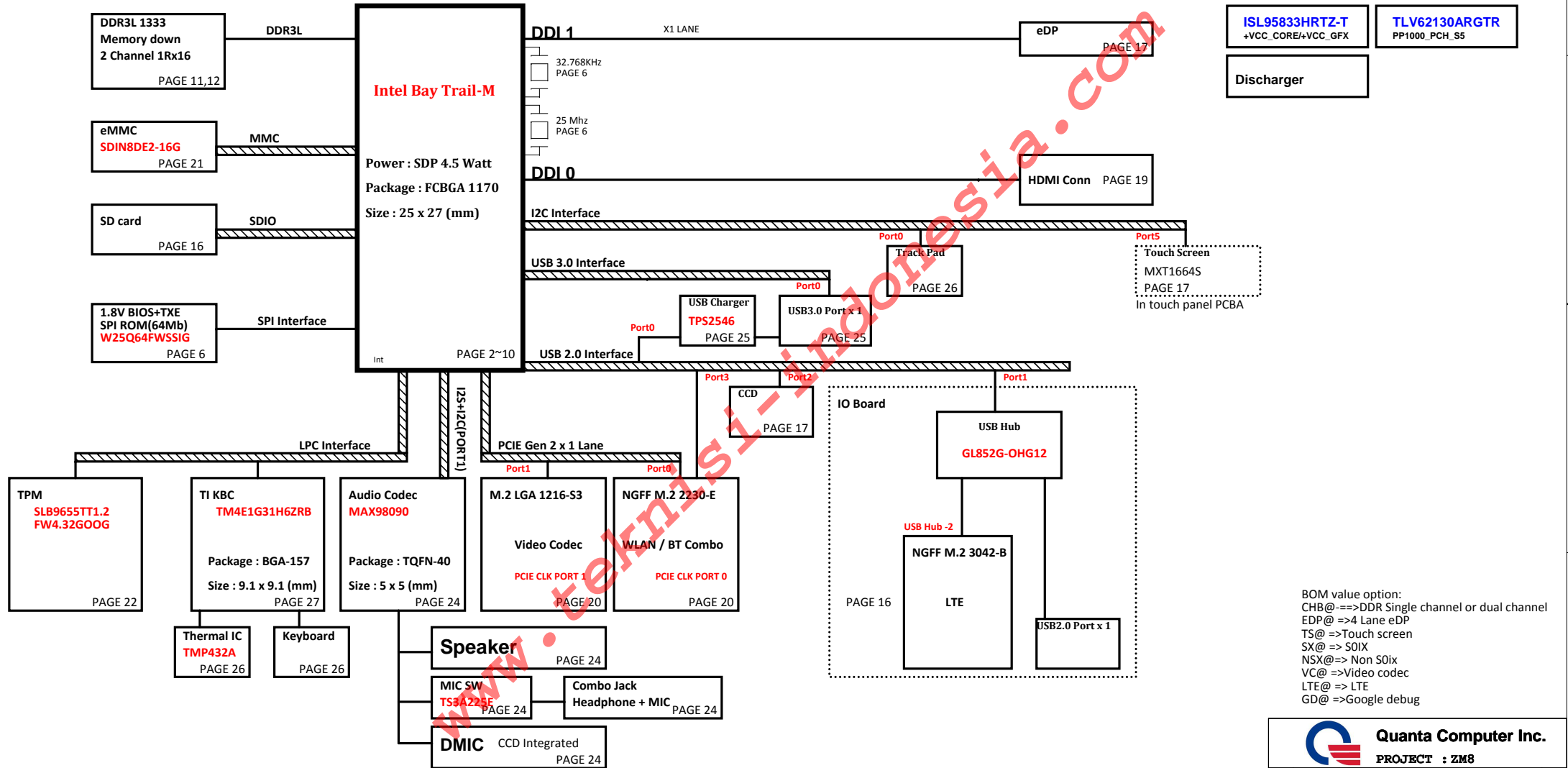


Intel Bay Trail-M Platform Block Diagram

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



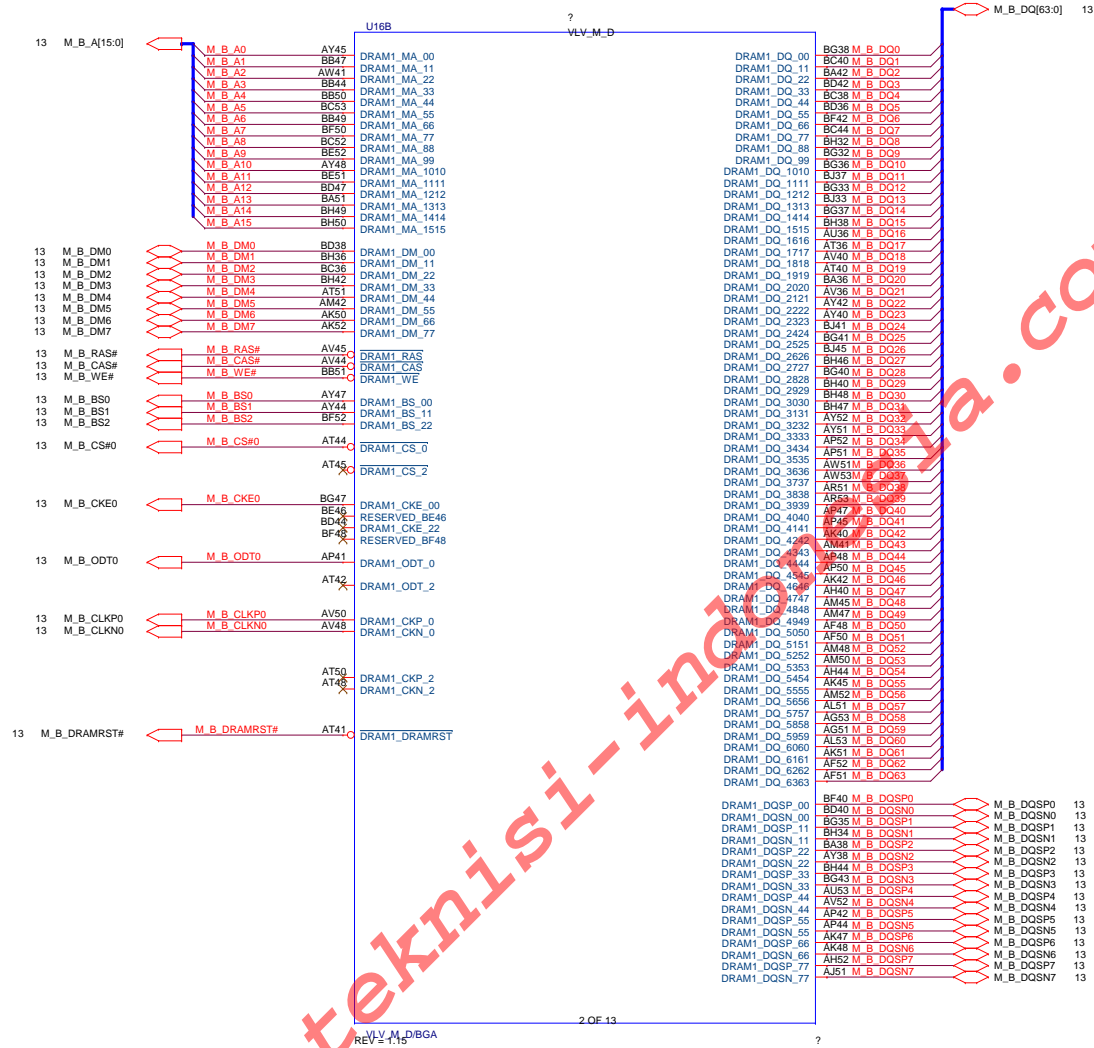
BOM value option:
CHB@=>DDR Single channel or dual channel
EDP@=>4 Lane eDP
TS@=>Touch screen
SX@=>S0IX
NSX@=>Non S0ix
VC@=>Video codec
LTE@=>LTE
GD@=>Google debug



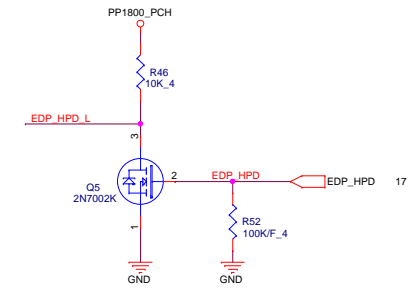
Quanta Computer Inc.
PROJECT : ZM8


Size	Document Number	Rev
	Intel Block Diagram	1A

Date: Thursday, September 25, 2014 Sheet 1 of 39

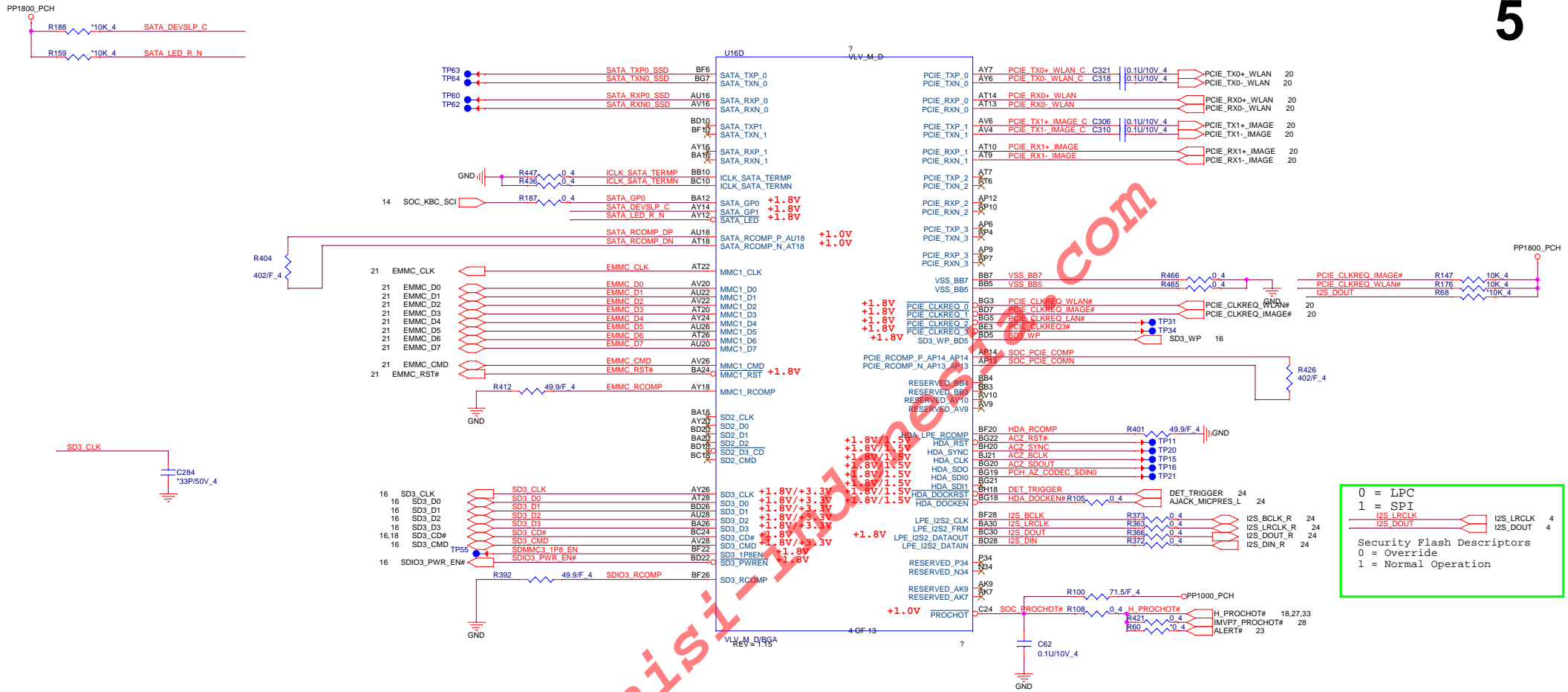


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[illegible]

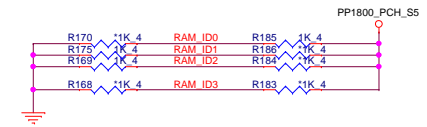
 Quanta Computer Inc. PROJECT : ZM8		
Size	Document Number	Rev
	Valley 3/9 (Display)	1A
Date:	Thursday, September 25, 2014	Sheet 4 of 39

SoC (CPU)



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

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Vender	RAM_ID	Q PN	Mfr. PN	Freq.	Size	Total Size
Micron	000	AKD5JGSLT02	MT41K256M16HA-125:E	1600MHz	4Gb	4GB
Hynix	001	AKD5JGETW00	H5TC4G63APR-PBA	1600MHz	4Gb	4GB
Samsung	010	AKD5PGST500	K4B4G1646Q-HYK0	1600MHz	4Gb	4GB
Samsung	011	AKD5PGST500	K4B4G1646Q-HYK0	1600MHz	4Gb	2GB
Micron	100	AKD5JGSLT02	MT41K256M16HA-125:E	1600MHz	4Gb	2GB
Hynix	101	AKD5JGETW00	H5TC4G63APR-PBA	1600MHz	4Gb	2GB

PP1800_PCH

SIM_DET_C
TRACKPAD_INT_DX

SOC_UART_TX
SOC_UART_RX

Un-Stuff for Test Only

PP1800_PCH

Touch pad

Audio Codec

9/9 unstuff pull high resistor(R382, R380) of TP I2C signal

Light sensor

Touch panel



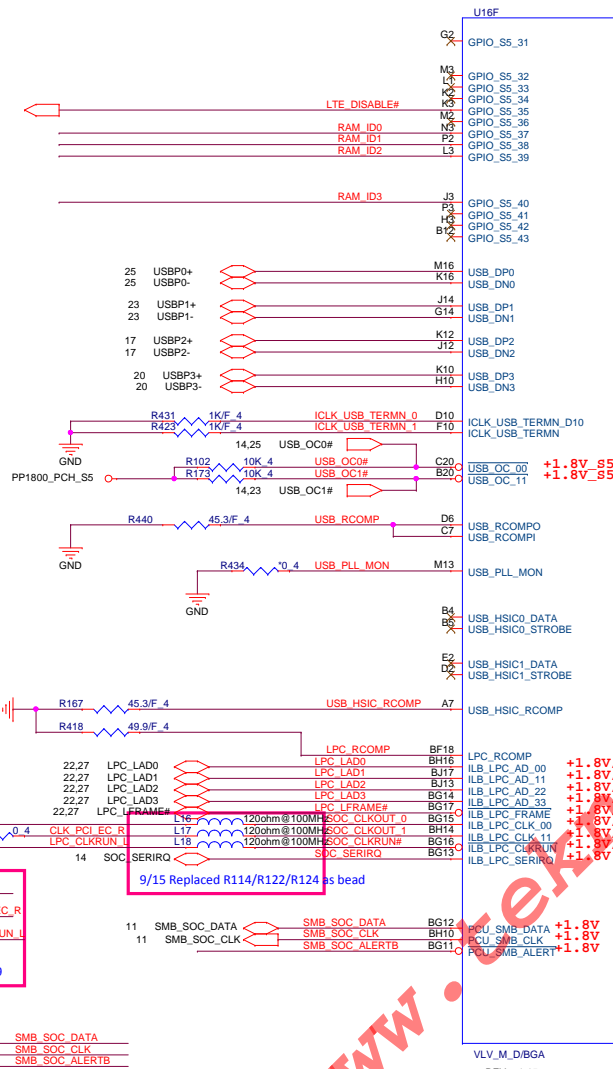
Quanta Computer Inc.

