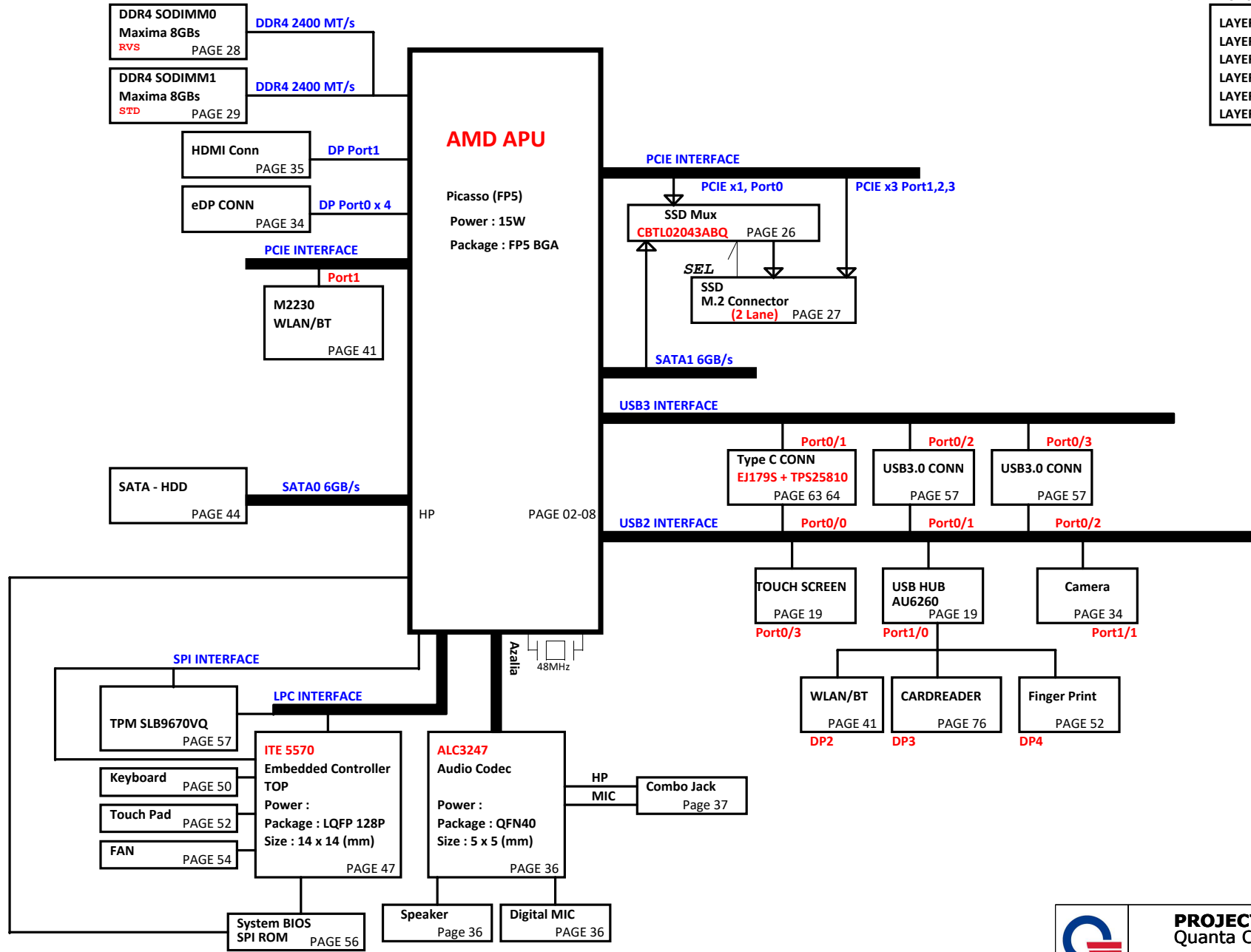


# G3 14" 1SPD AMD Picasso Ridge DIS/UMA

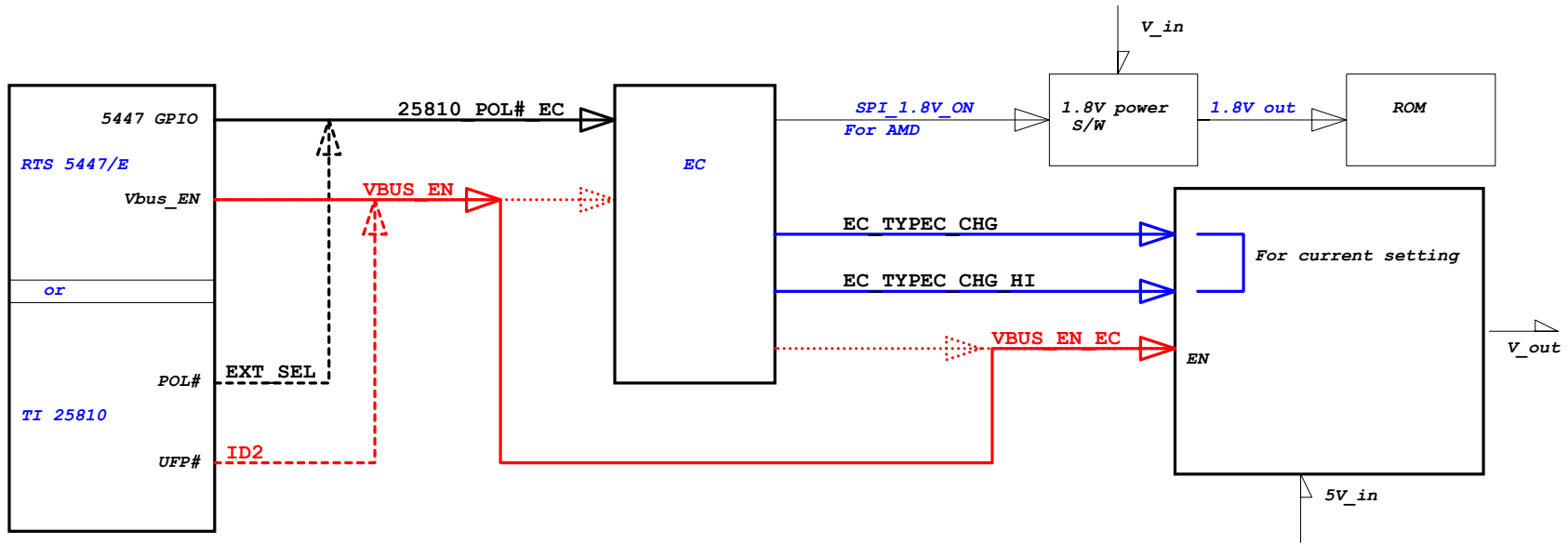
PCB 6L STACK UP

LAYER 1 : TOP  
 LAYER 2 : SVCC  
 LAYER 3 : IN1  
 LAYER 4 : IN2  
 LAYER 5 : SGND  
 LAYER 6 : BOT




	<b>PROJECT : G7BF</b>		Rev A
	Quanta Computer Inc.		
	Document Number	System Block Diagram	
Size Custom	Date: Wednesday, April 01, 2020	Sheet 1 of 90	

# Power Diagram

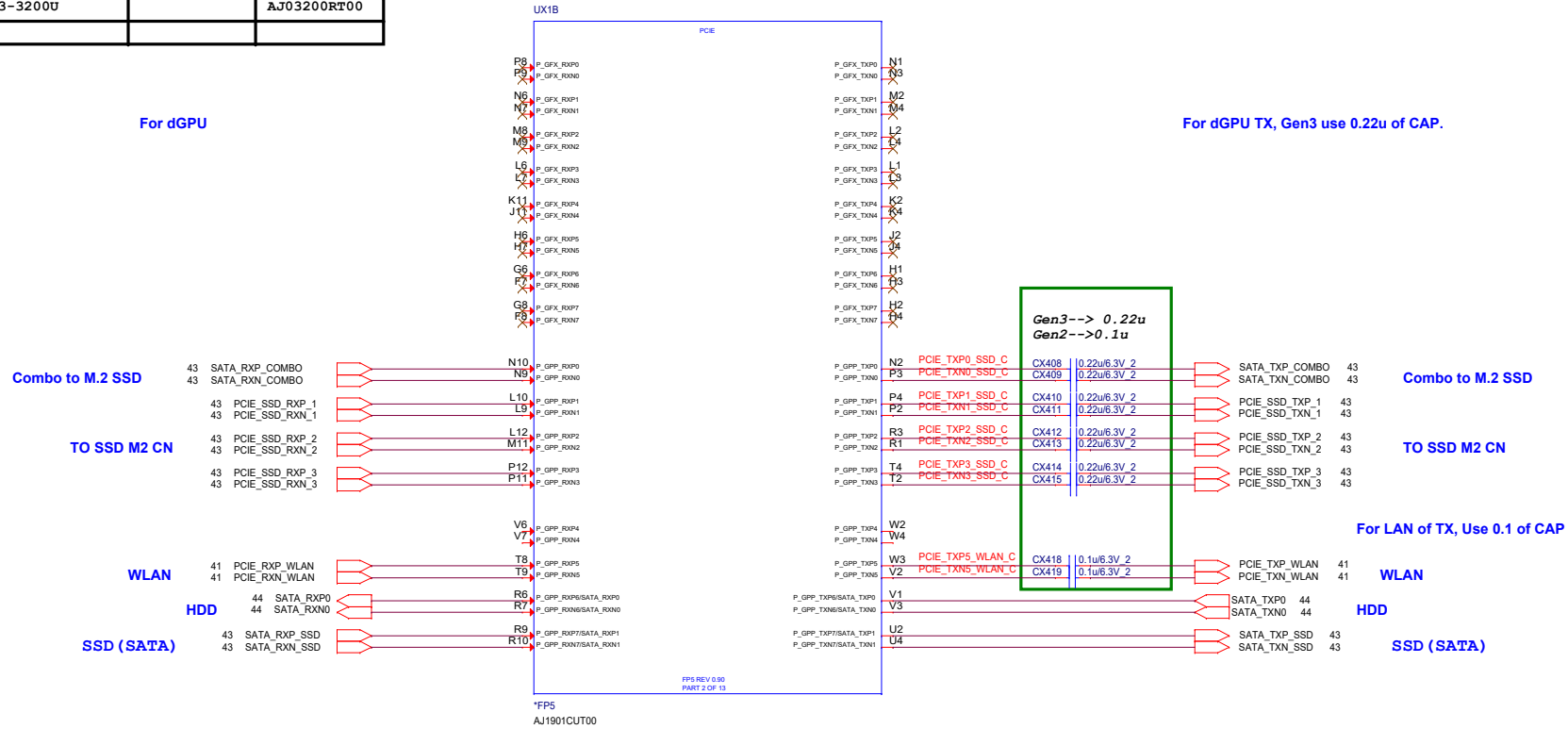


# I2C Path

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 3	of 90

APU PCIE

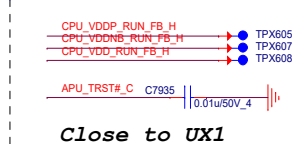
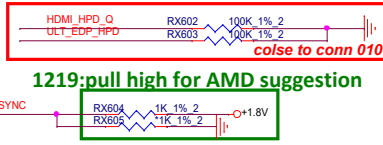
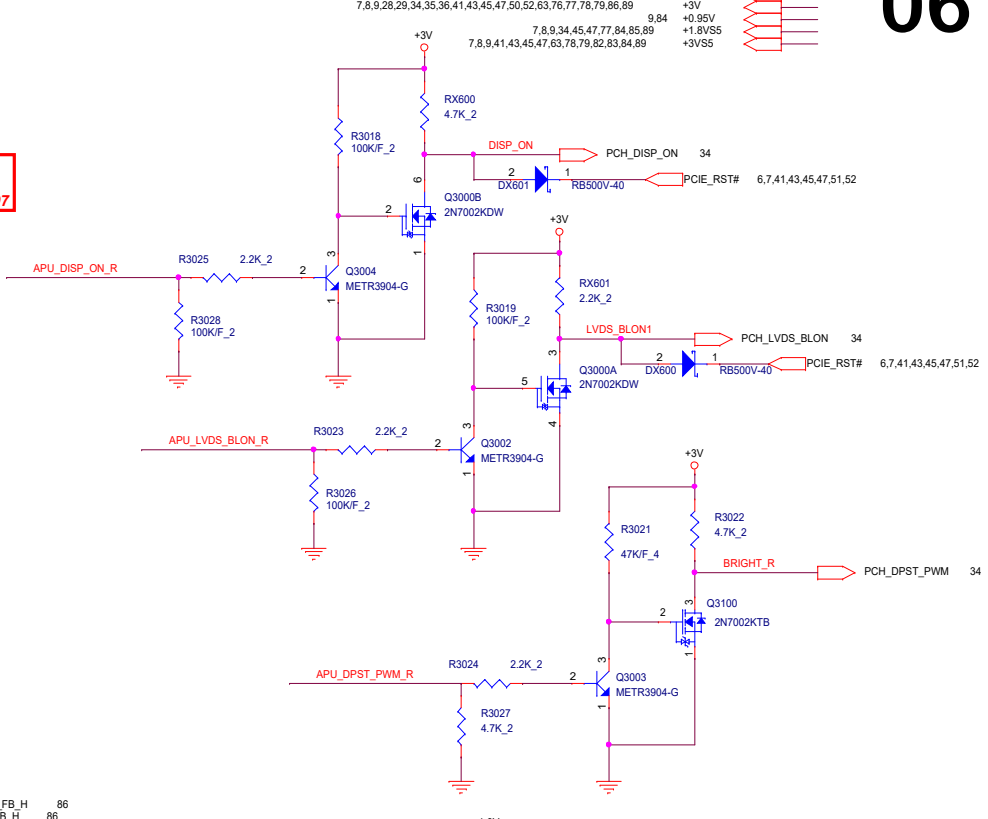
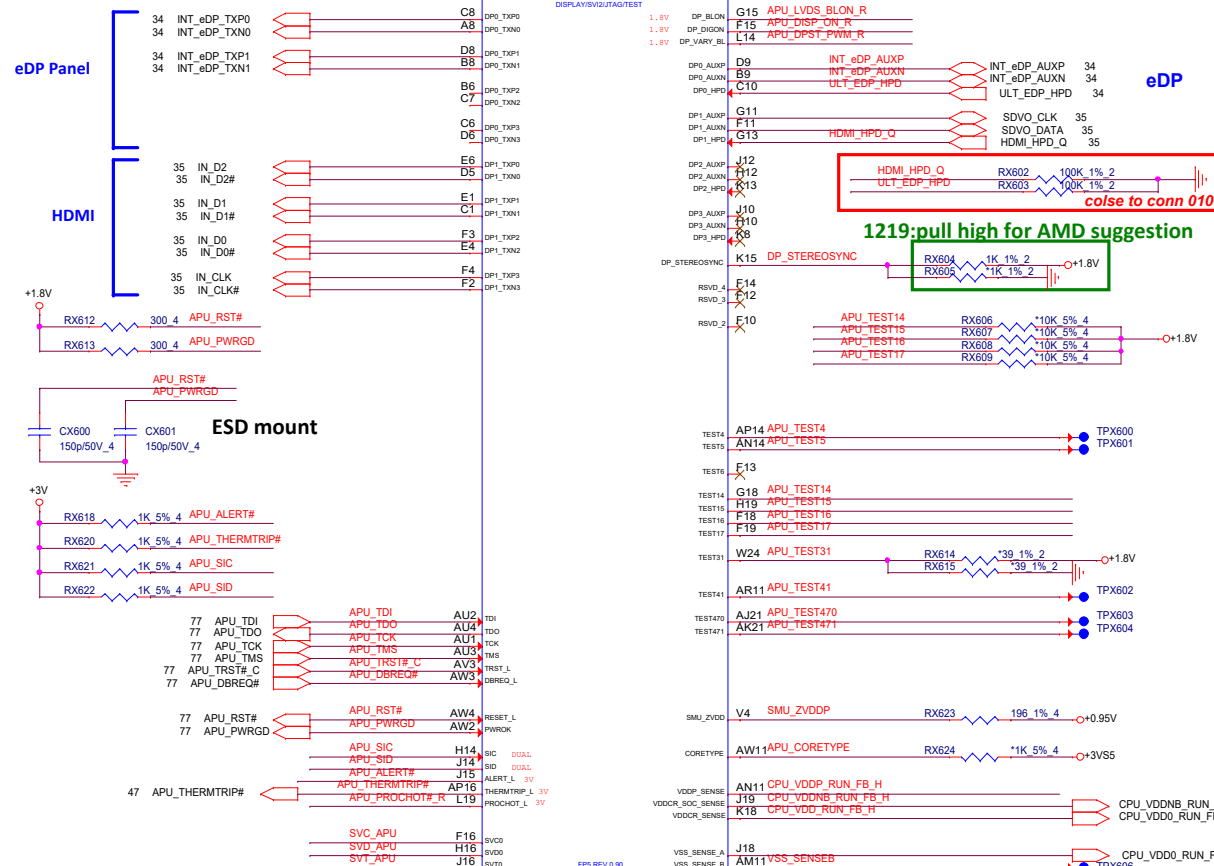
AMD APU	TOP BSQ	QBCON
R5-3500U		AJ03500UT00
R3-3300U		AJ03300UT00
R3-3200U		AJ03200RT00



