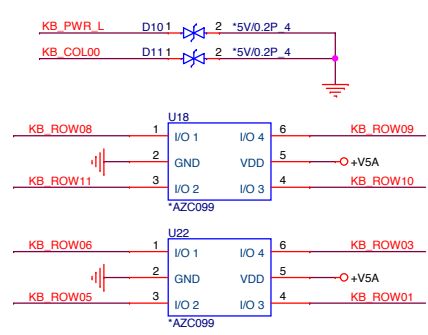
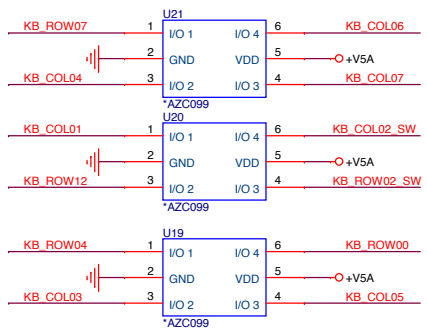
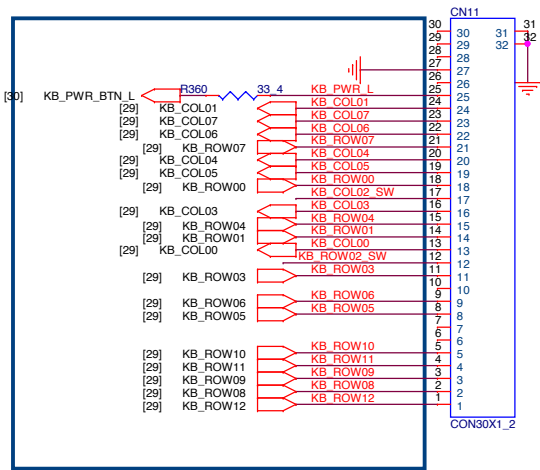


Holes(OTH)

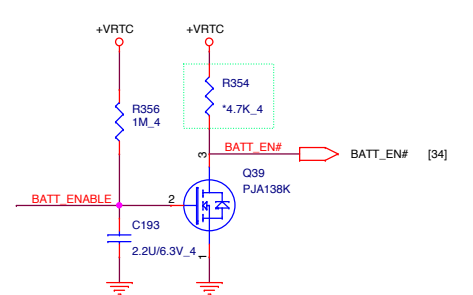
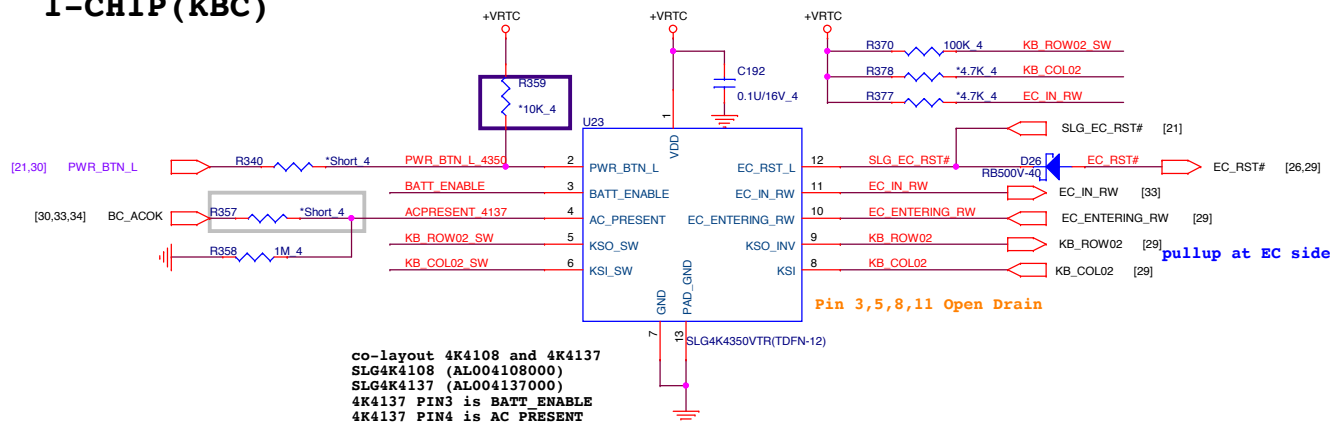


