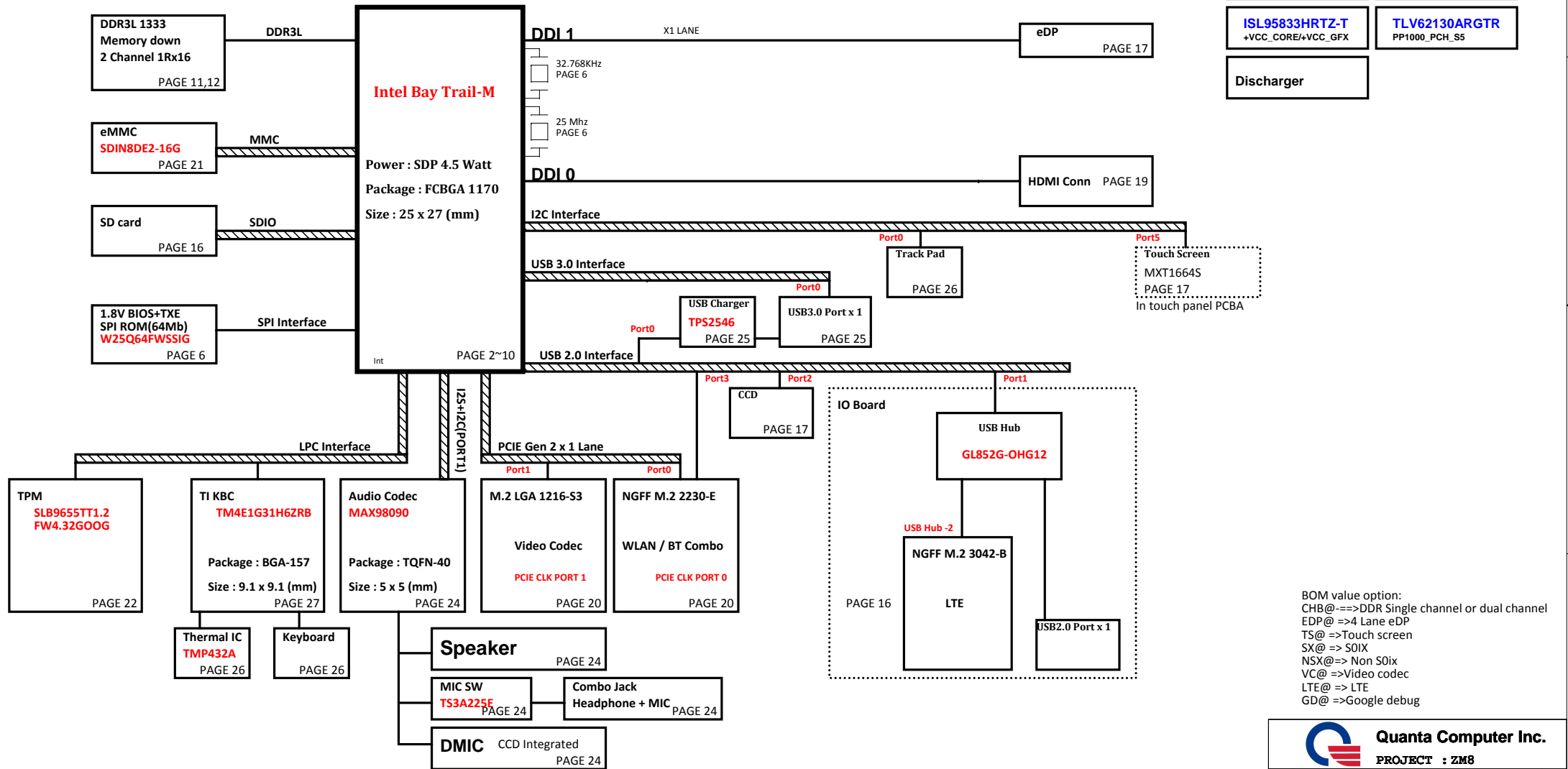


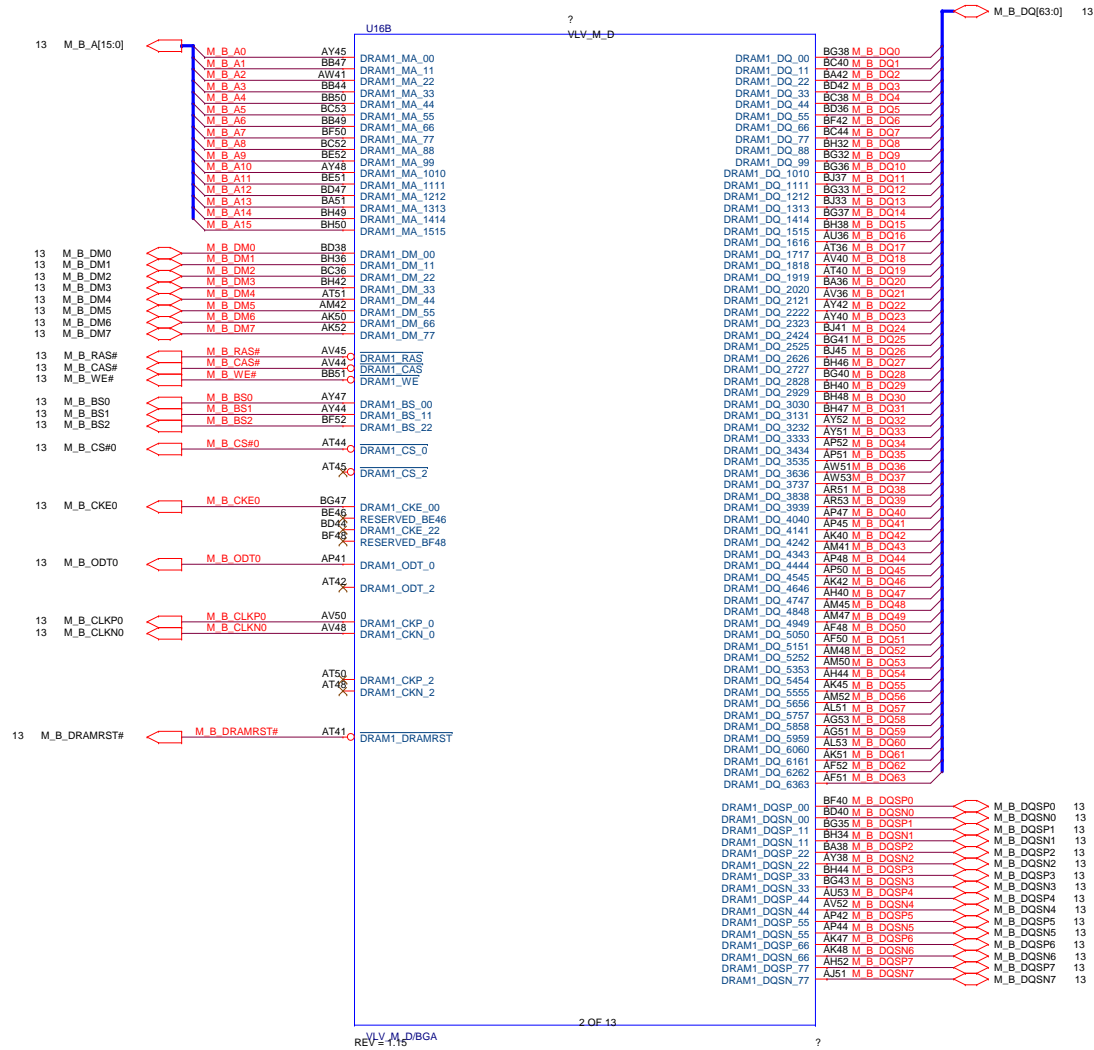
Intel Bay Trail-M Platform Block Diagram

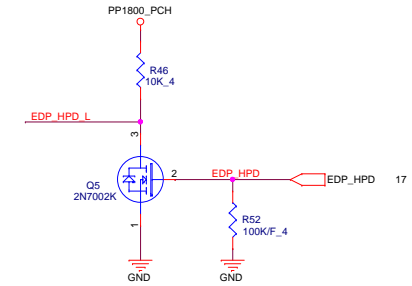
EVT
AJSR1YJUT07--CPU(1170P)N2840 2.16G SR1YJ(FCBGA)WINBSQ



Quanta Computer Inc.
PROJECT : ZM8

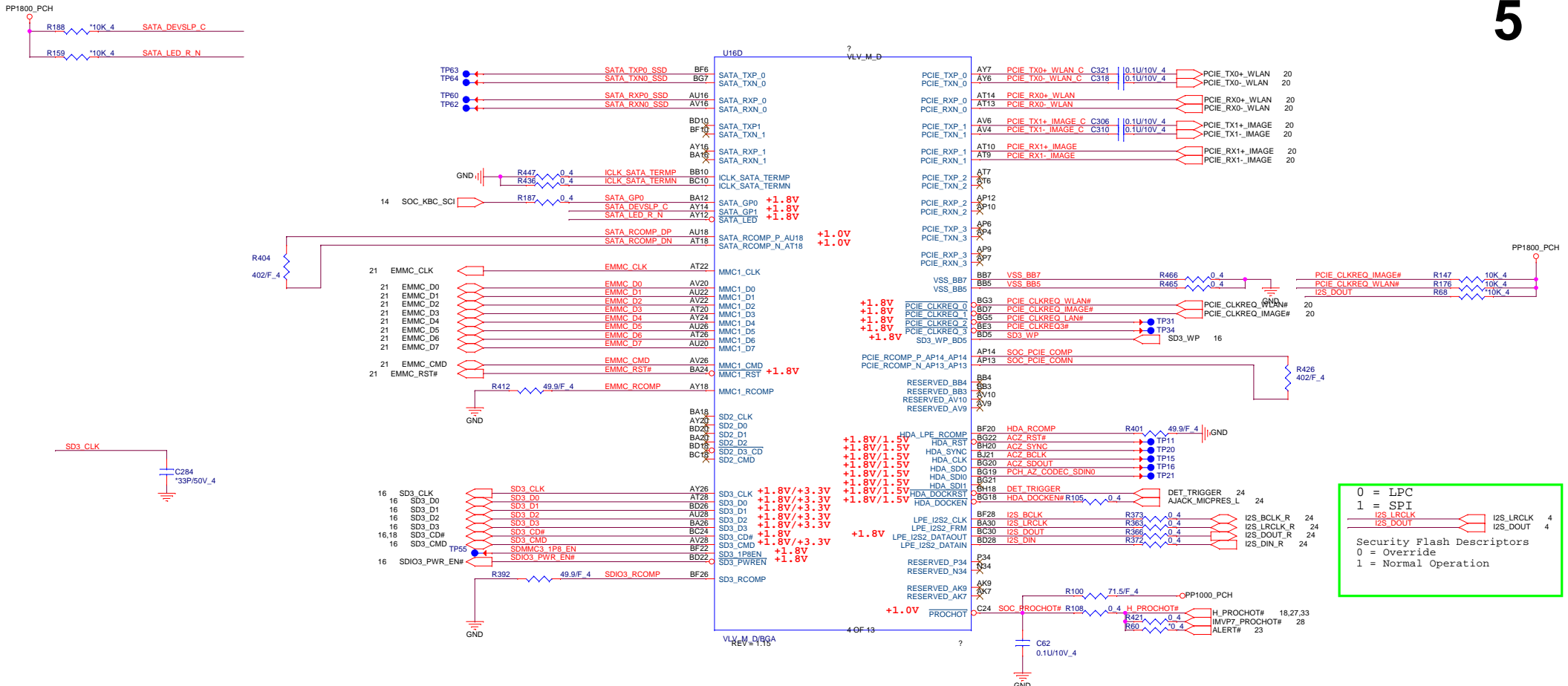
Size Document Number Rev
Intel Block Diagram 1A
Date: Thursday, September 25, 2014 Sheet 1 of 39





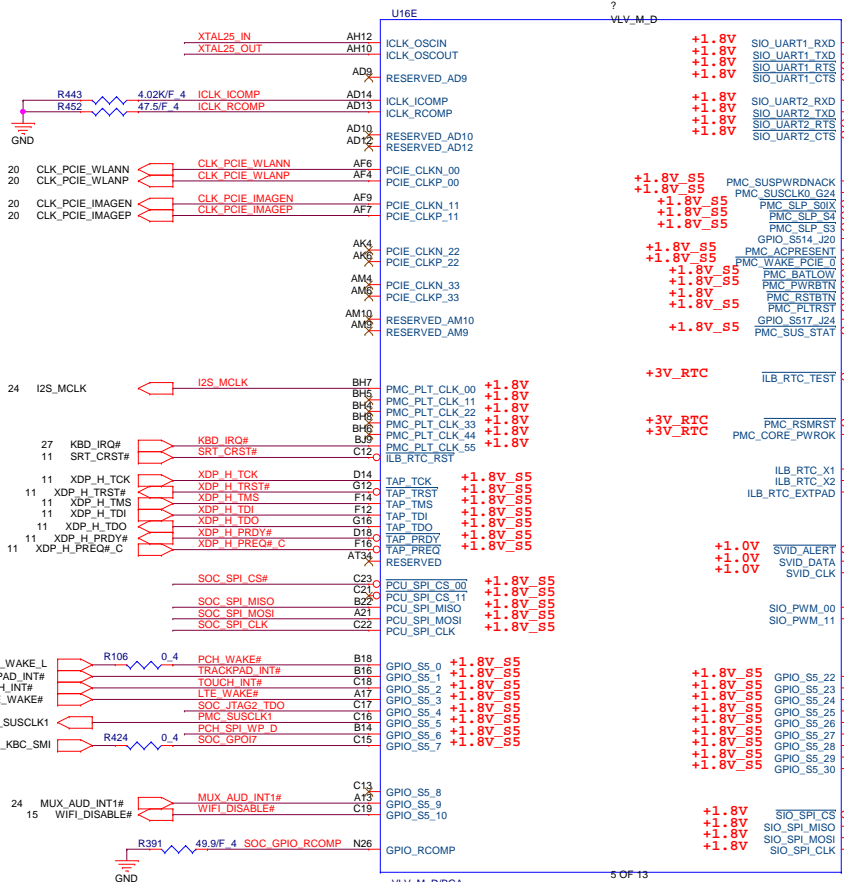
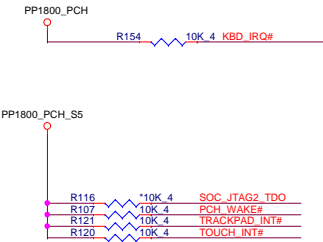
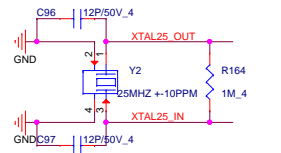
Pin Name	Strap description	Sampled	Configuration	Note
GPIO_SO_SC_56	Top Swap (A16 Override)	PWROK	0 = Top address bit is inverted 1 = Top address bit is unchanged	
LPE_I2S2_FRM	BIOS Boot Selection	PWROK	0 = LPC 1 = SPI	
GPIO_SO_SC_65	Security Flash Descriptors	PWROK	0 = Override 1 = Normal operation	
DDI0_DDCDATA	DDI0 Detect	PWROK	0 = DDI0 not detected 1 = DDI0 detected	
DDI1_DDCDATA	DDI1 Detect	PWROK	0 = DDI0 not detected 1 = DDI0 detected	
GPIO_SO_NC_13				

SoC (CPU)

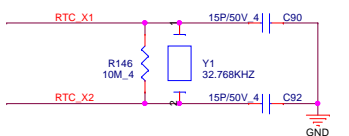


0 = LPC
1 = SPI
I2S_LRCLK
I2S_DOUT
Security Flash Descriptors
0 = Override
1 = Normal Operation

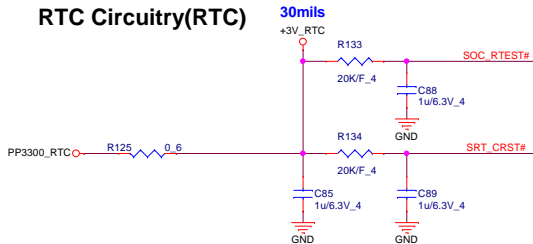
SoC (CPU)