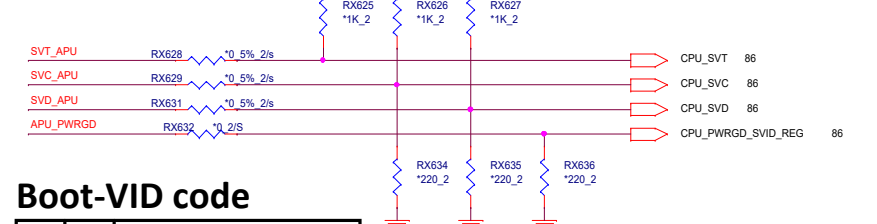
	<b>PROJECT : G7BF</b>		Rev 1A
	Quanta Computer Inc.		
	Document Number	RR 1/7(PCIE)	
Date: Wednesday, April 01, 2020	Sheet 4 of 90		



# APU DISPLAY and MISC

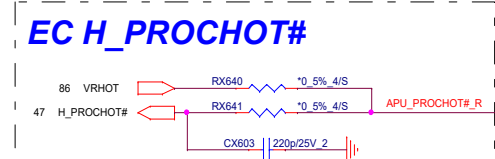


## APU Serial VID



## Boot-VID code

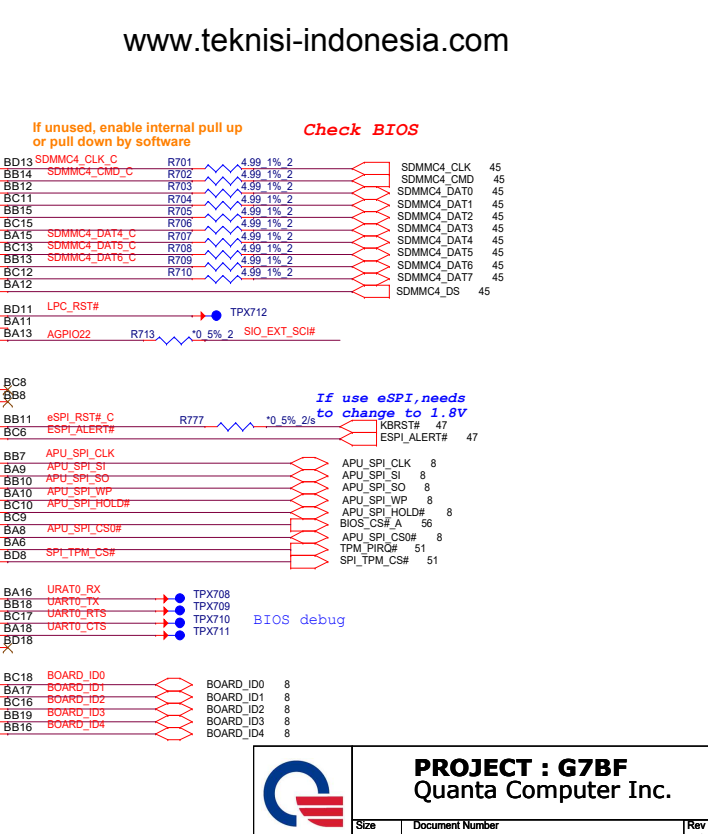
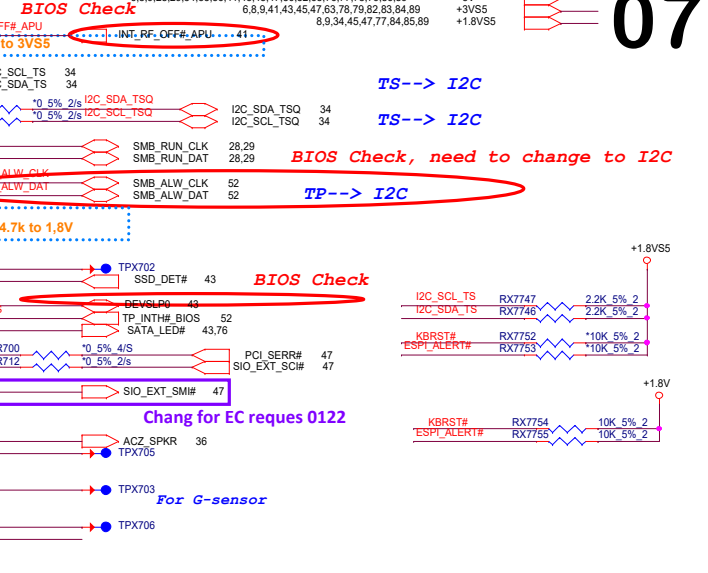
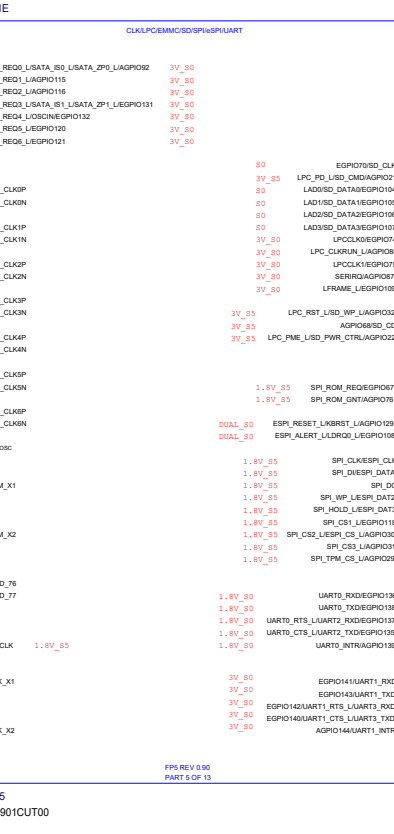
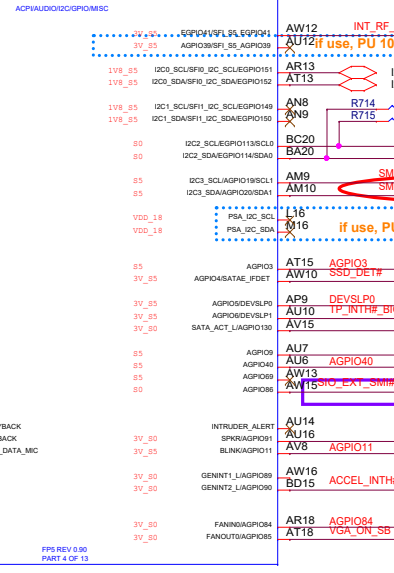
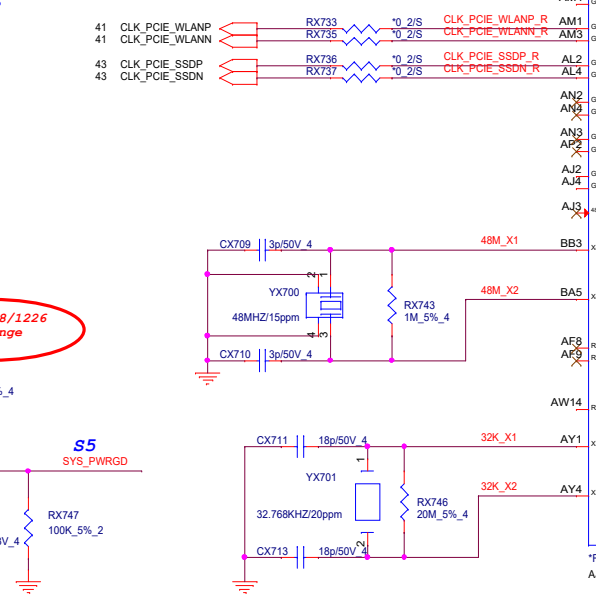
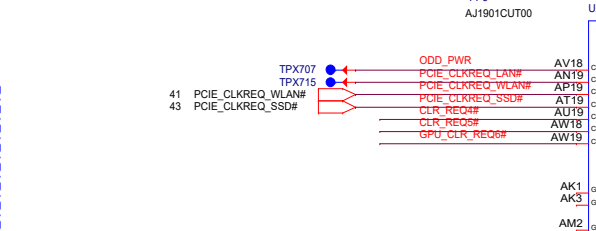
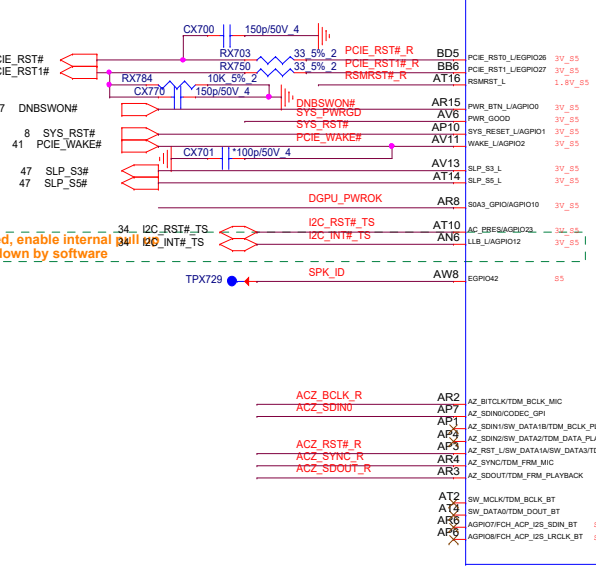
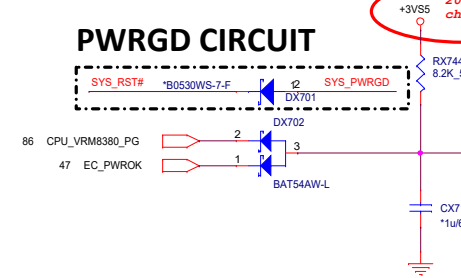
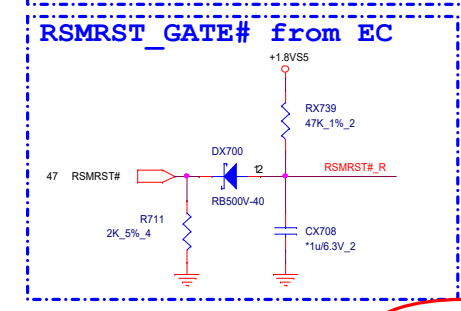
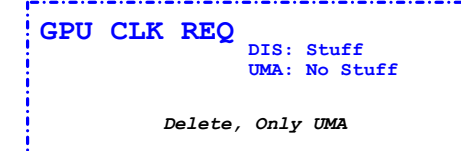
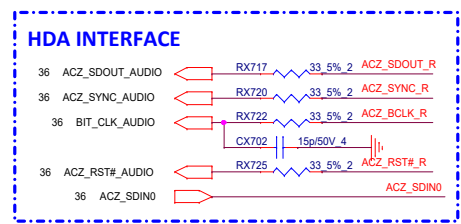
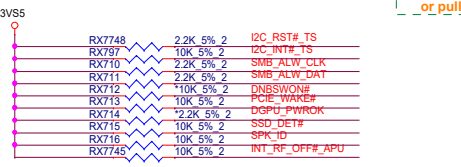
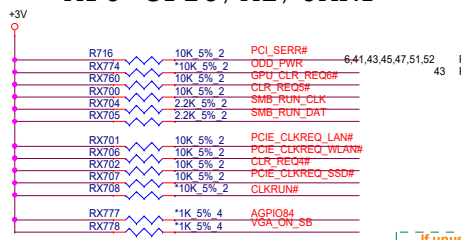
SVC	SVD	VOLTAGE
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8



**PROJECT : G7BF**  
Quanta Computer Inc.

Size: Custom    Document Number: **RR 3/7(DIS/MISC)**    Rev: 1A

Date: Friday, April 10, 2020    Sheet: 6 of 90



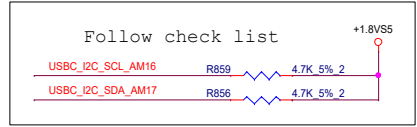
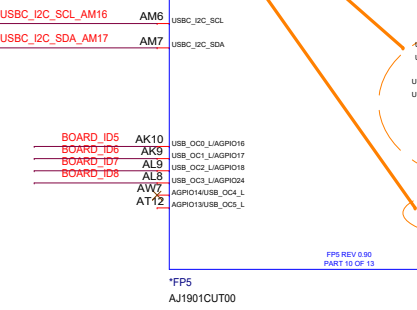
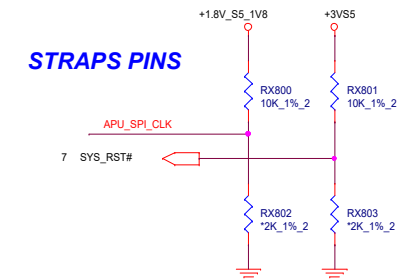
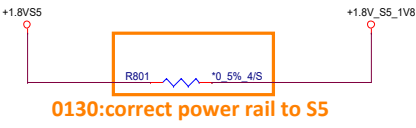
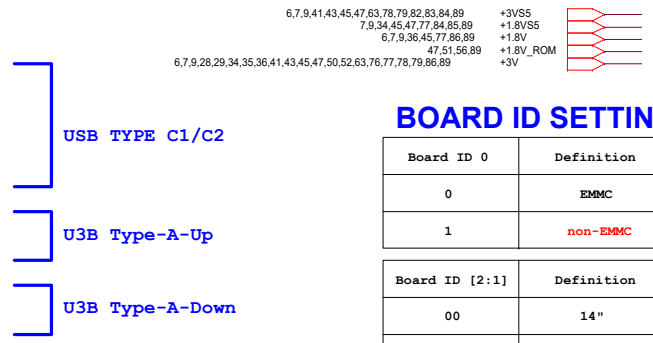
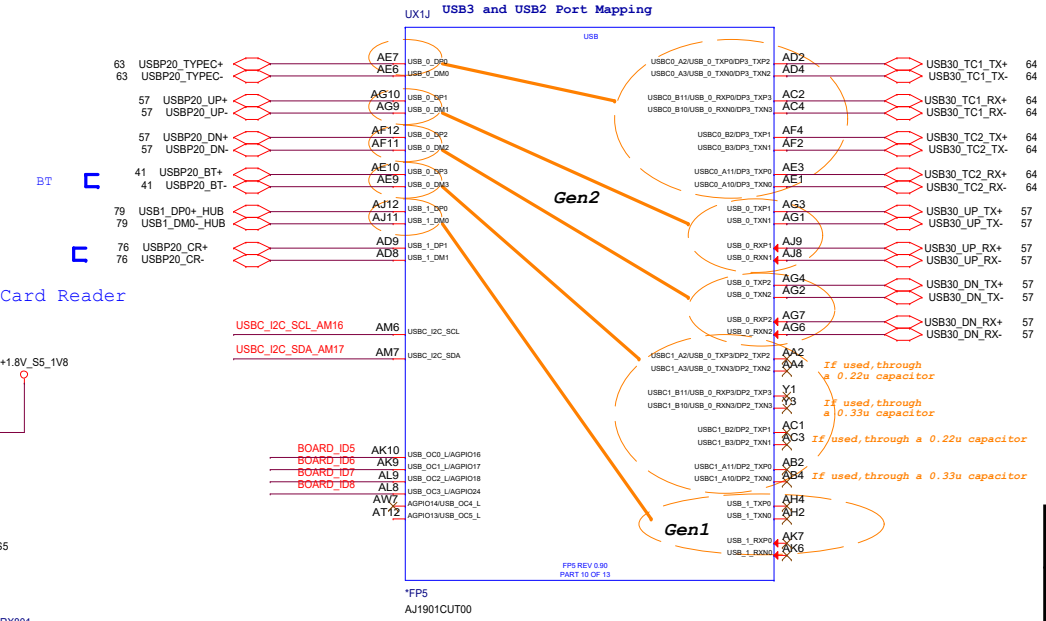
www.teknisi-indonesia.com

**PROJECT : G7BF**  
**Quanta Computer Inc.**

**NB5**

Size Custom Document Number **RR 47(GPIO/HDA/SPI/I2C)** Rev 1A  
 Date: Friday, April 10, 2020 Sheet 7 of 90

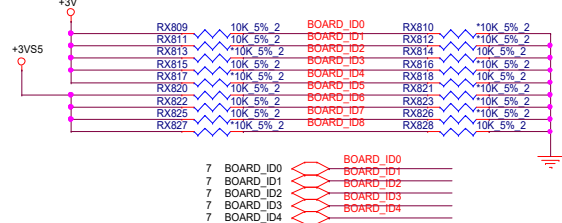
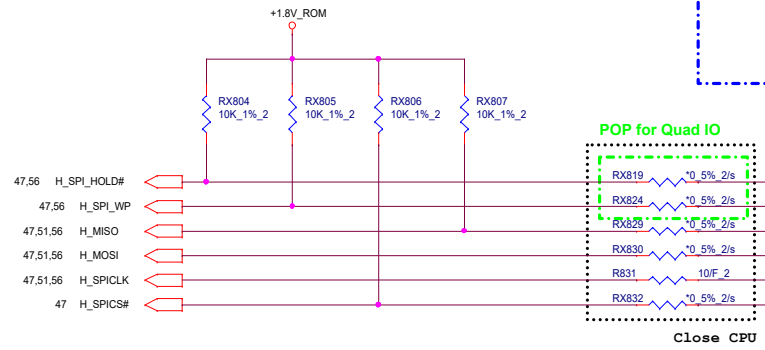
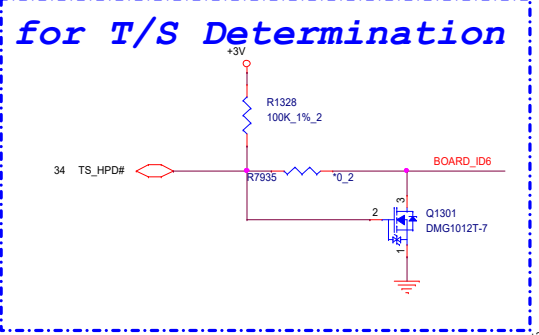
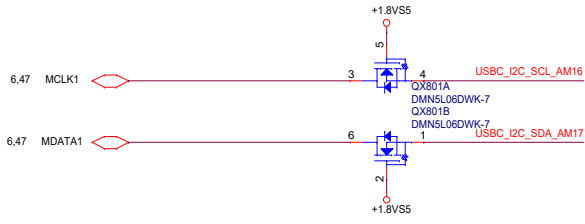
USB2 Port	Function
USB0/0	TYPE-C
USB0/1	TYPE-A Up
USB0/2	TYPE-A Down
USB0/3	BT
USB1/0	HUB
USB1/1	CARD READER