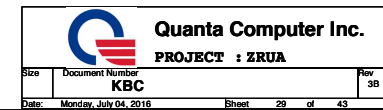
EMI caps



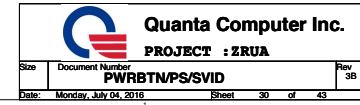


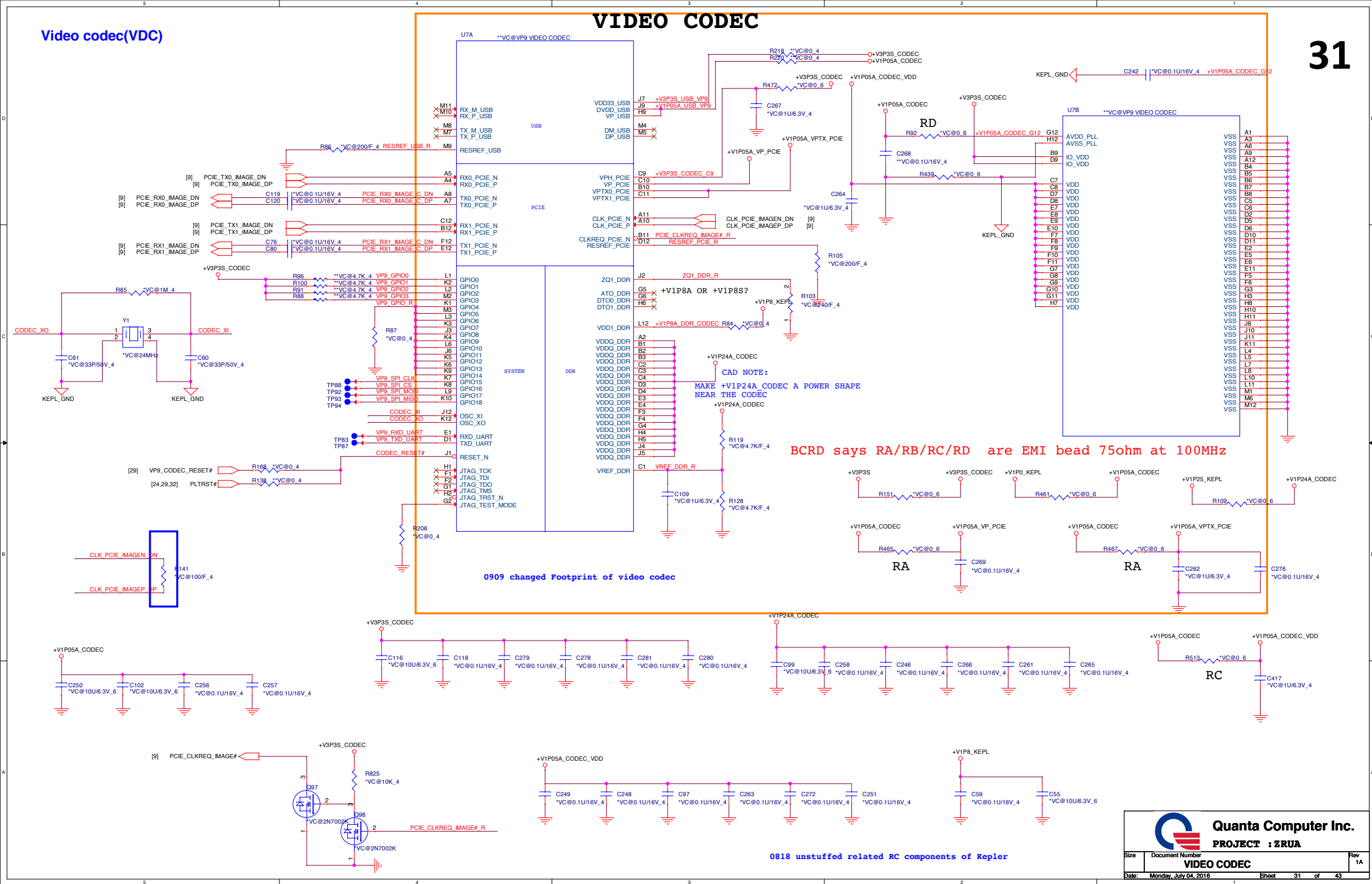
HOLELESS RESET 1-CHIP (KBC)