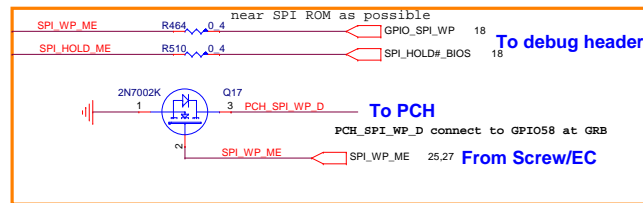
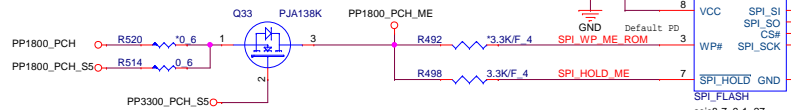
RTC Clock 32.768KHz



RTC Circuitry(RTC)



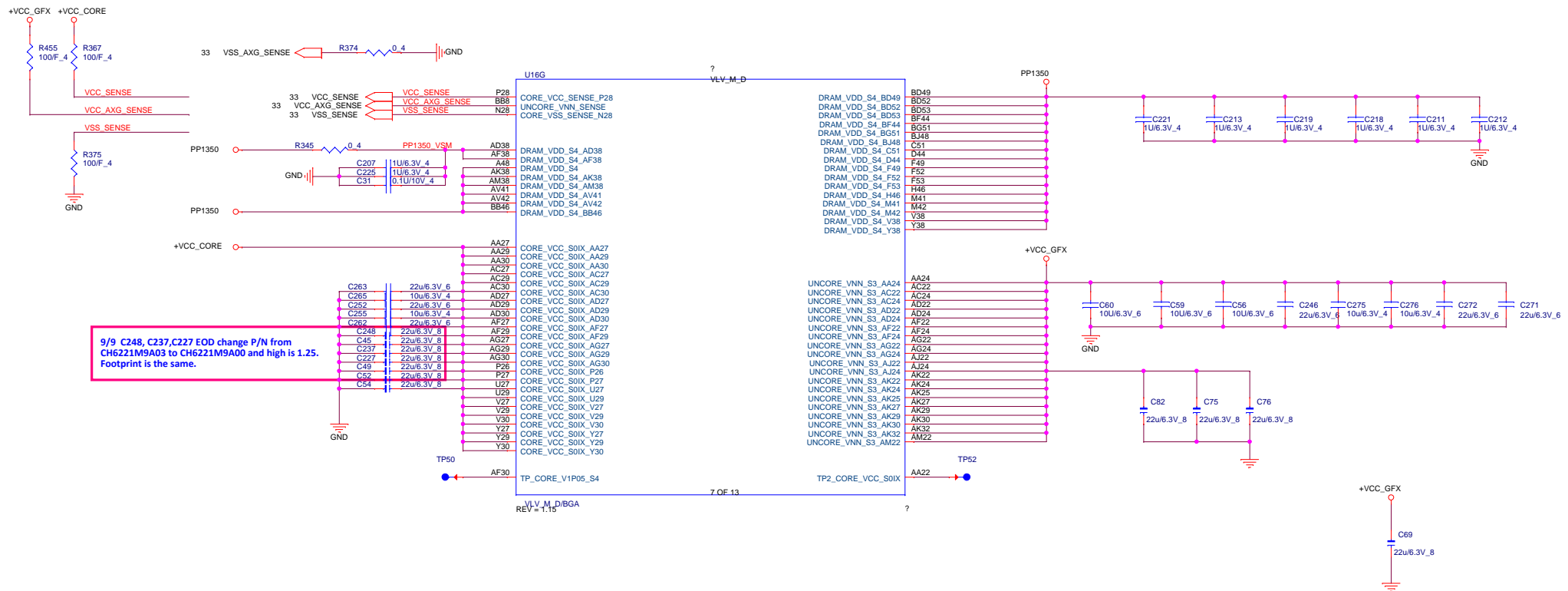
SPI ROM needs power in S3/S5 for the TXE (Trusted execution engine).



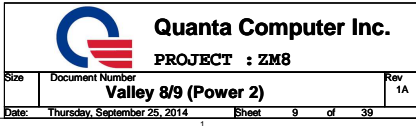
SPI NOR FLASH
Need unstuff once SEL debug port is un-stuffed

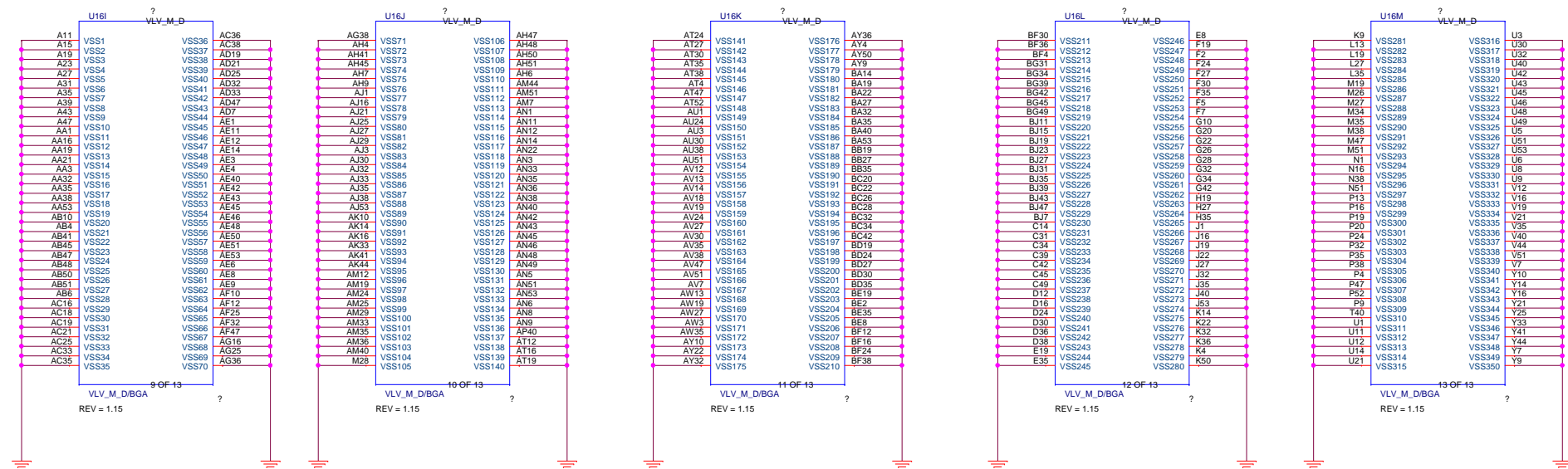
Quanta Computer Inc.
PROJECT : ZM8

Size	Document Number	Rev
	Valley 5/9 (SPI/GPIO/CLK)	1A
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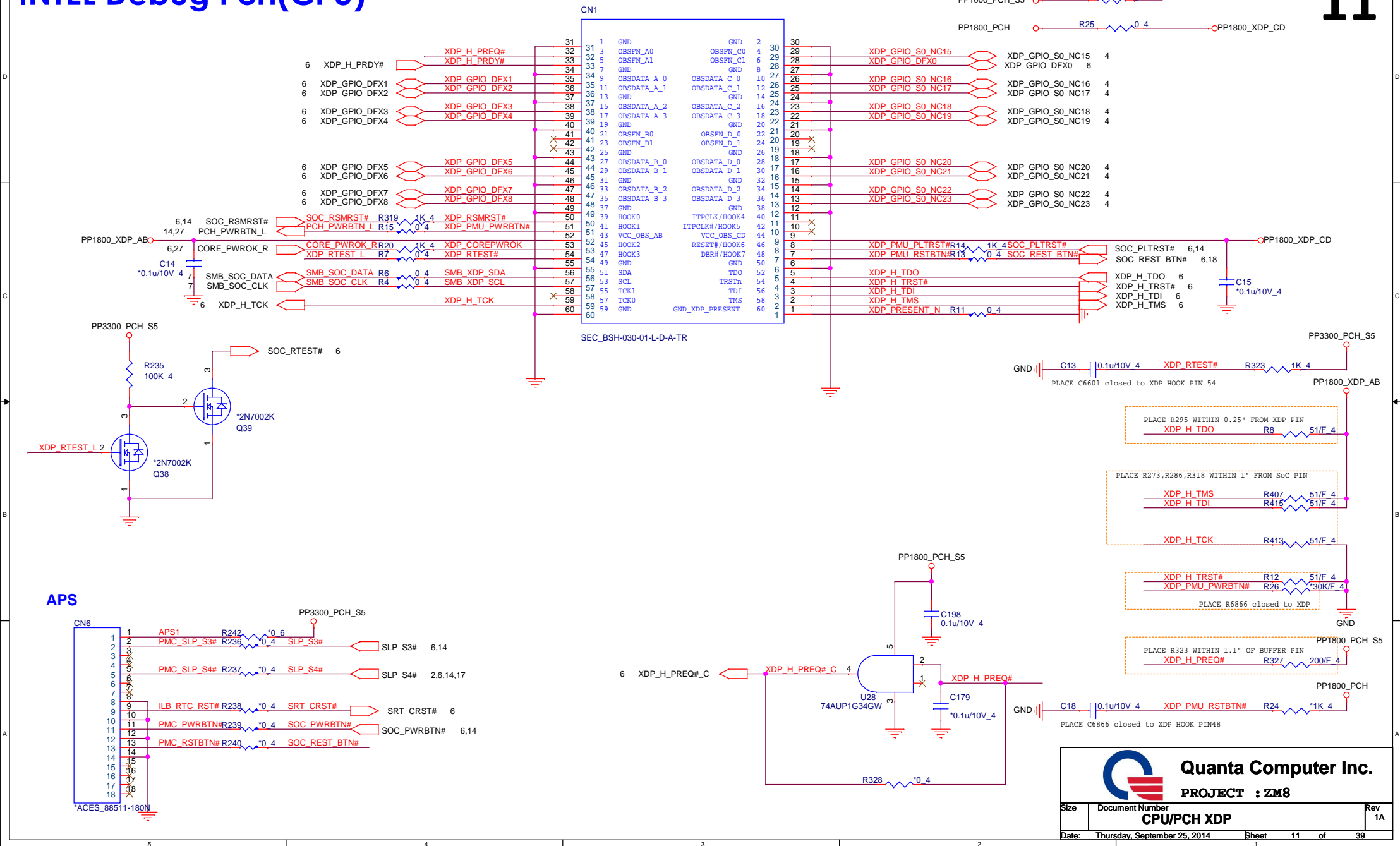


9

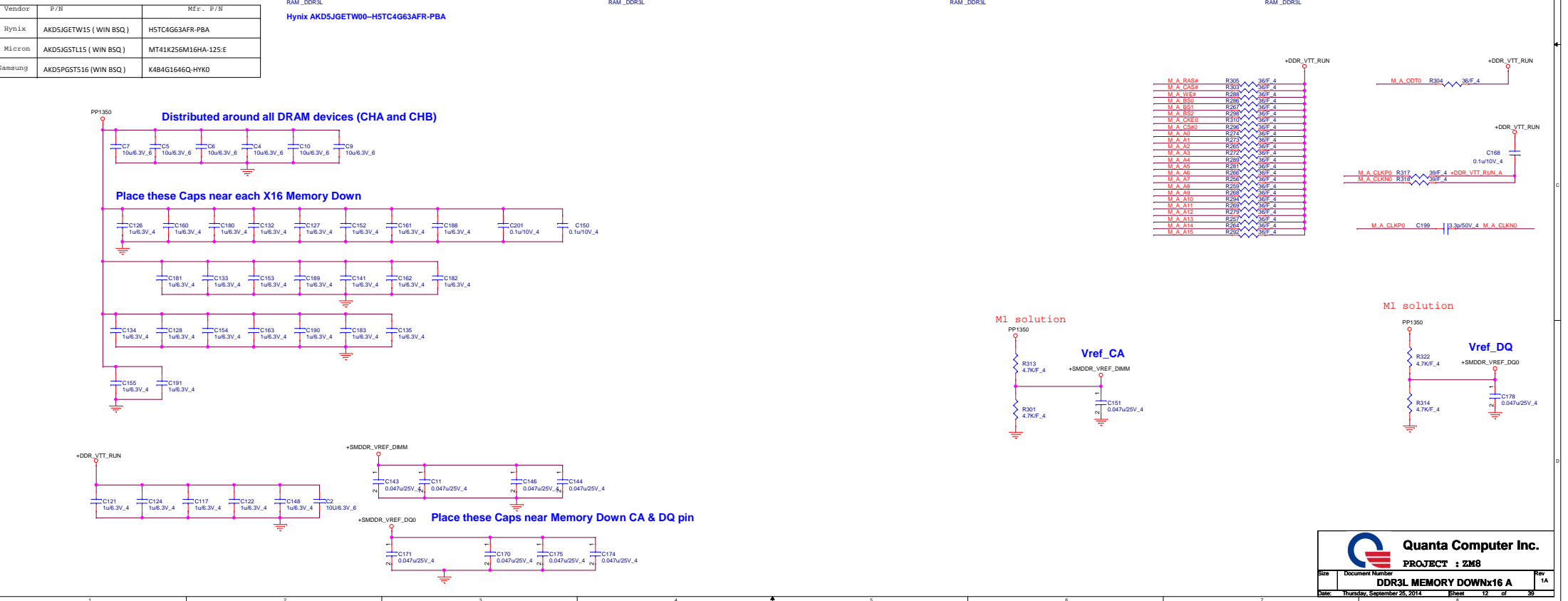
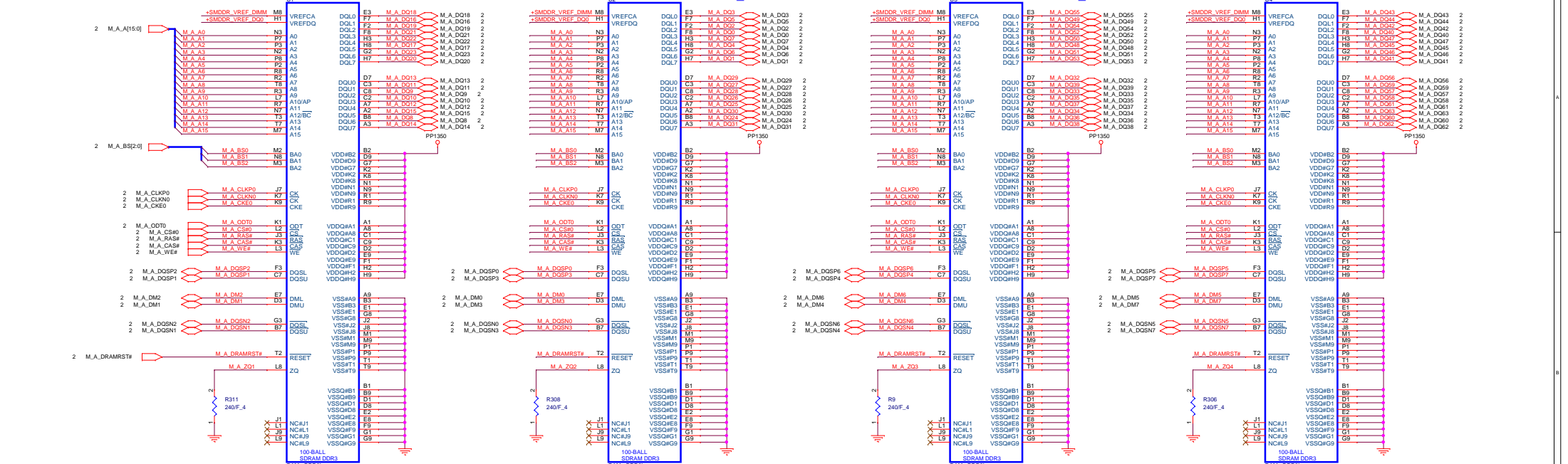