USB3 Port	Function
USB0/0	TYPE-C
USB0/1	TYPE-A
USB0/2	TYPE-A
USB0/3	USB TO SATA
USB1/0	NC

**REQUIRED STRAPS**

	APU_SPI_CLK	SYS_RST#
<b>PULL HIGH</b>	Use 48Mhz crystal clock and generate both internal and external clocks <b>DEFAULT</b>	normal reset mode <b>DEFAULT</b>
<b>PULL LOW</b>	Use 100Mhz PCIe clock as reference clock and generate internal clocks only	short reset mode



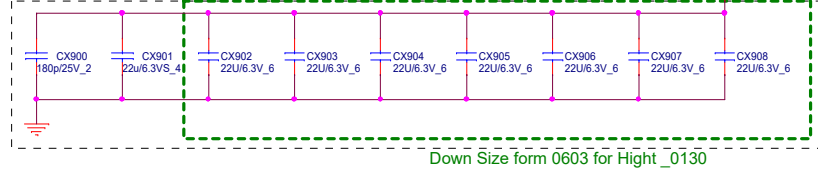
**PROJECT : G7BF**  
**Quanta Computer Inc.**

**NB5**

Size: Custom | Document Number: RR 5/7(USB/STRAP) | Rev: 1A  
 Date: Friday, April 10, 2020 | Sheet: 8 of 90

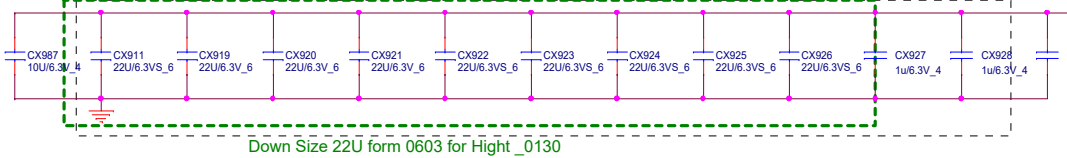
# APU POWER

## BOTTOM SIDE DECOUPLING UNDER APU

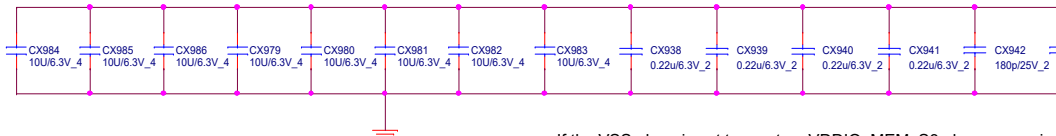


RR DG: 9\*22UF+2\*1UF+4\*0.22uf+3\*180PF

## BOTTOM SIDE DECOUPLING UNDER APU



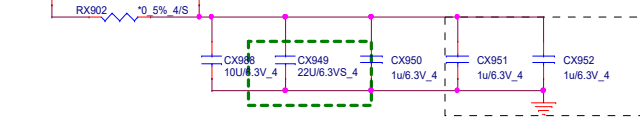
Down Size 22U form 0603 for Hight \_0130



If the VSS plane is cut to create a VDDIO\_MEM\_S3 plane, ceramic capacitors with NP0 or COG dielectric are connected across the VDDIO\_MEM\_S3 and VSS plane split.

RR DG: 1\*22UF+3\*1UF

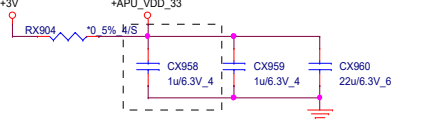
## BOTTOM SIDE DECOUPLING UNDER APU



RR DG: 1\*22UF+1\*1UF

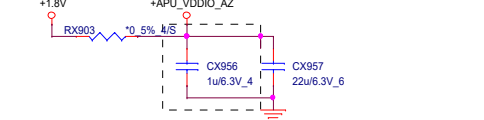
RR DG: 1\*22UF+2\*1UF

## BOTTOM SIDE DECOUPLING UNDER APU



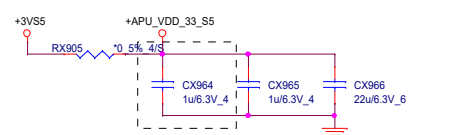
RR DG: 1\*22UF+2\*1UF

## BOTTOM SIDE DECOUPLING UNDER APU

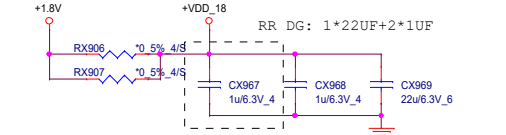


RR DG: 1\*22UF+2\*1UF

## BOTTOM SIDE DECOUPLING UNDER APU

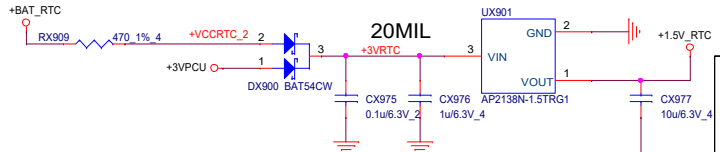
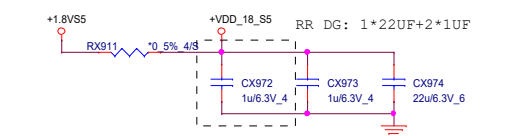
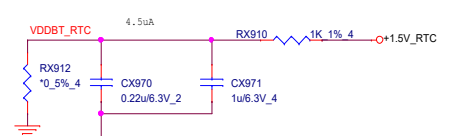


## BOTTOM SIDE DECOUPLING UNDER APU

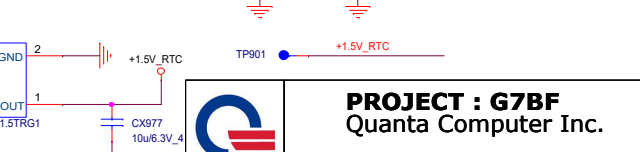
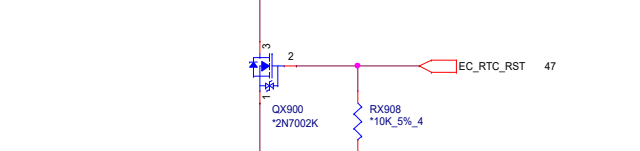
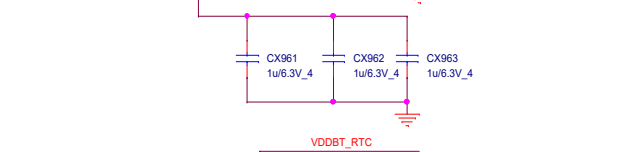
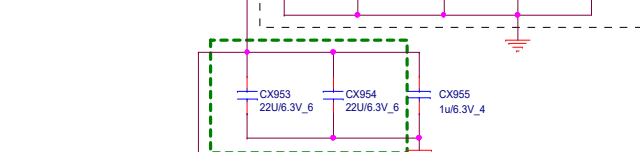
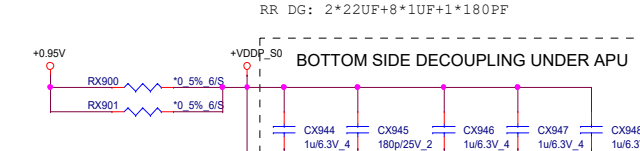
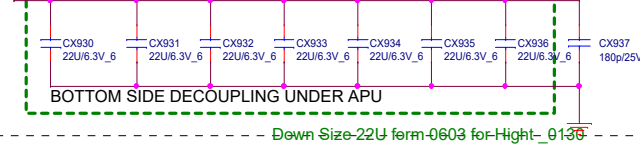
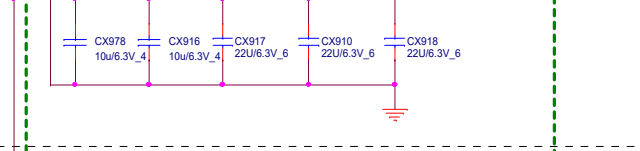
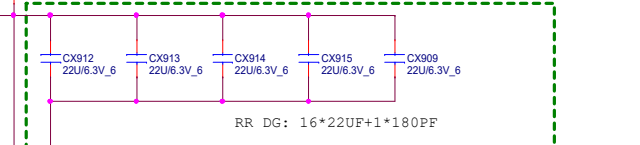
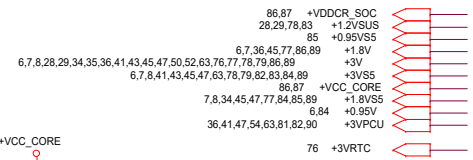
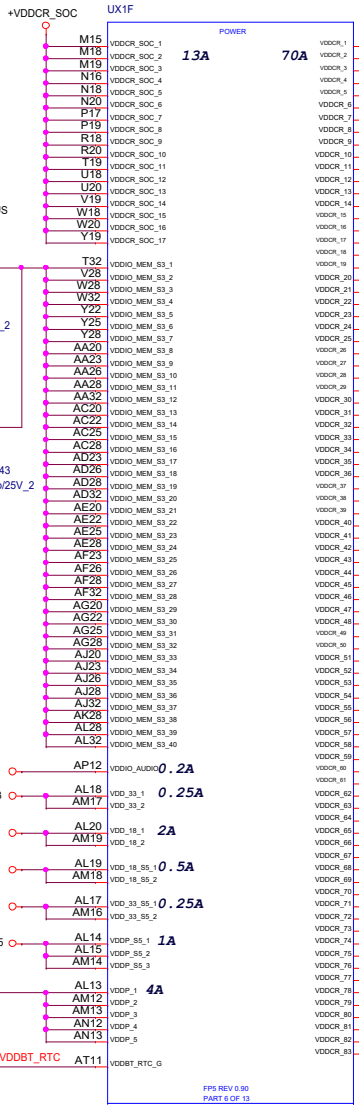


RR DG: 1\*22UF+2\*1UF

## BOTTOM SIDE DECOUPLING UNDER APU



RR DG: 1\*22UF+2\*1UF

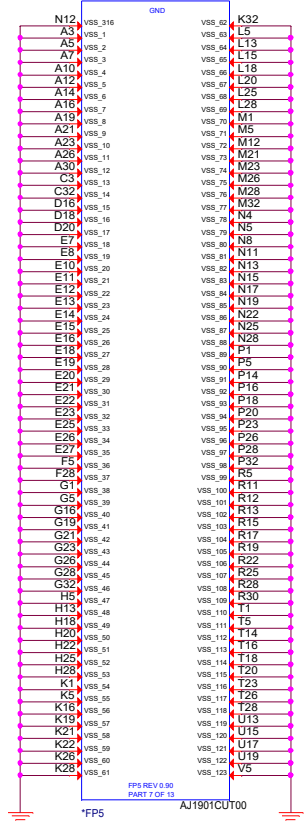


**PROJECT : G7BF**  
Quanta Computer Inc.

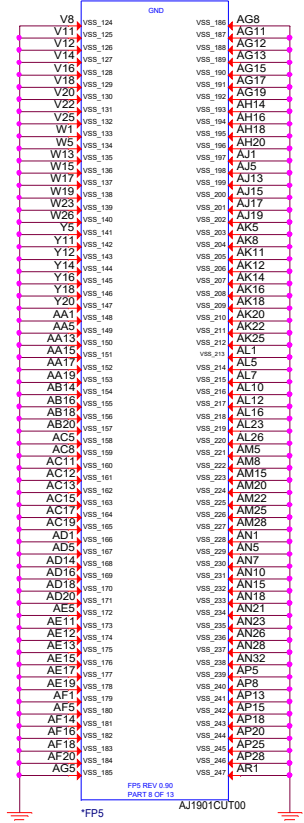
NB5

Size Custom	Document Number RR 6/7(POWER)	Rev 1A
Date: Wednesday, April 01, 2020	Sheet 9 of 90	

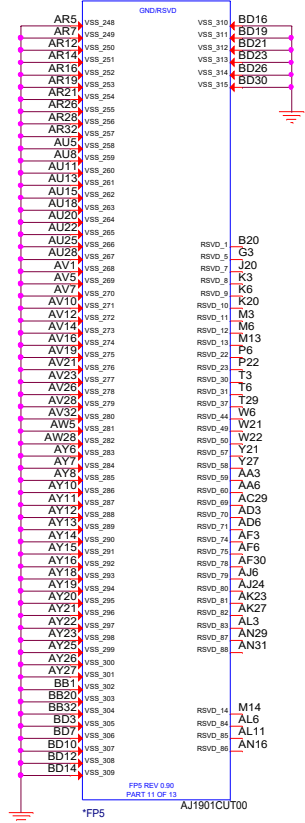
UX1G



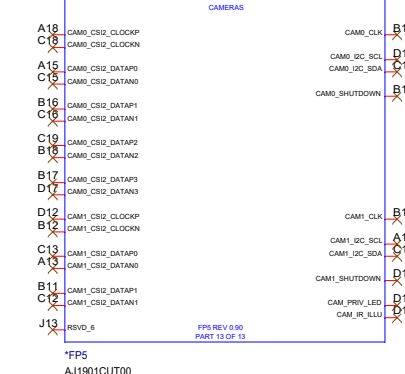
UX1H



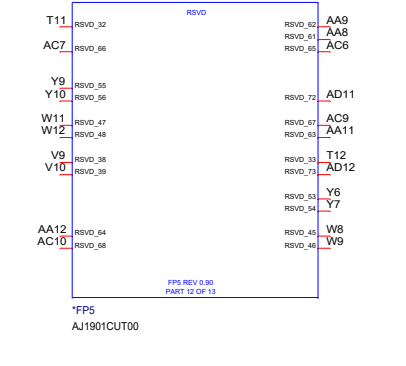
UX1K



UX1M




UX1L





**PROJECT : G7BF**  
Quanta Computer Inc.


NBS


Size Custom	Document Number	Rev 1A
RR 7/7(GND/RSVD)		
Date: Wednesday, April 01, 2020	Sheet 10 of 90	

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 8/15 (RSV)	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet	11 of 90

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 09/15(SPI/LPC/SM)	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 12	of 90

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 10/15(HDA)	Rev 1A
	Date: Wednesday, April 01, 2020		Sheet 13 of 90


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 11/15 (PCIE/USB)	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 14	of 90

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 12/15 (CLK/EMMC)	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 15	of 90




**PROJECT : G7E**  
Quanta Computer Inc.

Size Custom	Document Number WHL-U 13/15 (GPIO)	Rev 1A
Date: Wednesday, April 01, 2020		Sheet 16 of 90


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number WHL-U 14/15(PCH POWER)	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 17	of 90