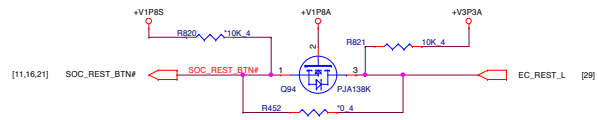
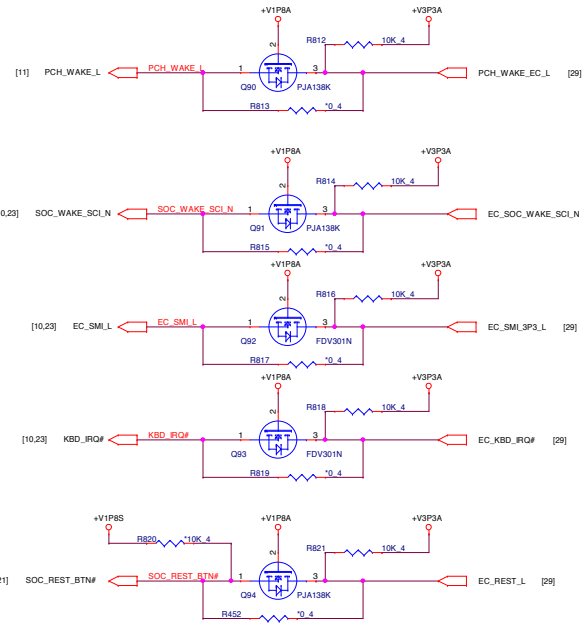
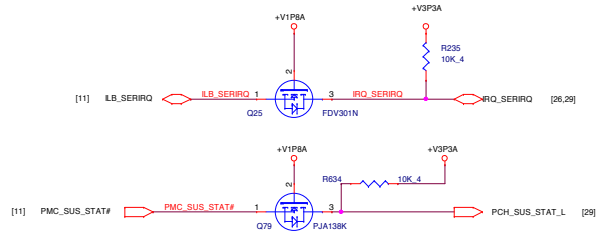


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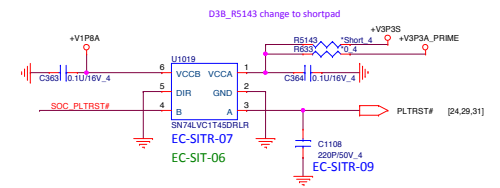
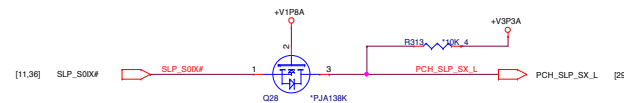
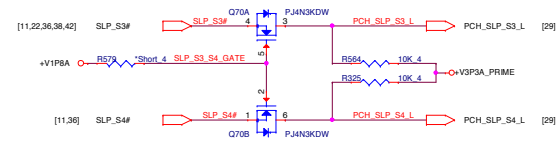
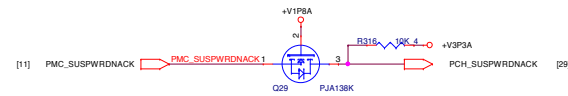
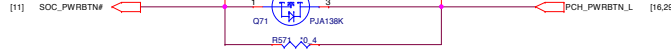
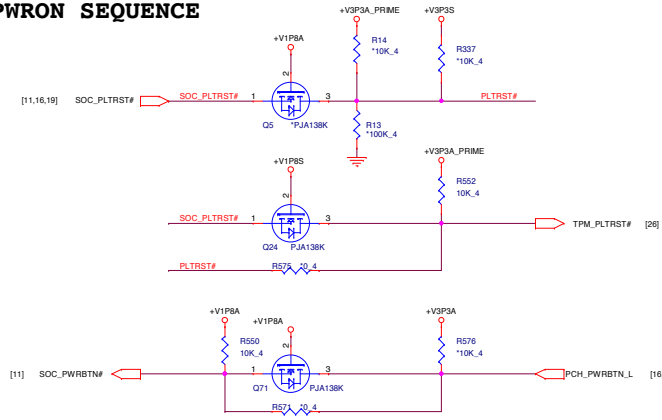




PWRON SEQUENCE

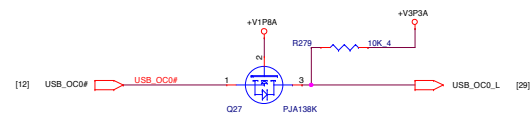


PWRON SEQUENCE

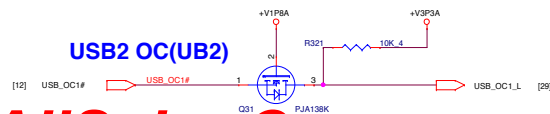


USB OC

USB3 OC(UB3)



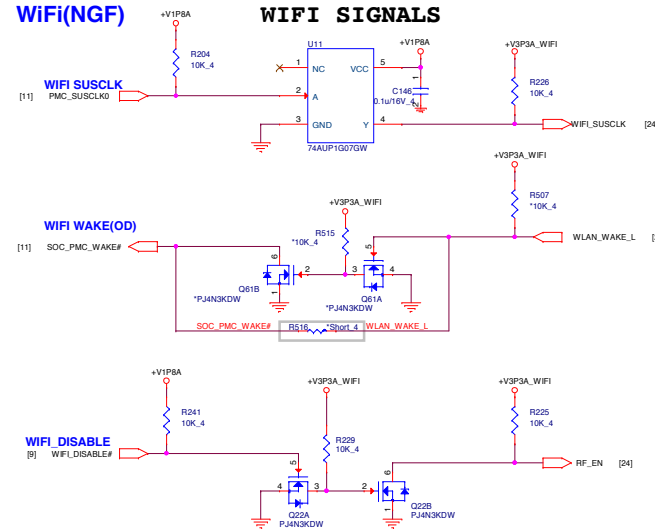
USB2 OC(UB2)