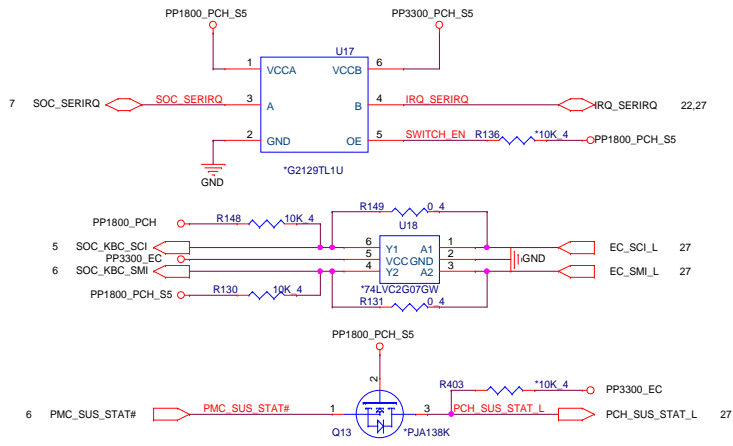
11



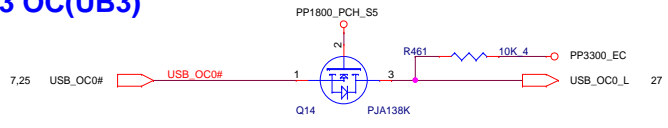
On board memory (OBM)



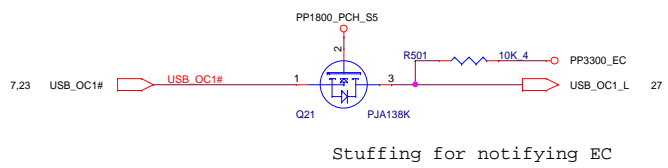
PWRON SEQUENCE(CPU)



USB3 OC(UB3)

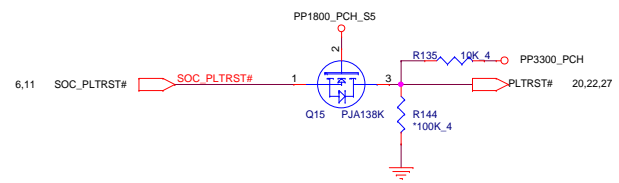
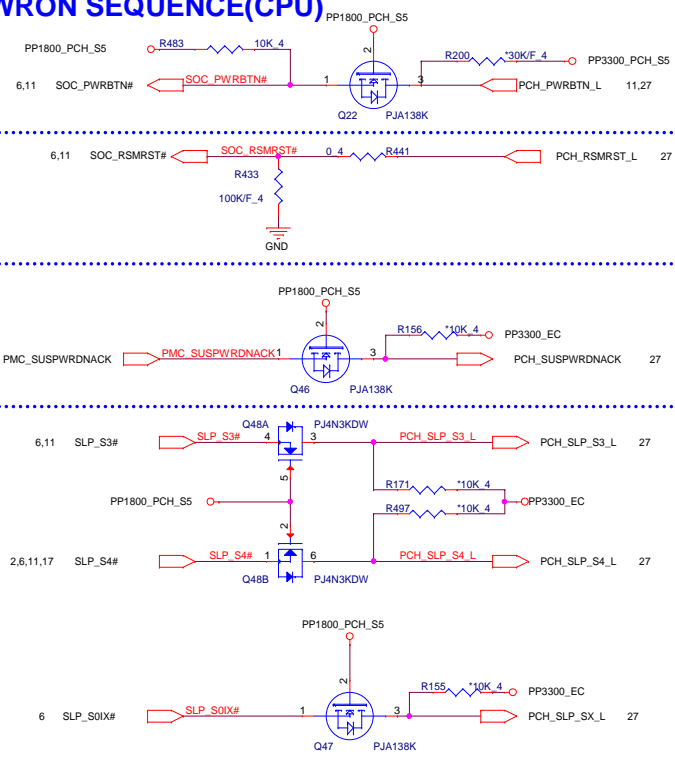


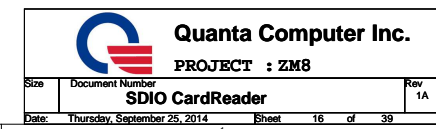
USB2 OC(UB2)



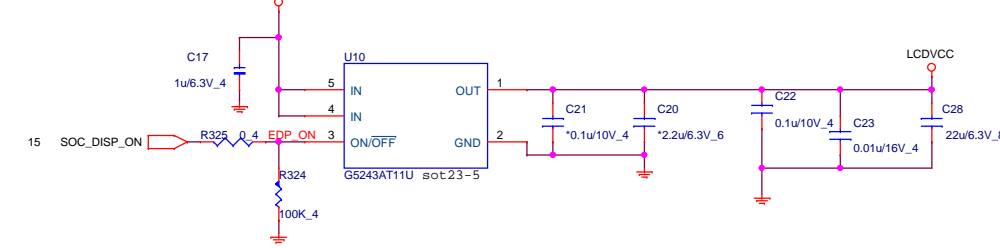
Stuffing for notifying EC

PWRON SEQUENCE(CPU)

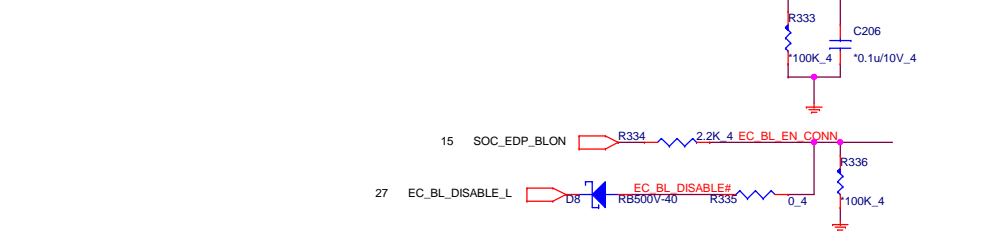




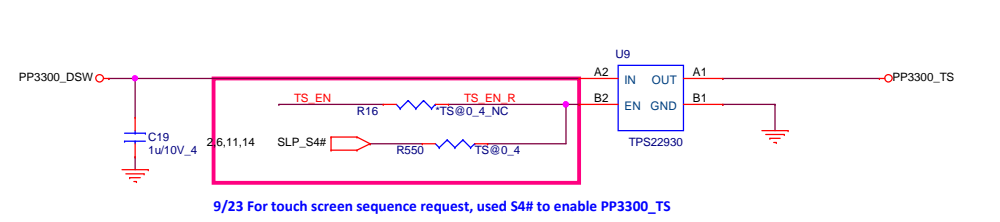
eDP Power(LDS)



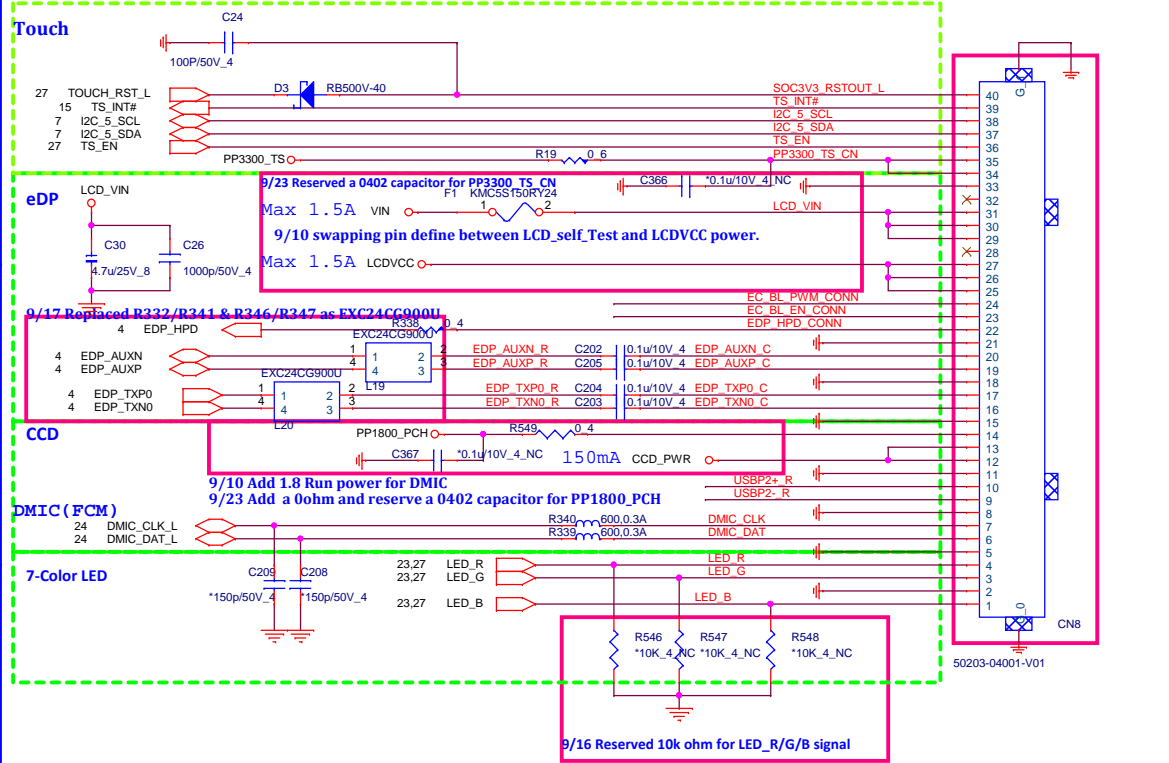
eDP panel control(LDS)



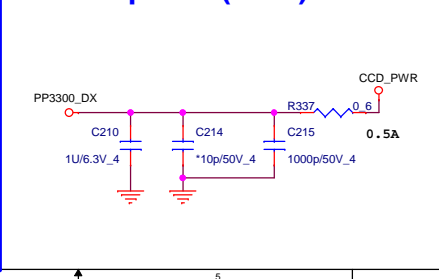
Touch Screen(TSN)



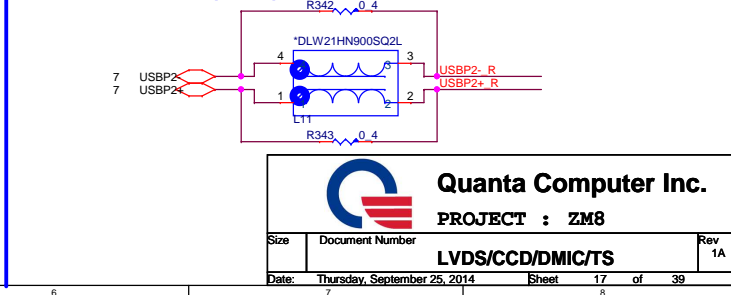
eDP(LDS)




CCD power(FCM)



CCD USB(FCM)





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LVDS/CCD/DMIC/TS

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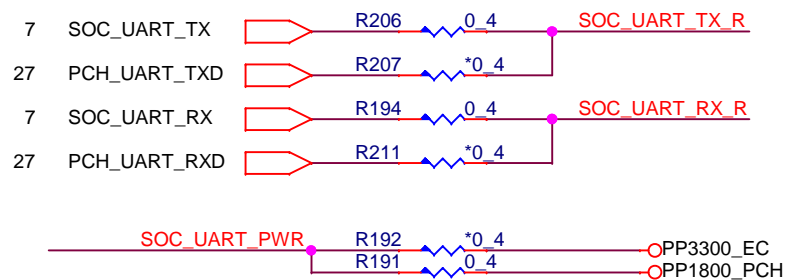
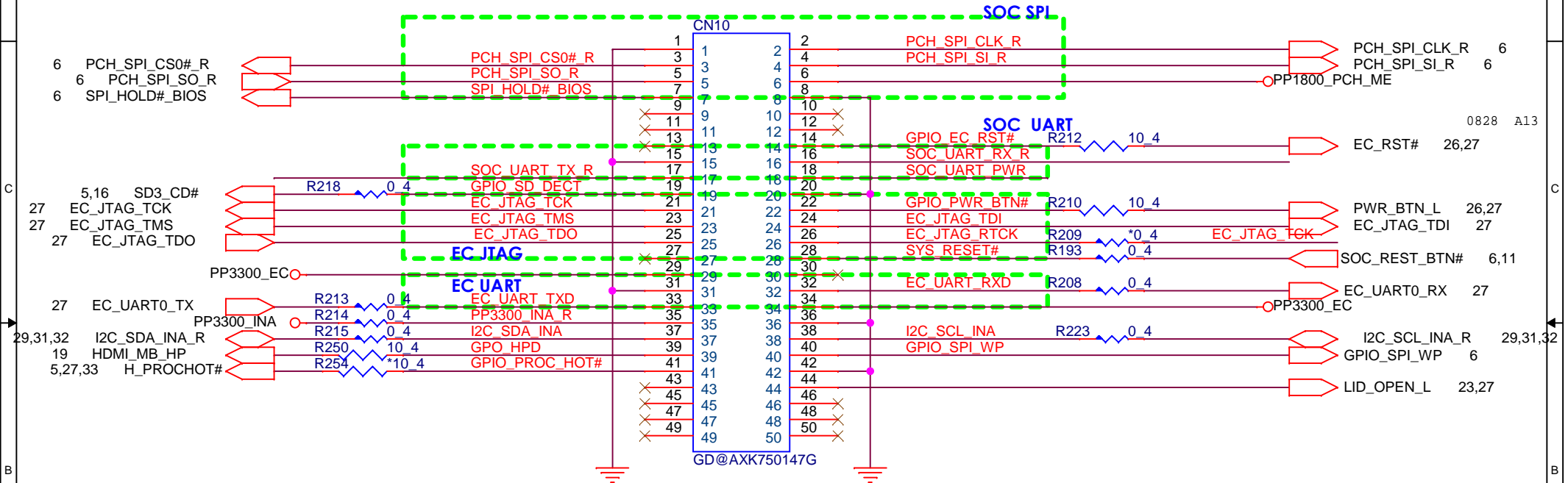
GOOGLE Debug Port(OTH)


50 pin BTB is MUST, don't use 42 pin

Socket part number AXK750147G

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	

18

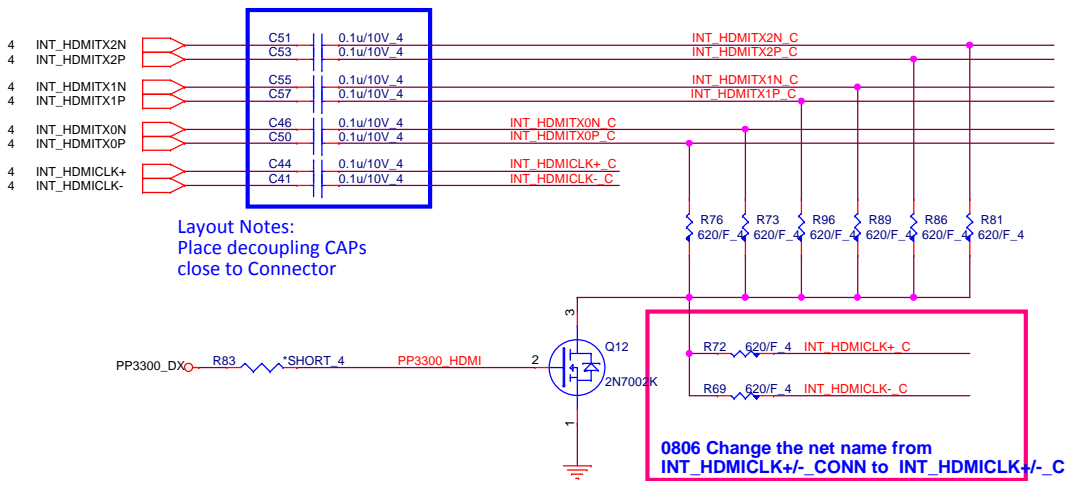


**Quanta Computer Inc.**

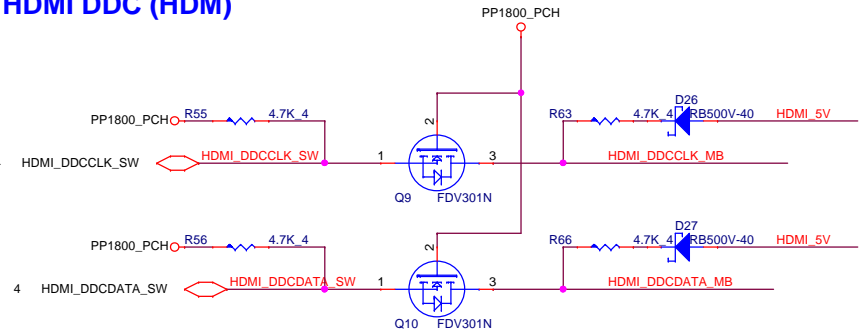
PROJECT : ZM8

Size	Document Number	Rev
	Google Debug	1A
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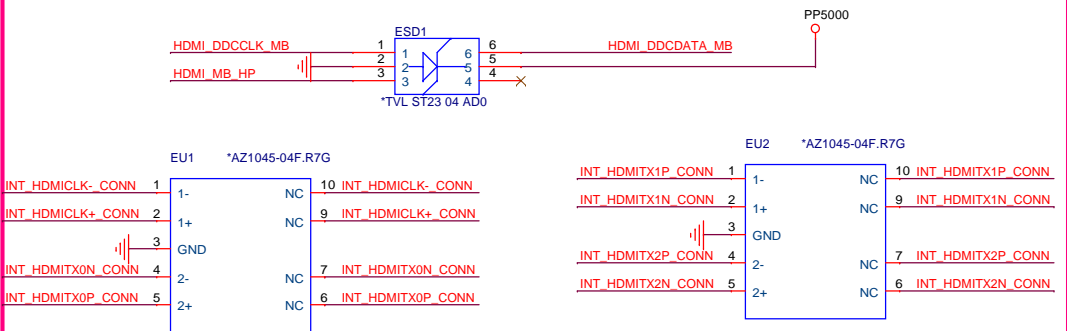
HDMI Cost Reduced level shift (HDM)