PCH

18


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020		Sheet 18	of 90

PCH


	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020		Sheet 19	of 90

PCH


20

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020		Sheet 20	of 90

# PCH


	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020			Sheet 21 of 90

# PCH

	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020			Sheet 22 of 90


PCH

23

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020			Sheet 23 of 90


PCH

24

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020		Sheet 24	of 90


PCH


25

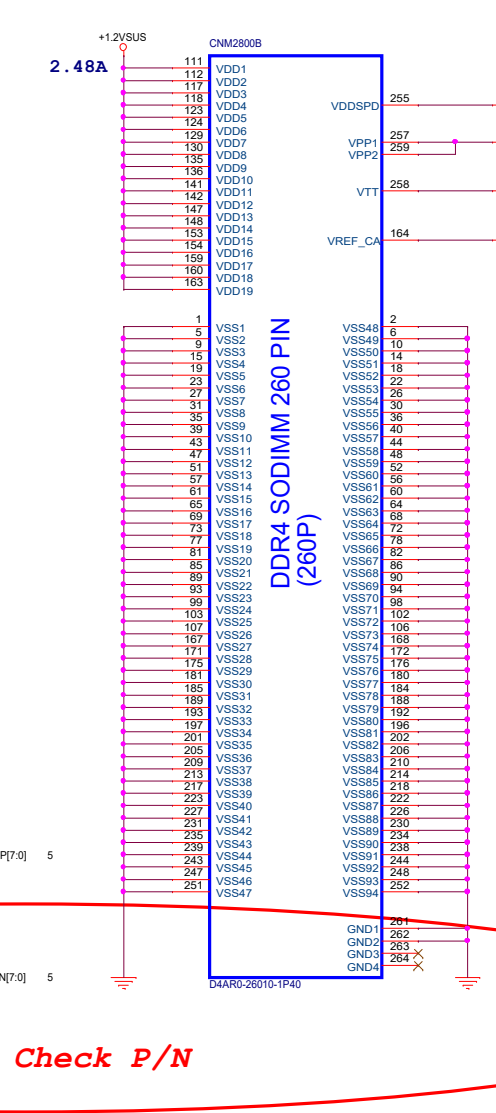
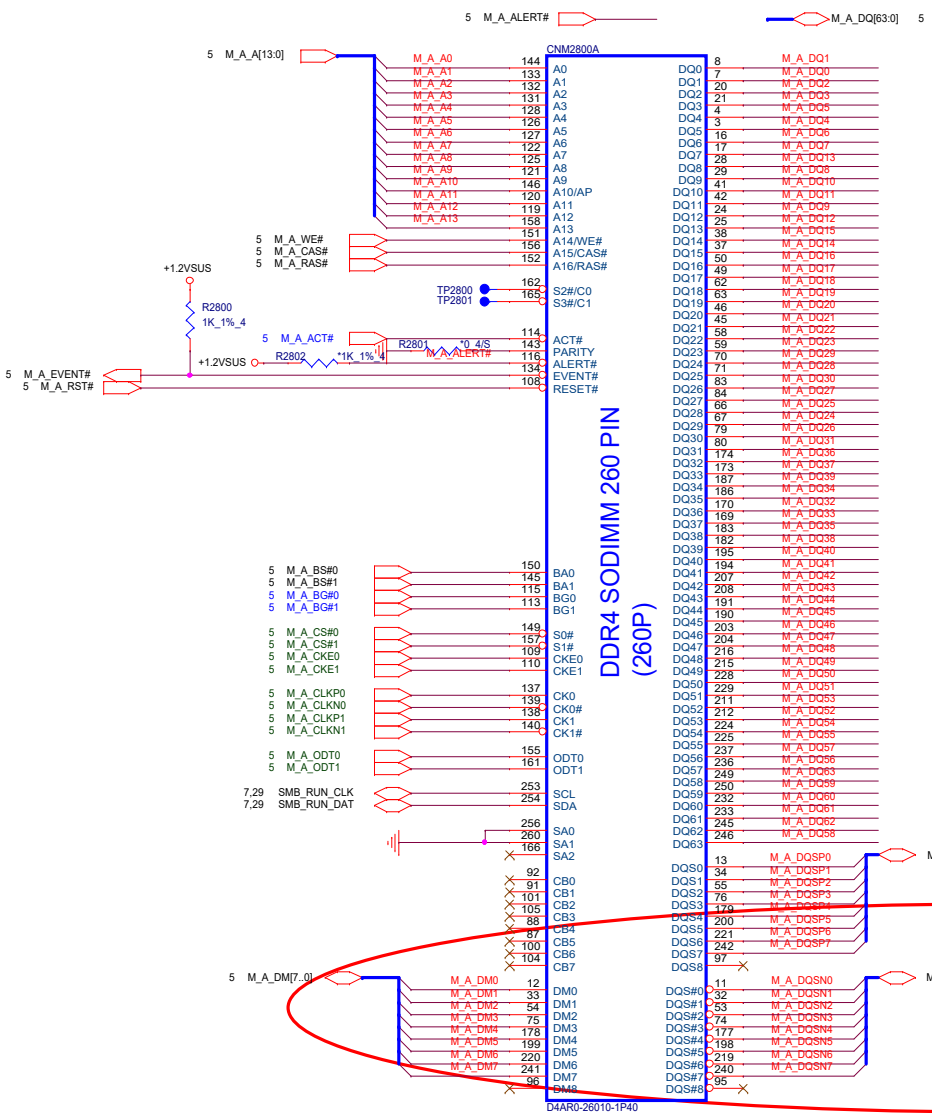
 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		25	1A
Date: Wednesday, April 01, 2020		Sheet	25 of 90

PCH

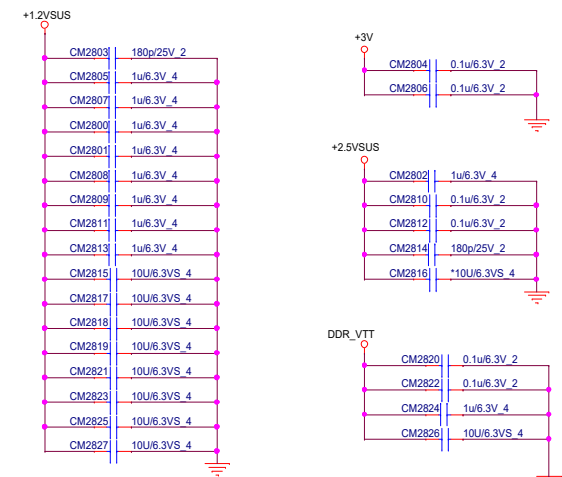
26

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH	1A
Date: Wednesday, April 01, 2020		Sheet 26	of 90

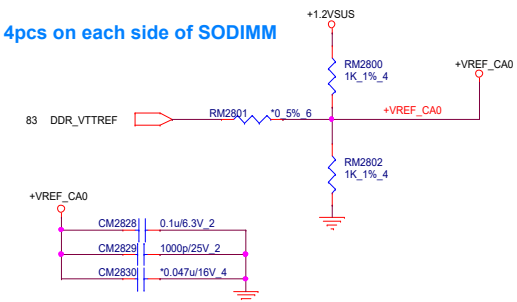
 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		PCH STRAP	1A
Date: Wednesday, April 01, 2020		Sheet 27 of 90	



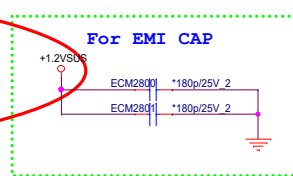
Place these Caps near SODIMM



1uF/10uF 4pcs on each side of SODIMM



For EMI CAP



Check P/N



6,7,8,9,29,34,35,36,41,43,45,47,50,52,63,76,77,78,79,86,89


**NB5**

**PROJECT : G7BF**  
Quanta Computer Inc.


Size Custom	Document Number <b>CHA0 DDR4 DIMMO-RVS(4.0H)</b>	Rev 1A
Date: Wednesday, April 01, 2020		Sheet 28 of 90




# MEMORY

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		MEMORY	1A
Date: Wednesday, April 01, 2020		Sheet 30 of 90	


# MEMORY

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		MEMORY	1A
Date: Wednesday, April 01, 2020		Sheet 31	of 90

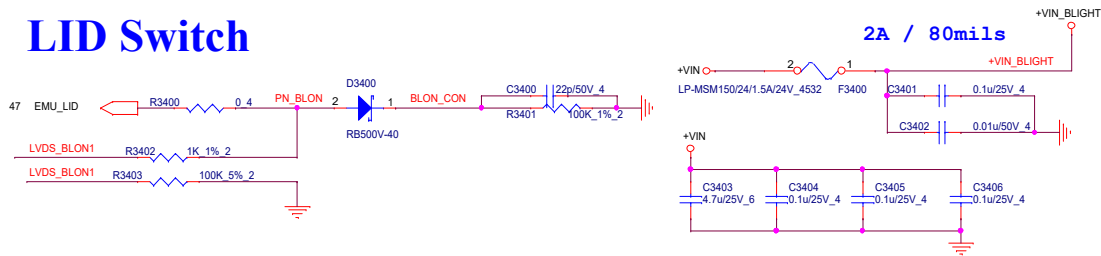
 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number DDR4 Memory Down (CH. B)	Rev 1A
Date: Wednesday, April 01, 2020			Sheet 32 of 90

PCH

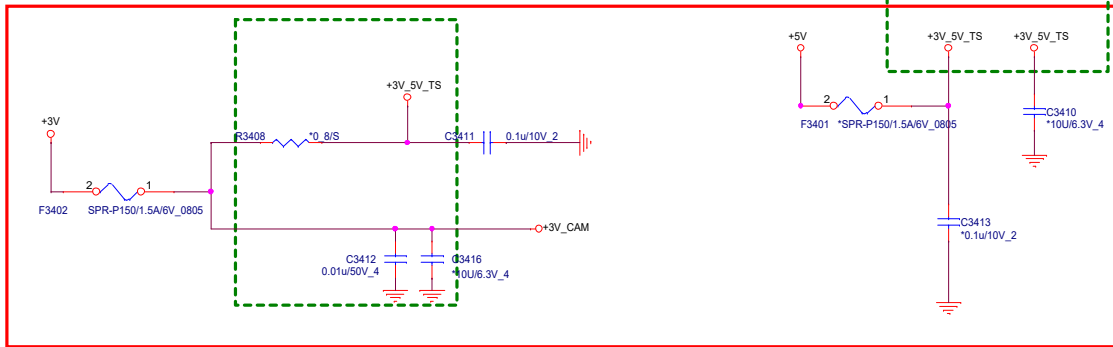
33

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 33	of 90

# LID Switch

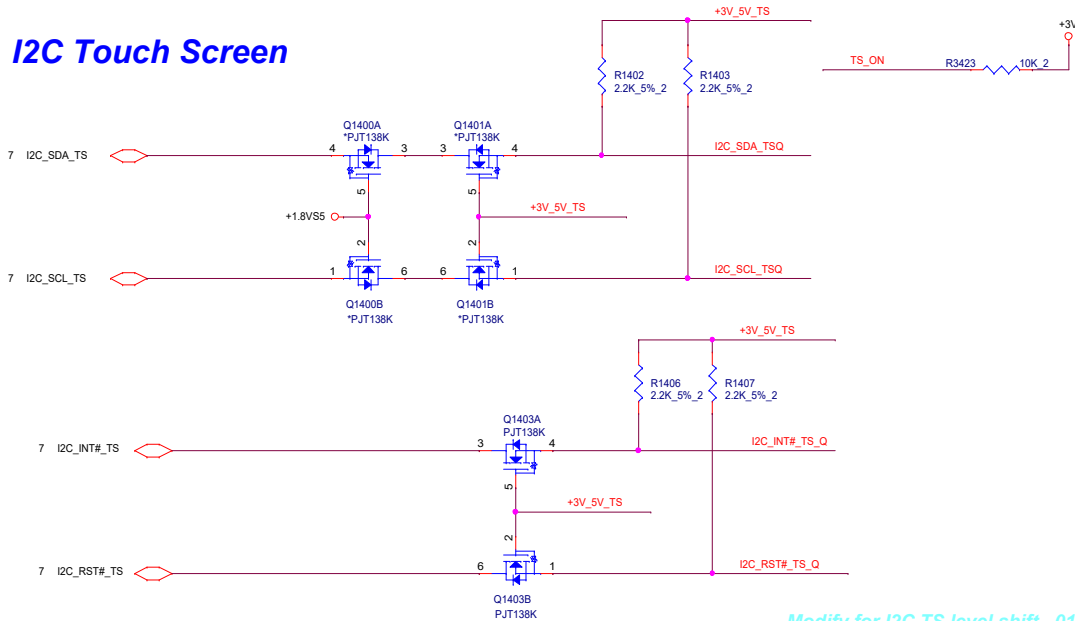


# Touch screen



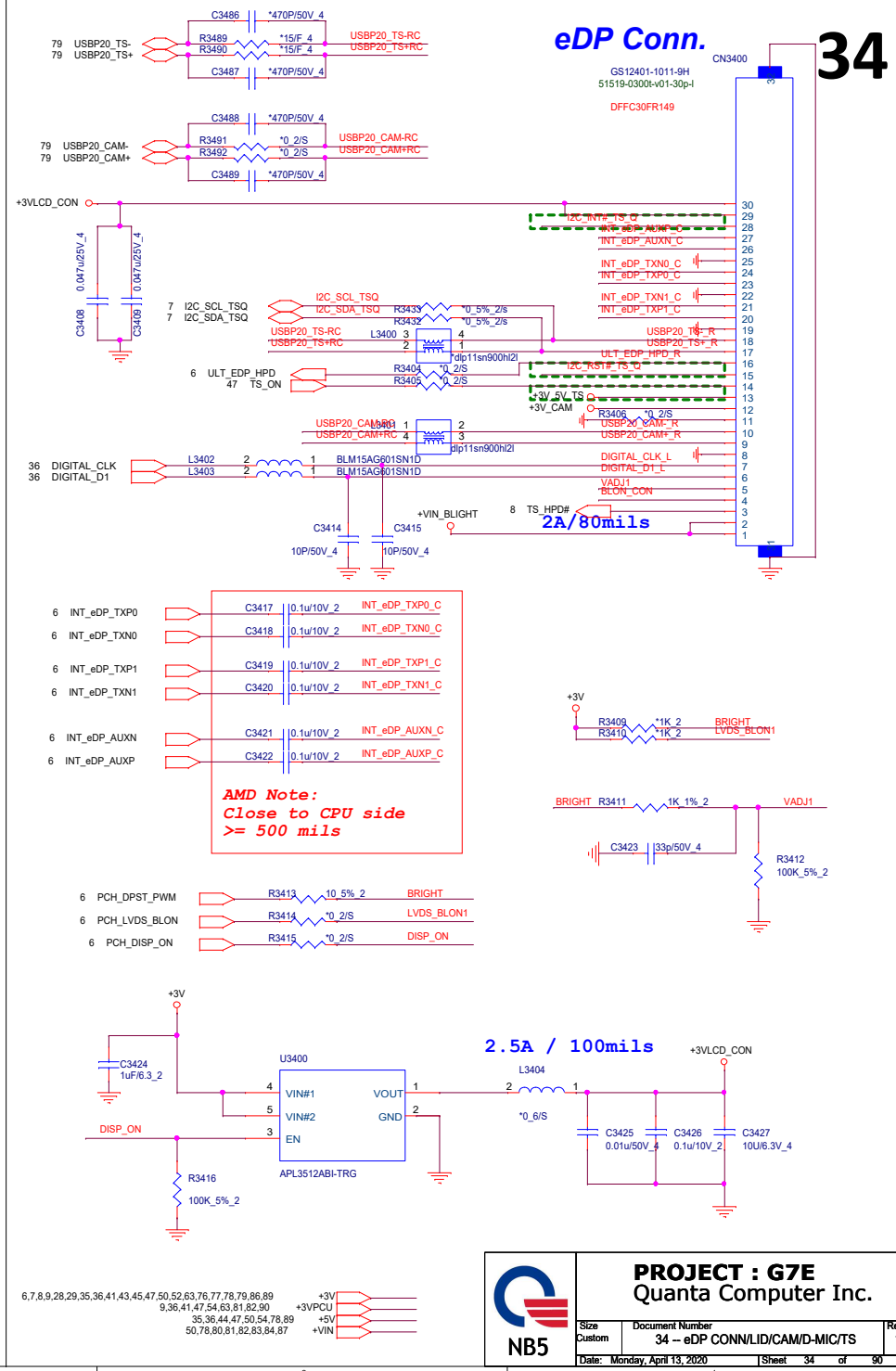
Follow opp eDP design\_0128

# I2C Touch Screen



Modify for I2C TS level shift\_0119

# eDP Conn.



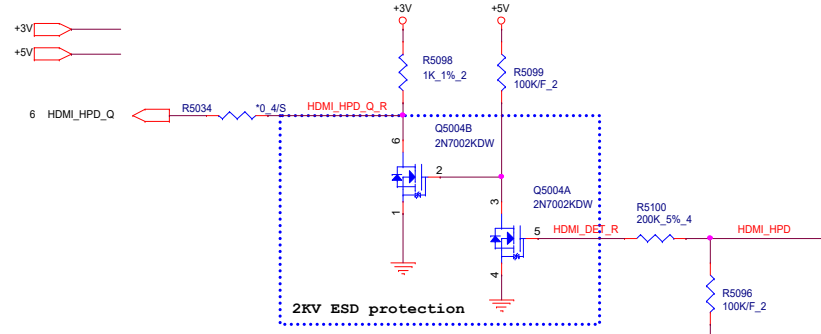
34

	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size Custom Document Number 34 -- eDP CONN/LID/CAM/D-MIC/TS Date: Monday, April 13, 2020	Sheet 34 of 90	

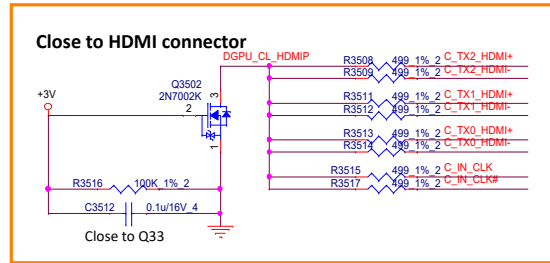
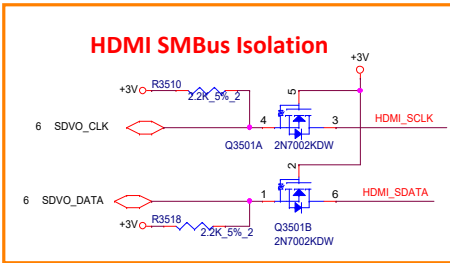
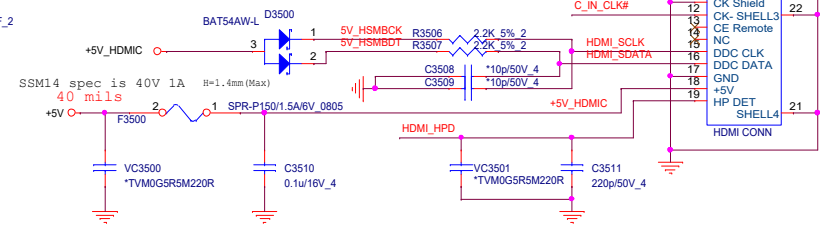
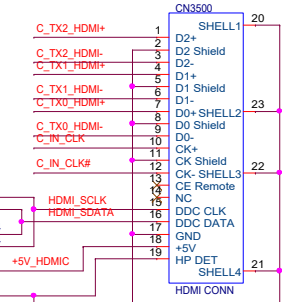
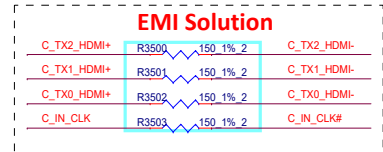
6,7,8,9,28,29,34,36,41,43,45,47,50,52,63,76,77,78,79,86,89  
34,36,44,47,50,54,78,89

**AMD Note:**  
Close to CPU side  
>= 500 mils

6 IN_D0	IN_D0	C3500	0.1u/16V_4	C_TX0_HDMI+
6 IN_D0#	IN_D0#	C3503	0.1u/16V_4	C_TX0_HDMI#
6 IN_D1	IN_D1	C3501	0.1u/16V_4	C_TX1_HDMI+
6 IN_D1#	IN_D1#	C3502	0.1u/16V_4	C_TX1_HDMI#
6 IN_D2	IN_D2	C3504	0.1u/16V_4	C_TX2_HDMI+
6 IN_D2#	IN_D2#	C3505	0.1u/16V_4	C_TX2_HDMI#
6 IN_CLK	IN_CLK	C3506	0.1u/16V_4	C_IN_CLK
6 IN_CLK#	IN_CLK#	C3507	0.1u/16V_4	C_IN_CLK#