PROJECT : ZM8

Size	Document Number	Rev
	Valley 6/9 (USB/LPC/I2C)	1A

Date:	Thursday, September 25, 2014	Sheet	7	of	39
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MB USB3.0
HUB PORT 1 USB2.0
HUB PORT 2 LTE
HUB1
CCD
BT

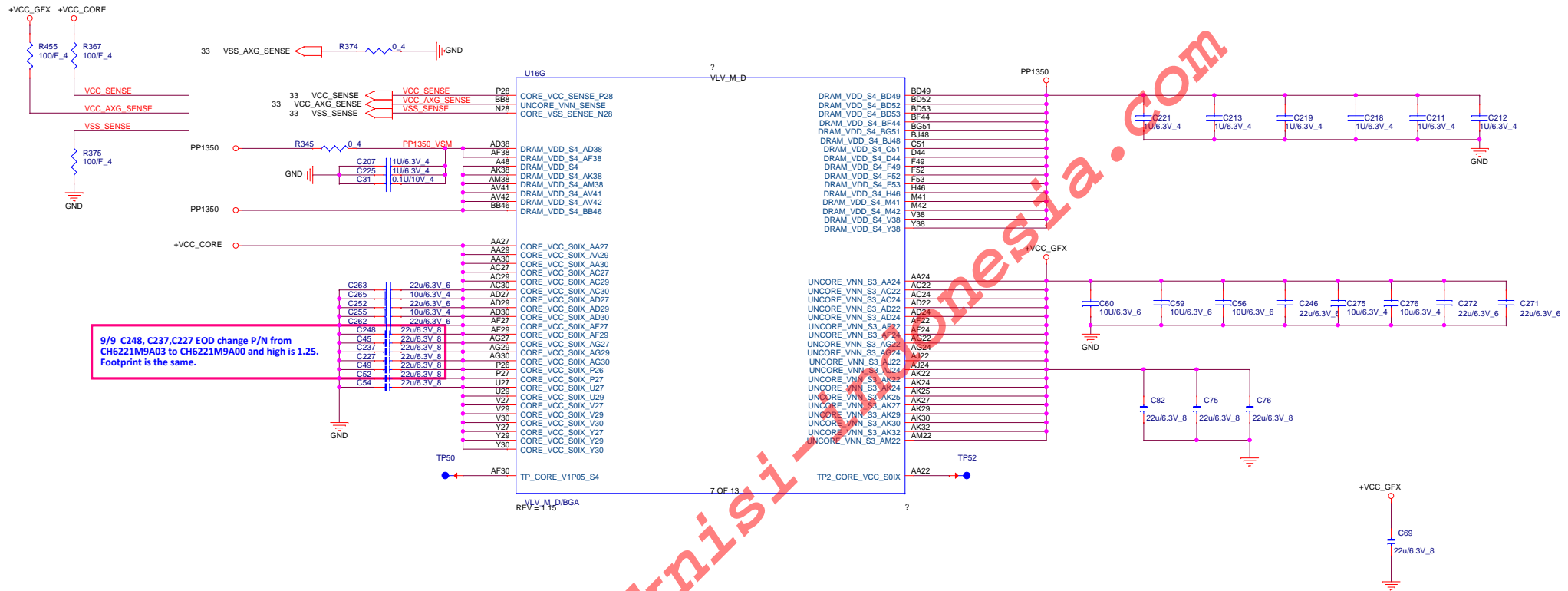


GND

R119

SOC_CLKRUN#

REV = 1.15



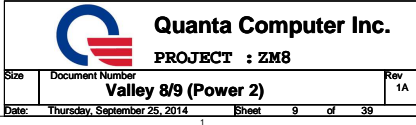
Quanta Computer Inc.

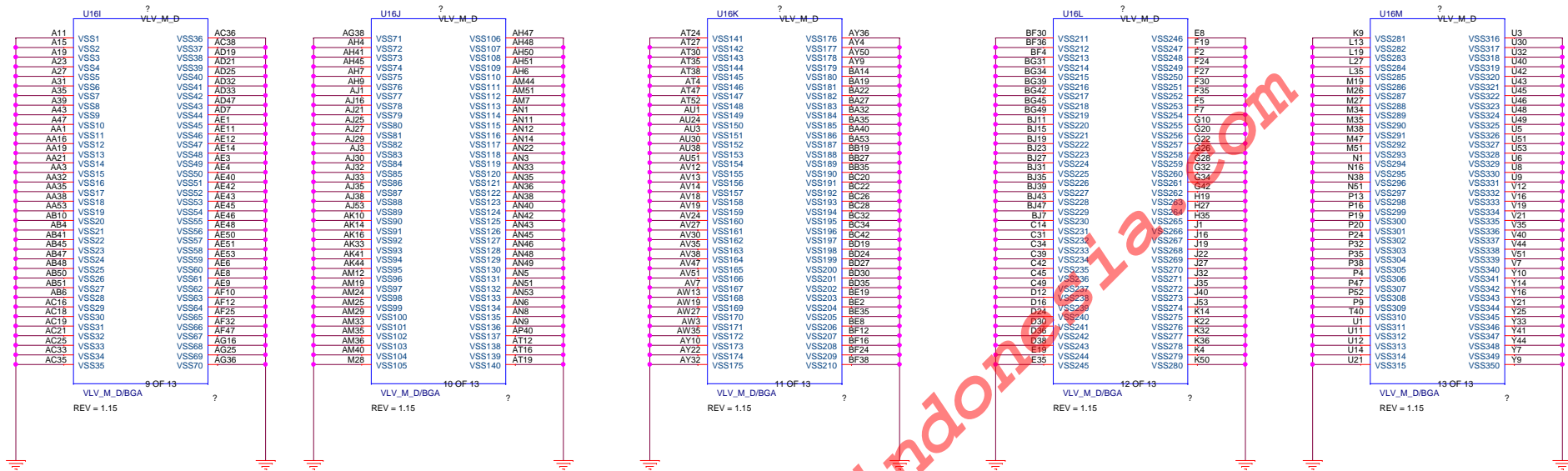
PROJECT : ZM8

Size	Document Number	Rev
	Valley 7/9 (Power 1)	1A

Date: Thursday, September 25, 2014	Sheet 8 of 39
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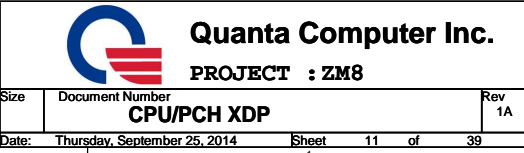
9





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11



On board memory (OBM)

BYTE2_16-23

BYTE1_8-15

BYTE0_0-7

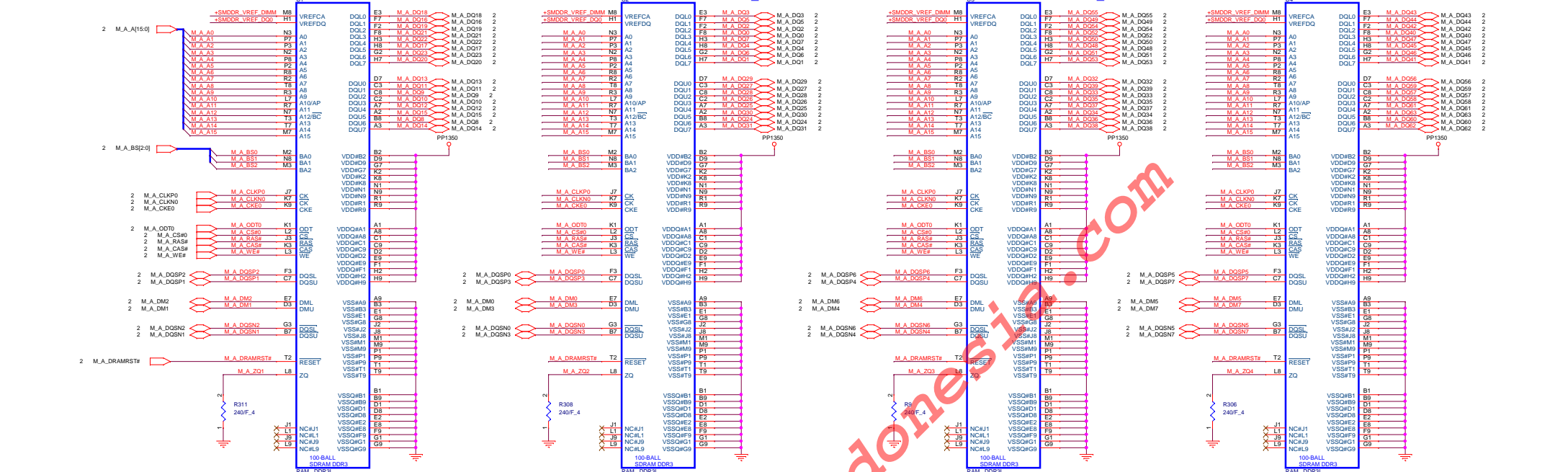
BYTE3_24-31

BYTE6_48-55

BYTE4_32-39

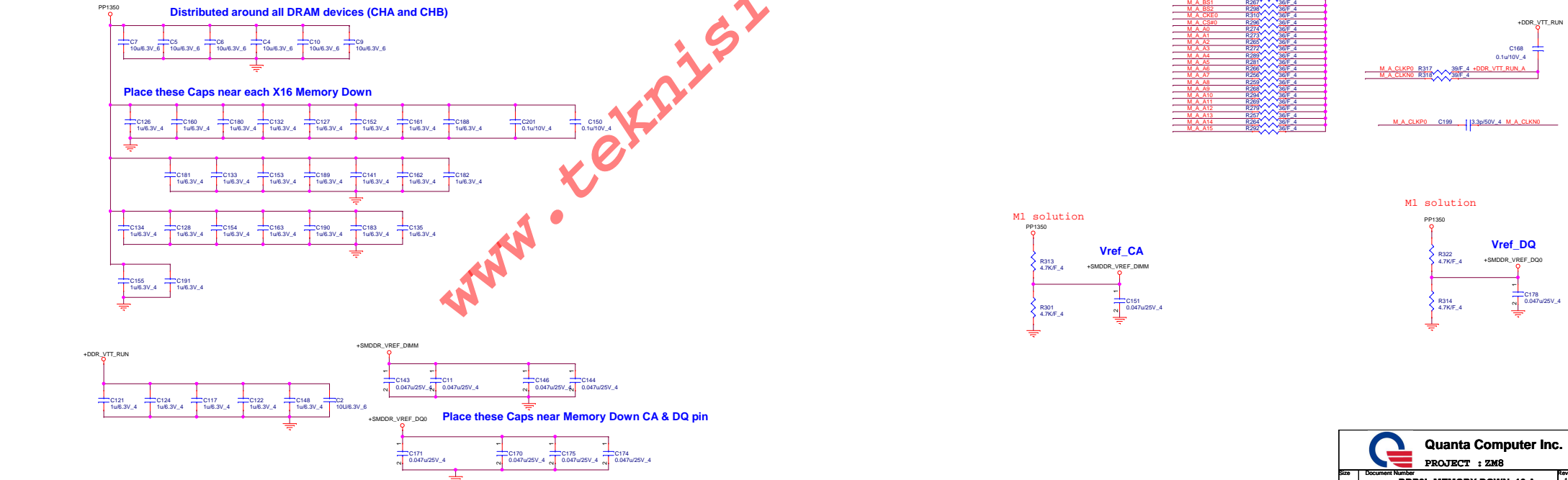
BYTE5_40-47

BYTE7_56-63

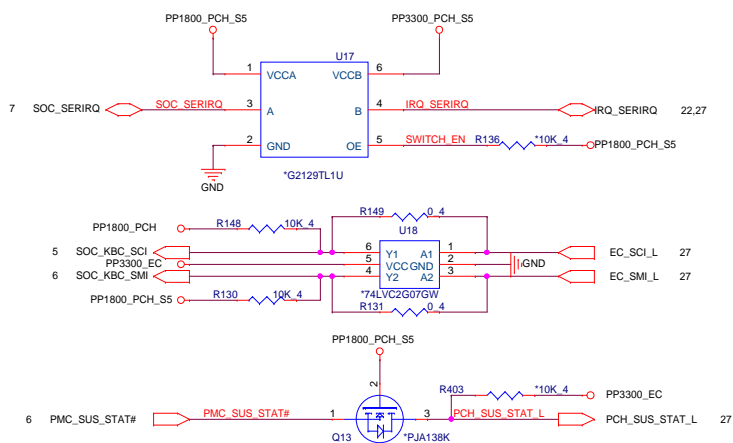


Vendor	P/N	Ref. P/N
Hynix	AKD5JGTW15 (WIN B5Q)	H5TC4G63AFR-PBA
Micron	AKD5JGTL15 (WIN B5Q)	MT41K256M16HA-125:E
Samsung	AKD5PGT516 (WIN B5Q)	K4B4G1646Q-HYK0

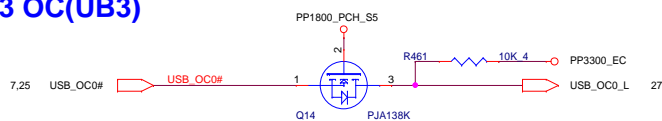
Hynix AKD5JGTW00-H5TC4G63AFR-PBA



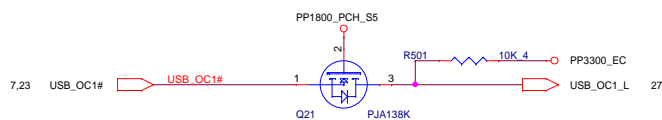
PWRON SEQUENCE(CPU)



USB3 OC(UB3)

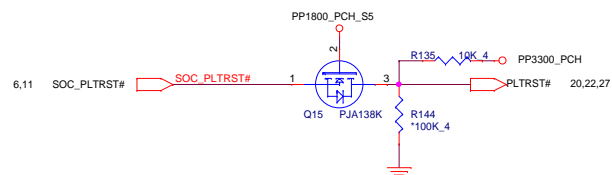
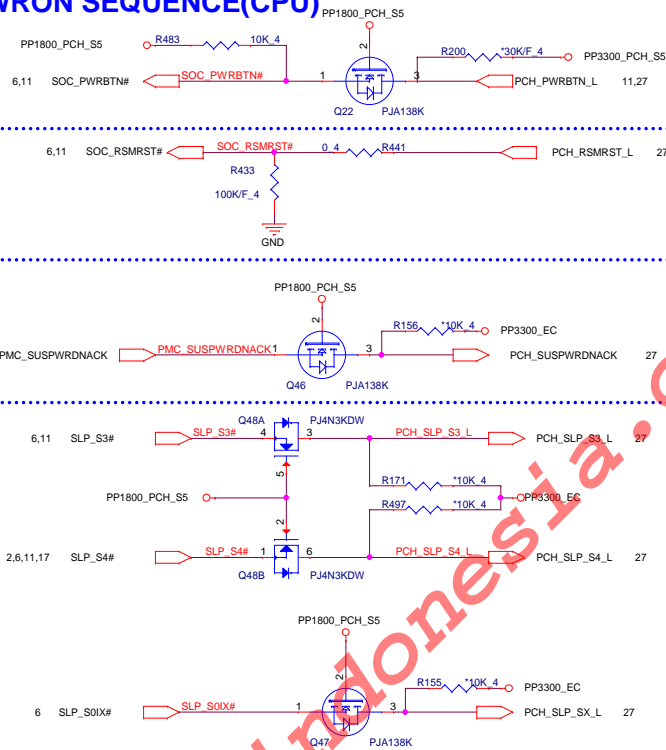