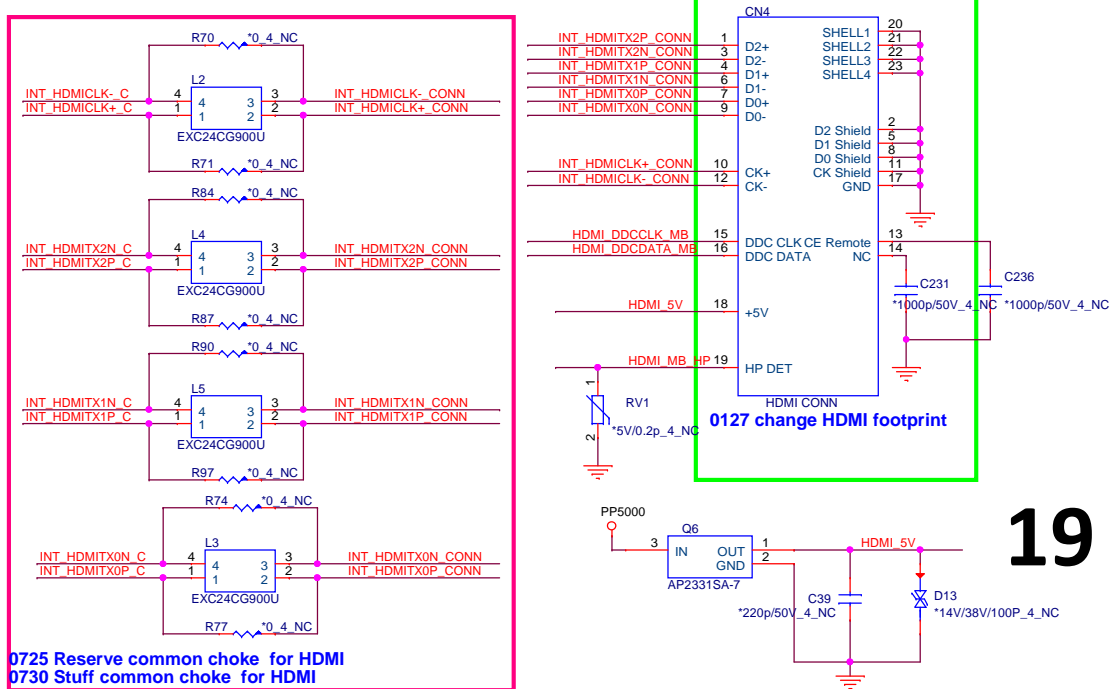
HDMI DDC (HDM)



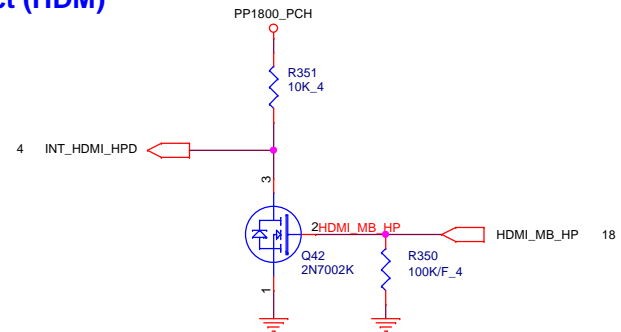
For ESD



HDMI connector (HDM)



HDMI-detect (HDM)



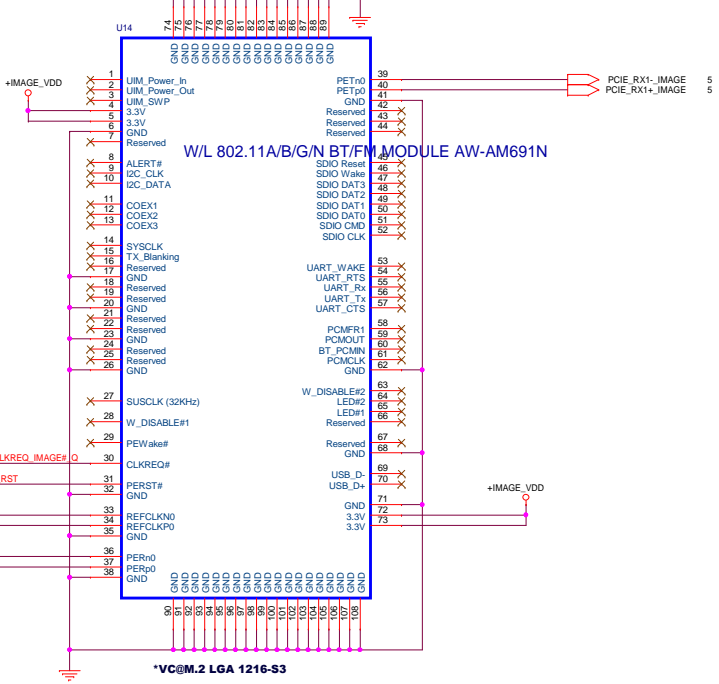
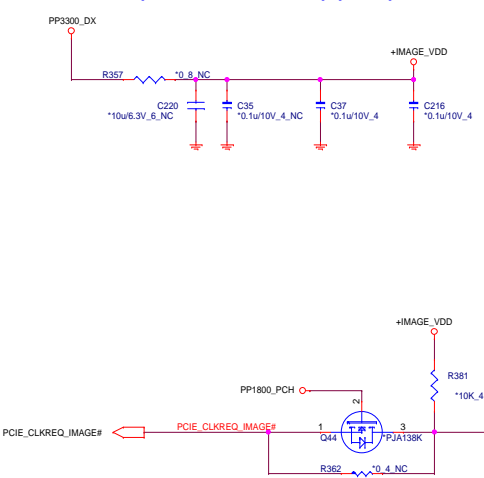
US1 module
WLAN_OFF_L -->POWER DOWN LAN CHIP from BC
WIFI_DISABLE_L(RF_EN) -->disable PCIe I/F from PCH
Intel module
WLAN_OFF_L -->Disable BT
WIFI_DISABLE_L(RF_EN) -->Disable Wi-Fi or all wireless

PIN56: disable PCIe I/F
PIN54: power down CHIP

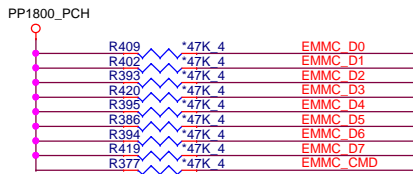
NFC pin list
1.pin68-->NFC_ANT_N
2.pin66-->NFC_ANT_P
3.pin42-->NFC_WI_IN (1.8V)
4.pin40-->NFC_SWP2_IO (1.8V)
5.pin38-->NFC_ACTIVE (3.3V)
5.pin73-->NFC_NOT_ALLOWED (3.3V)
LTE Coexistence pin list (based on V0.2 spec)
1.pin48-->LTE_SOUT (3.3V)
2.pin46-->LTE_SIN (3.3V)

0811 CN2 DFHS75FR108 was EOD so use DFHS75FR105 for substitute.

Video Codec (M.2 LGA 1216-S3) (VGA) , NOT USE



EMMC (MMC)

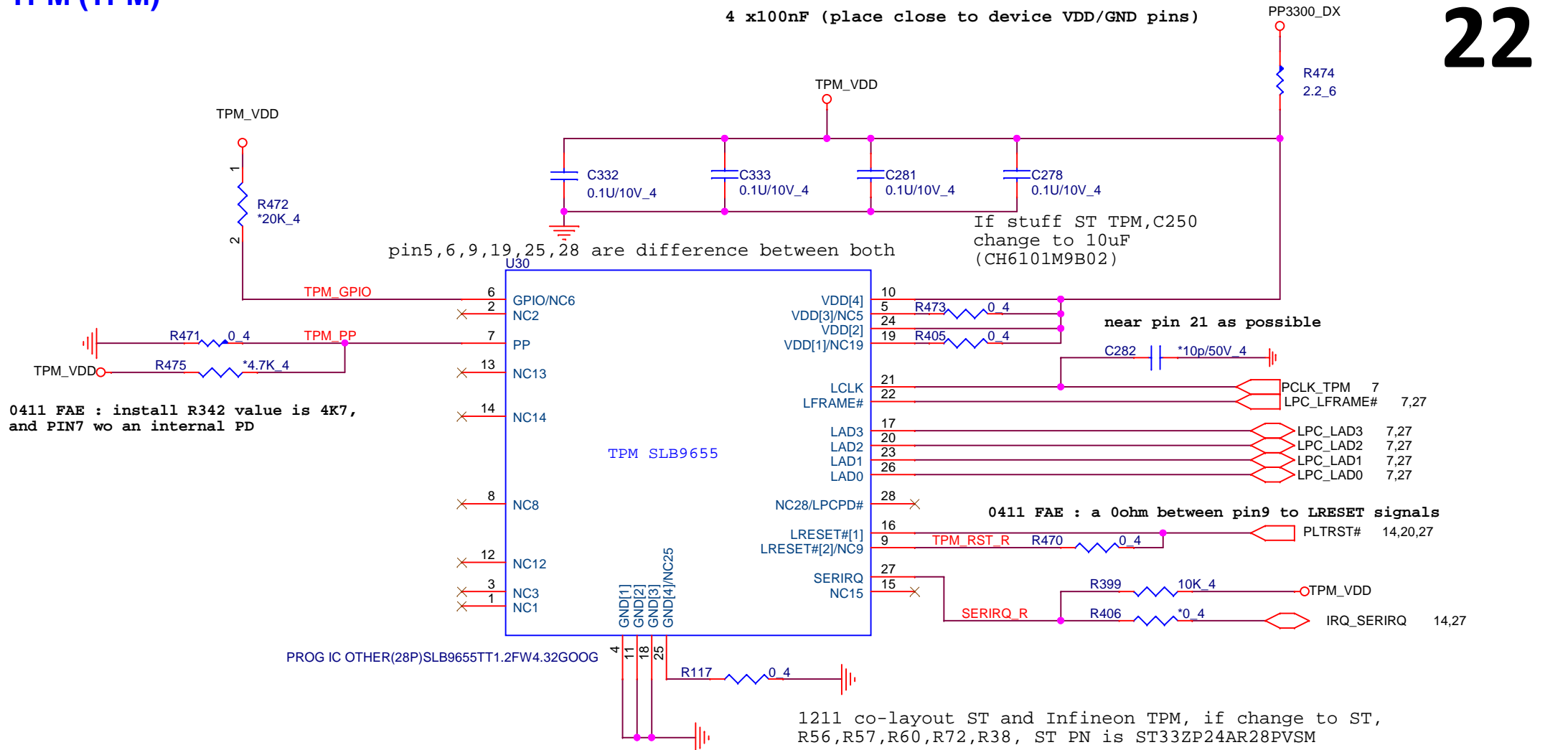


1st source	Hynix: AKE3FG-TW03 (Quanta buy)	H26M52103FMR
2nd source	Samsung: AKE2RF-T502 (Quanta buy)	KLMAG2GEAC-B031
3rd source	Sandisk: AKE3RZ-T115	SDIN8DE2-16G-859

9/25 Update new Sandisk EMMC QP/N: AKE3RZ-T115

TPM (TPM)

22



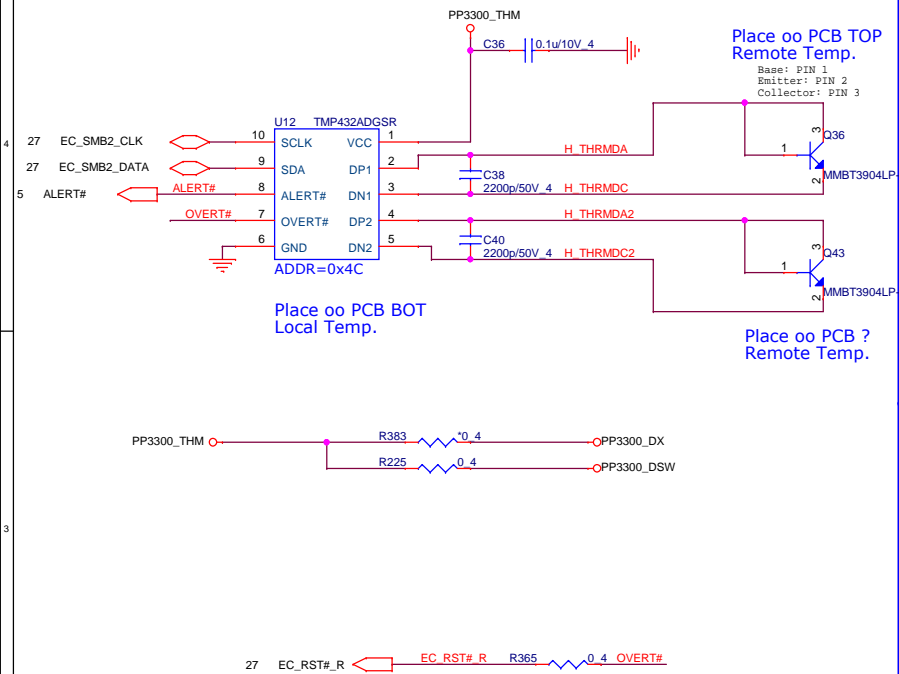
Quanta Computer Inc.