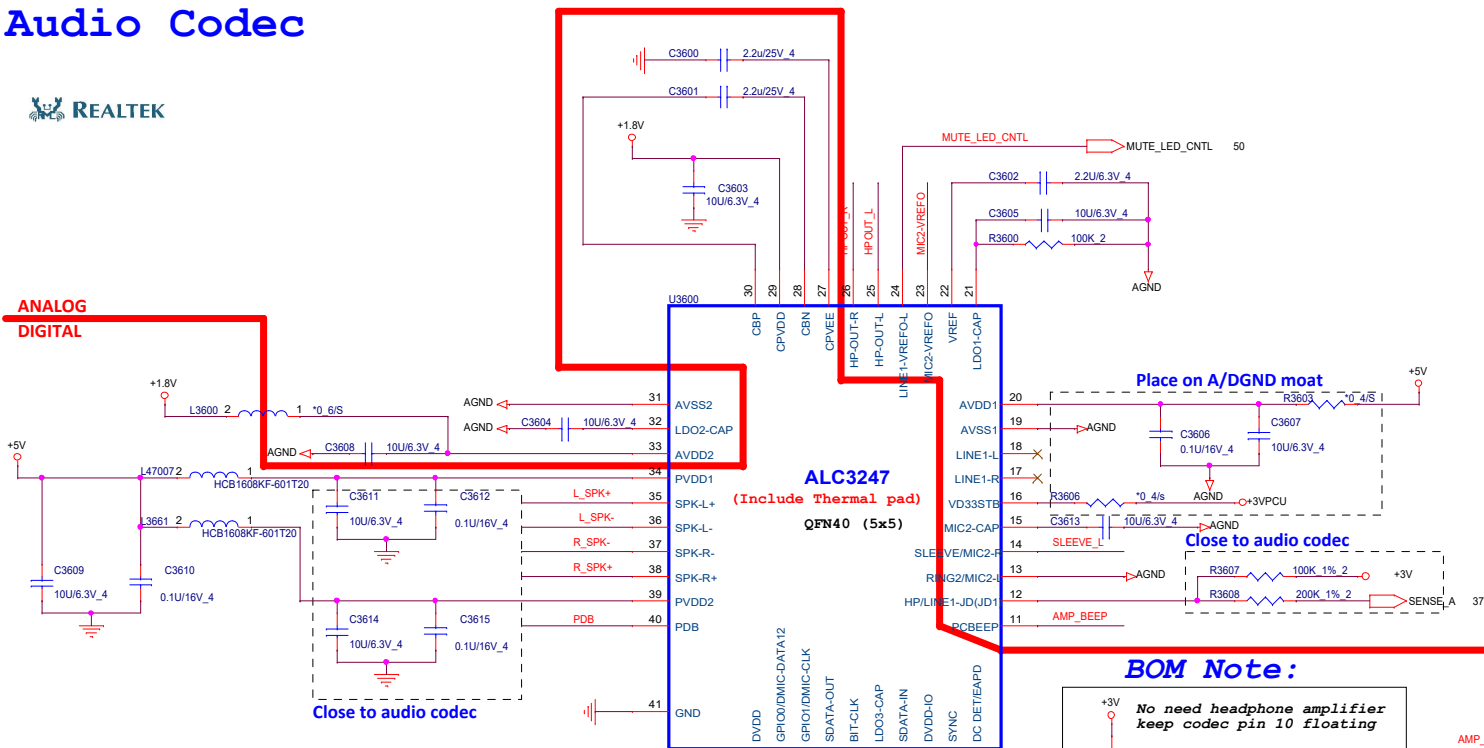


Change design for AMD setting\_0108

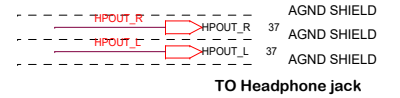




**ANALOG**  
**DIGITAL**



PCB trace width of SLEEVE & RING2 are required at least 40 mil and its length should be as short as possible



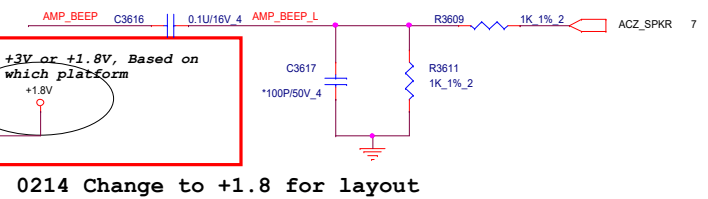
### BOM Note:

No need headphone amplifier keep codec pin 10 floating  
Default: None Amp.

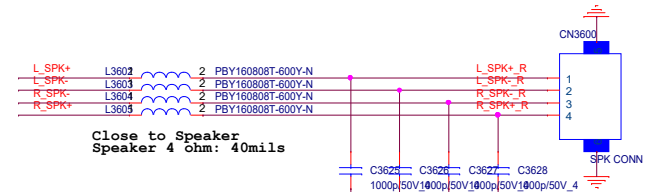
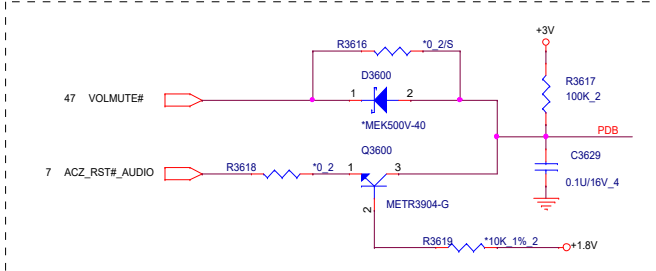
**+3V or +1.8V, Based on which platform**

**ANALOG**  
**DIGITAL**

teknisi-indonesia.com



### Speaker Power Down Control Circuit



- +3V 6,7,8,9,28,29,34,35,41,43,45,47,50,52,63,76,77,78,79,86,89
- +5V 34,35,44,47,50,54,78,89
- +1.8V 6,7,9,45,77,86,89

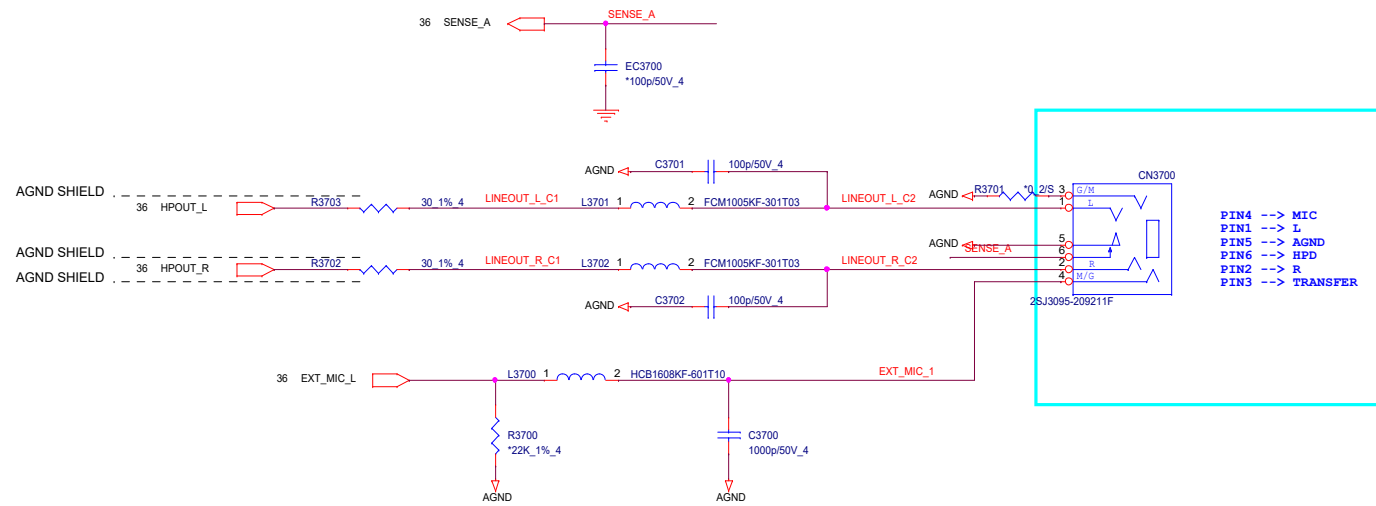
### FOR EMI

- ACZ\_SDIN0 EC3605 \*33p/50V\_4
  - ACZ\_SDOUT\_AUDIO EC3606 \*10p/50V\_4
  - ACZ\_SYNC\_AUDIO EC3607 \*10p/50V\_4
  - BIT\_CLK\_AUDIO EC3608 \*33p/50V\_4
- Page 7 mount 15P**

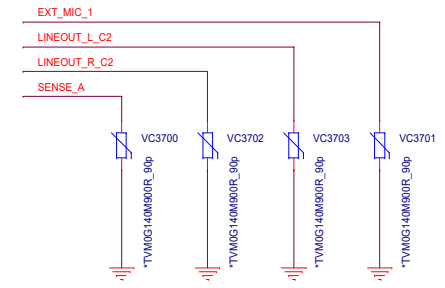
**PROJECT : G7E**  
**Quanta Computer Inc.**

Size Custom	Document Number	Rev 1A
	<b>Codec ALC3247</b>	
Date: Friday, April 10, 2020		
Sheet 36 of 90		

# Audio Combo Jack




## Audio JACK ESD




- PIN4 --> MIC
- PIN1 --> L
- PIN5 --> AGND
- PIN6 --> HPD
- PIN2 --> R
- PIN3 --> TRANSFER


	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size	Document Number	
Date: Friday, April 10, 2020		Audio Jack	Sheet 37 of 90

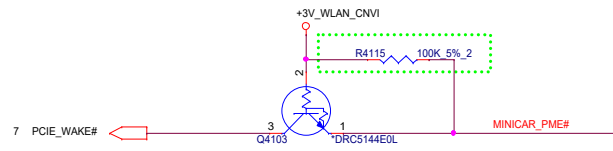
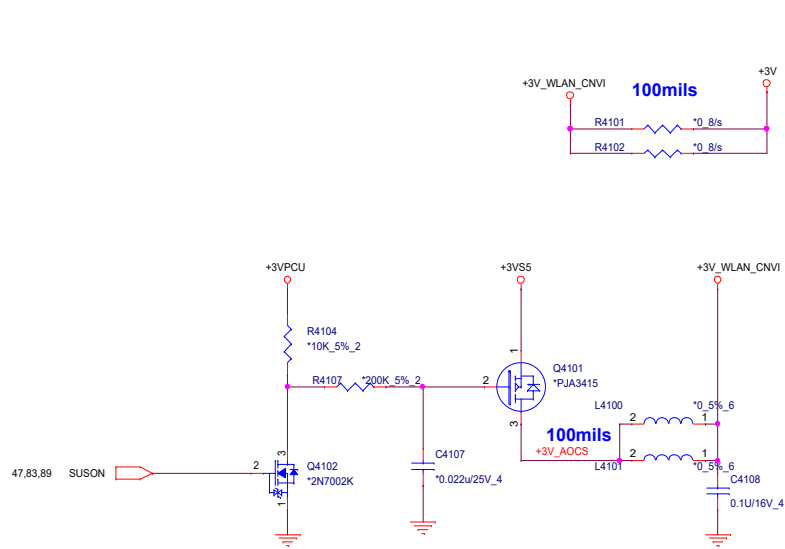
# AUDIO

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		AUDIO	1A
Date: Wednesday, April 01, 2020		Sheet 38	of 90

# AUDIO

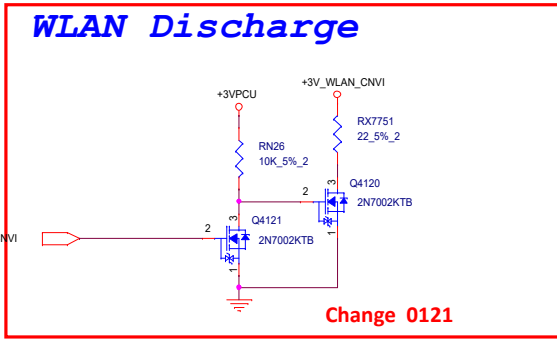
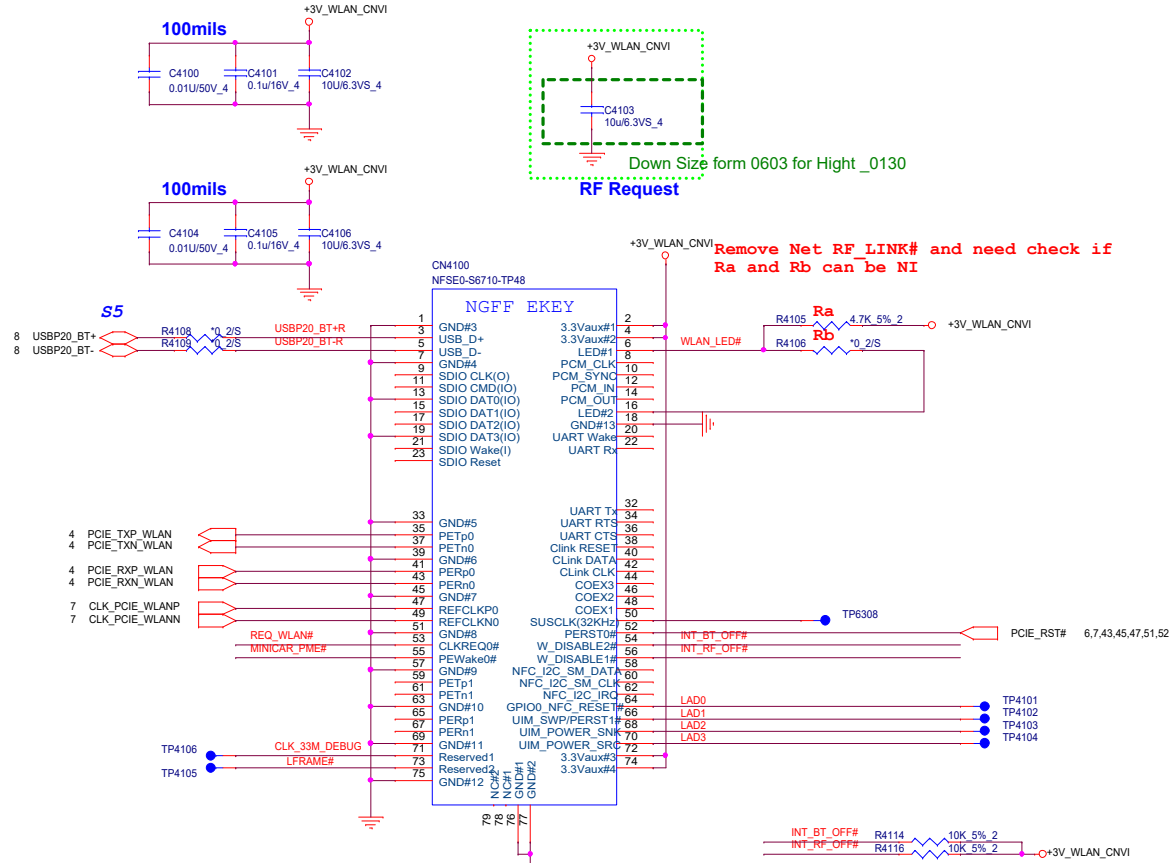
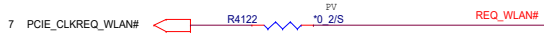
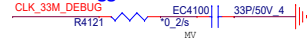
 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		AUDIO	1A
Date: Wednesday, April 01, 2020		Sheet 39	of 90

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number <b>40 - LAN RTL8166EH/RTL8111HSH</b>	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 40	of 90



0302 Reserved the MOSFET at CLKREQ# even the current leakage test passed for HP requested

**For EMI Suggestion**




41 +3V\_WLAN\_CNVI

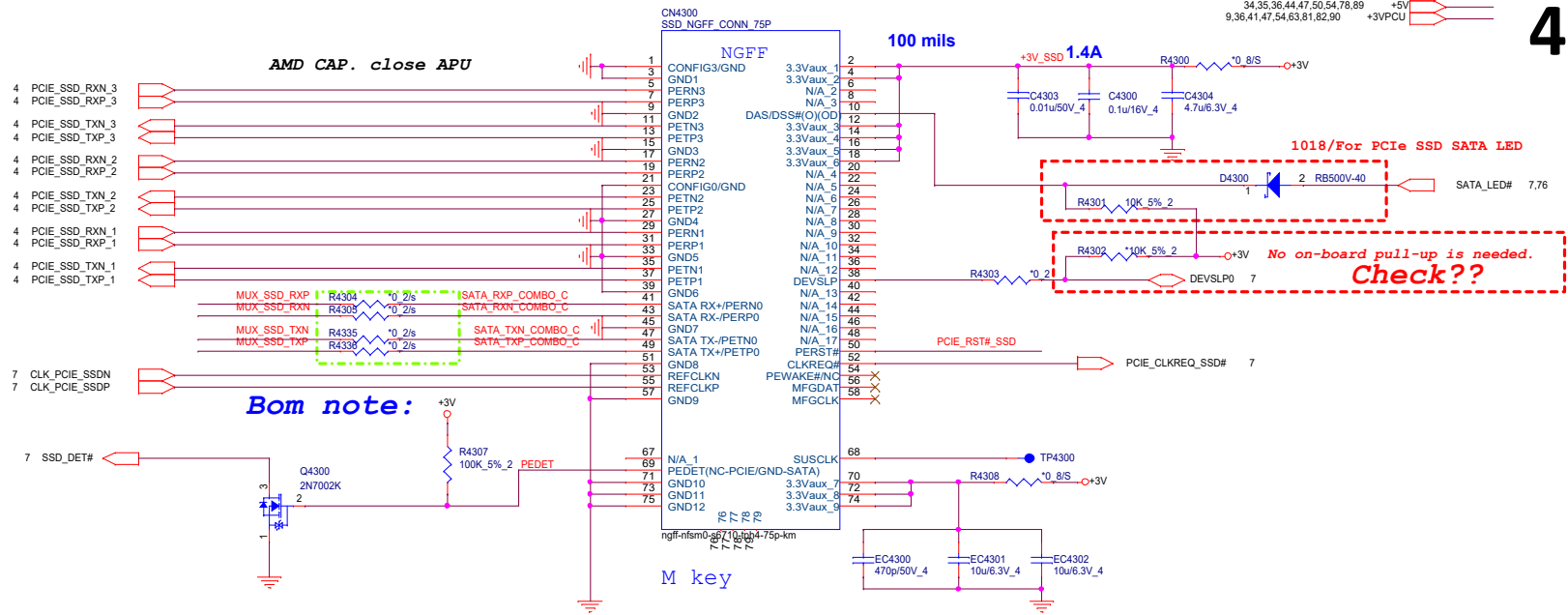
	<b>PROJECT : G7E</b>		Rev
	Quanta Computer Inc.		
	Document Number	WLAN(NGFF)	
Date: Friday, April 10, 2020	Sheet	41 of 90	1A