USB2 OC(UB2)

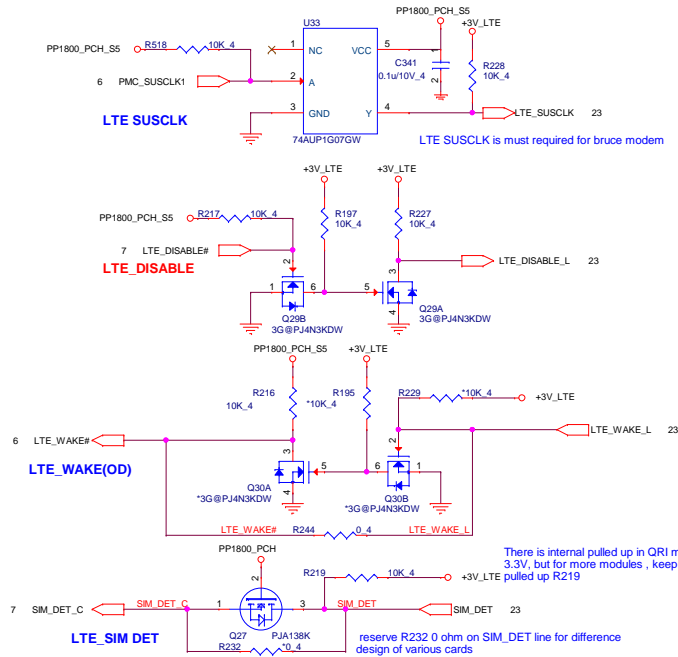


Stuffing for notifying EC

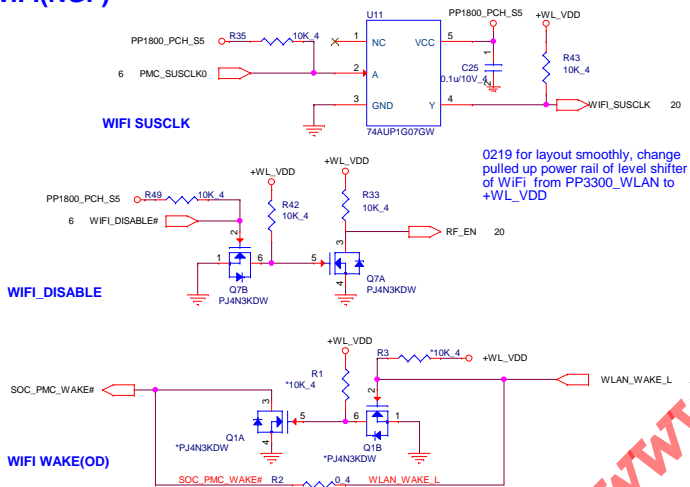
PWRON SEQUENCE(CPU)



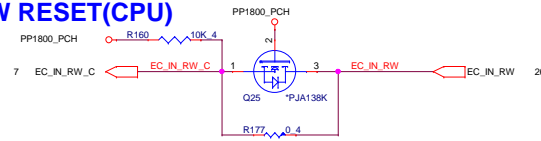
LTE(MNC)



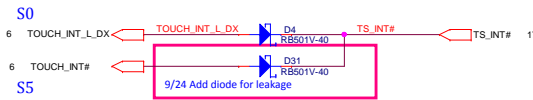
WIFI(NGF)



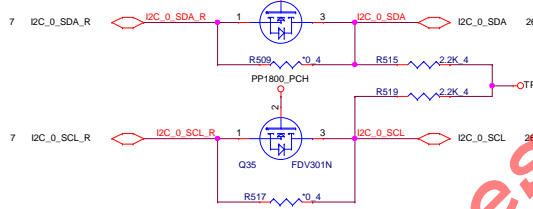
HW RESET(CPU)



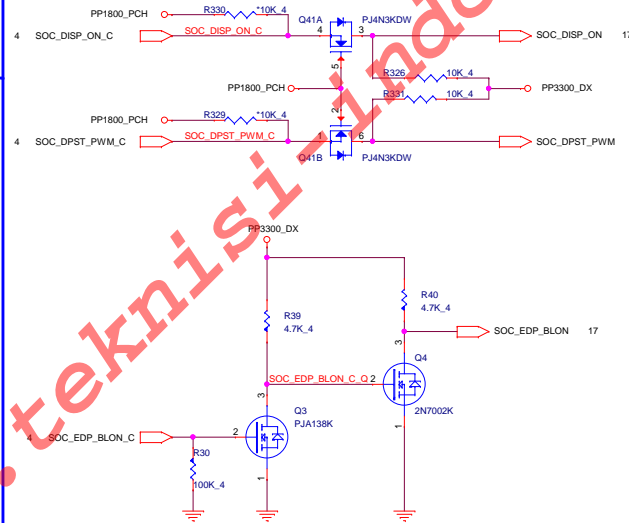
Touch Screen(TSN)



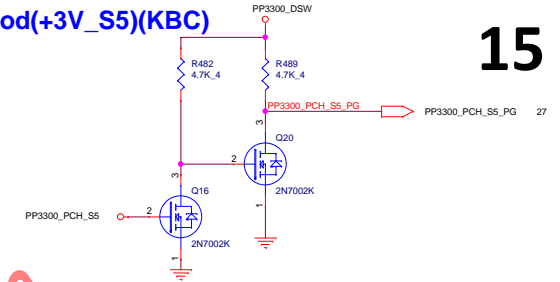
Track Pad(TPD)



eDP control pin(LDS)

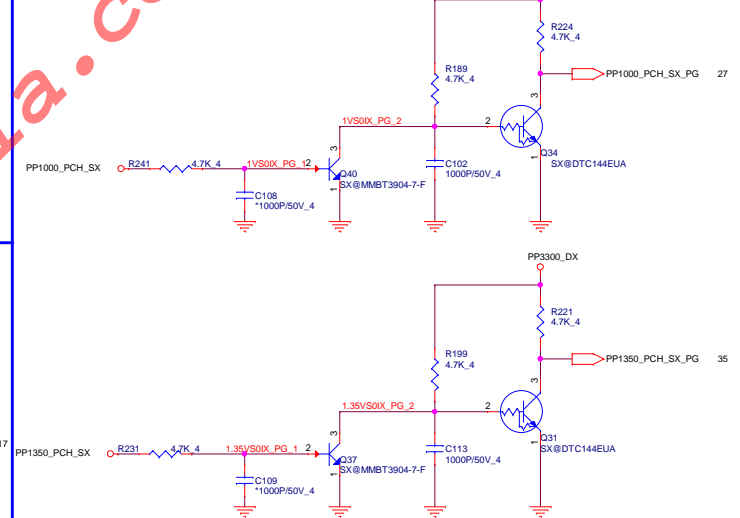


S5 Power Good(+3V_S5)(KBC)

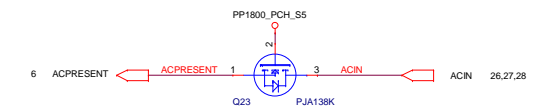


S0iX Power Good(KBC)

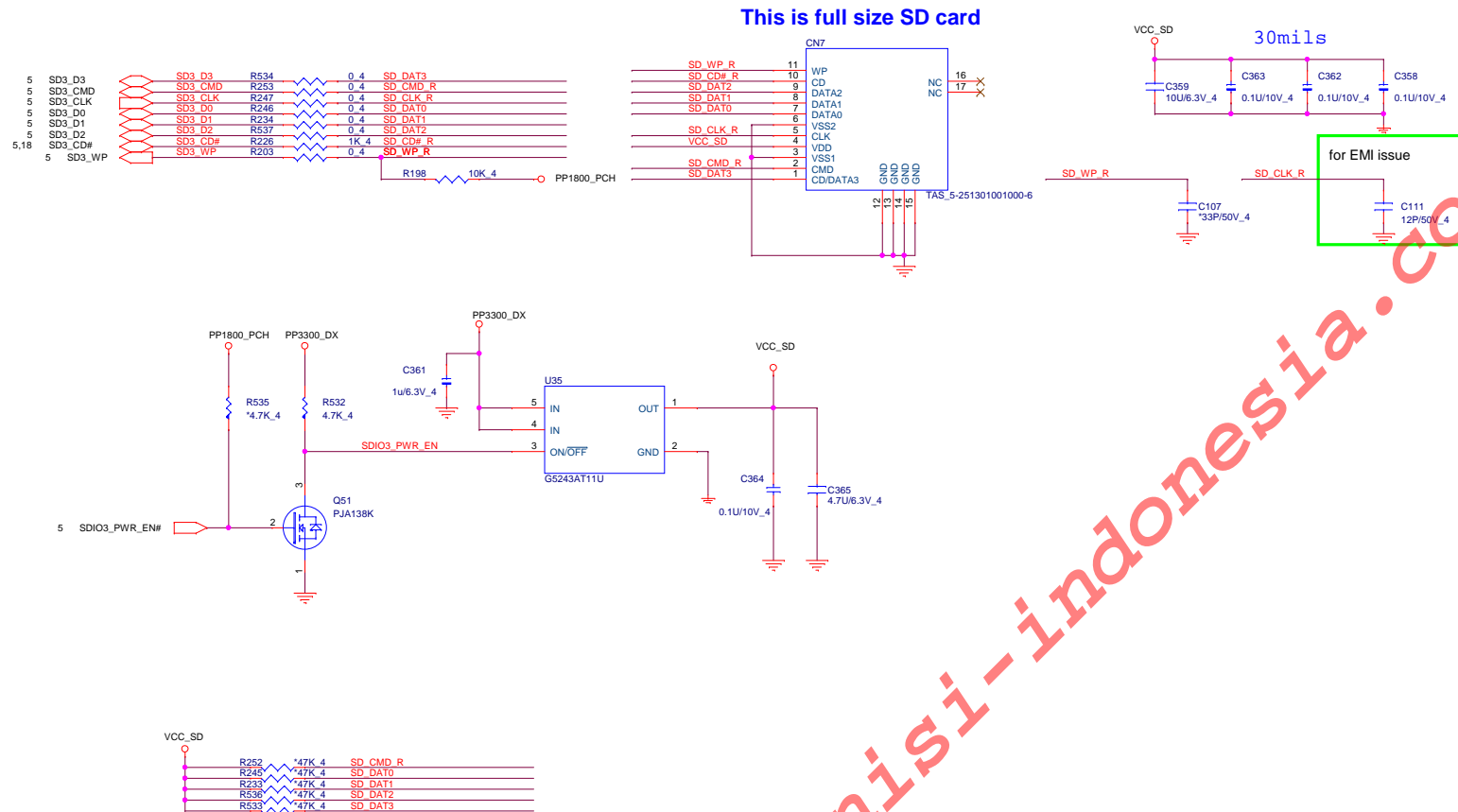
for proto type only, can remove at MP stage if S0ix is not needed



AC Detect(CPU)



SD/MMC CARD READER CONNECTOR (CRD)



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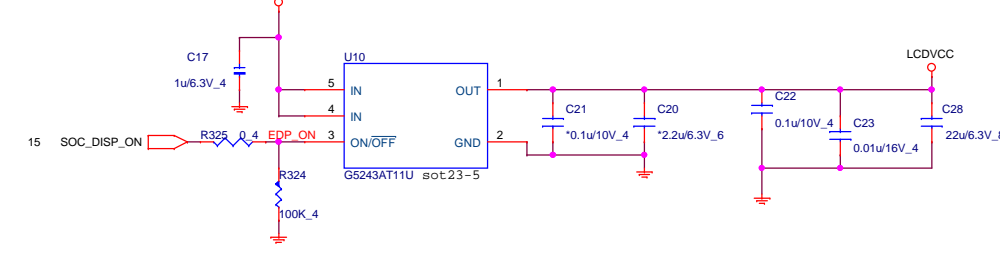
Quanta Computer Inc.

PROJECT : ZM8

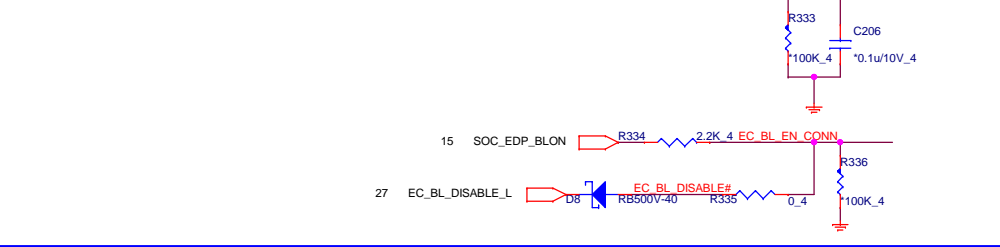
Size	Document Number	Rev
	SDIO CardReader	1A

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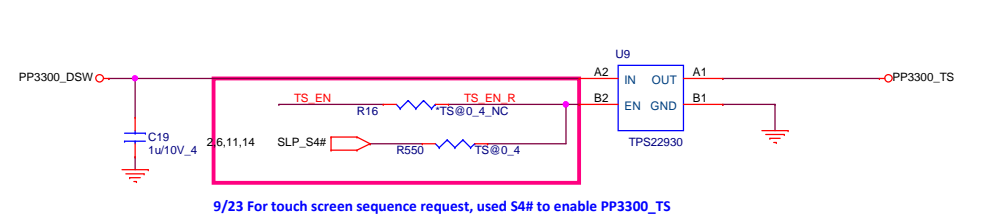
eDP Power(LDS)