PROJECT : ZM8

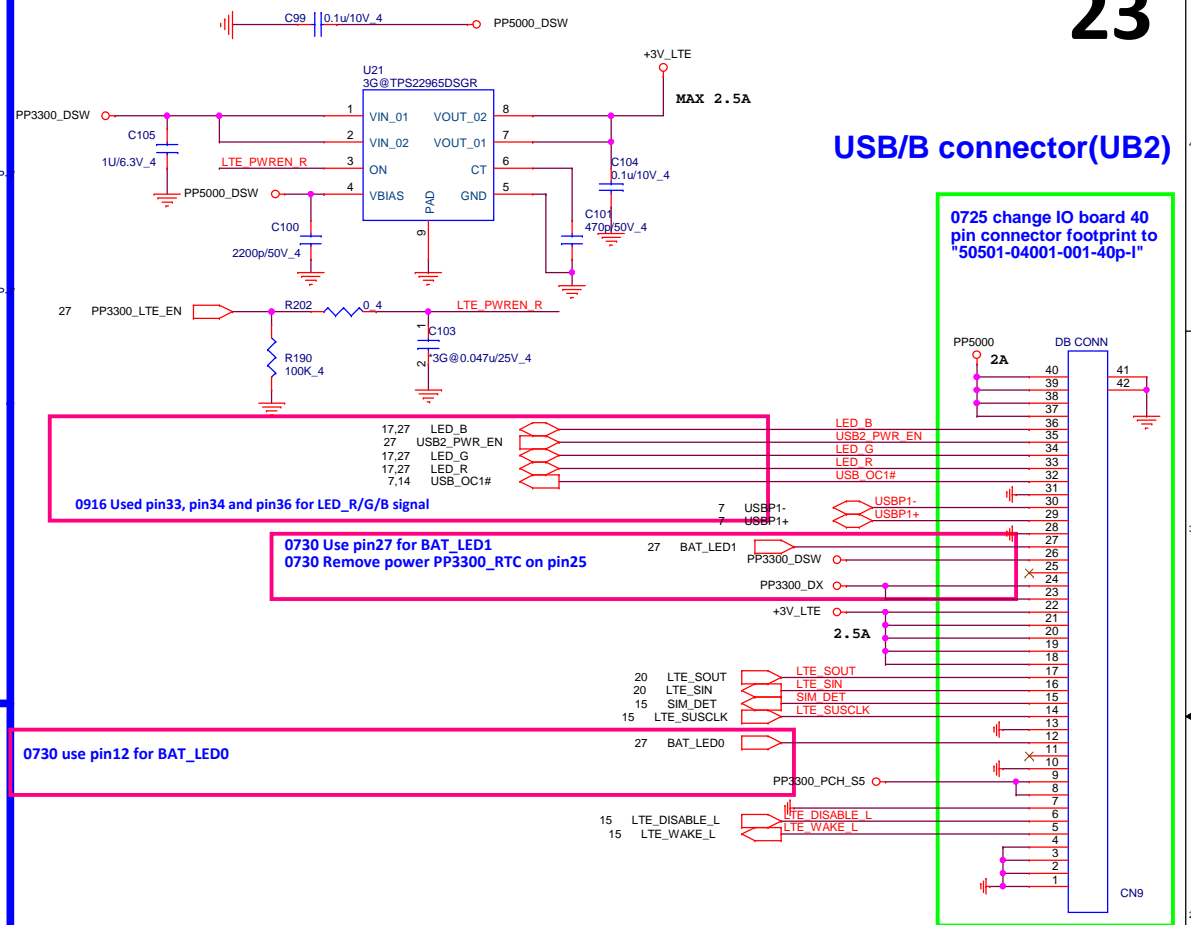
Size	Document Number	Rev
	TPM SLB9655	1A

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Thermal Sensor(THM)



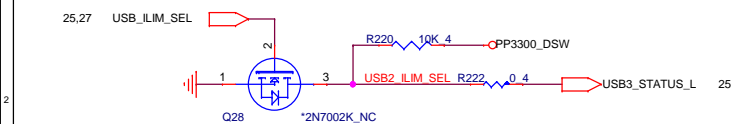
LTE power switch(MNC)



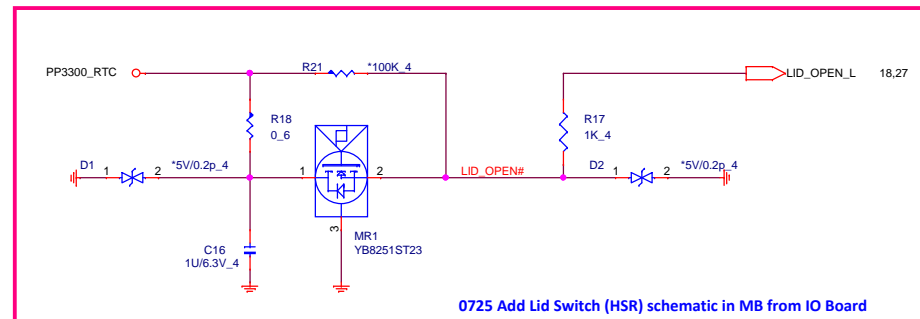
USB/B connector(UB2)

0725 change IO board 40 pin connector footprint to "50501-04001-001-40p-1"

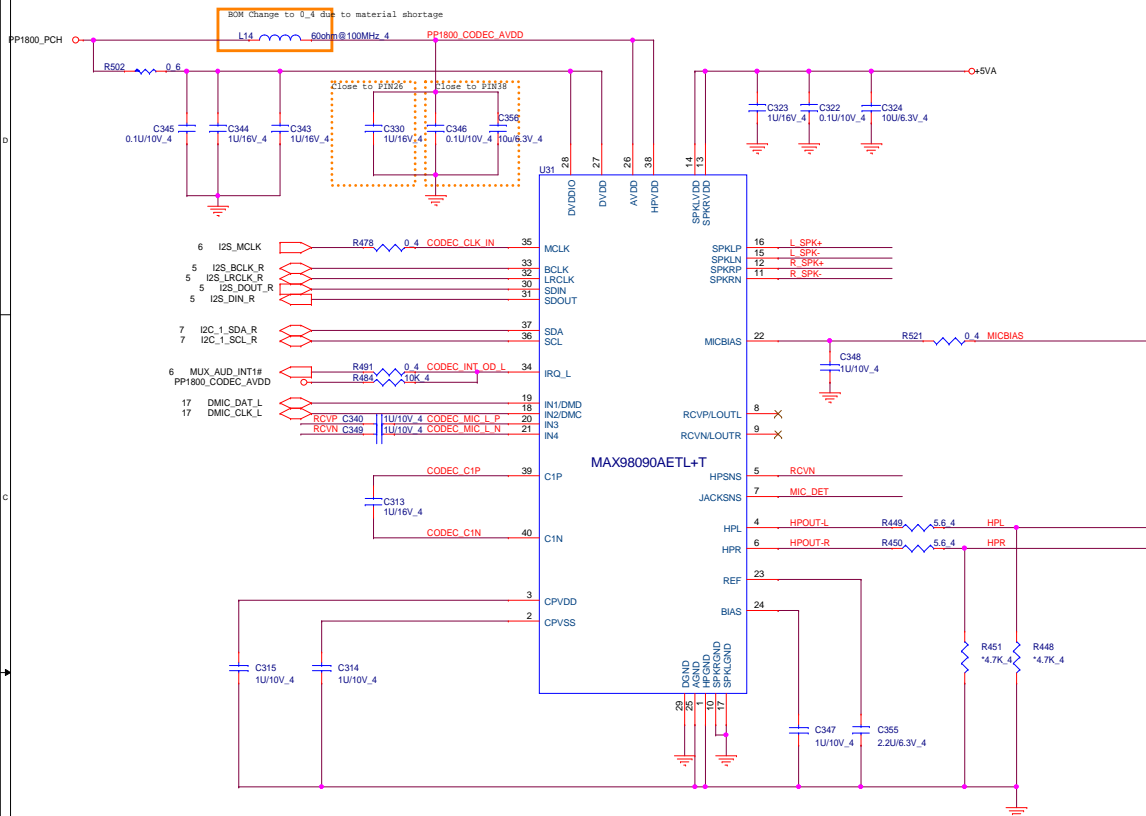
USB Switch Current Control(UBC)



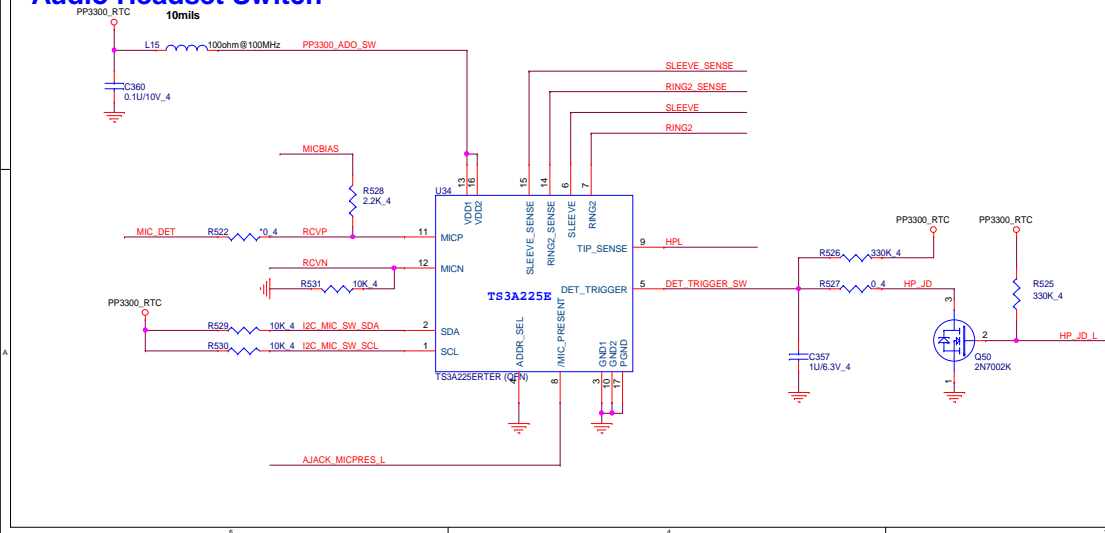
Lid Switch (HSR)



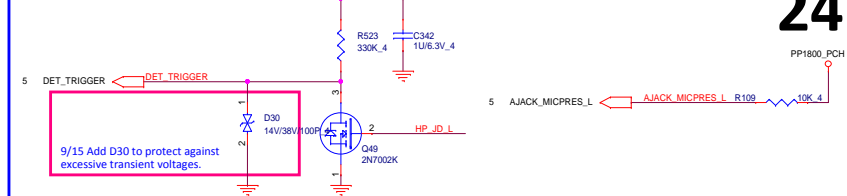
AUDIO CODEC (ADO)



Audio Headset Switch



SOC DET(ADO)



HEADPHONE/Mic combo(ADO)

combo jack
Normal Open

P/N: DFTJ06FR652
Normal open

PTN1 --> I?

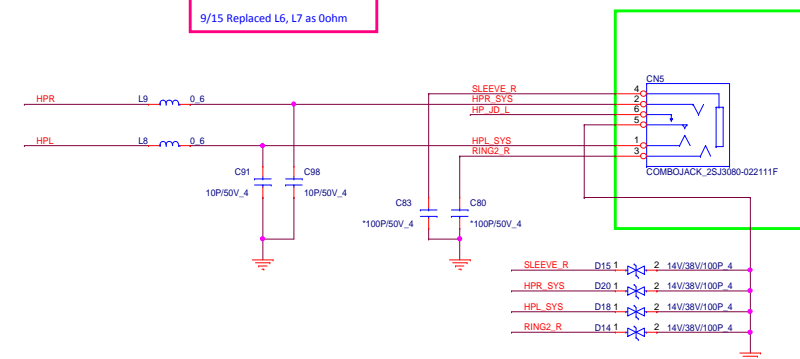
PIN2 --> R?

PIN3 --> GND/

PIN4 --> MIC/
PINE --> ID3

PIN6 --> GND?

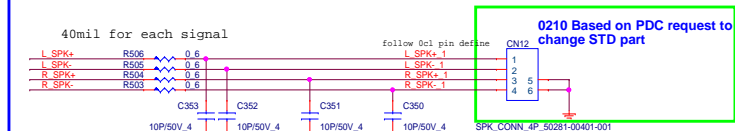
1000



Codec PWR 5V(ADO)



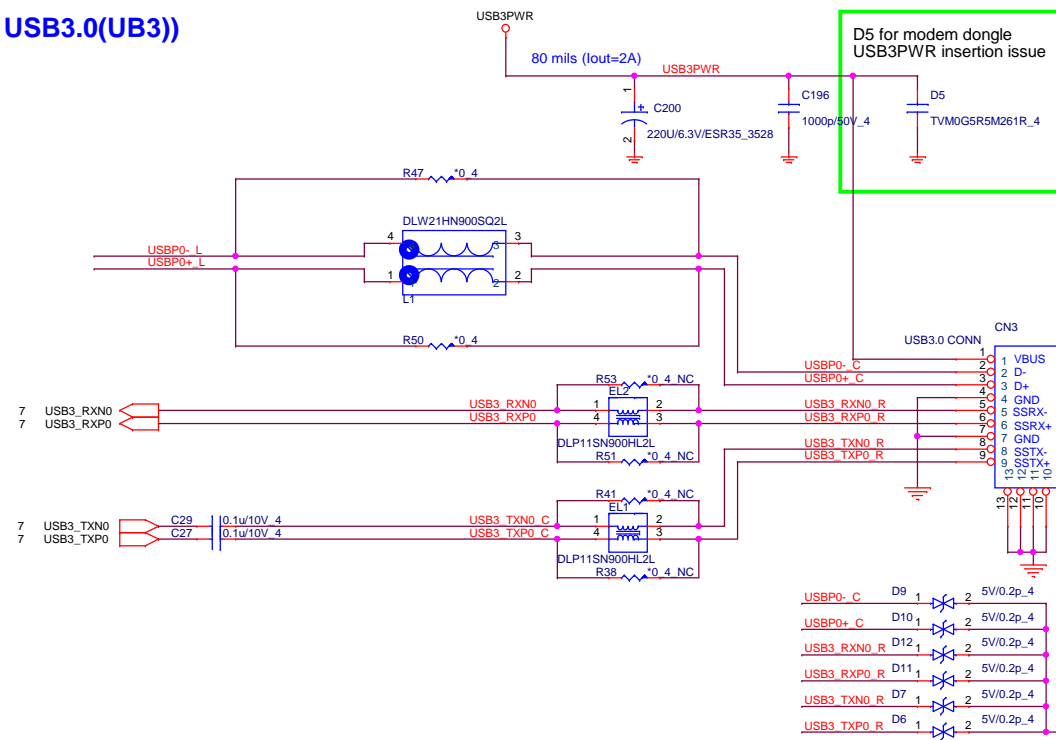
Internal Speaker(ADO)

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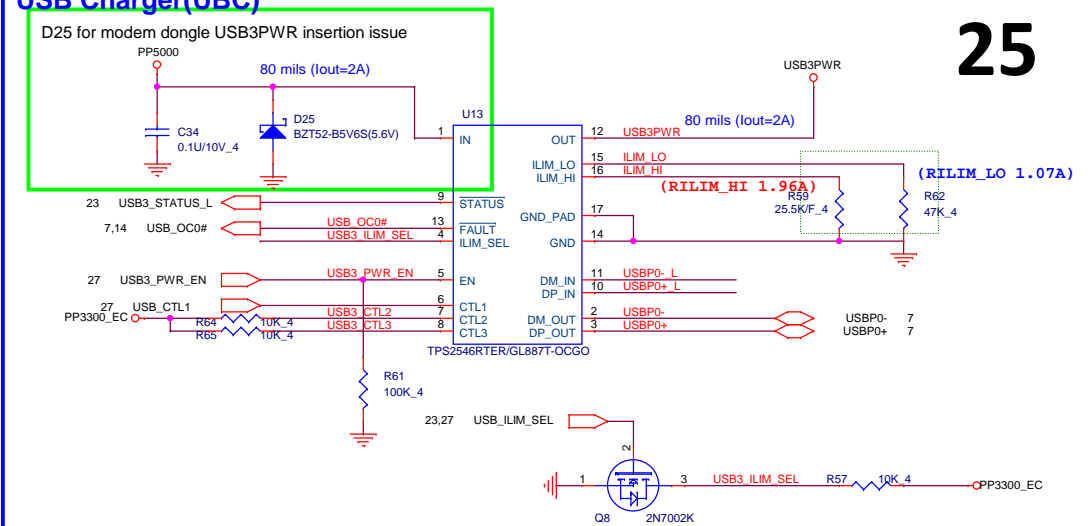
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USB3.0(UB3))



USB Charger(UBC)



RILIM_LO is optional and the ILIM_LO pin may be left unconnected if the following conditions are met:

1. ILIM_SEL is always set high
2. Load Detection - Port Power Management is not used
3. Mouse / Keyboard wake function is not used

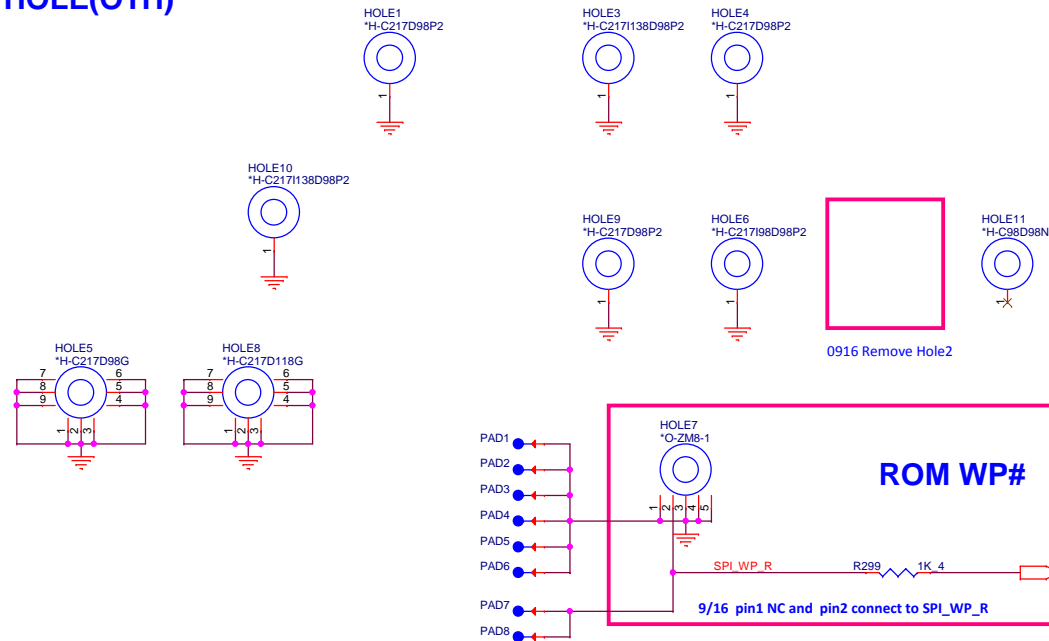
If conditions 1 and 2 are met but the mouse / keyboard wake function is also desired, it is recommended to use $RILIM_LO < 80.6\text{ k}\Omega$.