PCH

42

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 42 of 90	

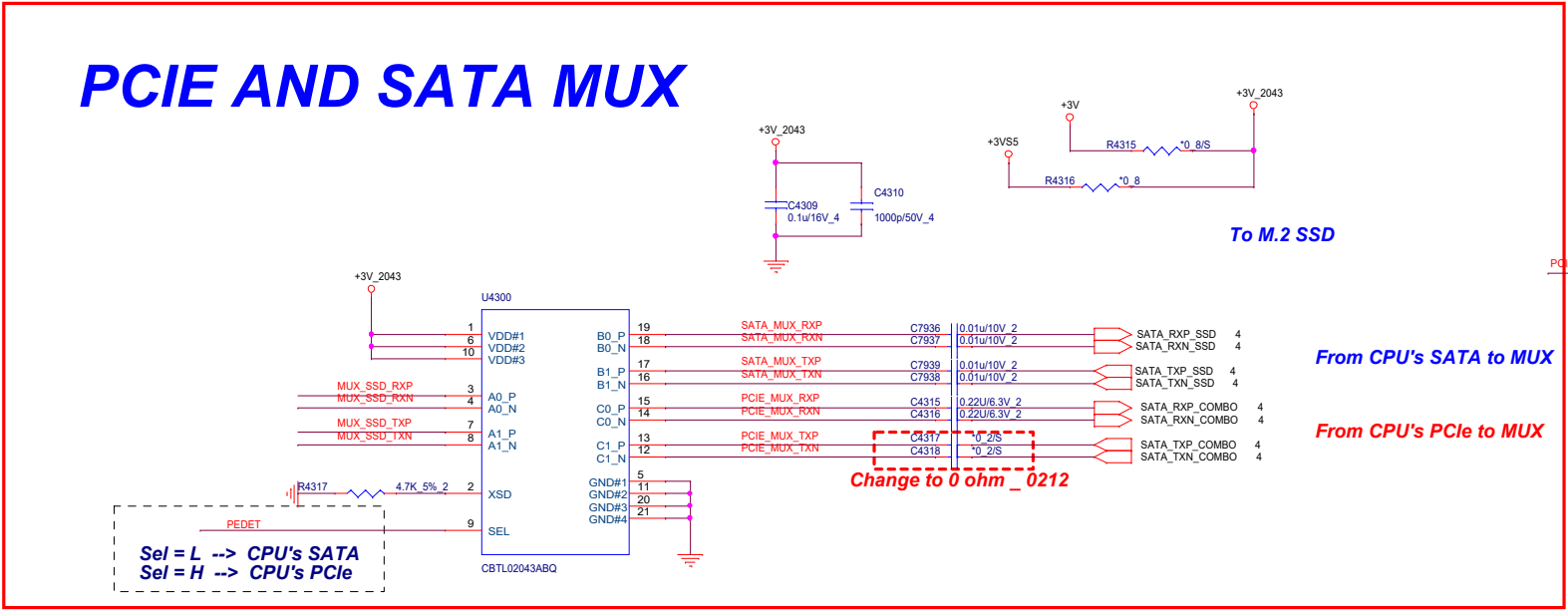
# SATA SSD



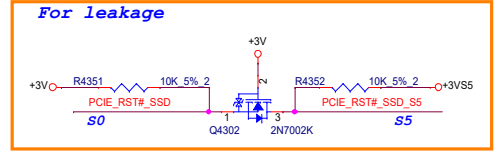
**Bom note:**

0107 ADD MUX

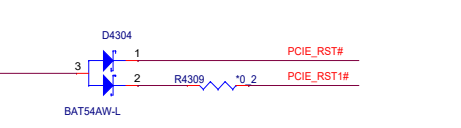
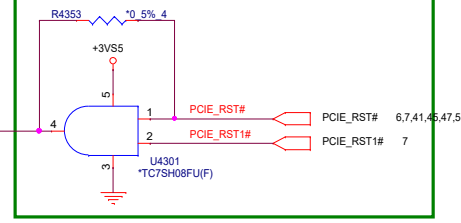
## PCIE AND SATA MUX



SEL = L --> CPU's SATA  
SEL = H --> CPU's PCIe



0911: modify for FAE Alex request



To M.2 SSD

From CPU's SATA to MUX

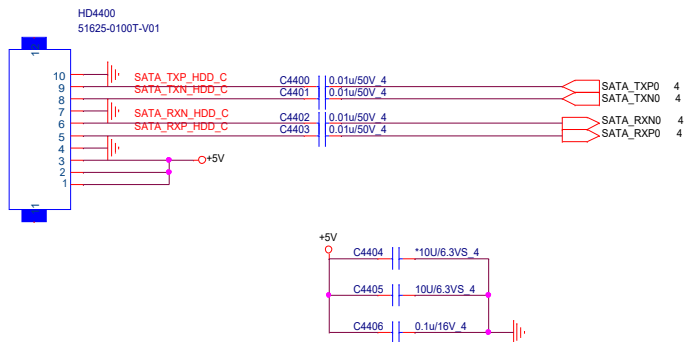
From CPU's PCIe to MUX


**PROJECT : G7E**  
Quanta Computer Inc.

Size Custom	Document Number <b>SSD(NGFF)</b>	Rev 1A
Date: Friday, April 10, 2020		

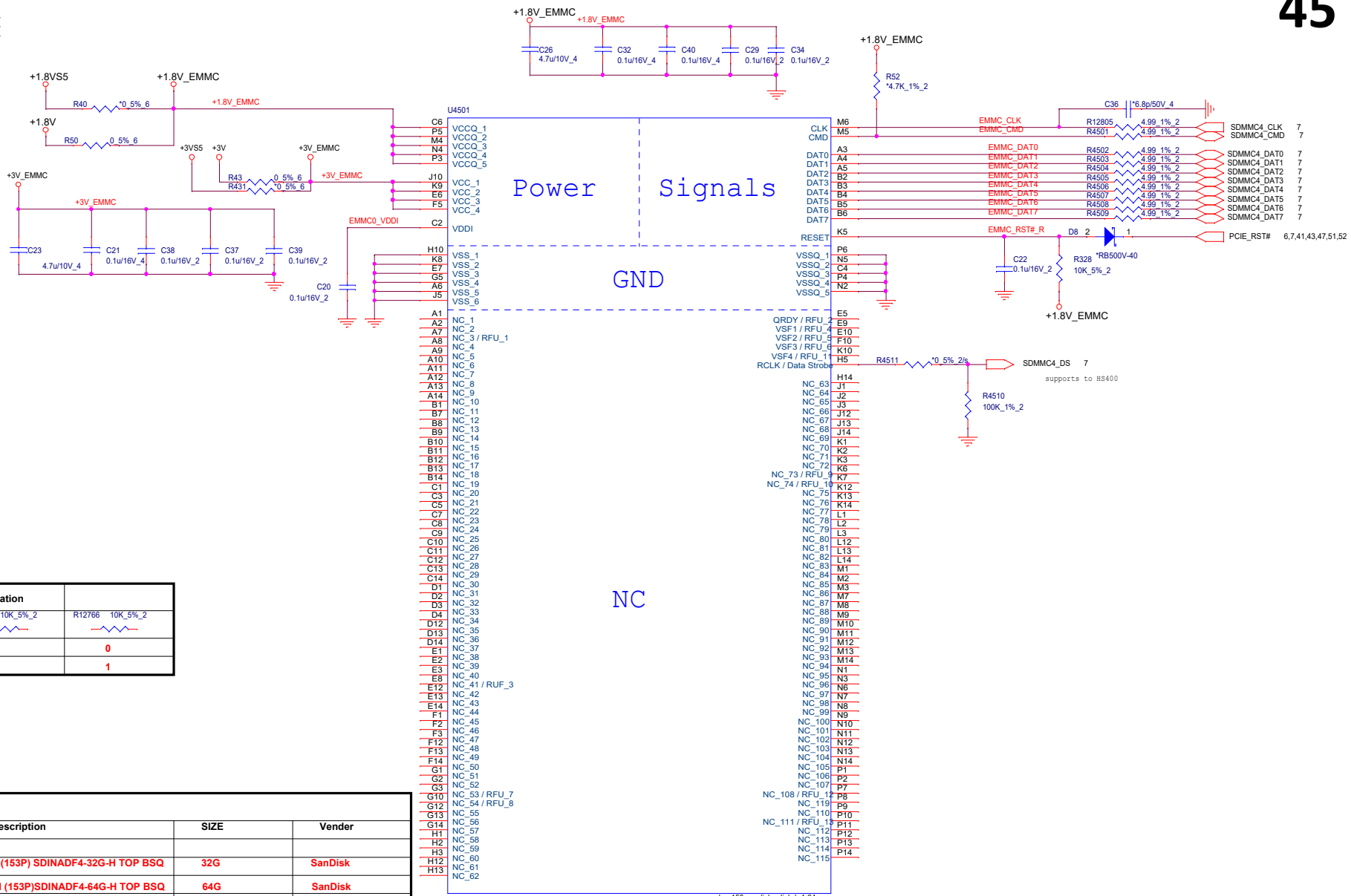
34,35,36,47,50,54,78,89 +5V

# SATA HDD & LED



	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size Custom	Document Number <b>HDD/ODD</b>	
Date: Wednesday, April 01, 2020		Sheet 44 of 90	

35,36,41,43,47,50,52,63,76,77,78,79,86,89  
 +3V  
 +1.8V  
 +1.8VSS



Power Signals

GND

NC

**BOM Note:**

eMMC Setting	Location	
SIZE	R12765 10K_5%_2	R12766 10K_5%_2
Default	32G	64G

footprint : BGA 169 - BGA 153 co-lay  
 BGA 169 PIN : 14mmX18mm  
 BGA 169 PIN : 12mmX16mm  
 BGA 153 PIN : 11.5mmX13mm


**BOM**

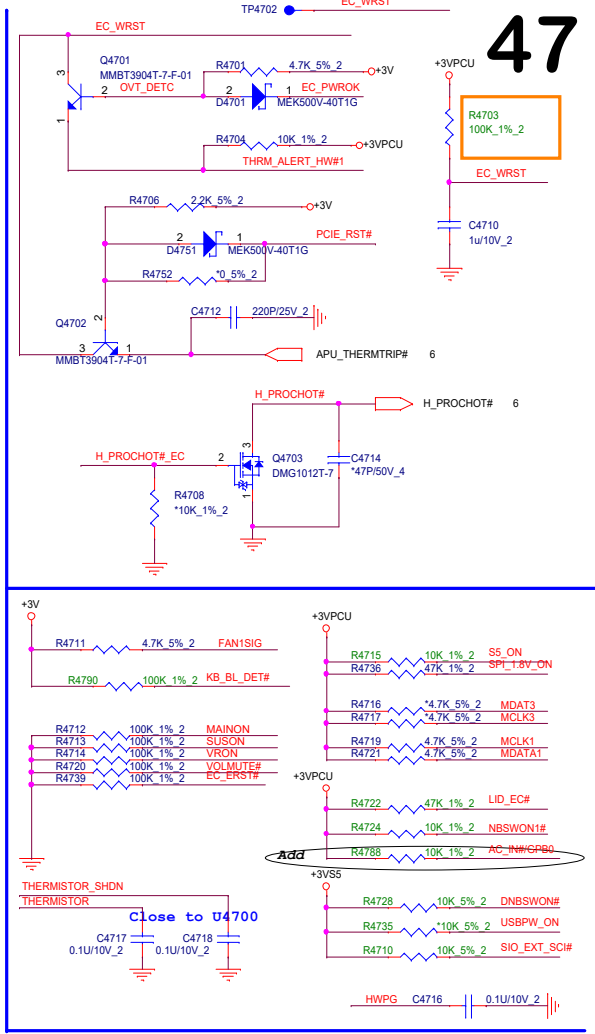
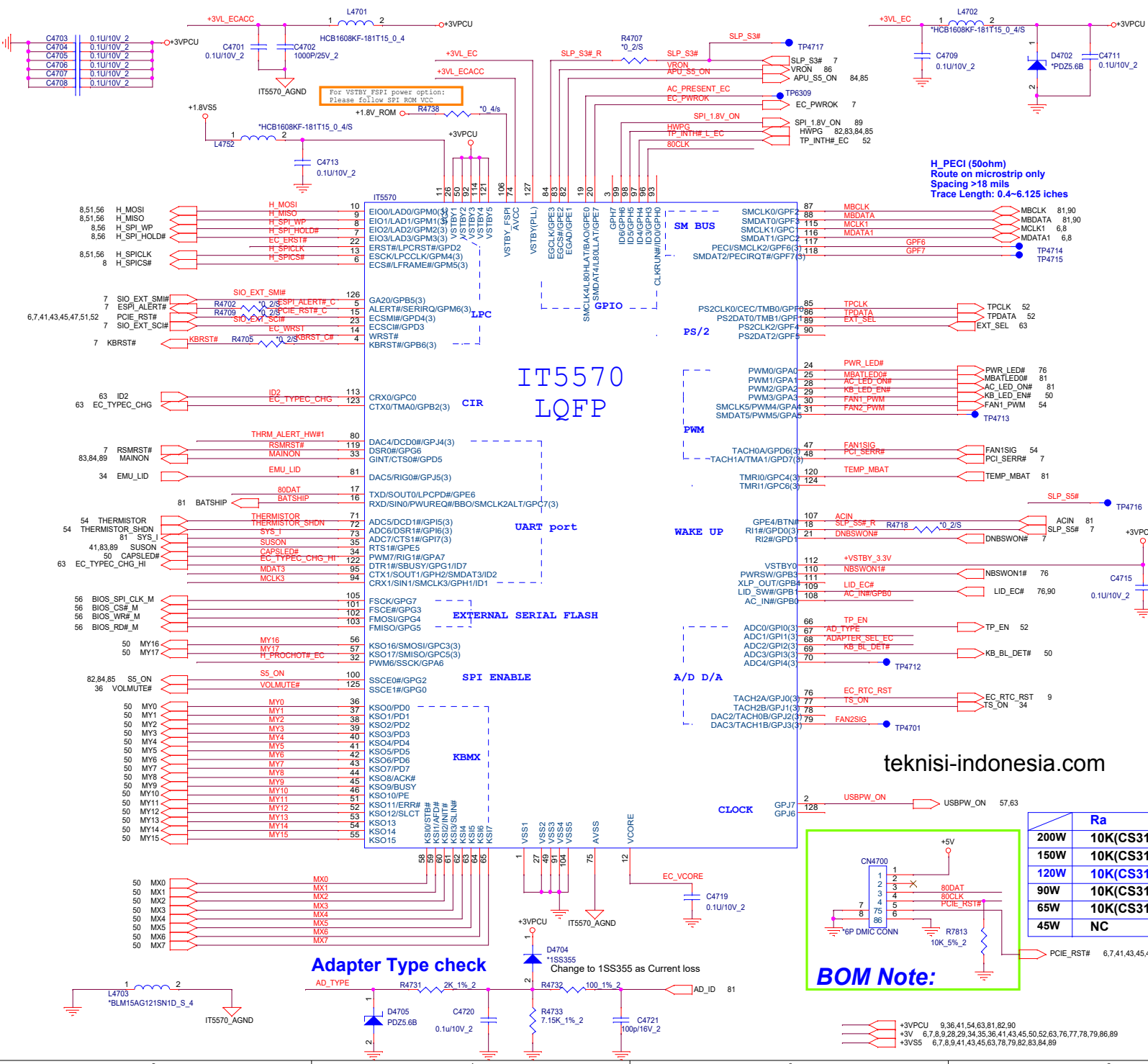
INAND (eMMC) V4.51				
BSCON	QBCON	Description	SIZE	Vender
AKE3SF-T107		IC FLASH(153P)SDINADF4-32G-H TOP BSQ	32G	SanDisk
AKE3TZ-T112		IC FLASH (153P)SDINADF4-64G-H TOP BSQ	64G	SanDisk

**PROJECT : G7E**  
 Quanta Computer Inc.

Size	Document Number	Rev
	I2C Path	1A
Date: Friday, April 10, 2020	Sheet 45 of 90	