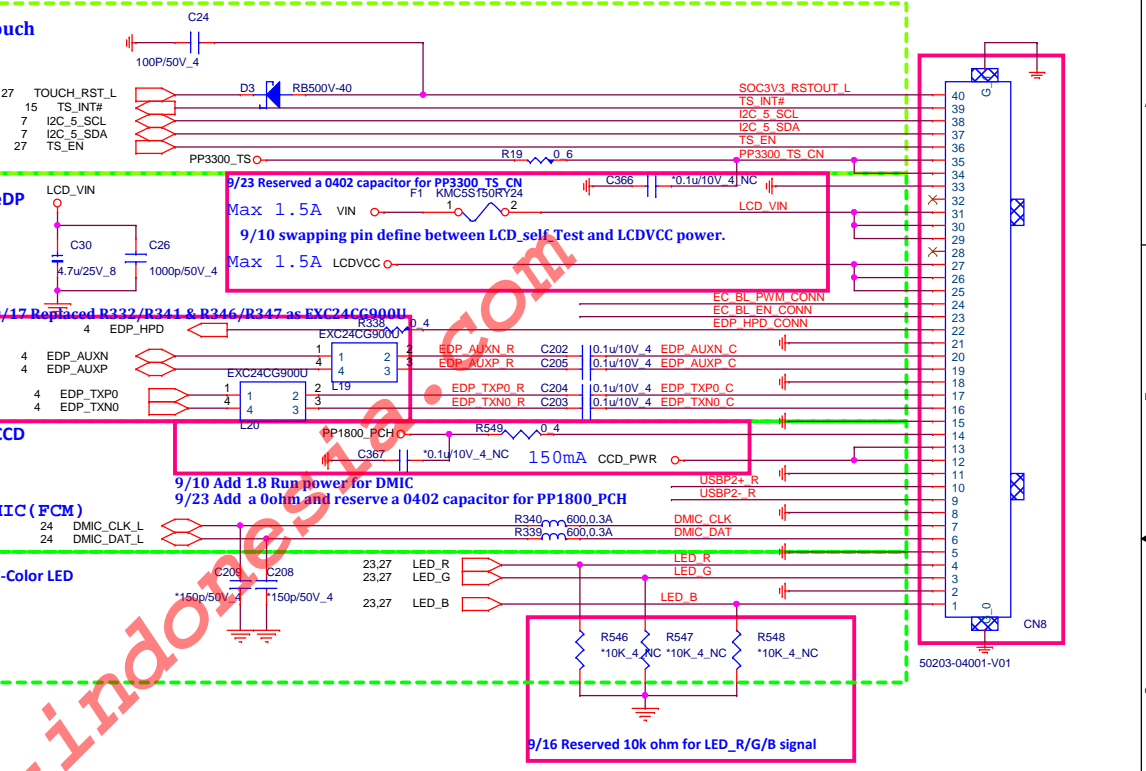
eDP panel control(LDS)



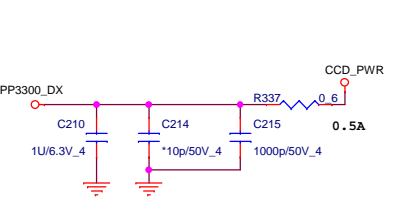
Touch Screen(TSN)



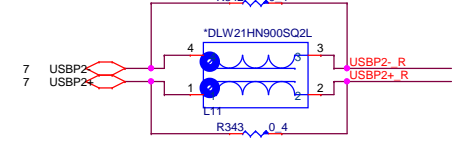
eDP(LDS)




CCD power(FCM)



CCD USB(FCM)





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PROJECT : ZM8
LVDS/CCD/DMIC/TS

Size	Document Number	Rev
		1A
Date:	Thursday, September 25, 2014	Sheet 17 of 39

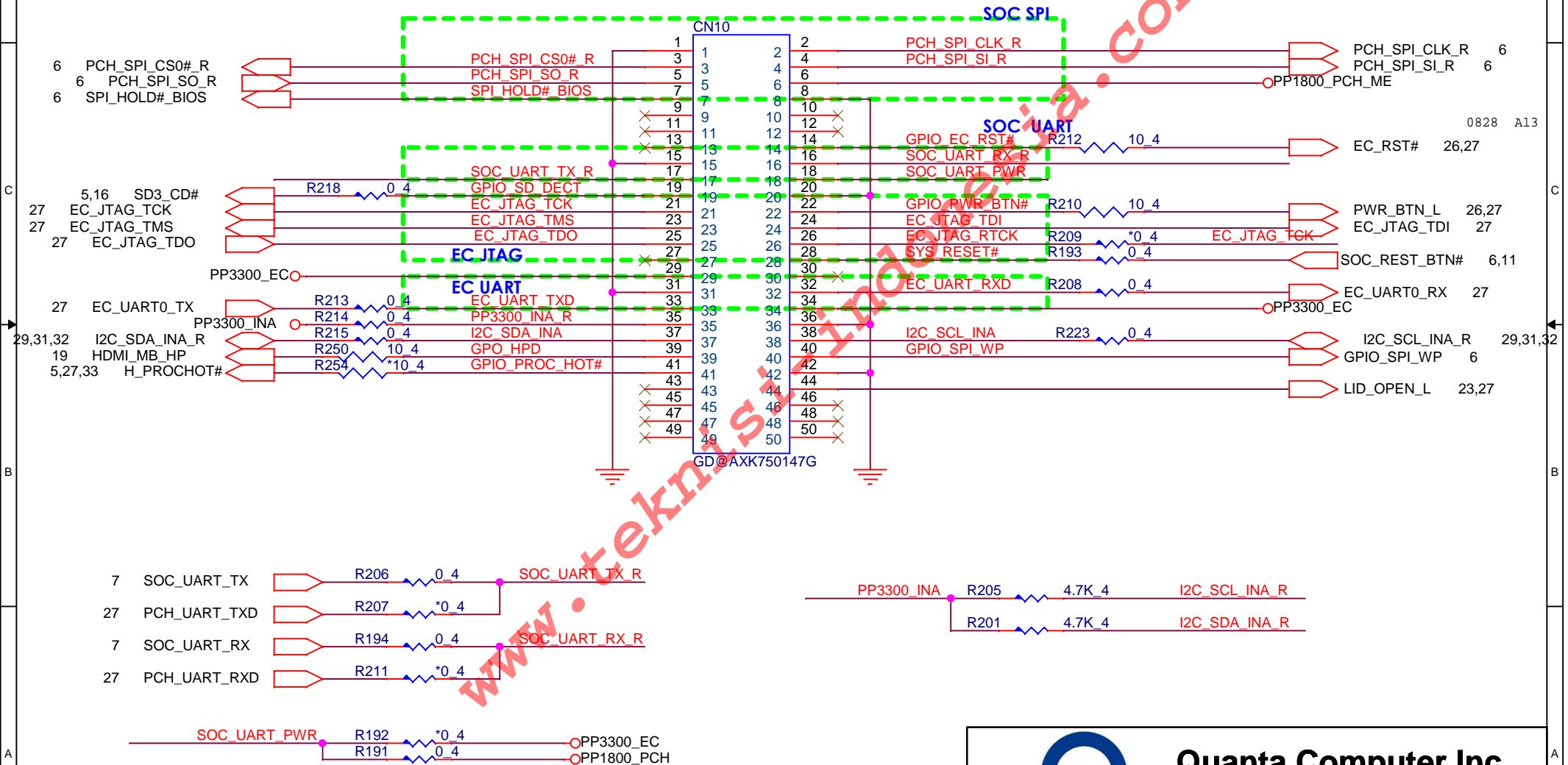
GOOGLE Debug Port(OTH)

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

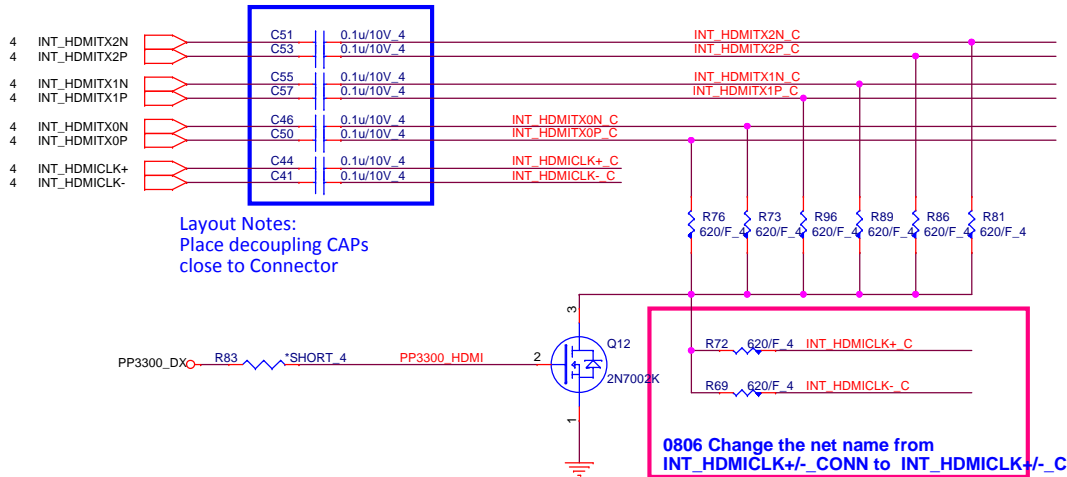


Quanta Computer Inc.

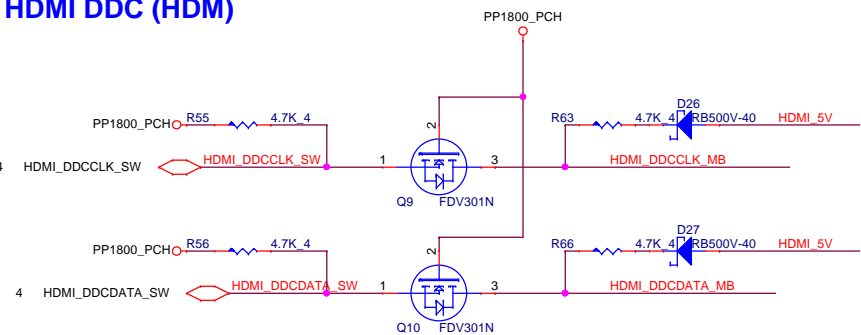
PROJECT : ZM8

Size	Document Number	Rev
	Google Debug	1A
Date:	Thursday, September 25, 2014	Sheet 18 of 39

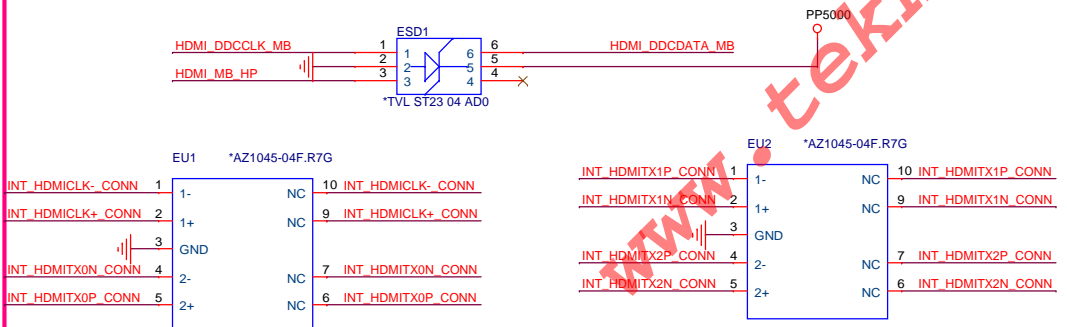
HDMI Cost Reduced level shift (HDM)



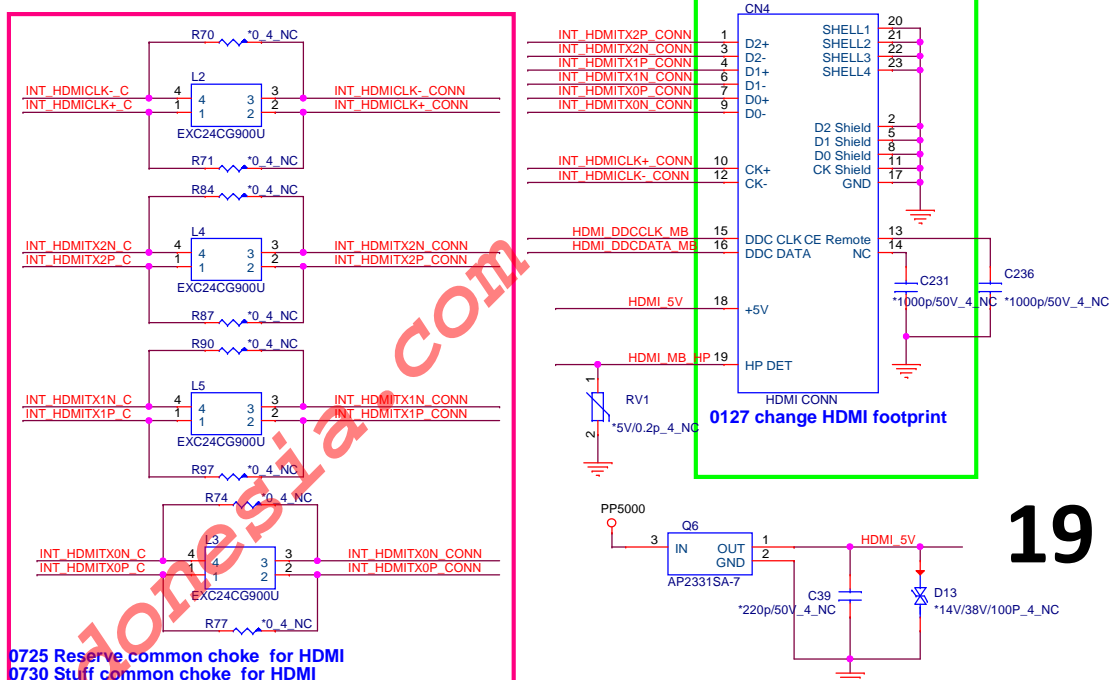
HDMI DDC (HDM)



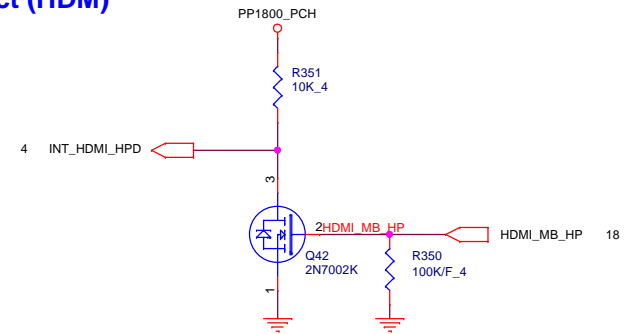
For ESD



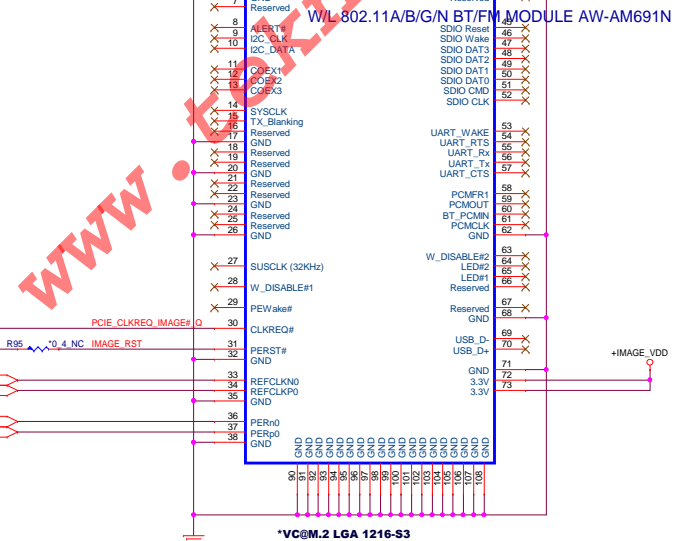
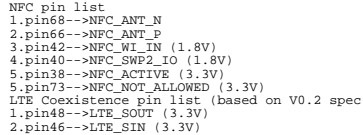
HDMI connector (HDM)