LEVEL TRANSLATOR 2

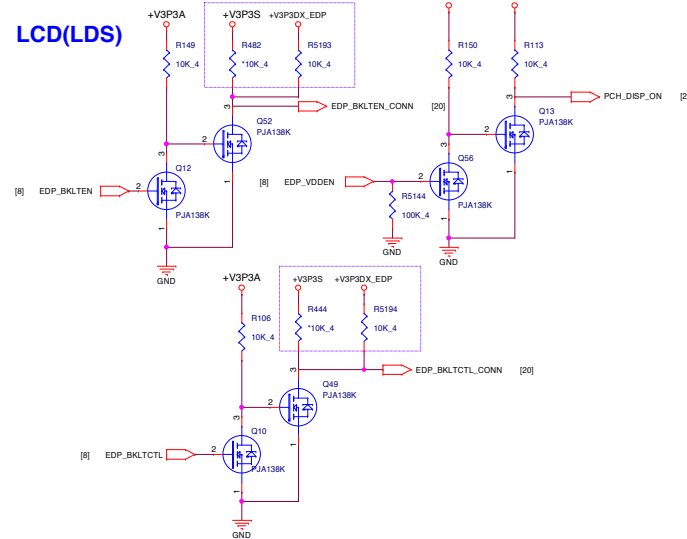
WiFi(NGF)

WIFI SIGNALS



eDP CONTROL PIN

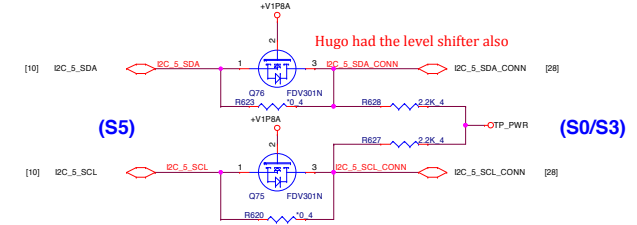
LCD(LDS)



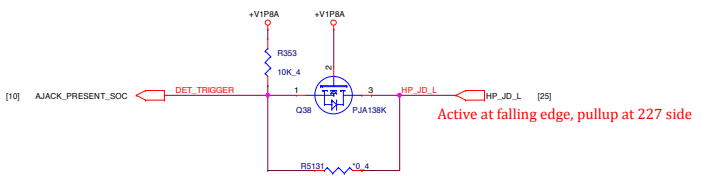
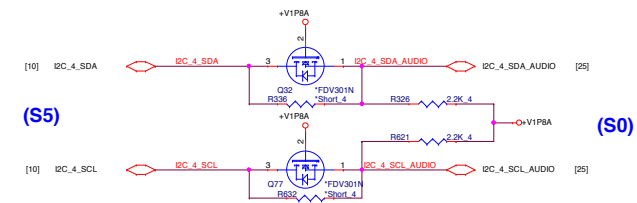
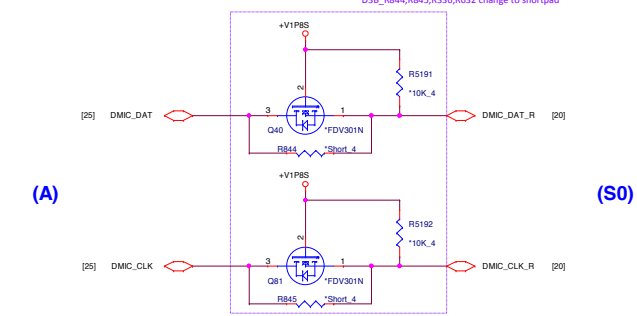
LS of XDP SMBUS

TRACK PAD I2C_5 SIGNALS

Trackpad(TPD)

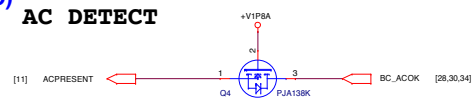


Audio(ADO)



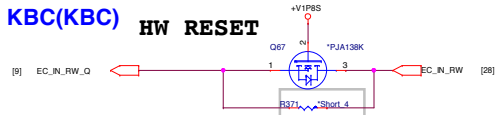
KBC(KBC)

AC DETECT



KBC(KBC)