# CAMERA

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		CAMERA	1A
Date: Wednesday, April 01, 2020		Sheet 46 of 90	

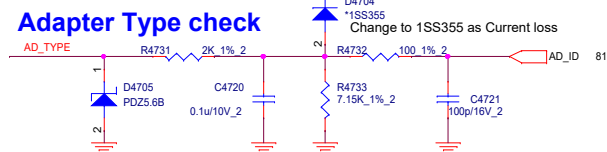
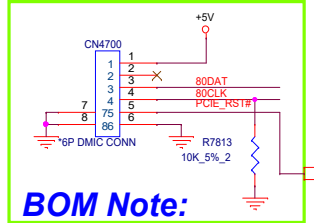


H\_PECI (50ohm)  
Route on microstrip only  
Spacing >18 mils  
Trace Length: 0.4-6.125 inches

teknisi-indonesia.com

Adapter select for EC

	Ra	Rb	ADAPTER_SEL_EC	BOM
200W	10K(CS31002FB26)	100K (CS41002FB28)	3V	
150W	10K(CS31002FB26)	100K (CS41002FB28)	3V	
120W	10K(CS31002FB26)	21.5K(CS32152FB09)	2.25V	MAXQ DIS TI
90W	10K(CS31002FB26)	8.25K(CS28252FB15)	1.5V	MAXQ DIS
65W	10K(CS31002FB26)	2.94K(CS22942FB01)	0.75V	DIS
45W	NC	10K(CS31002JB28)	0V	UMA



+3VPCU	9,36,41,54,63,81,82,90
+3V	6,7,8,9,28,29,34,35,36,41,43,45,50,52,63,76,77,78,79,86,89
+3VSS	6,7,8,9,41,43,45,63,78,79,82,83,84,89


**PROJECT : OPAD**  
Quanta Computer Inc.

Size	Document Number	Rev
Custom	EC (IT5570)	1A

Date: Friday, April 10, 2020 | Sheet 47 of 90


PCH

48

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 48 of 90	

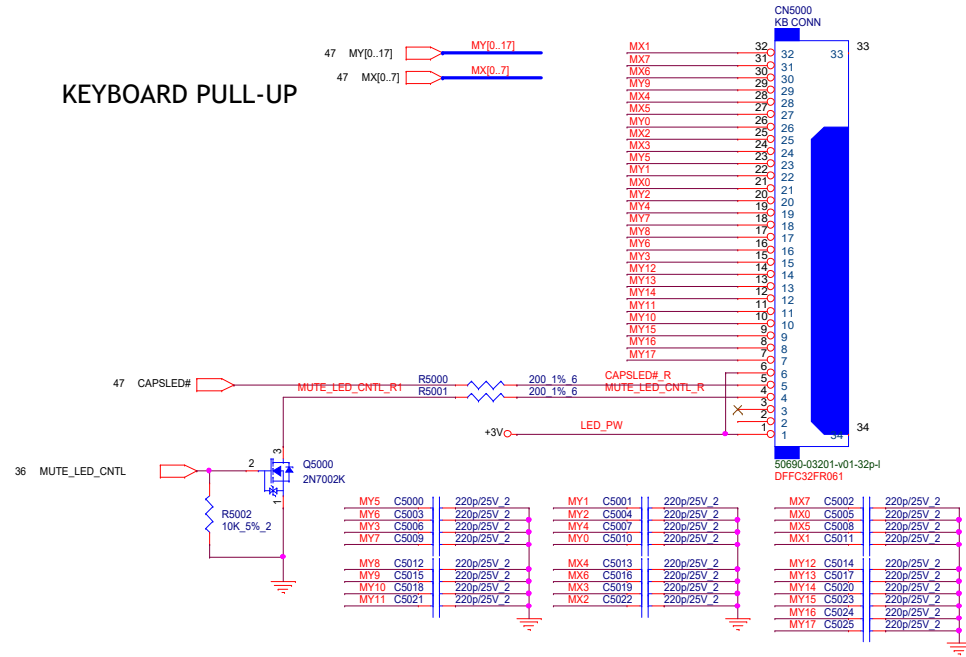
PCH

49

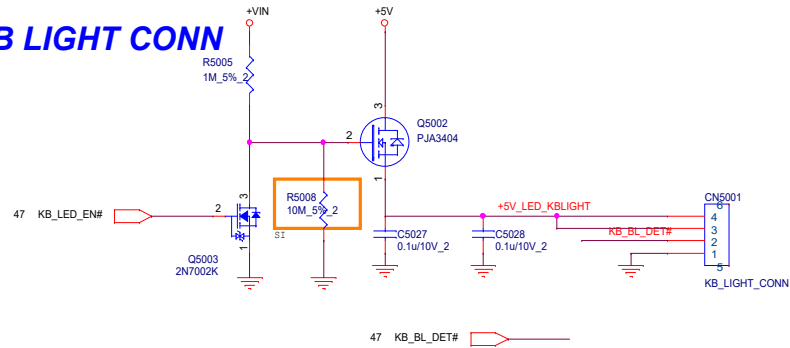
 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 49 of 90	

KEYBOARD Con.

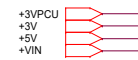
KEYBOARD PULL-UP



KB LIGHT CONN



9,36,41,47,54,63,81,82,90  
6,7,8,9,28,29,34,35,36,41,43,45,47,52,63,76,77,78,79,86,89  
34,35,36,44,47,54,78,89  
34,78,80,81,82,83,84,87

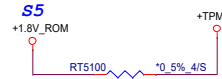


	<b>PROJECT : G7E</b> Quanta Computer Inc.		Rev 1A	
	Size Custom	Document Number KB/KB LIGHT		Date: Wednesday, April 01, 2020
	Sheet 50 of 90			

# TPM

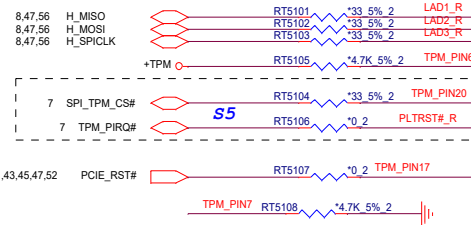
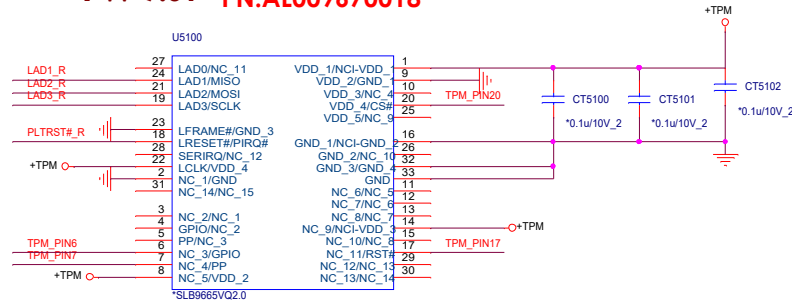
8.47.56.89 +1.8V\_ROM

## TPM (2.0)

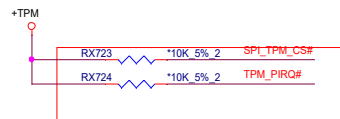


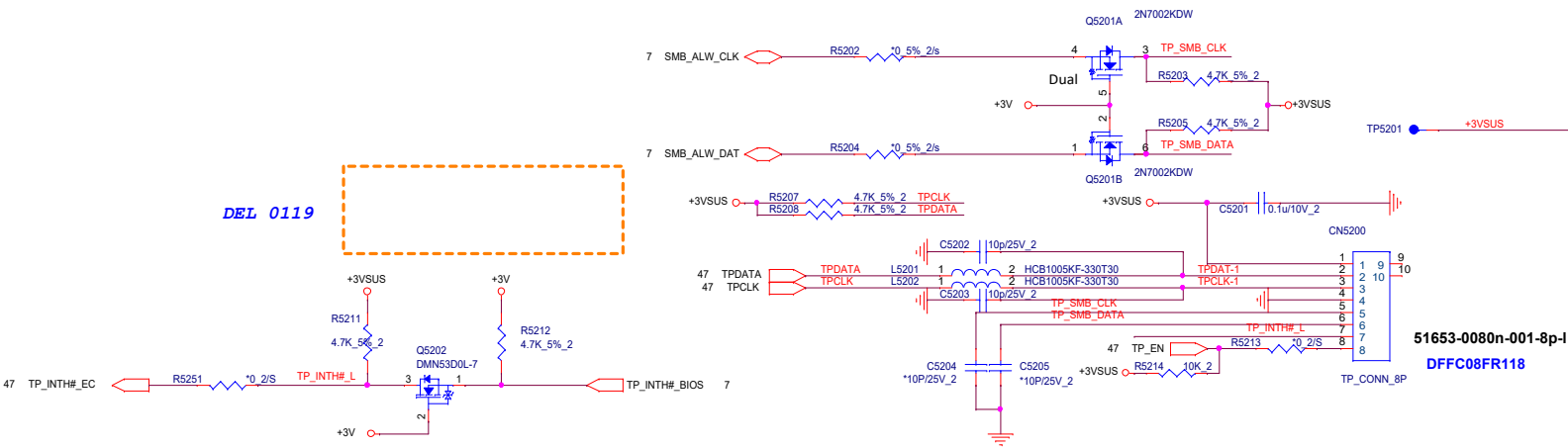
## Bom note:

### FW 7.61 PN:AL009670018

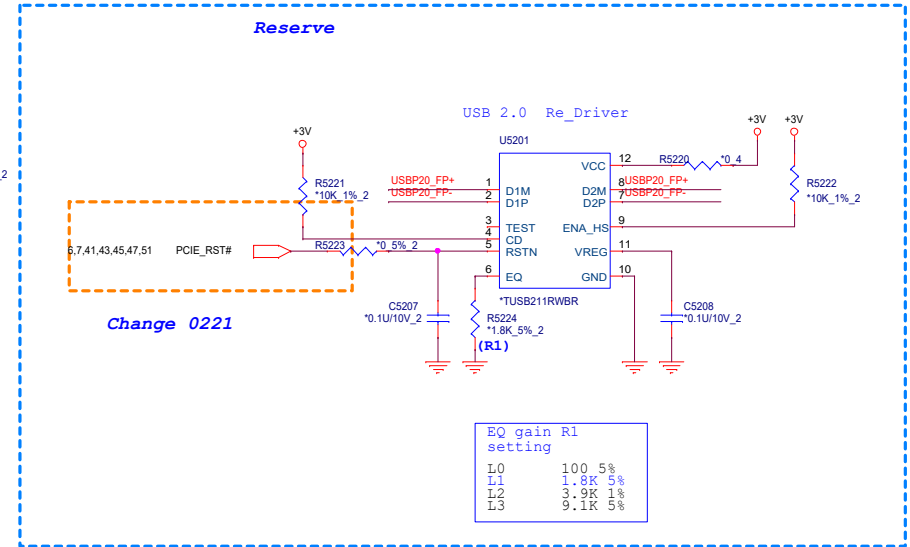
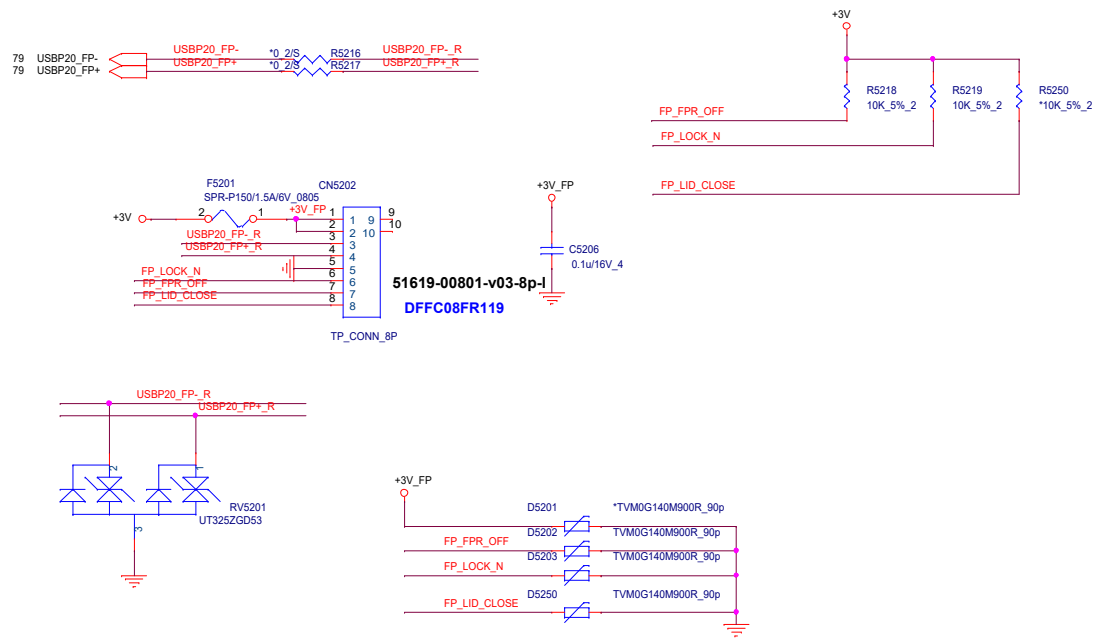


### For 9670 stuff






## Finger print

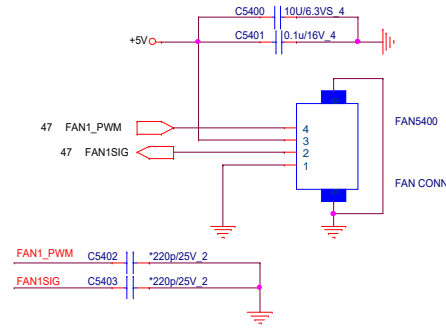


# SENSOR

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		SENSOR	1A
Date: Wednesday, April 01, 2020		Sheet 53 of 90	

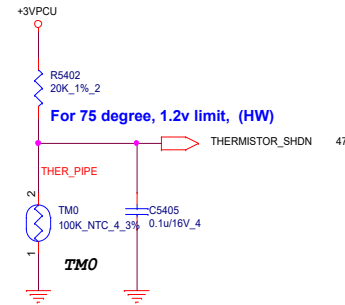
# FAN/Thermal

## FAN



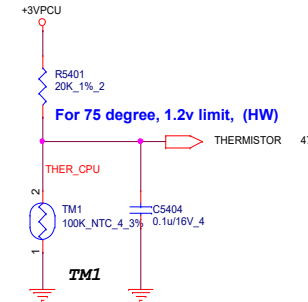
### Pipe Thermal Protect IO Thrm Protect

For CPU USE




### CPU Thermal Protect

For PIPE USE



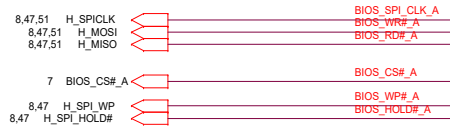
[www.teknisi-indonesia.com](http://www.teknisi-indonesia.com)

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size Custom	Document Number <b>CR RTS5237S/CR SOCKET</b>	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 55 of 90	

SPI ROM(CLG)

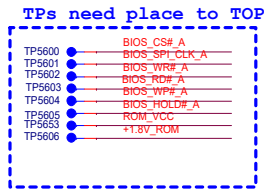
FLASH ROM

FLASH ROM



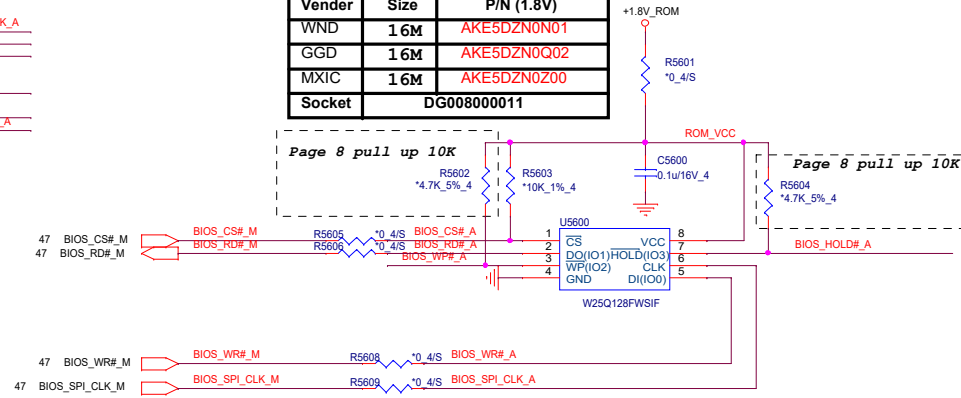
Vender	Size	P/N (1.8V)
WND	16M	AKE5DZN0N01
GGD	16M	AKE5DZN0Q02
MXIC	16M	AKE5DZN0Z00
Socket	DG008000011	

Vender	Size	P/N (1.8V)
WND	16M	AKE5DZN0N01 (SOIC)
GGD	16M	AKE5DZN0Q02 (SOP8)
MXIC	16M	AKE5DZN0Z00
Socket	DG008000011	

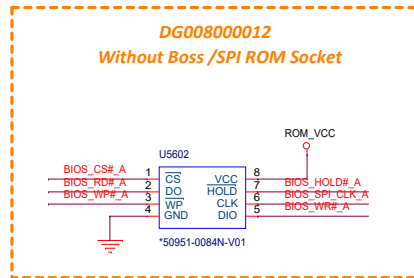
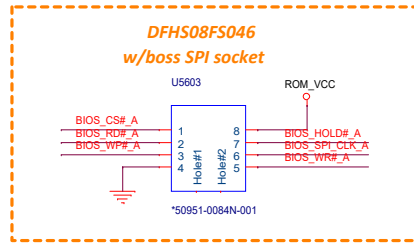