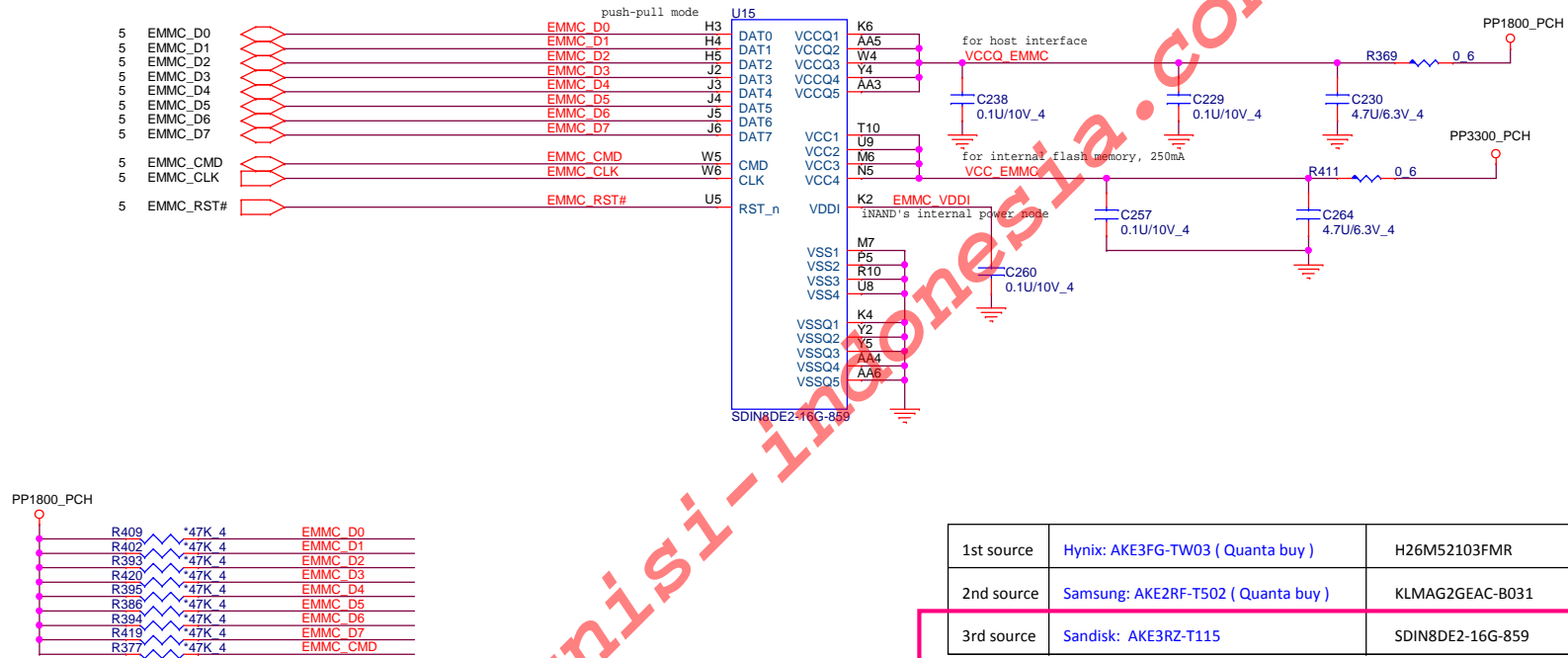
HDMI-detect (HDM)



```
N56: disable PCIe I/F 15 RF_EN
N54: power down CHIP 27 WLAN_OFF_1
```



EMMC (MMC)

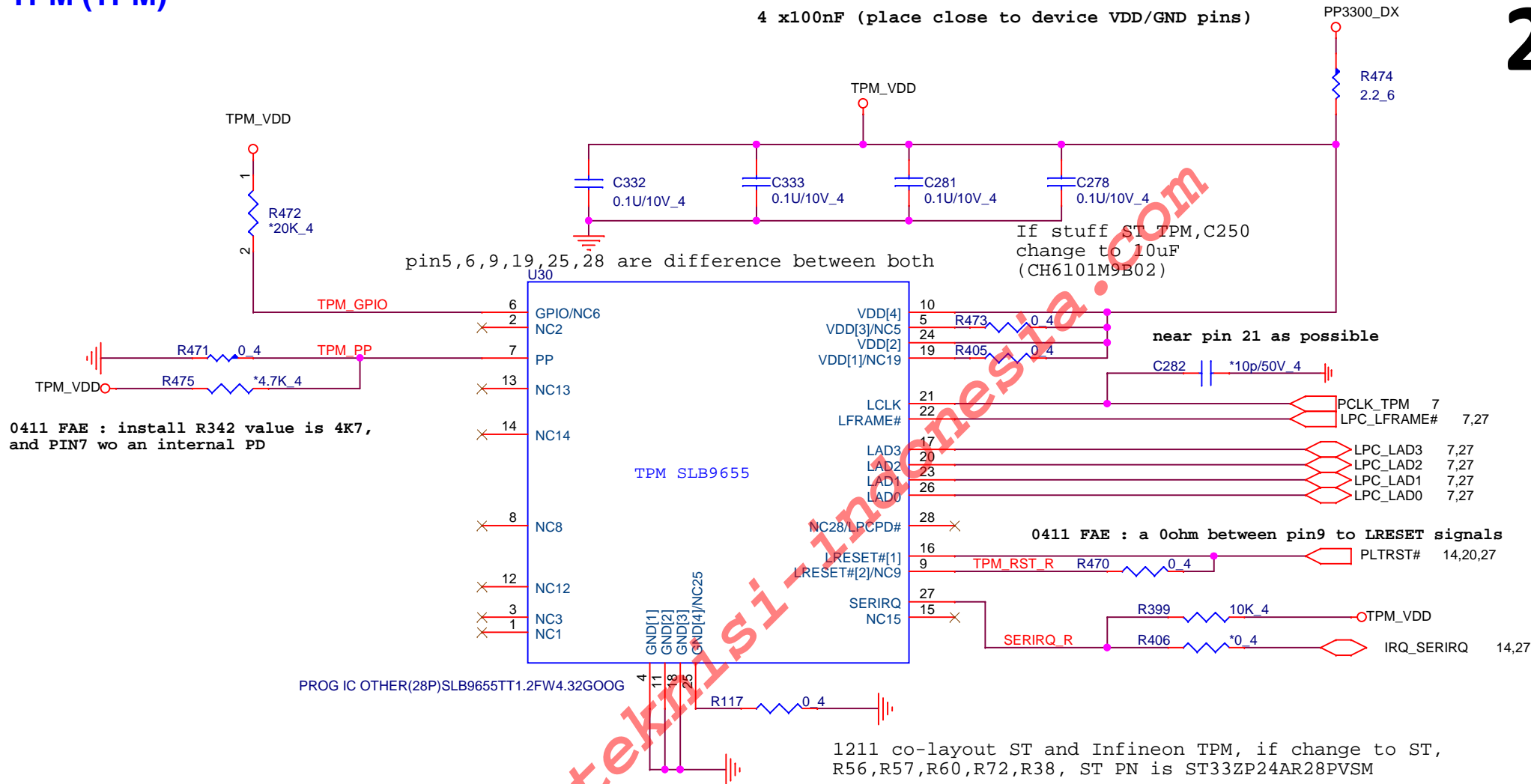


1st source	Hynix: AKE3FG-TW03 (Quanta buy)	H26M52103FMR
2nd source	Samsung: AKE2RF-T502 (Quanta buy)	KL MAG2GEAC-B031
3rd source	Sandisk: AKE3RZ-T115	SDIN8DE2-16G-859

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

TPM (TPM)

22



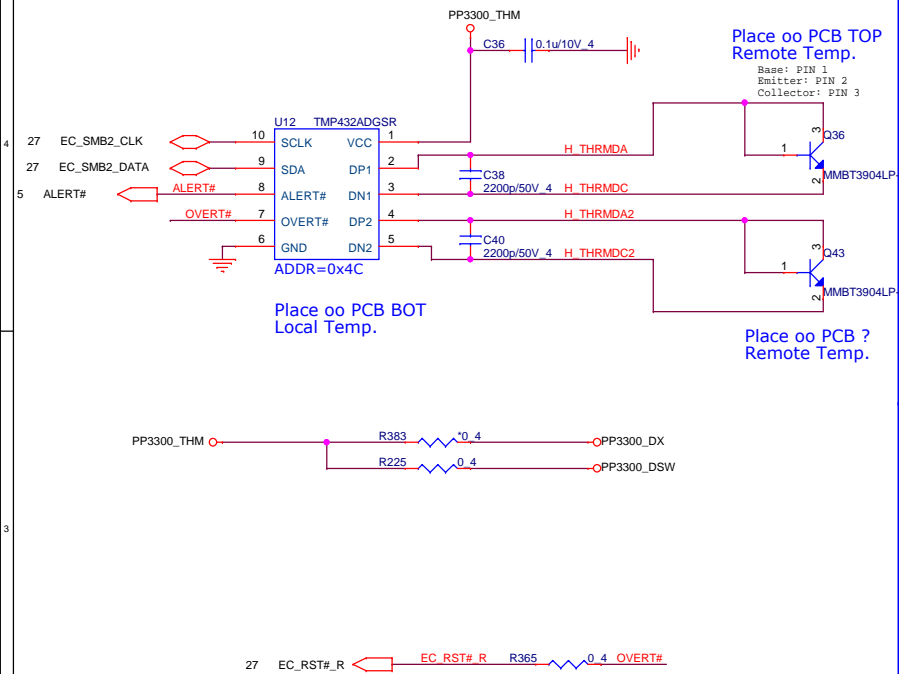
Quanta Computer Inc.

PROJECT : ZM8

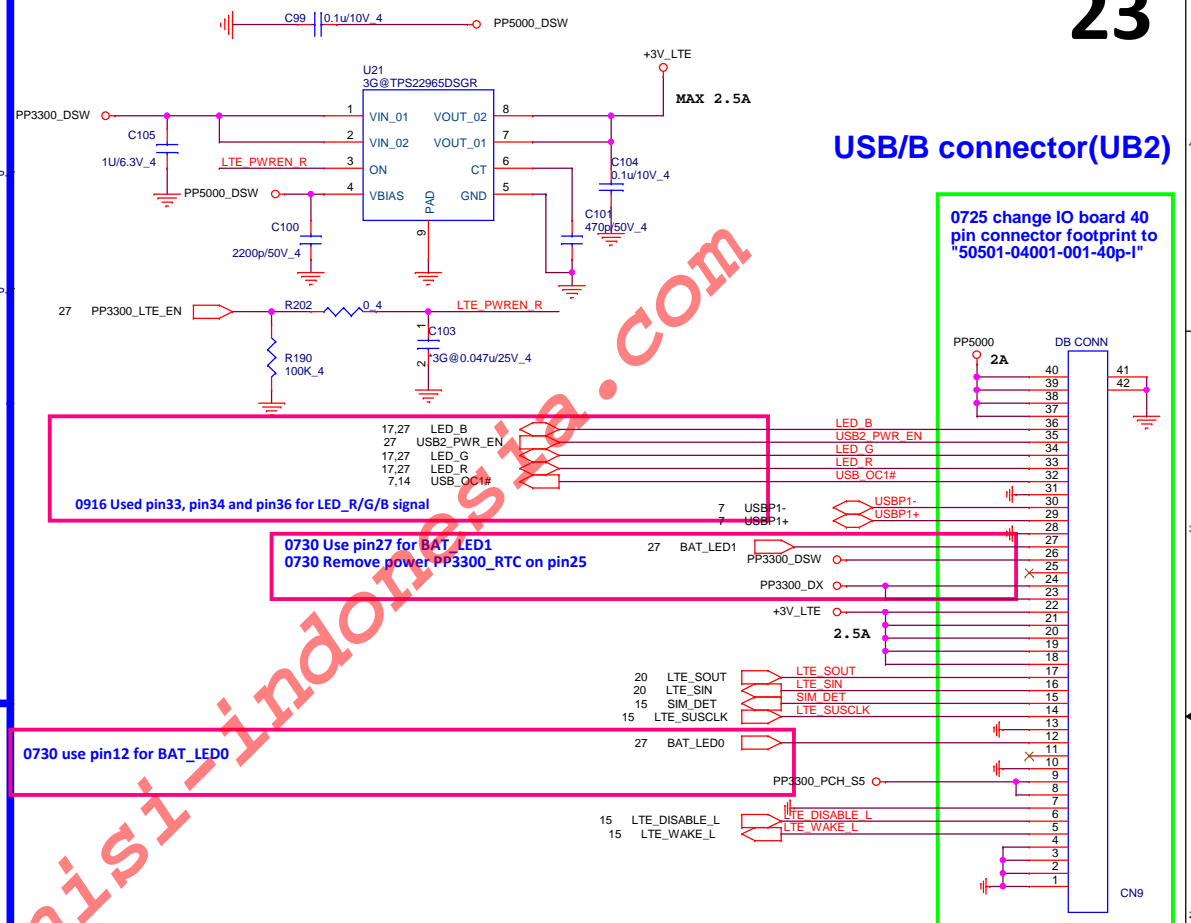
Size	Document Number	Rev
	TPM SLB9655	1A

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Thermal Sensor(THM)



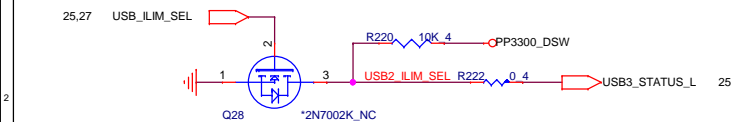
LTE power switch(MNC)



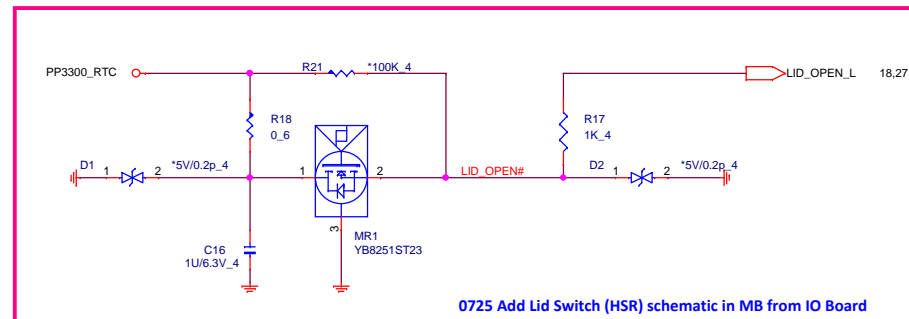
USB/B connector(UB2)