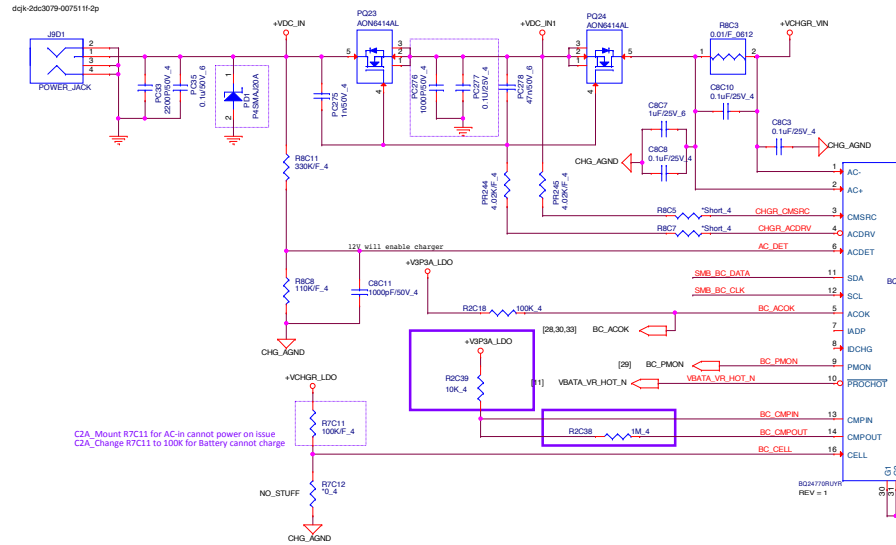
HW RESET



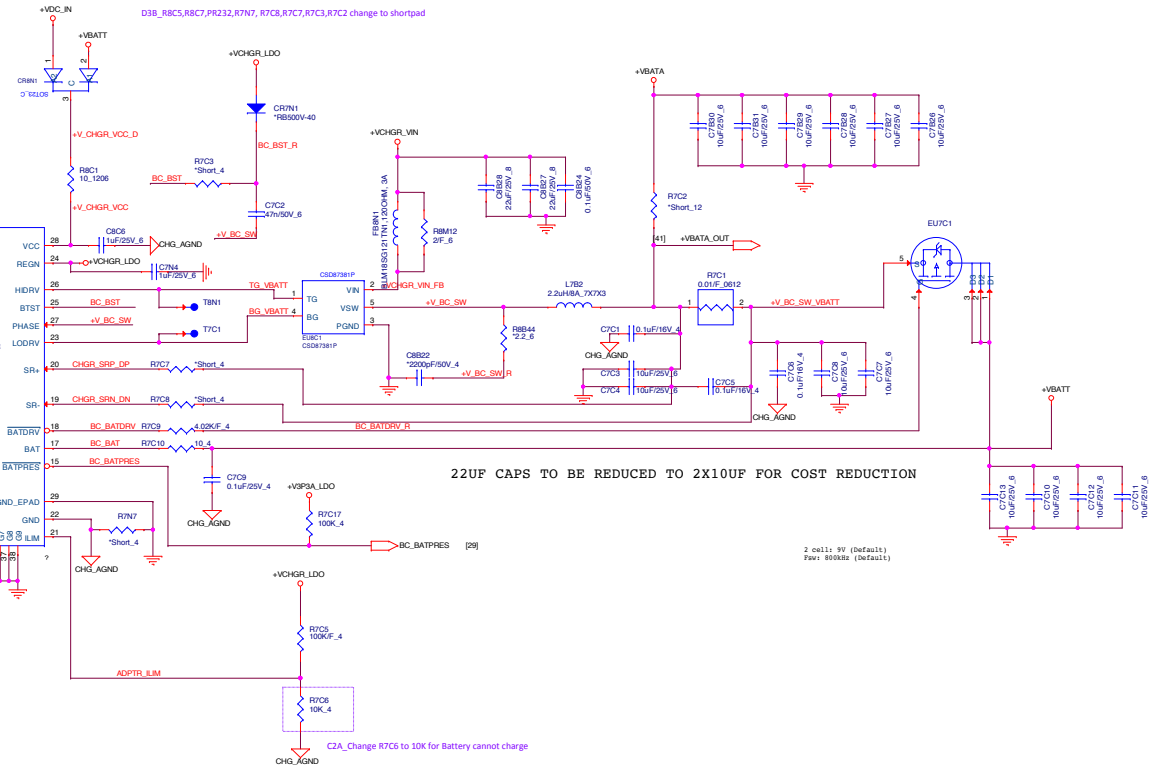
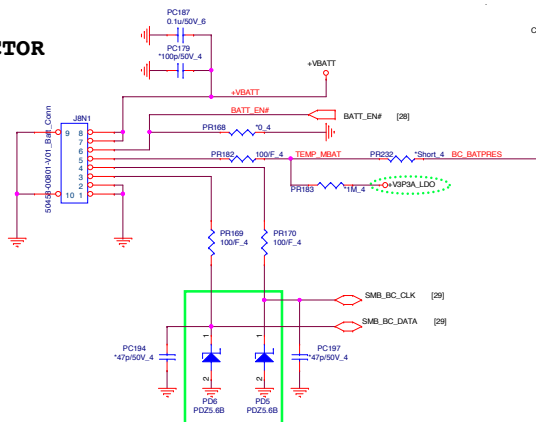
DC JACK