The following equation programs the typical current limit:

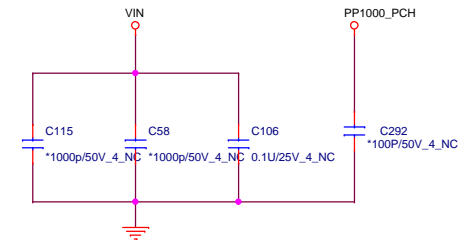
(1)
RILIM_XX corresponds to either RILIM_HI or RILIM_LO as appropriate.

$$\text{IOS_typ(mA)} = 50,250 / \{\text{RILIM_XX(K}\Omega\text{)} + 0.1\}$$

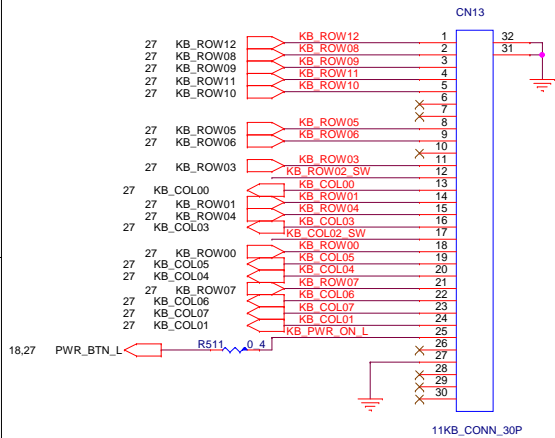
HOLE(OTH)



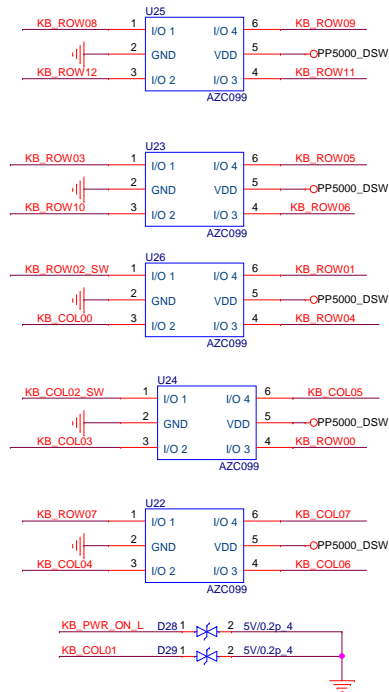
EMI(EMC)



K/B (KBC)

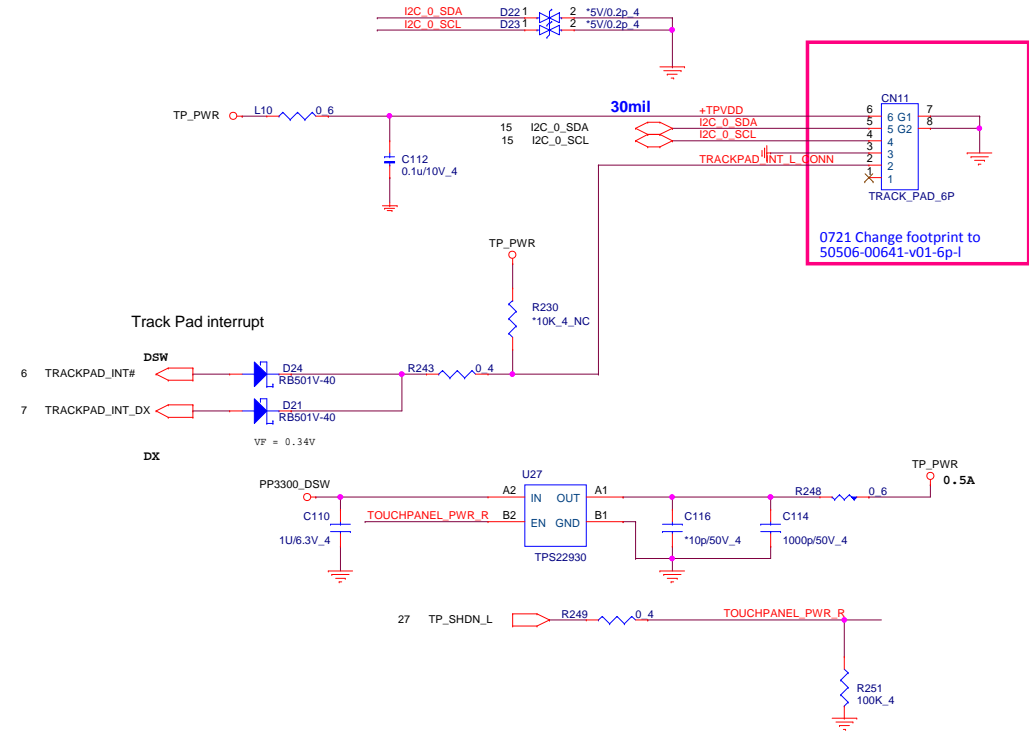


K/B ESD (EMC)

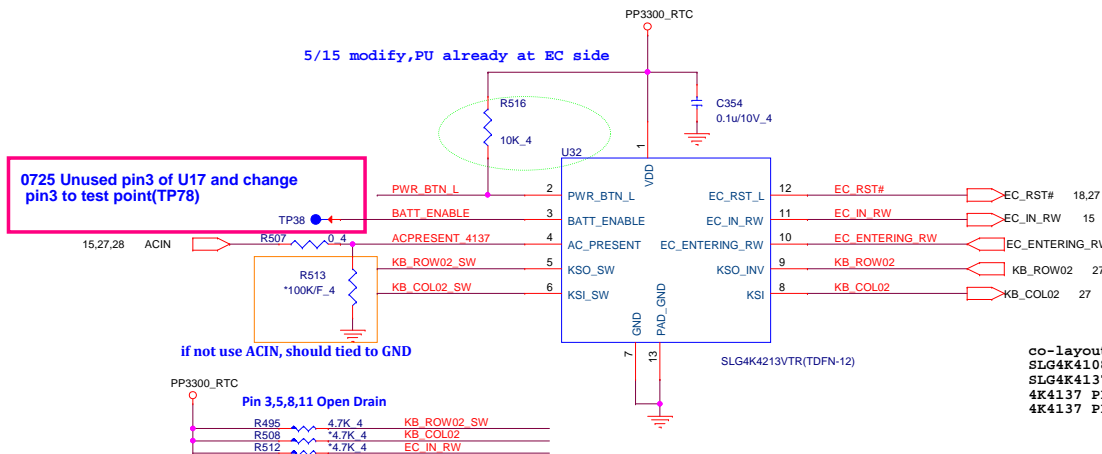


0220 Add and stuff ESD components on KB nets
0221 swap pin of U1002-U1006 for layout

Track PAD BOARD CONN (TPD)



0721 Change footprint to
50506-00641-v01-6p-l

HOLELESS RESET
2-CHIP(KBC)

Connect to EC reset pin
Connect to GPIO on CPU
with PU to GPIO power
well
Connect to EC pin C5 (must
be low when EC IN RESET)

co-layout 4K4108 and 4K4137
SLG4K4108 (AL004108000)
SLG4K4137 (AL004137000)
4K4137 PIN3 is BATT_ENABLE
4K4137 PIN4 is AC_PRESENT

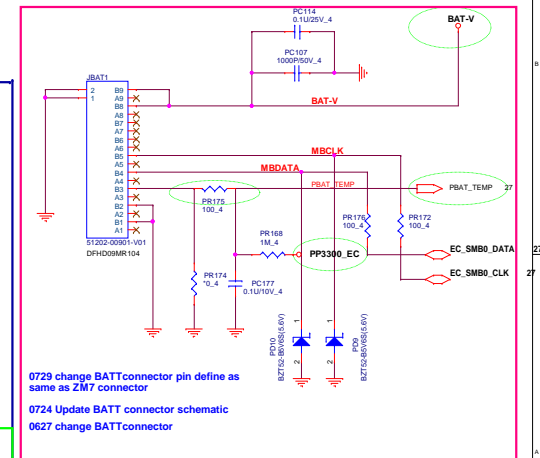
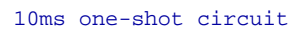


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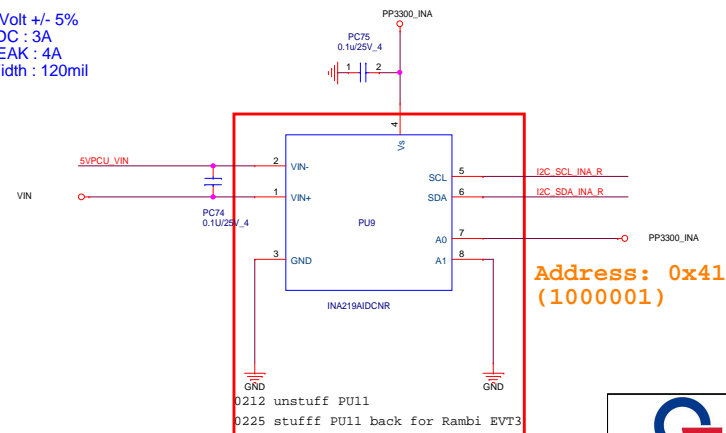
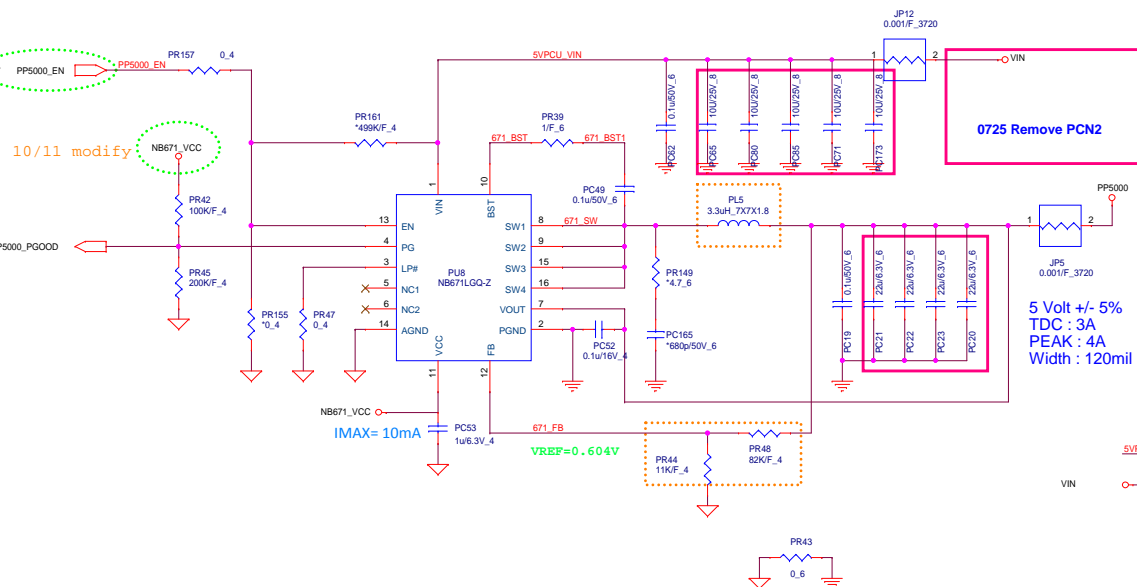
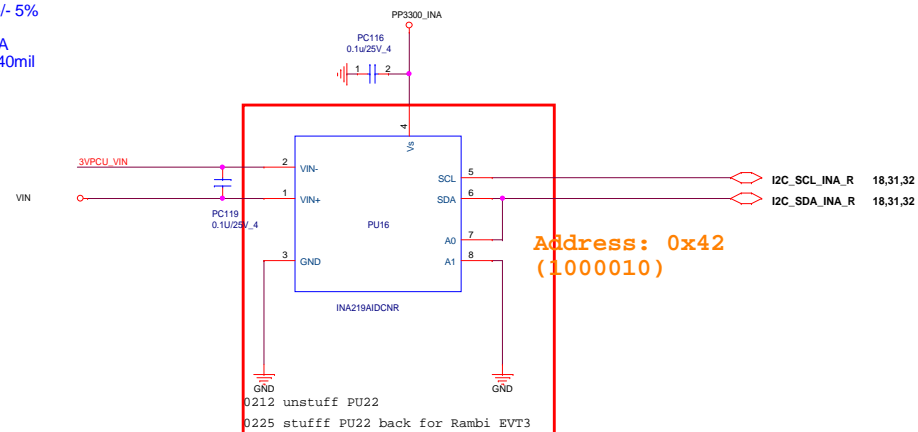
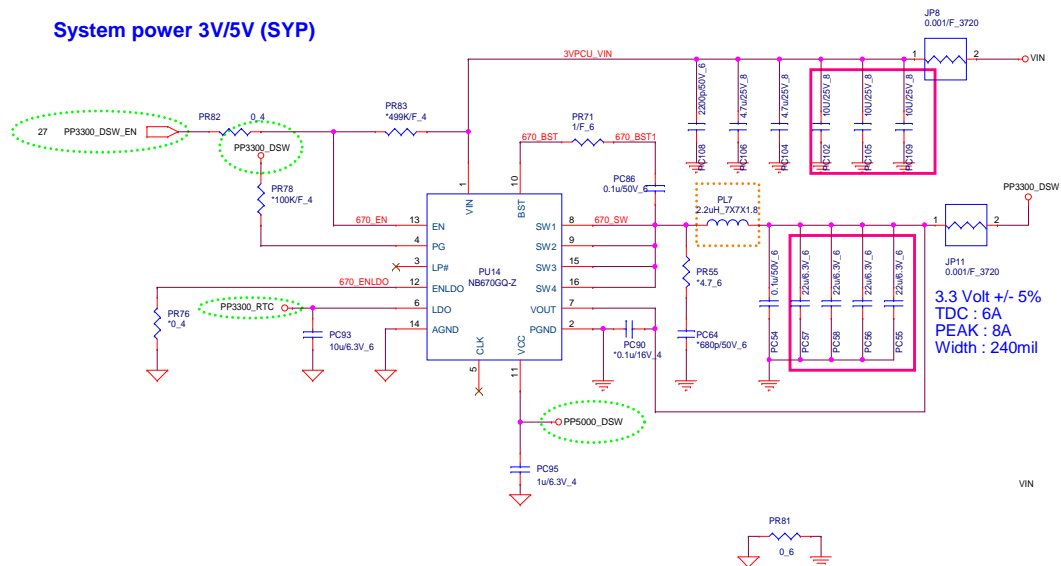
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	KB/TP/FAN/HW Reset	1A