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

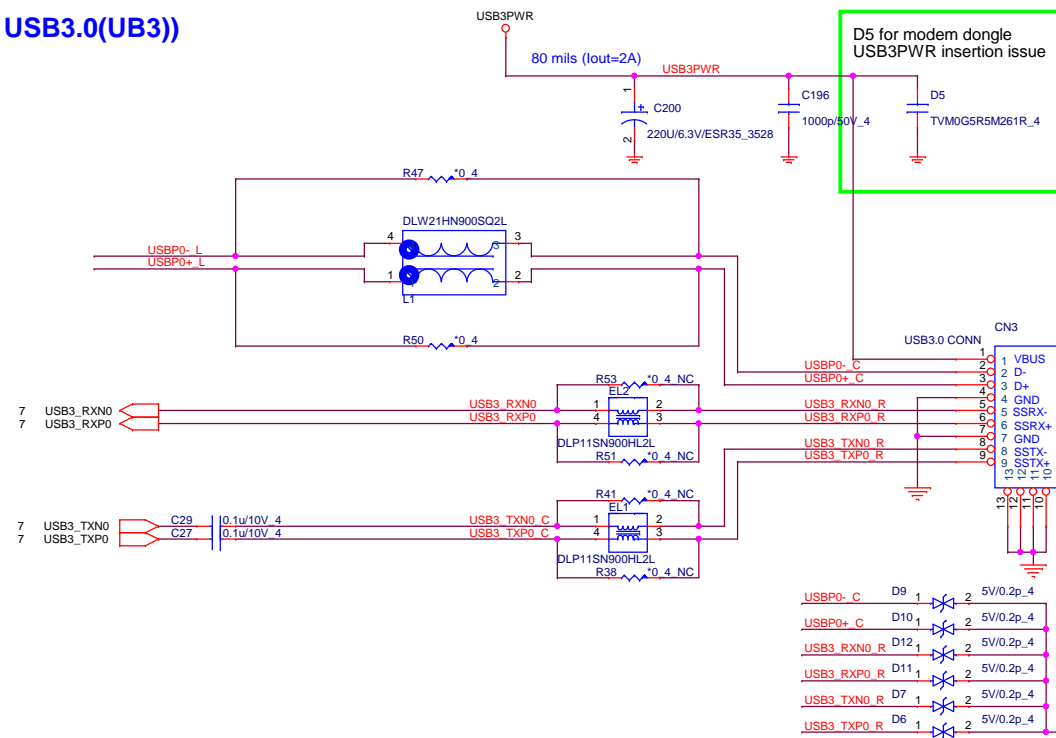
USB Switch Current Control(UBC)



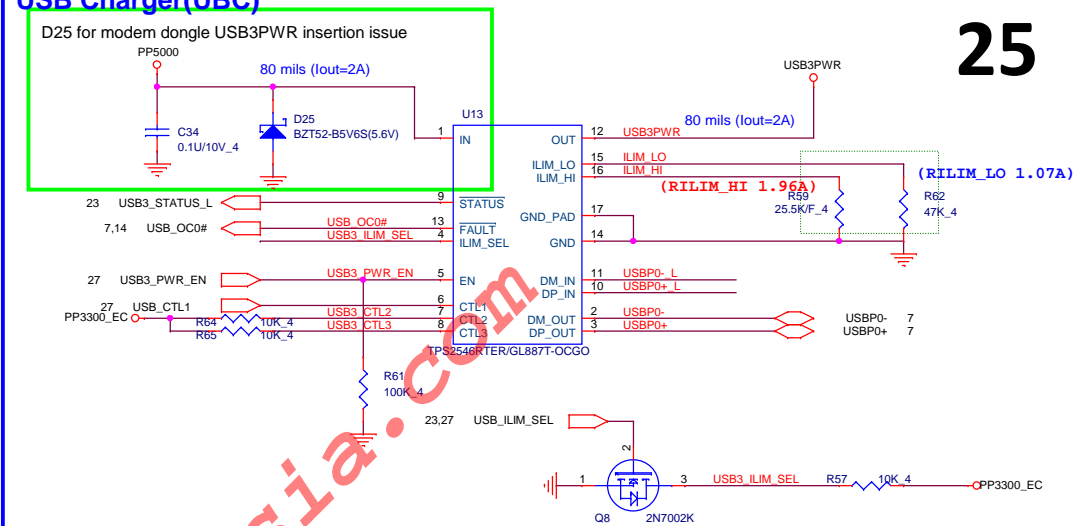
Lid Switch (HSR)



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:

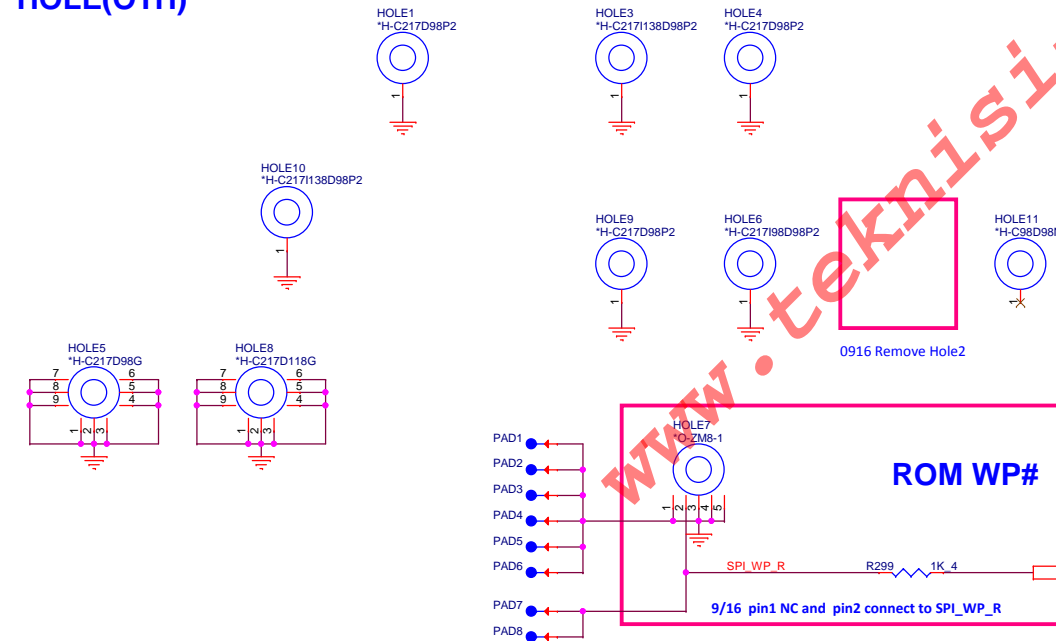
1. ILIM_SEL is always set high
 2. Load Detection / Port Power Management is not used
 3. Mouse / Keyboard wake function is not used
- If conditions 1 and 2 are met but the mouse / keyboard wake function is also desired, it is recommended to use $RILIM_Lo < 80.6\text{ k}\Omega$.

The following equation programs the typical current limit:

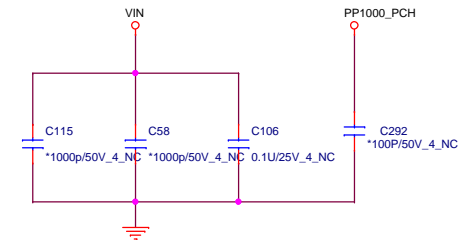
(1) RILIM_XX corresponds to either RILIM_HI or RILIM_LO as appropriate.

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

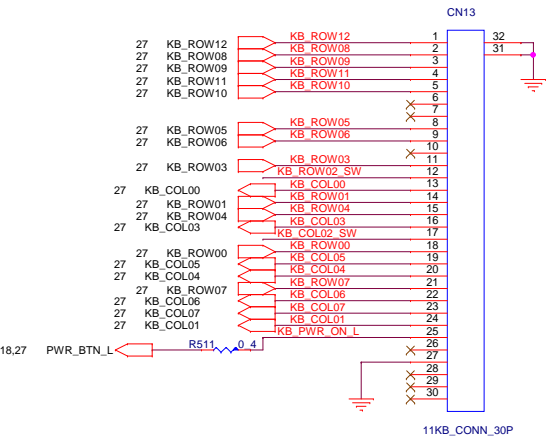
HOLE(OTH)



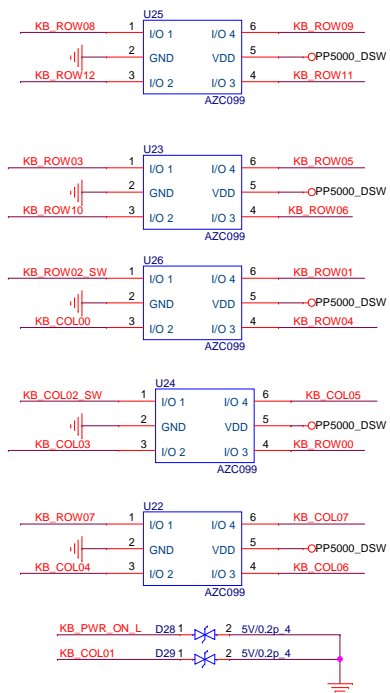
EMI(EMC)



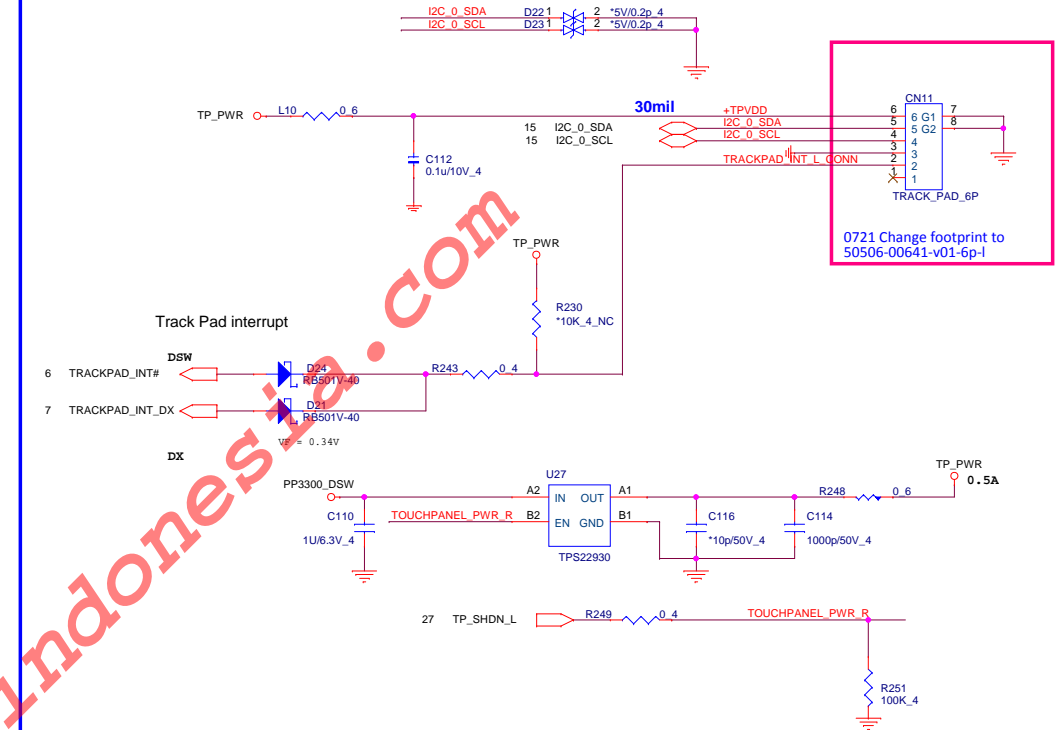
Track PAD BOARD CONN (TPD)



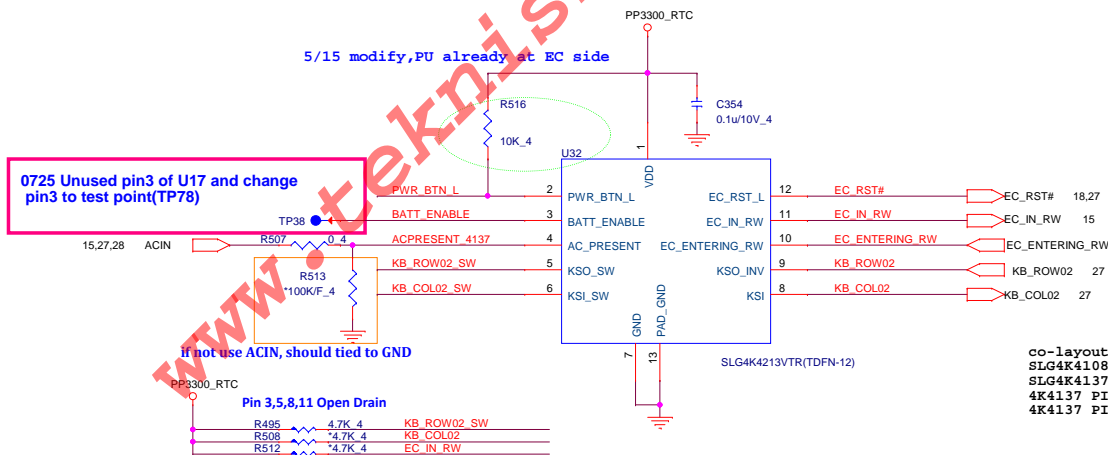
K/B ESD (EMC)



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

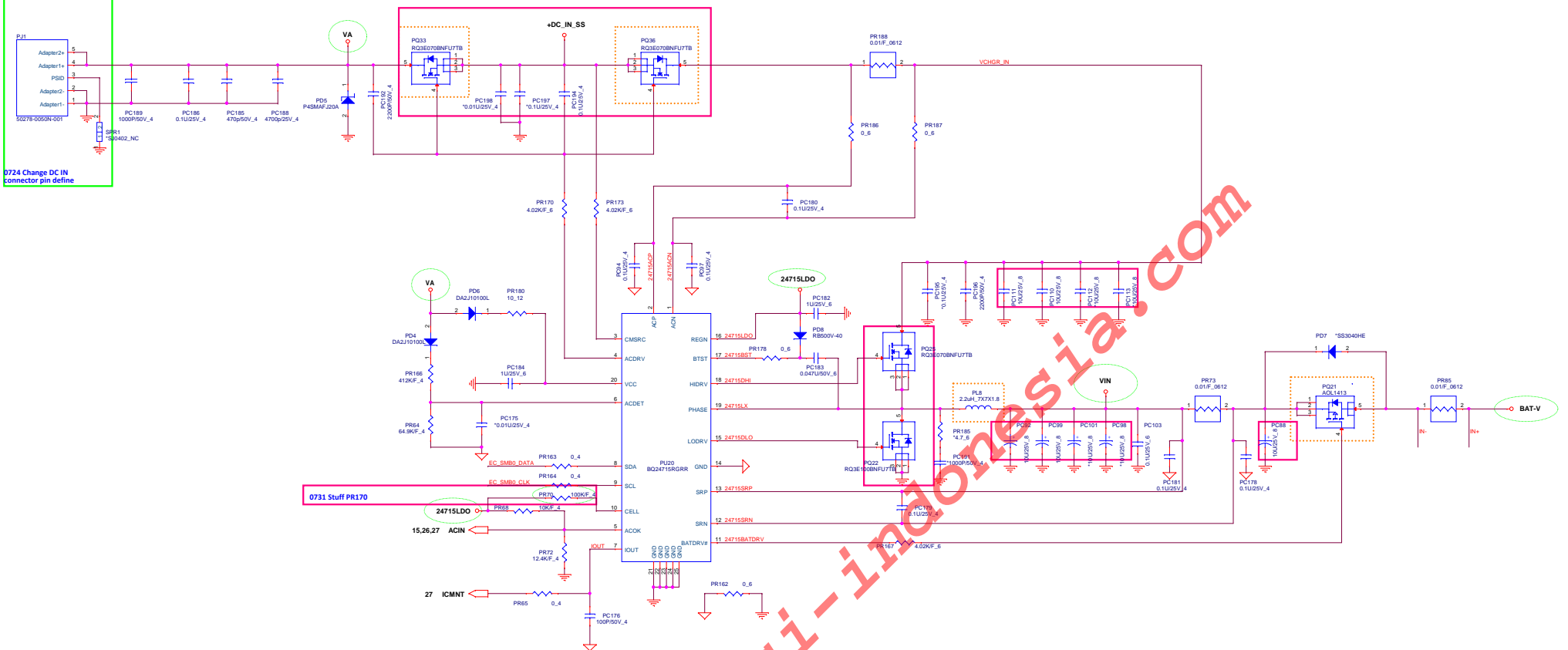


HOLELESS RESET 2-CHIP(KBC)