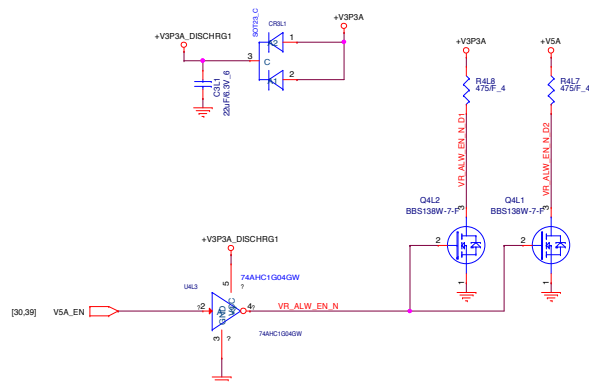
E3C_Change PDI P/N Main:BCMA20A200 ; 2nd: BCESMA2201 for SMT open issue

D3B_Mount PC276,PC277 ; PC276 change to 1000P for EMI request

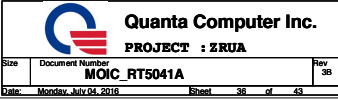


BATTERY CONNECTOR





WWW.AliSaler.Com

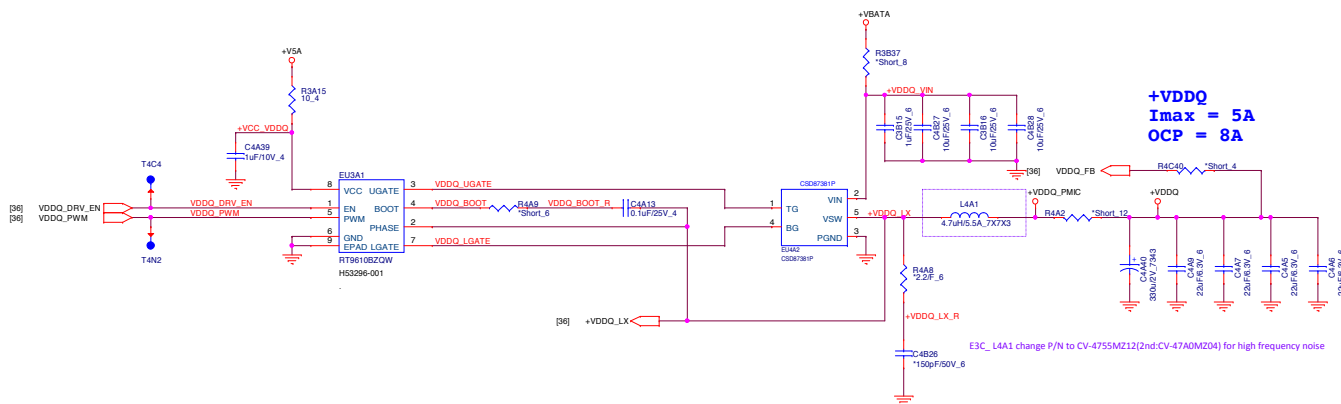


D3B R8B39,R3B38,R4A9,R7M16,R3B13,R3B37,R4C40,R4A2,R4B21,R7B44 change to shortpad

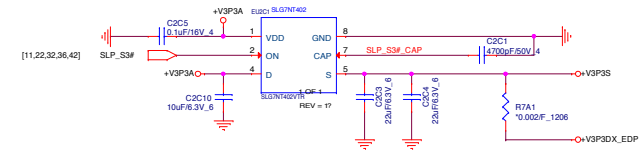


+VGG
I_{max} = 14 A
OCP = 16.8A

E3C_ L4A1 change P/N to CV-4755MZ12(2nd:CV-47A0MZ04) for high frequency noise