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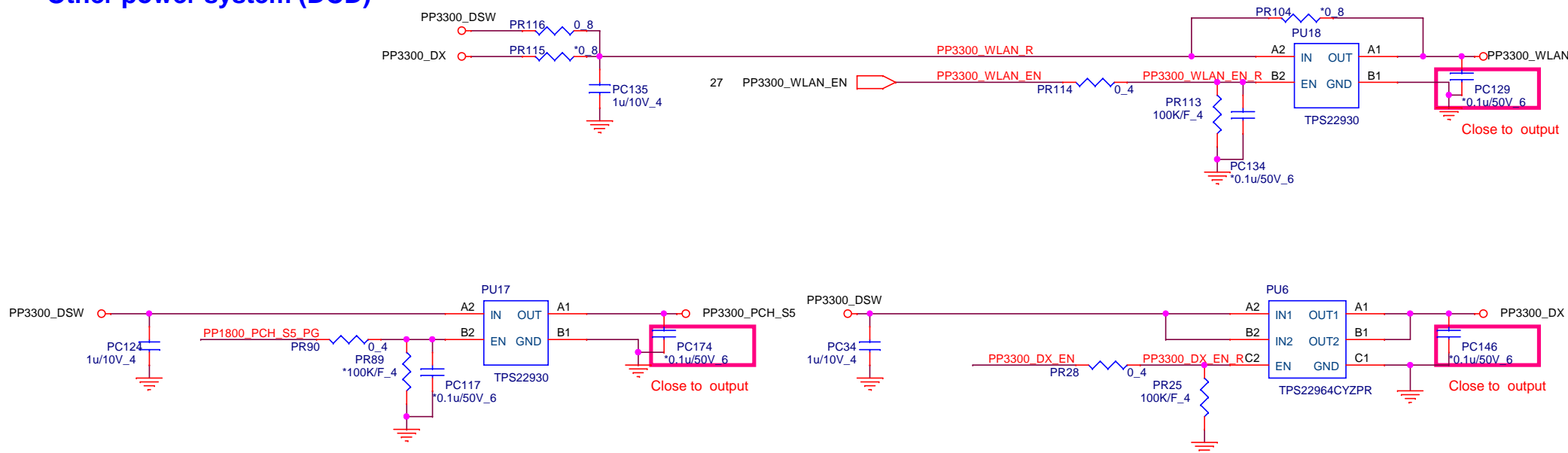


System power 3V/5V (SYP)



35 PP1800_PCH_S5_PG PP1800_PCH_S5_PG
27 PP3300_DX_EN PP3300_DX_EN

Other power system (DCD)

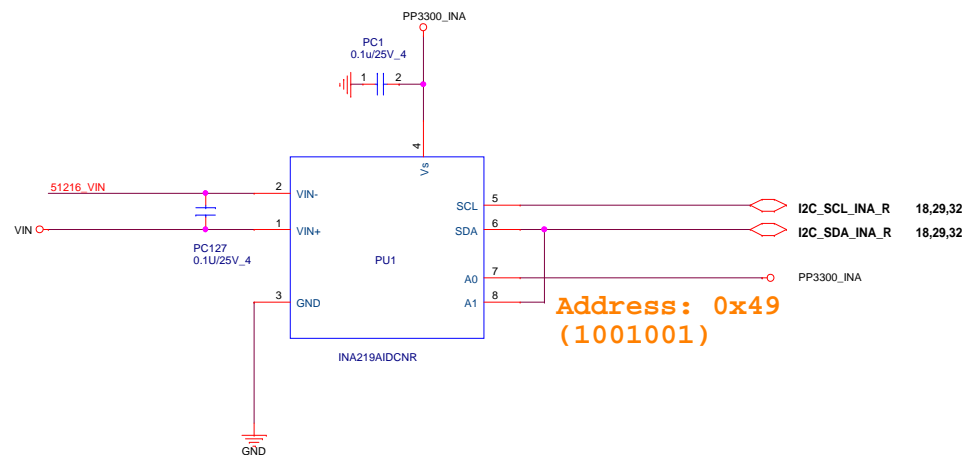
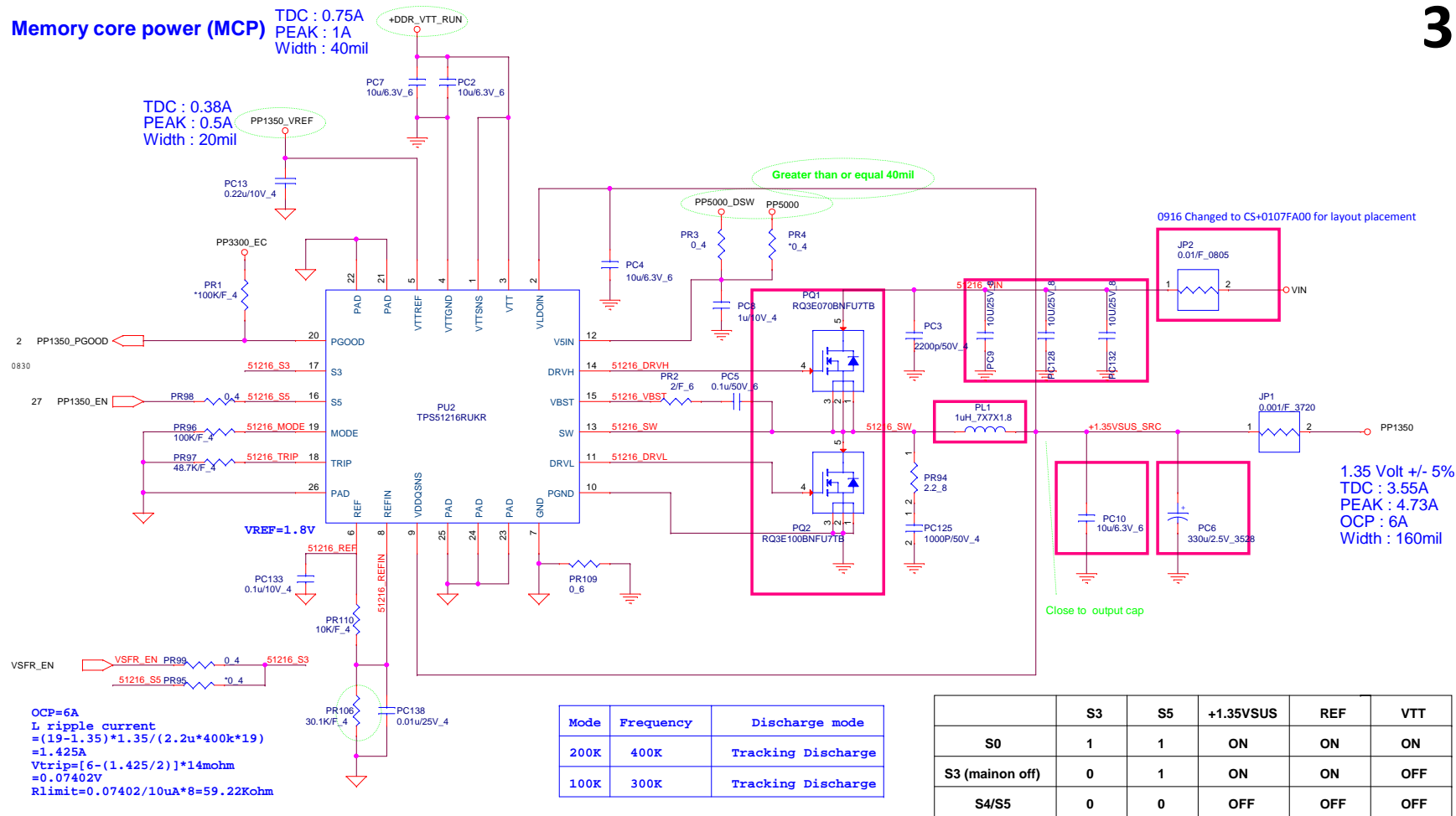


Quanta Computer Inc.

PROJECT :

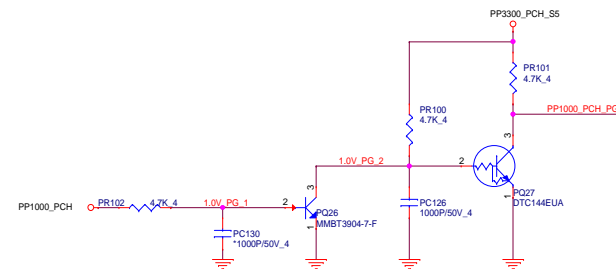
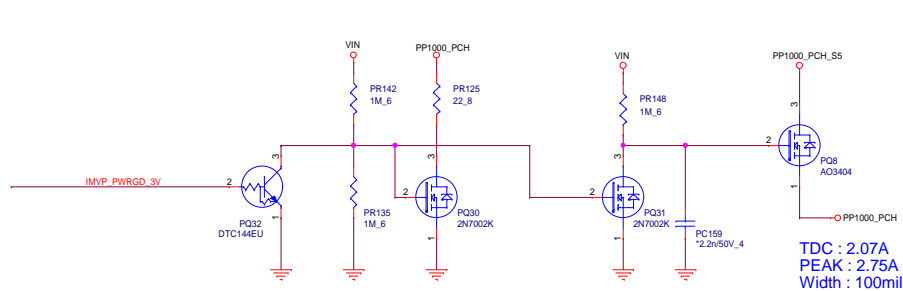
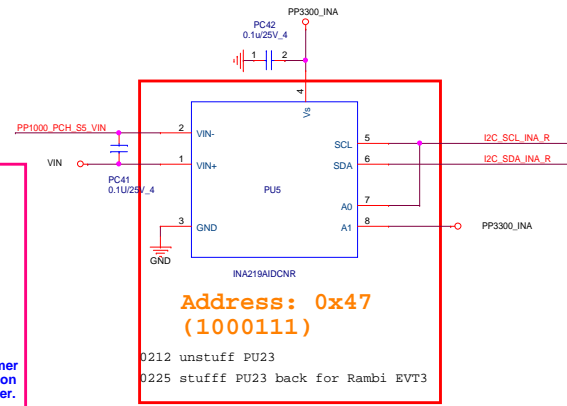
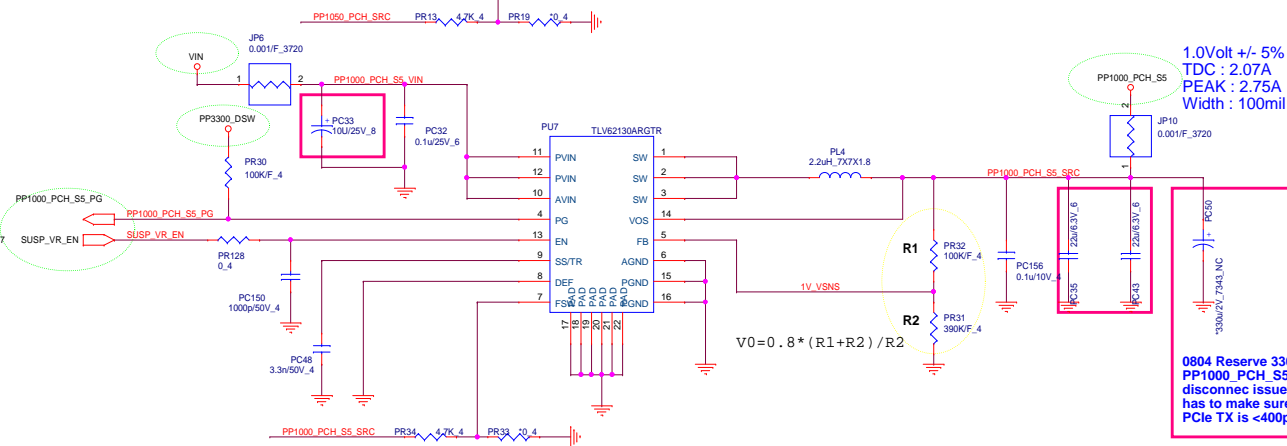
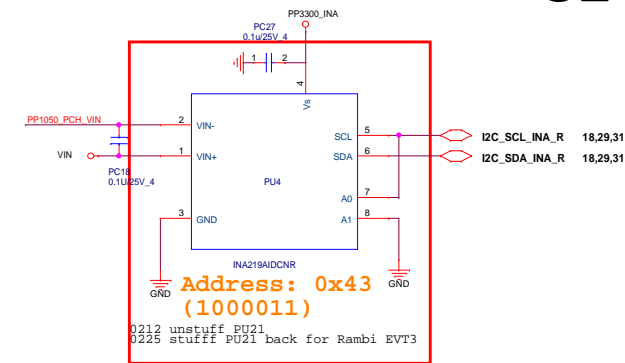
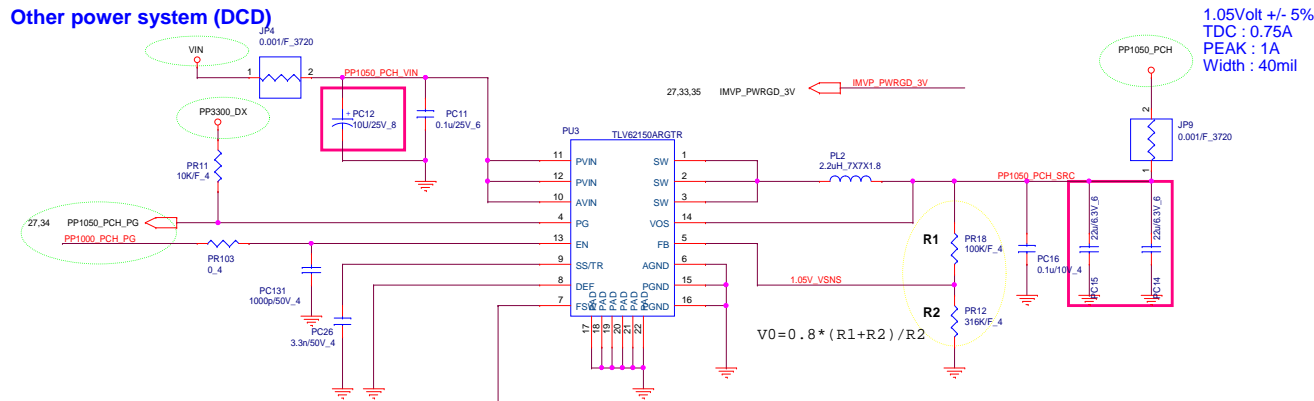
Size	Document Number	Rev
	Load Switch	1A