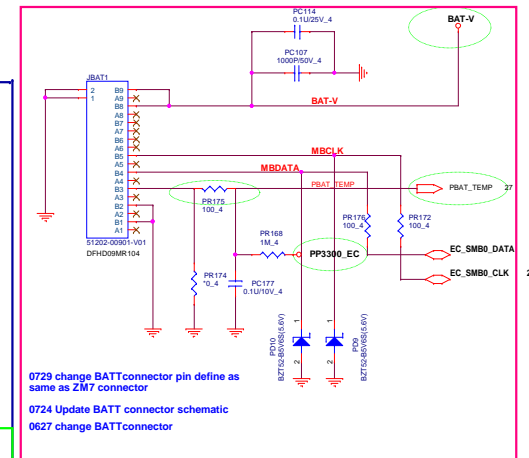
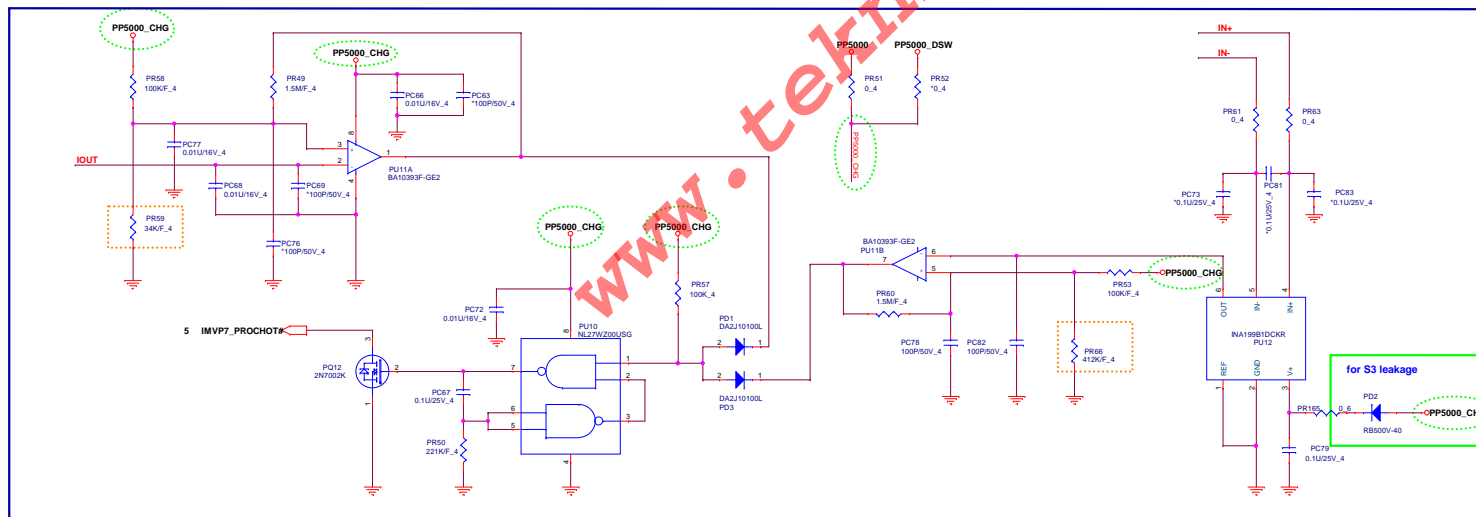


- Connect to EC reset pin
- Connect to GPIO on CPU with PU to GPIO power well
- 27. Connect to EC pin C5 (must be low when EC IN RESET)

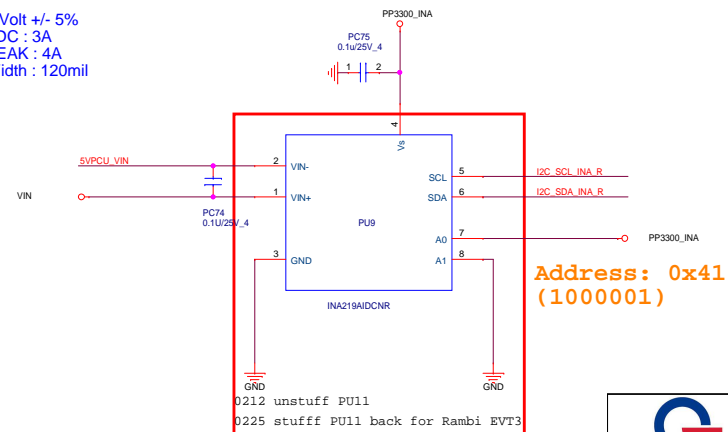
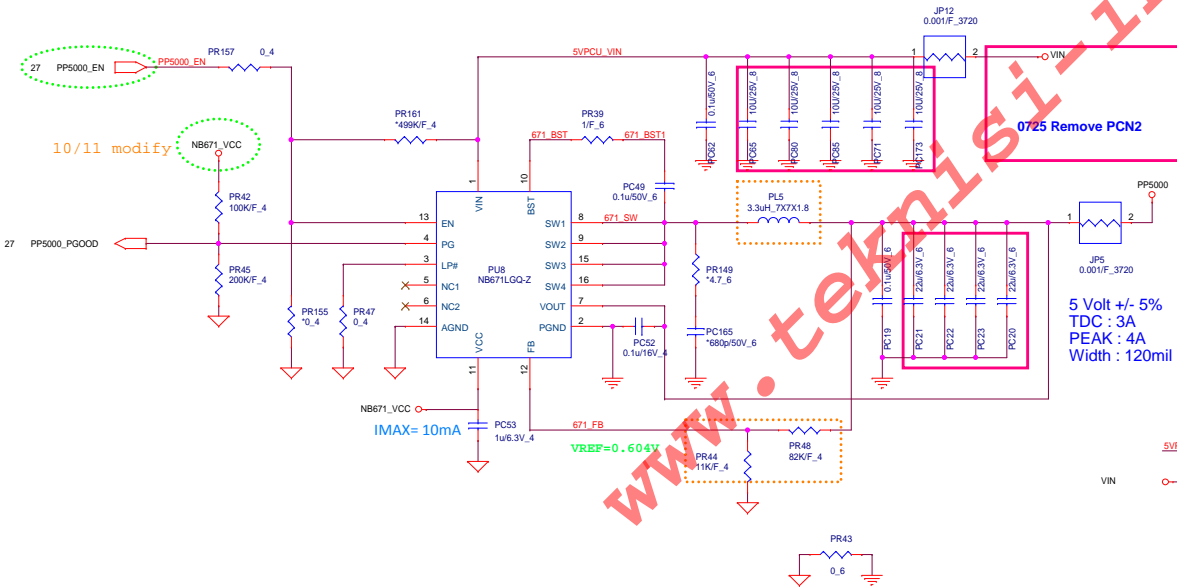
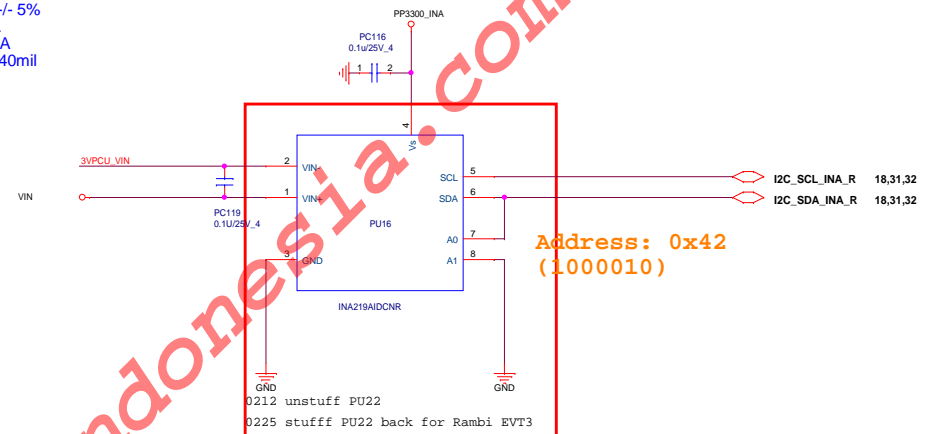
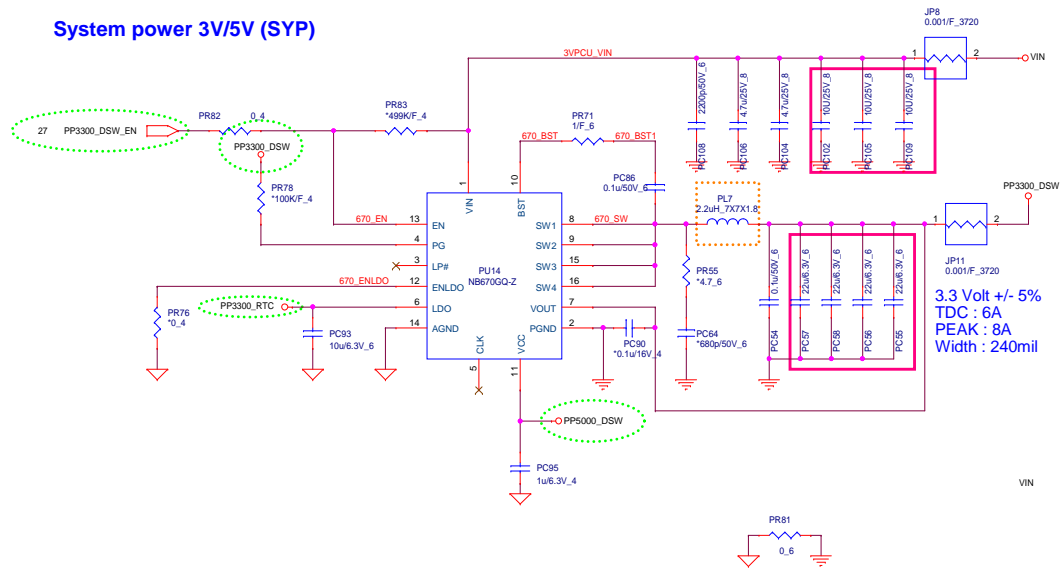
```
co-layout 4K4108 and 4K4137
SLG4K4108 (AL004108000)
SLG4K4137 (AL004137000)
4K4137 PIN3 is BATT_ENABLE
4K4137 PIN4 is AC_PRESENT
```

10ms one-shot circuit

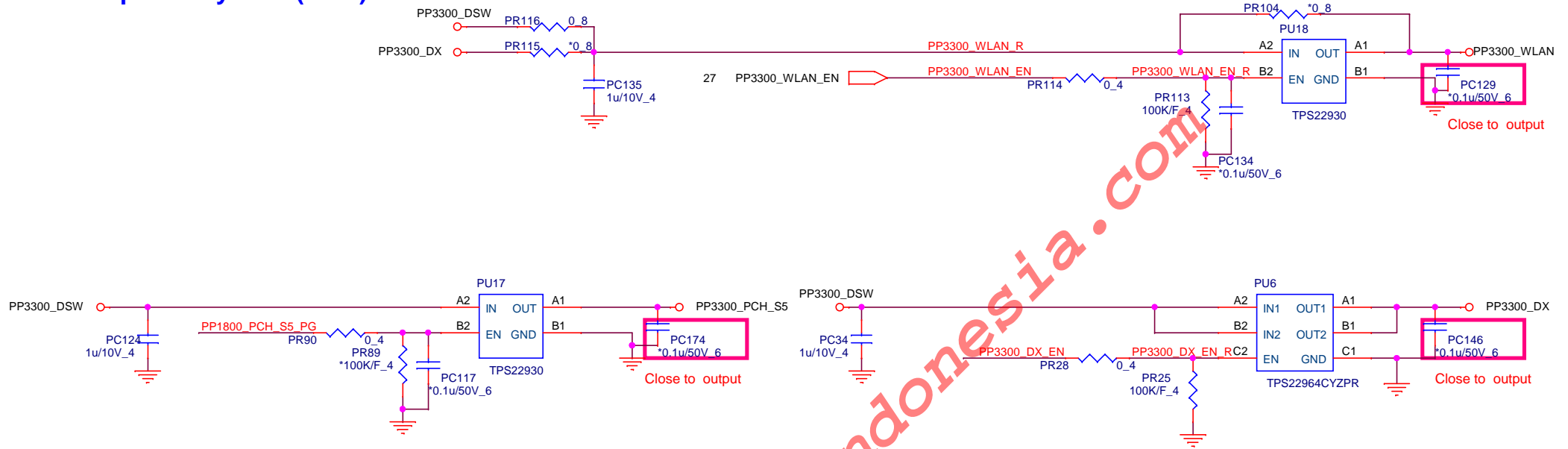


System power 3V/5V (SYP)



35 PP1800_PCH_S5_PG PP1800_PCH_S5_PG
27 PP3300_DX_EN PP3300_DX_EN

Other power system (DCD)

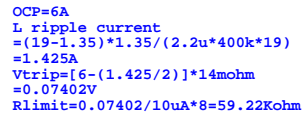


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PROJECT :

Size	Document Number	Rev
	Load Switch	1A

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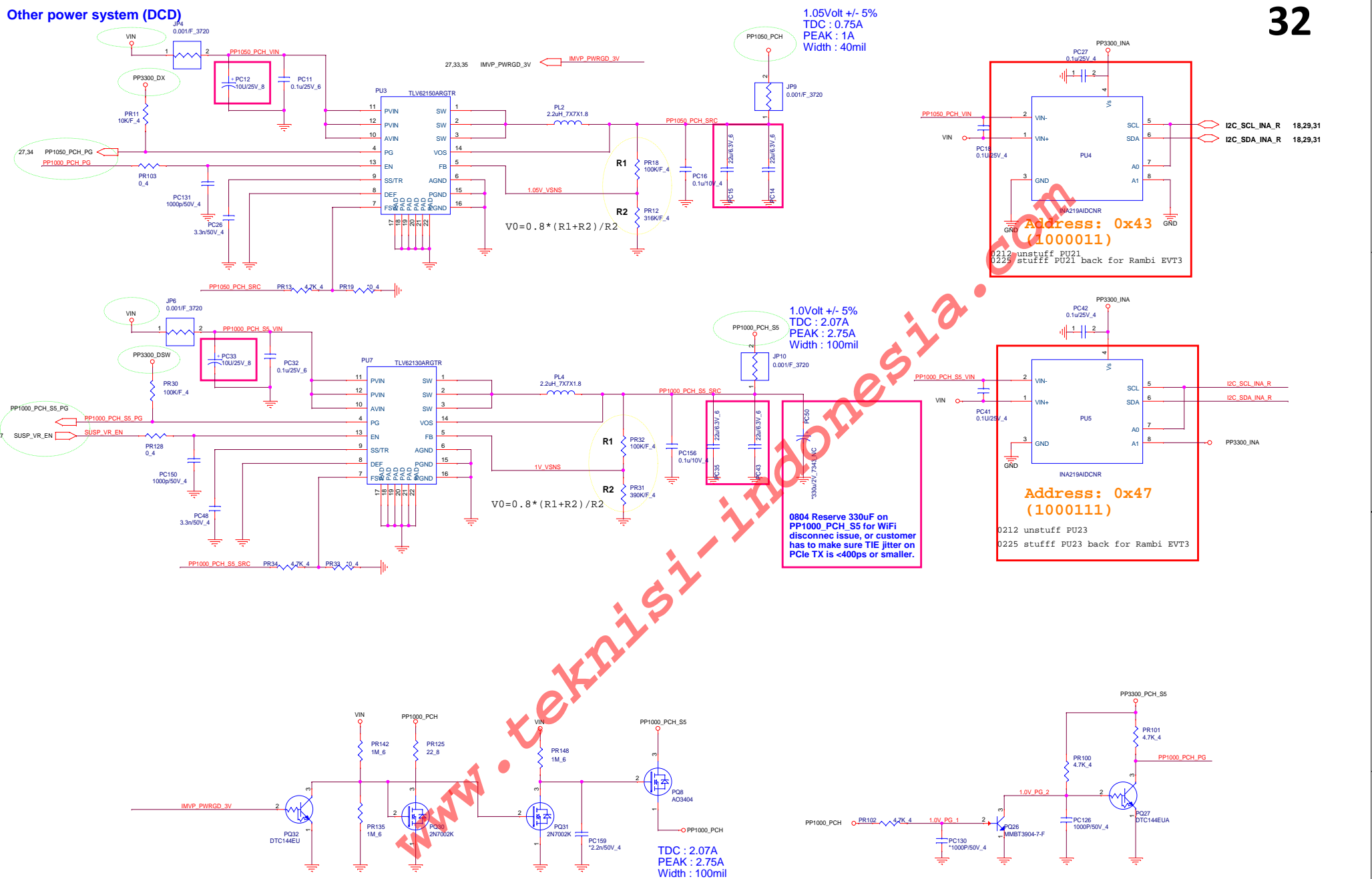
Mode	Frequency	Discharge mode
200K	400K	Tracking Discharge
100K	300K	Tracking Discharge