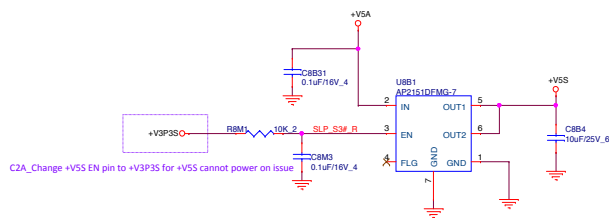


+V3P3S



Notes:
Imax: 4A
Rise time: 1ms

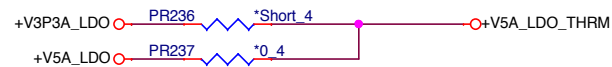
+V5S



Thermal protection

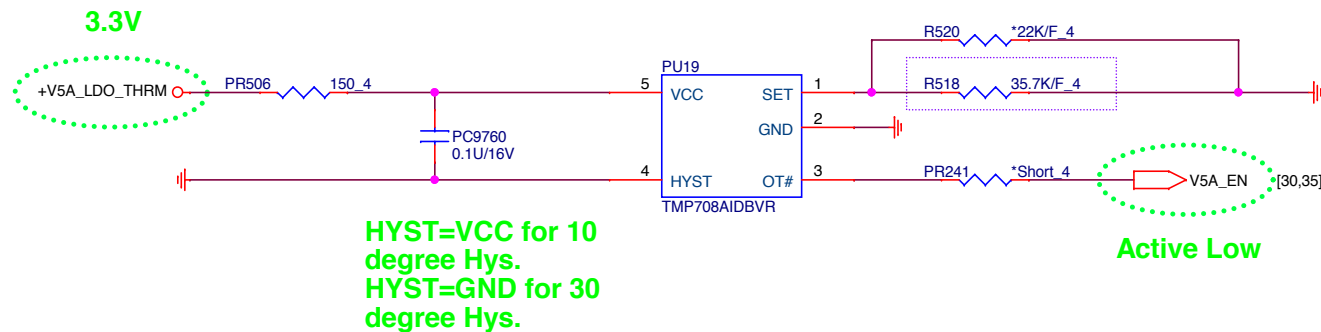
Need fine tune
for thermal protect point
Note placement position
TEMP=85C

D3B_PR236,PR241 change to shortpad



D3B_R518 change to 35.7K ohm for thermal protect

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

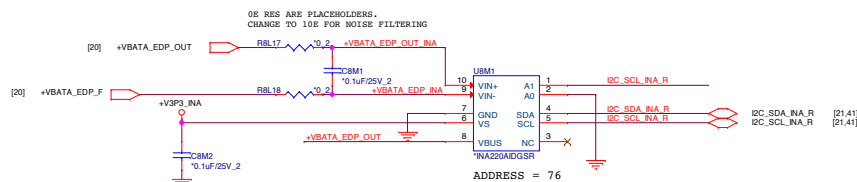


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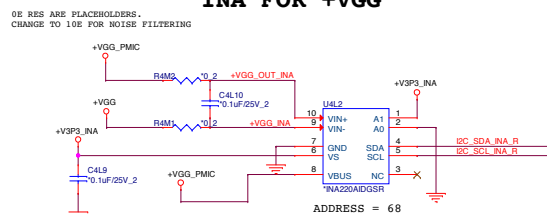
PROJECT : ZRUA