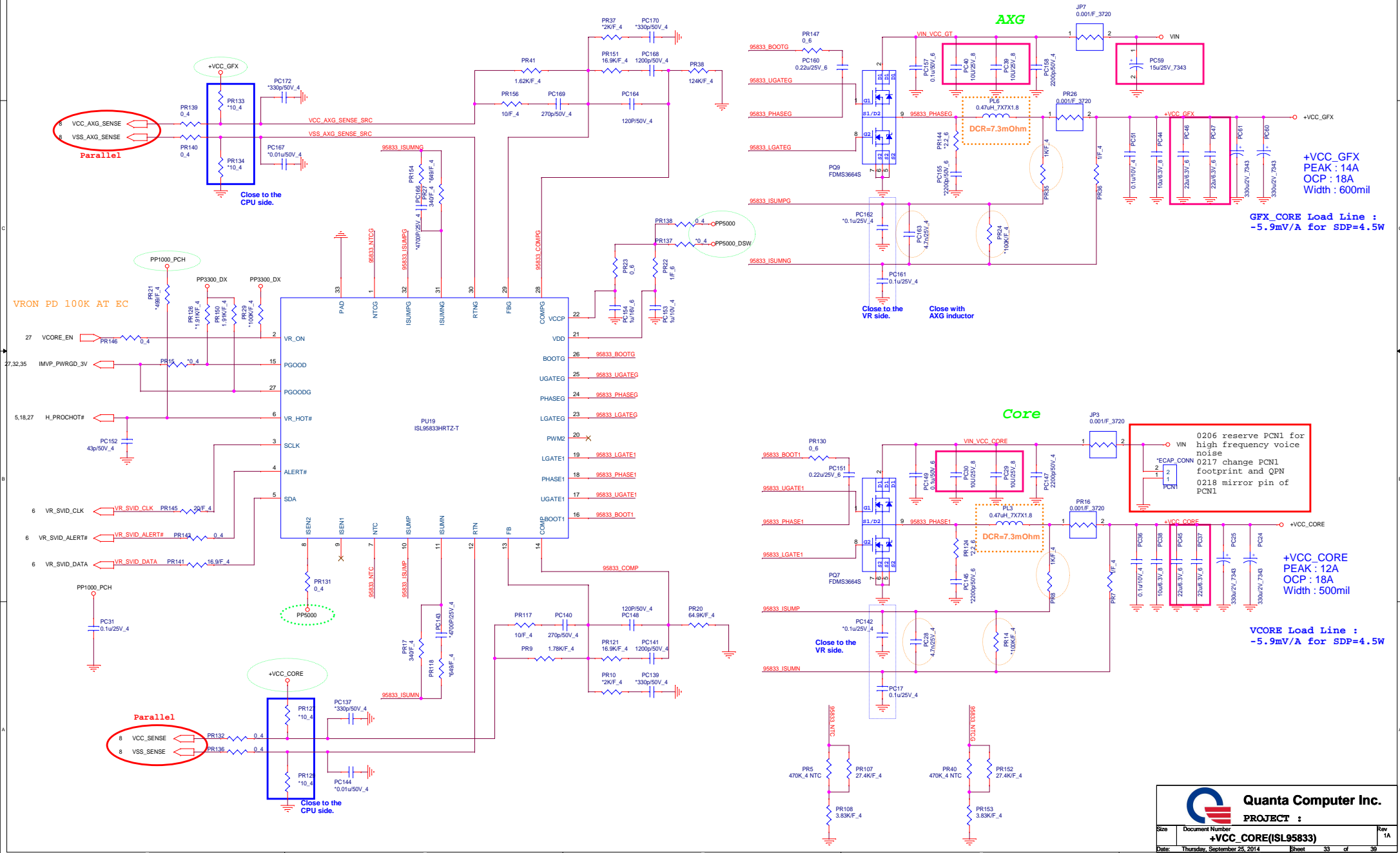
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Other power system (DCD)

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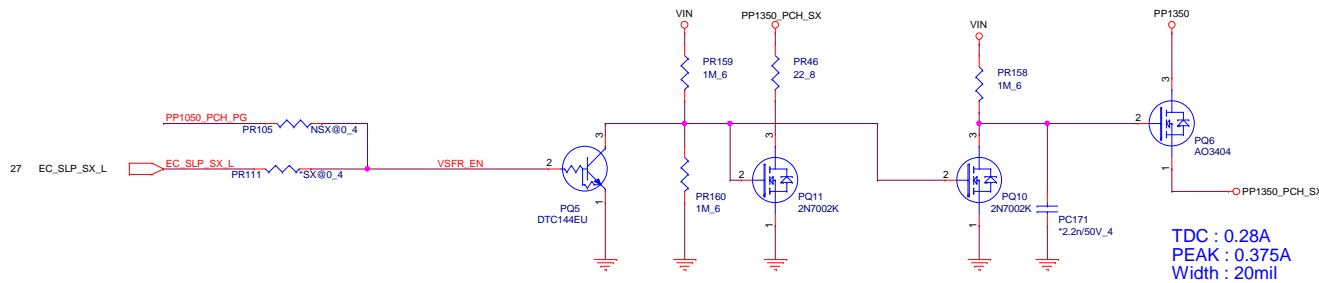
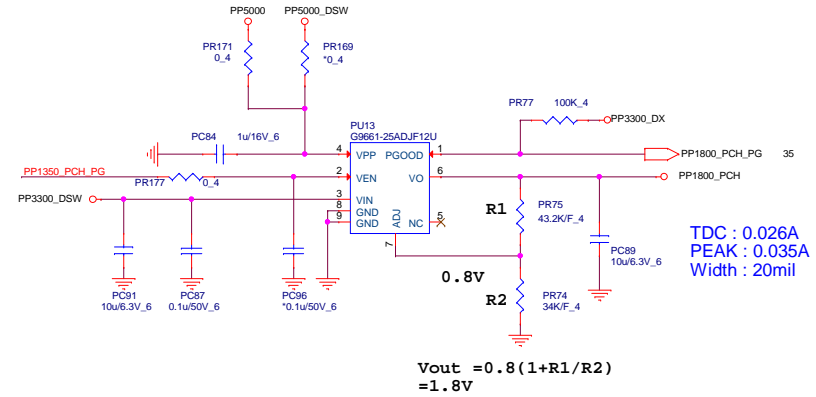
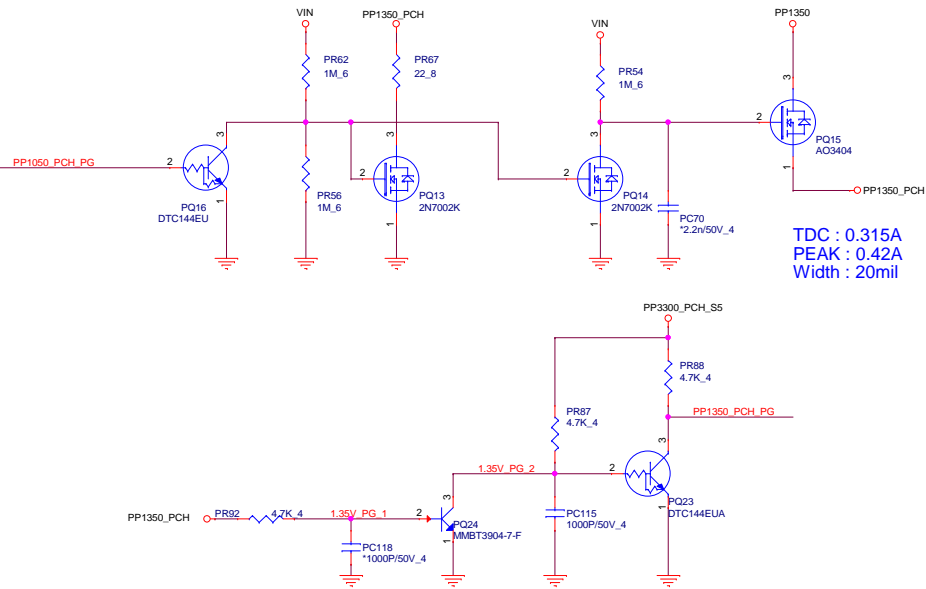




Other power system (DCD)

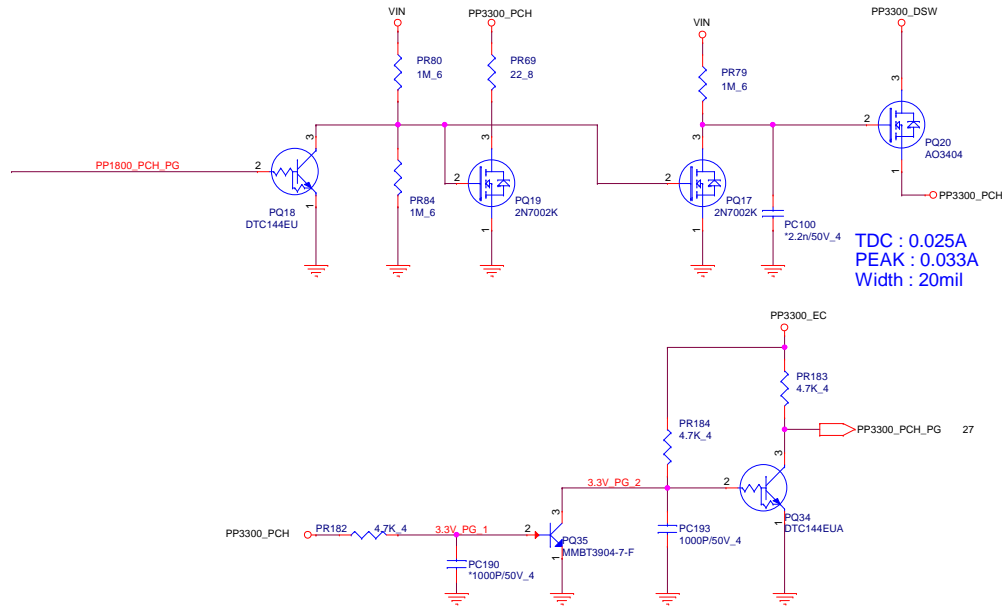
34

31 VSFR_EN
27,32 SUSP_VR_EN
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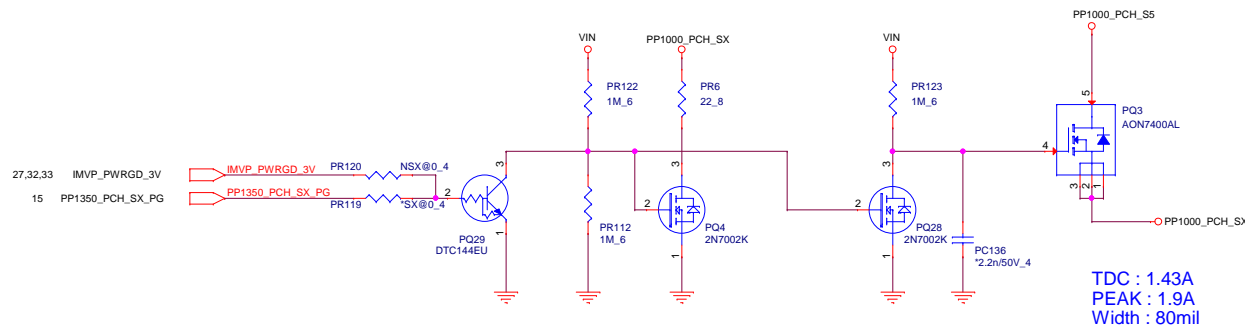
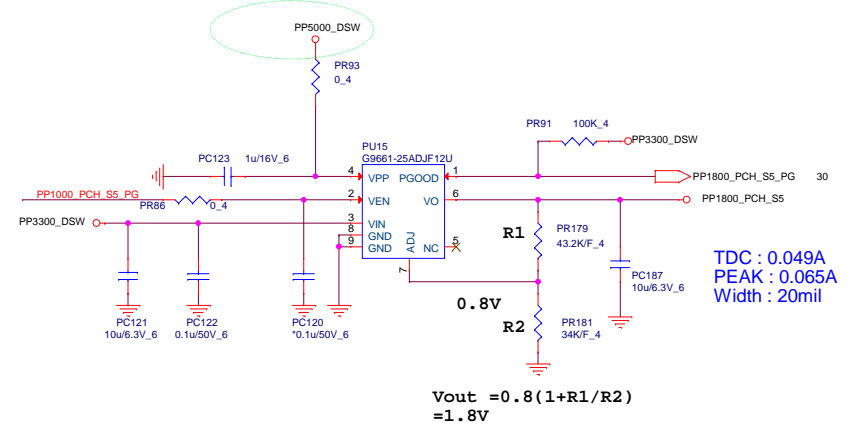


Other power system (DCD)

35



0219 Change G9661 to TPS62243 for PP1800_PCH_S5
0220 change back to LDO for PP1800_PCH_S5

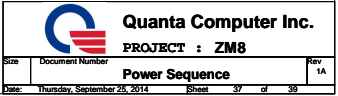




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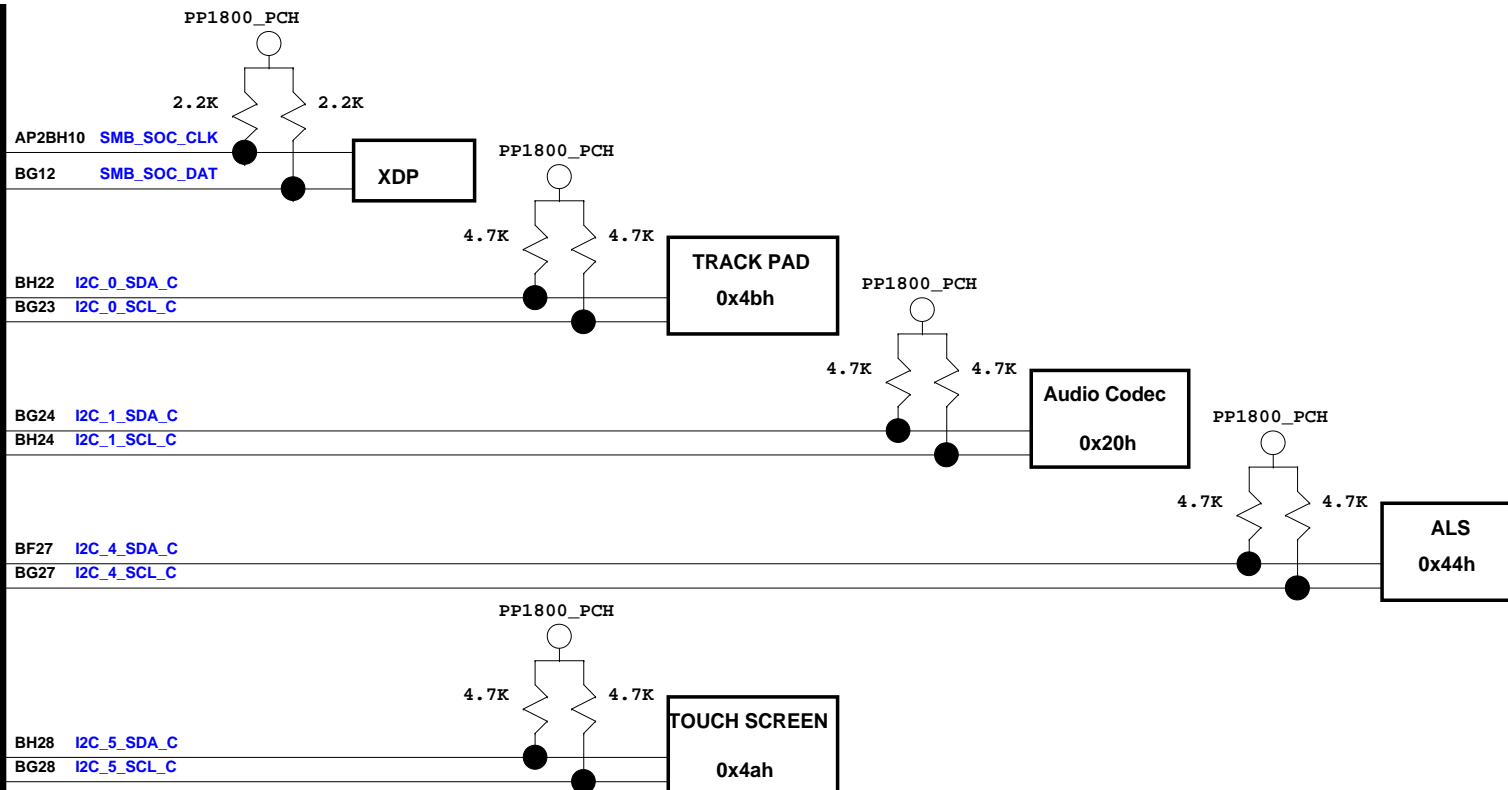
PROJECT :

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