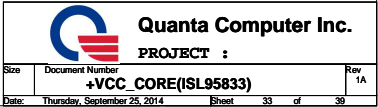
	S3	S5	+1.35VSUS	REF	VTT
S0	1	1	ON	ON	ON
S3 (mainon off)	0	1	ON	ON	OFF
S4/S5	0	0	OFF	OFF	OFF



Other power system (DCD)

32

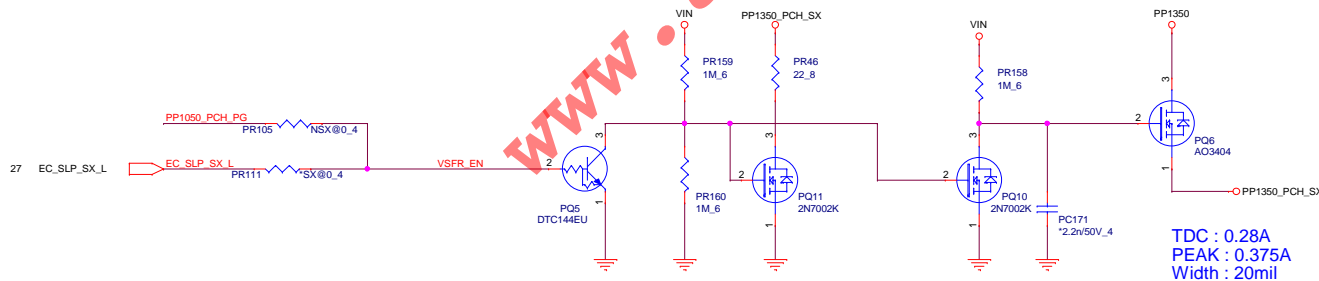
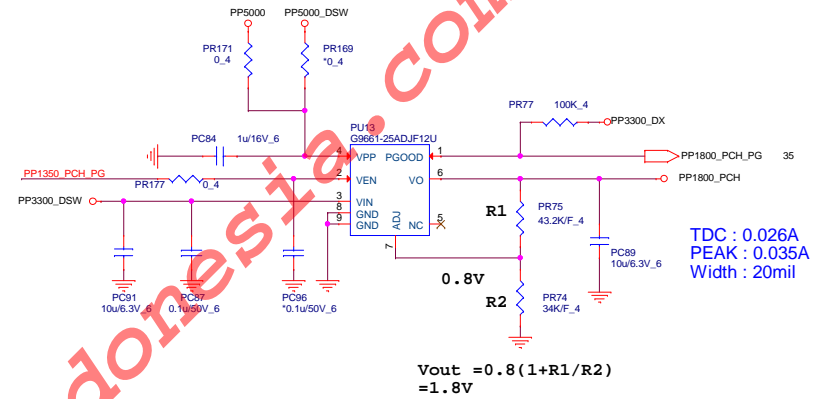
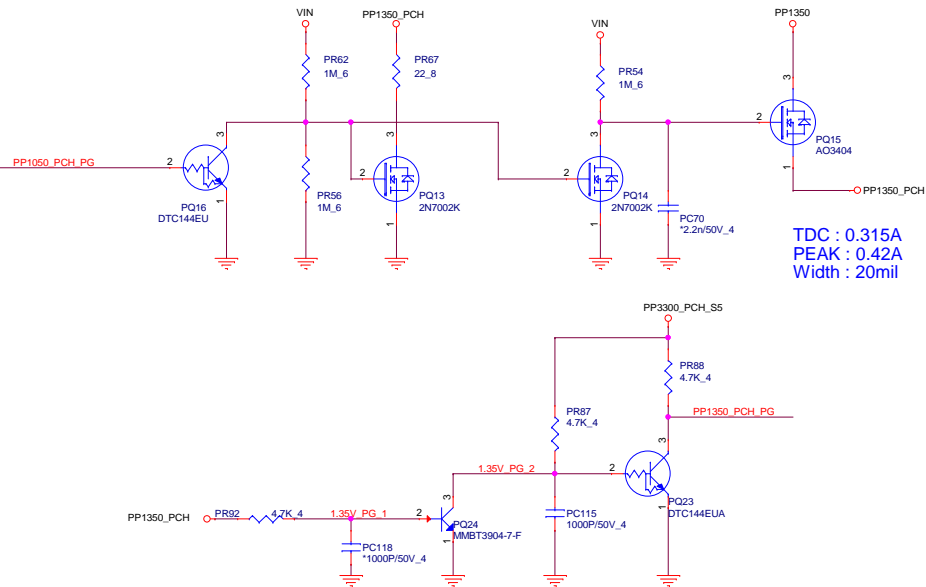


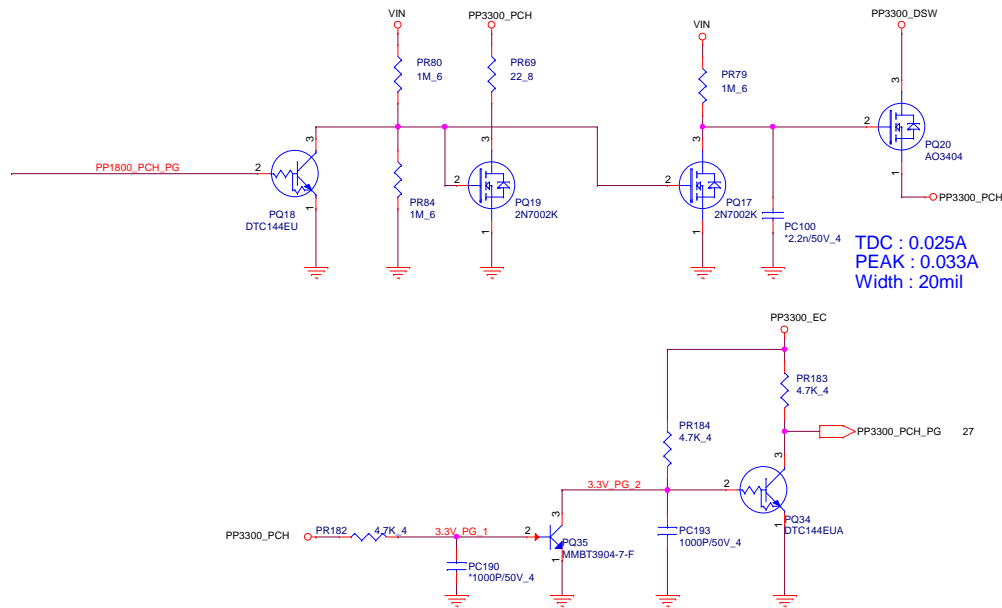


Other power system (DCD)

34

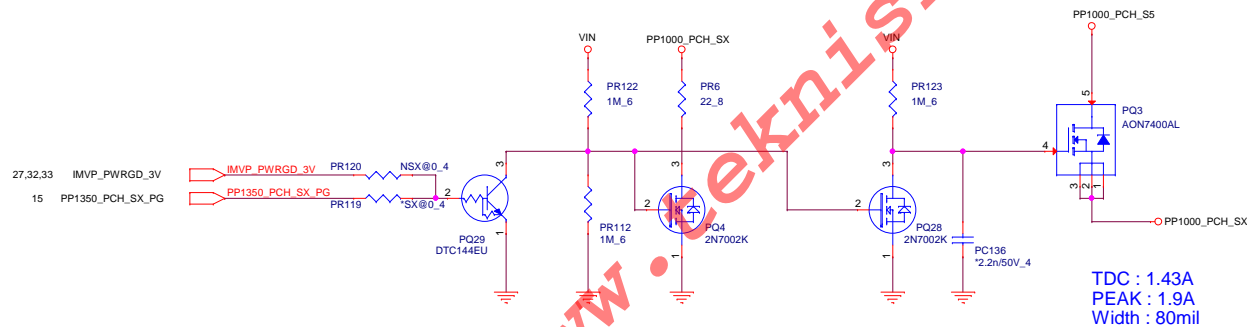
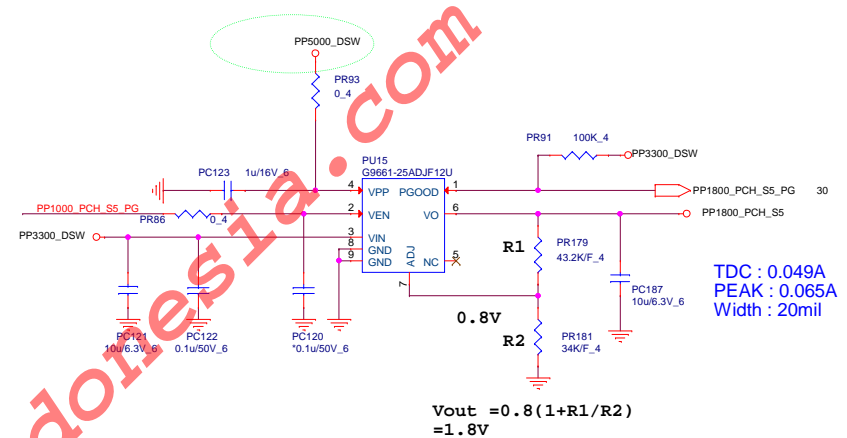
31 VSFR_EN
27,32 SUSP_VR_EN
27,32 PP1050_PCH_PG





0219 Change G9661 to TPS62243 for PP1800_PCH_S5

0220 change back to LDO for PP1800_PCH_S5



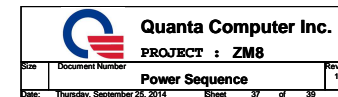
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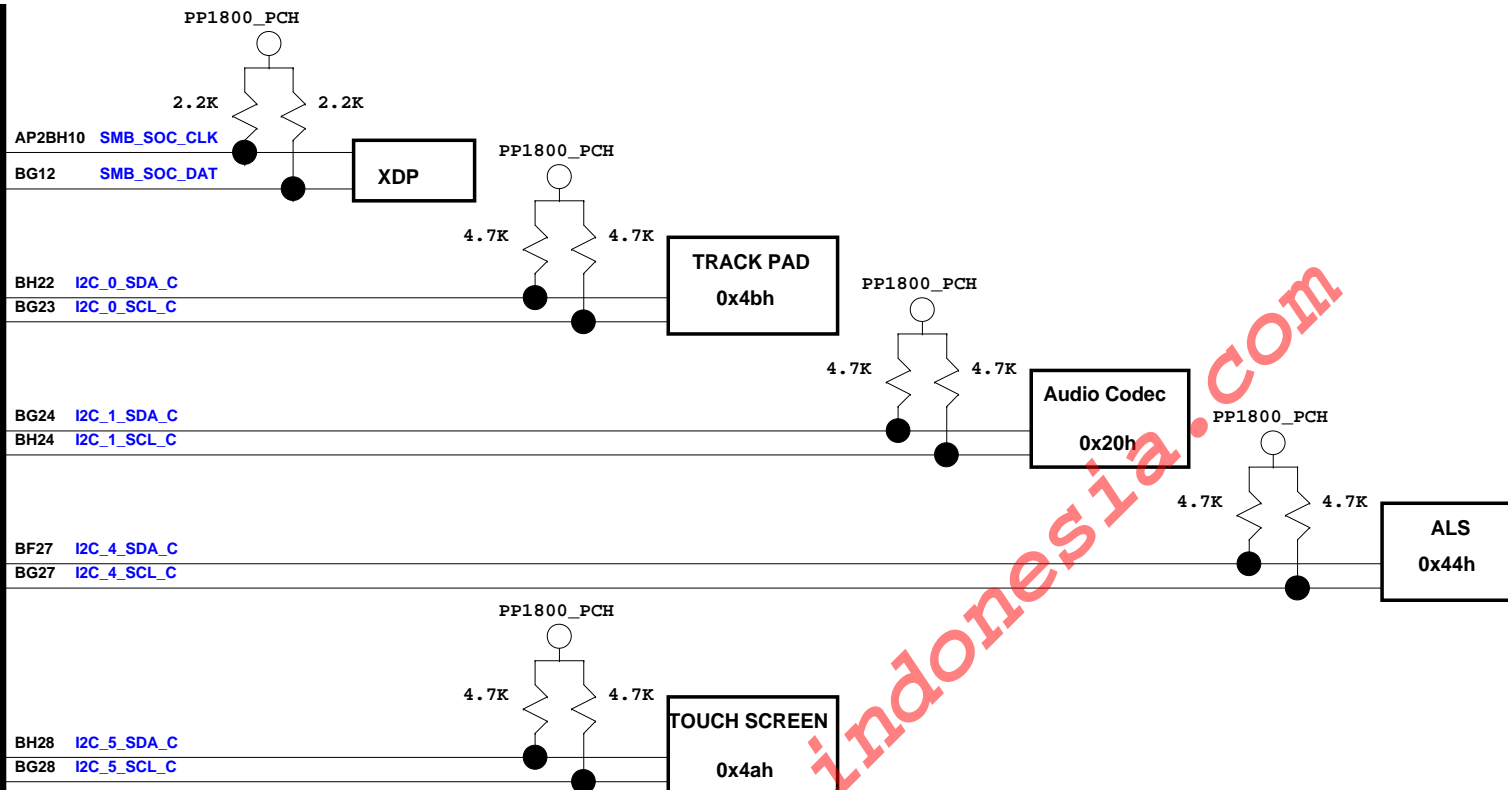
PROJECT :

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	Thermal protect	1A
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