D3B_No mount INA
D3B_Modify INA ADDRESS

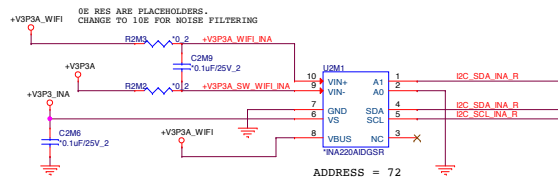
INA FOR +VBATA_EDP



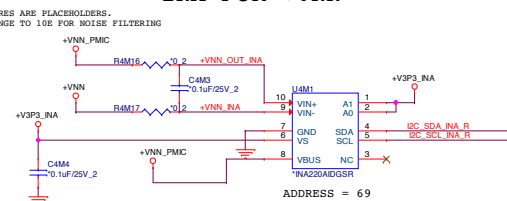
INA FOR +VGG



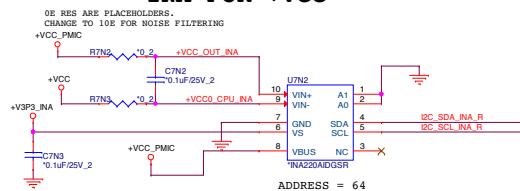
INA FOR +V3P3A_WIFI



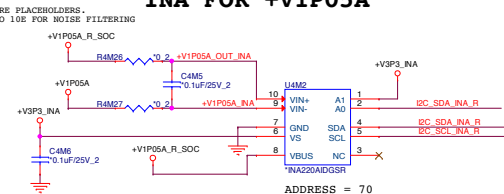
INA FOR +VNN



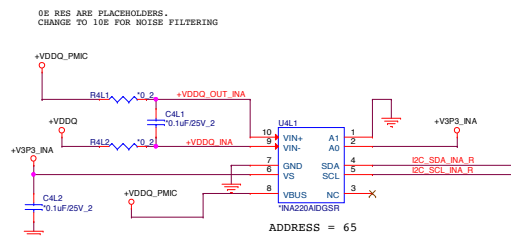
INA FOR +VCC



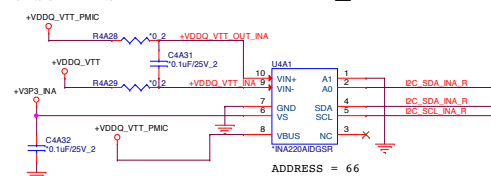
INA FOR +V1P05A



INA FOR +VDDQ

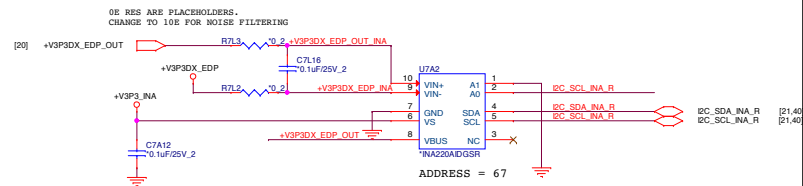


INA FOR +VDDQ_VTT

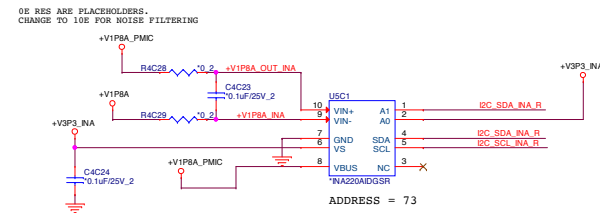


D3B_No mount INA
D3B_Modify INA ADDRESS

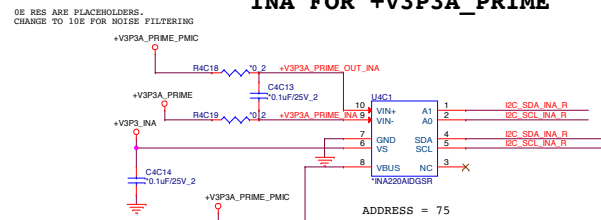
INA FOR +V3P3DX_EDP



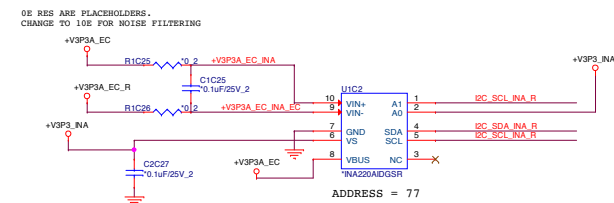
INA FOR +V1P8A



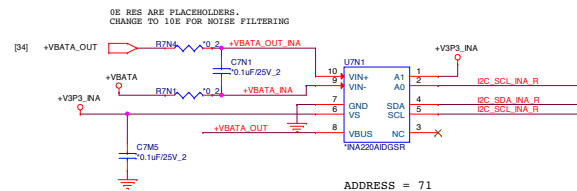
INA FOR +V3P3A_PRIME



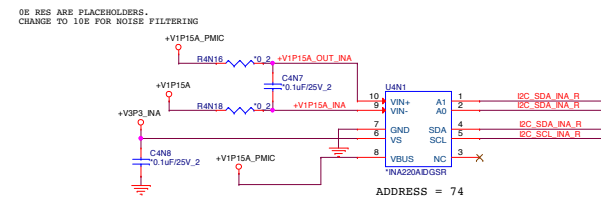
+V3P3A_EC



INA FOR +VBATA

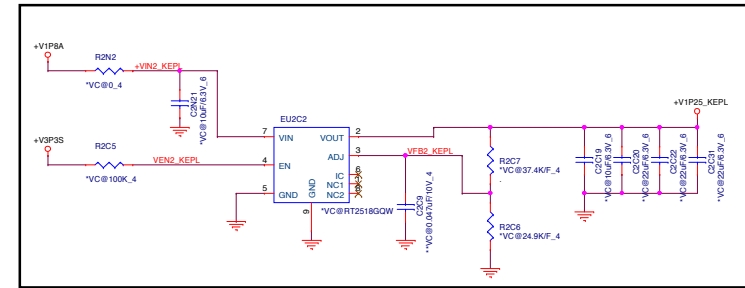


INA FOR +V1P15A



Quanta Computer Inc.
PROJECT : ZRUA

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Date Monday, July 04, 2016
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[11,22,32,36,38]

SLP_S3M#

U2C3

+V5A

R2C10
*VC=100K_4

R2C9
*VC=100K_4

SLP_S3M_KEPL

+V1P25_KEPL_DIS

+V1P25_KEPL_D1

R2C11
*VC=100F_4

R2C12
*VC=100K_4

*VC=FD66301N