TP size TP2675

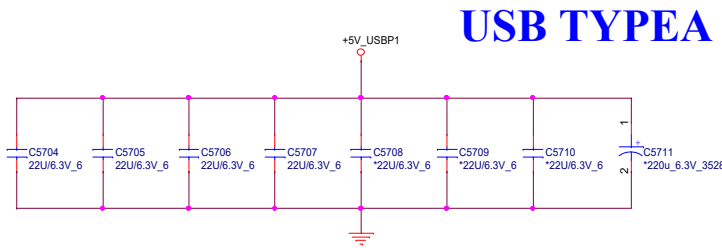
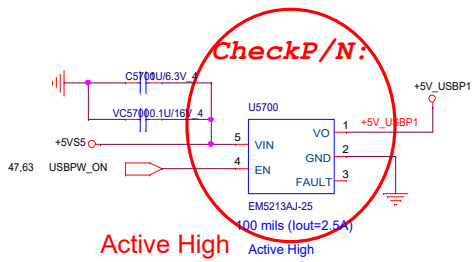
U5600,U5601,U5602,U5603 co-lay



Vender	Size	P/N (1.8V)
WND	16M	AKE5DFNKN01 (WSON)
GGD	16M	AKE5DZN0Q02 (SOP8)
MXIC	16M	AKE5DZN0Z00
Socket	DFHS08FS046	DG008000012

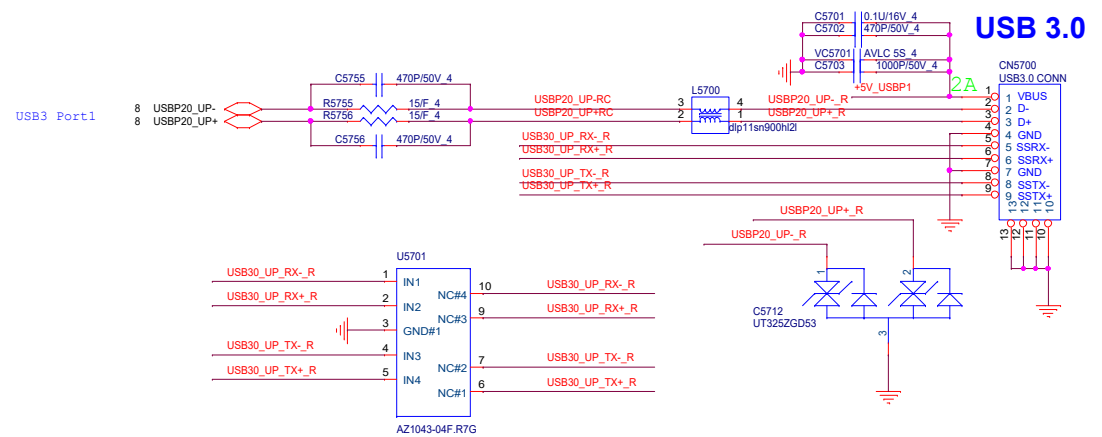
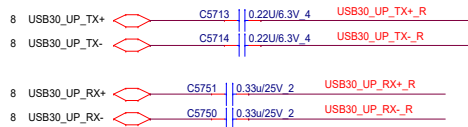


	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size	Document Number	
Date: Wednesday, April 01, 2020		FLASH ROM	Sheet 56 of 90

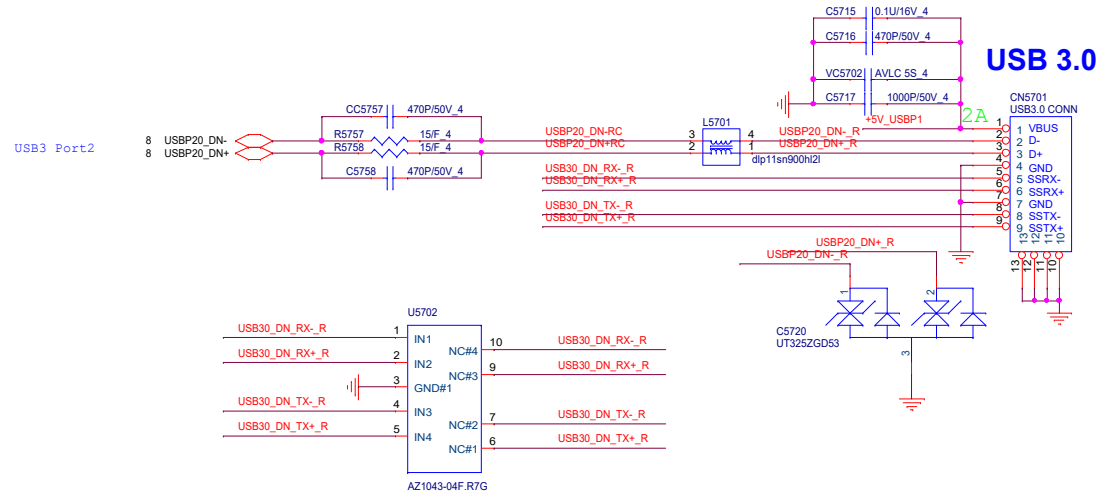


# USB TYPEA

## USB3.0 PORT0




## USB3.0 PORT1




	<b>PROJECT : G7E</b> Quanta Computer Inc.	
	Size: Document Number <b>USB TYPEA</b>	Rev 1A
Date: Monday, April 13, 2020		Sheet 57 of 90

TBT

58


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		TBT	1A
Date: Wednesday, April 01, 2020		Sheet	58 of 90

TBT


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		TBT	1A
Date: Wednesday, April 01, 2020		Sheet	59 of 90

TBT


60

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		TBT	1A
Date: Wednesday, April 01, 2020		Sheet	60 of 90

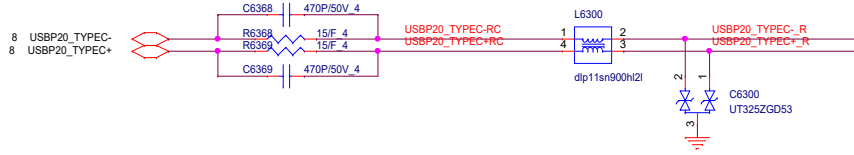
# USB TYPEC PD

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		USB TYPEC PD	1A
Date: Wednesday, April 01, 2020		Sheet	61 of 90

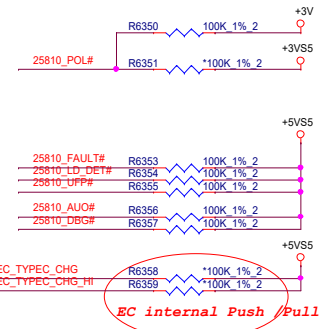
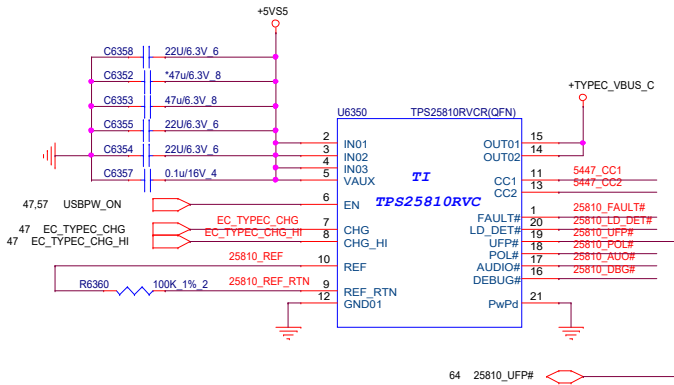
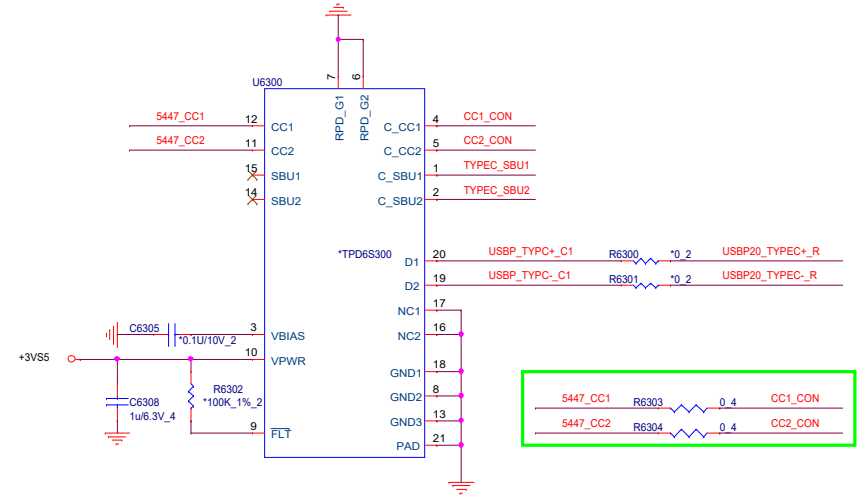
# USB TYPEC PD

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		USB TYPEC PD	1A
Date: Wednesday, April 01, 2020		Sheet	62 of 90

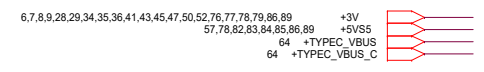
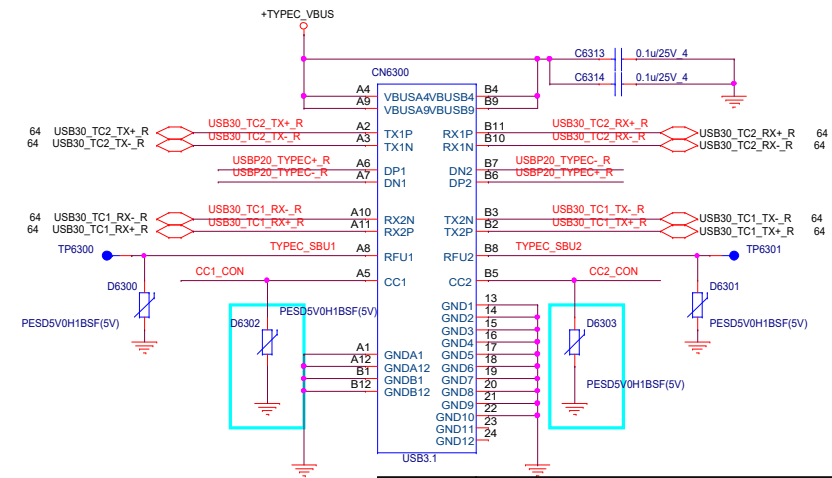
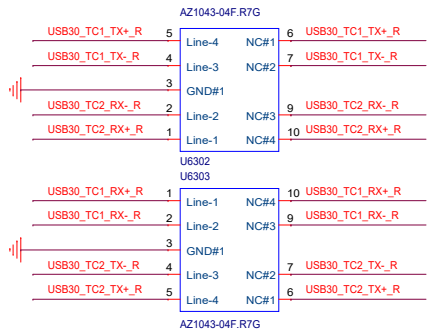
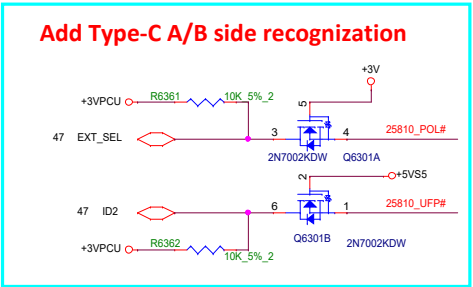
### USB2.0



### CC/SBU Overvoltage protection



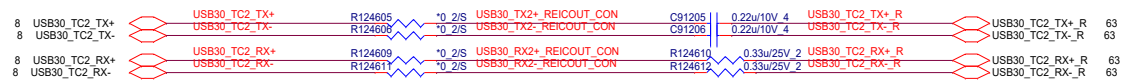
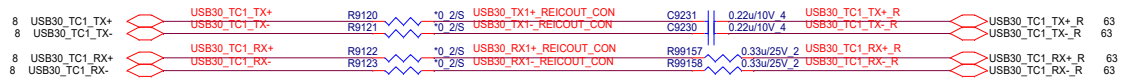
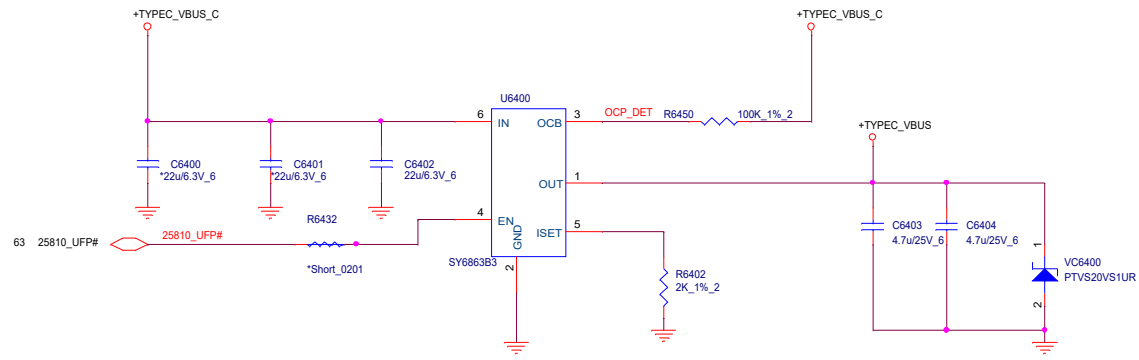
### TYPE C USB3.0 ESD




**PROJECT : G7E**  
**Quanta Computer Inc.**

Size	Document Number	Rev
Custom	<b>TYPE-C</b>	1A
Date: Wednesday, April 01, 2020		Sheet 63 of 90


USB3.0 Re-driver IC





	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size Document Number <b>TYPE-C Load Switch</b>		
Date: Friday, April 10, 2020		Sheet 64 of 90	

PCH

65

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet	65 of 90

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.	
	Size	Document Number
Custom	N17P-G0-A1-1/B	Rev 1A
	Date: Wednesday, April 01, 2020	Sheet 06 of 90


 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		Rev TA
	Size	Document Number N17P-G0-A1-2/9	
Customer	Date: Wednesday, April 01, 2020	Sheet 67	of 90

MARCO  
00  
001  
002

Mura R104

Default Samsung




 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.	
	Size	Document Number
Custom	M17P-G0-A1-5/9	Rev 1A
Date: Wednesday, April 01, 2020	Sheet	70 of 90




4


PCH

73

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 73 of 90	

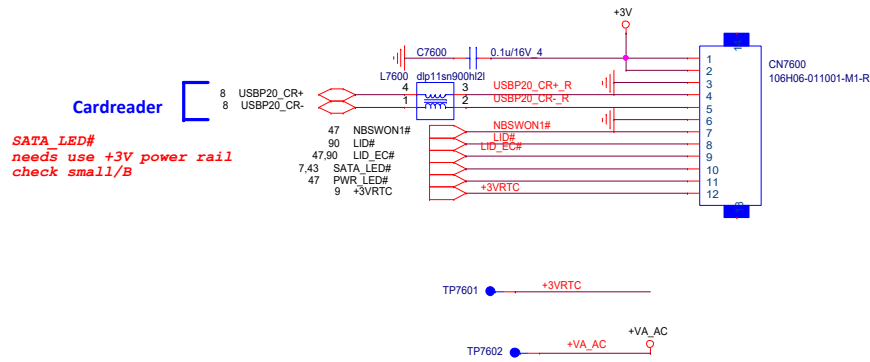
PCH

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet 74 of 90	

 NB5	<b>PROJECT : G7E</b> Quanta Computer Inc.		
	Size	Document Number	Rev
		I2C Path	1A
Date: Wednesday, April 01, 2020		Sheet	75 of 90

# Daughter Board

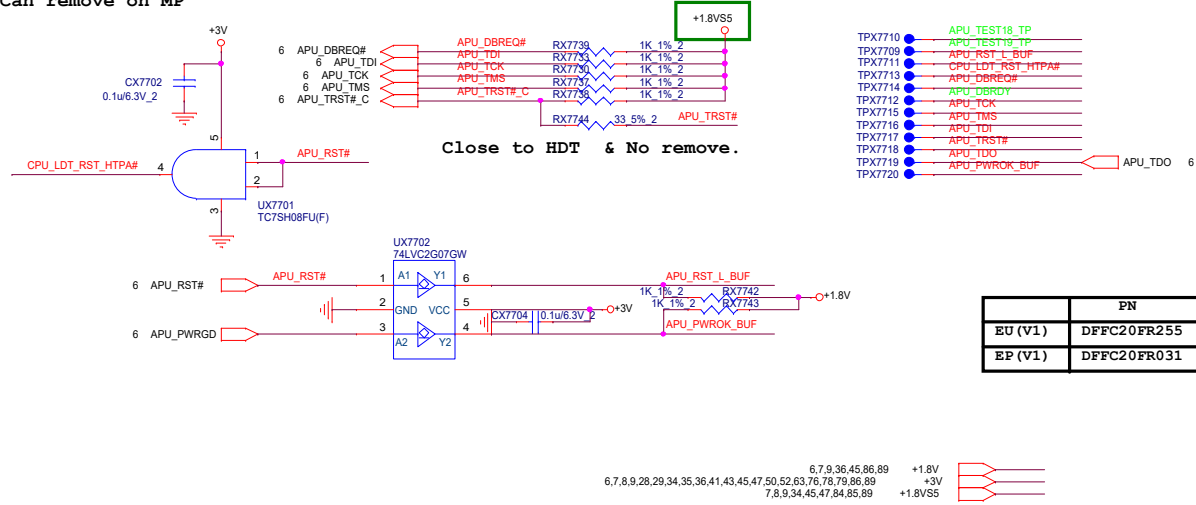
SD only



## HDT+ Connector for Debug only

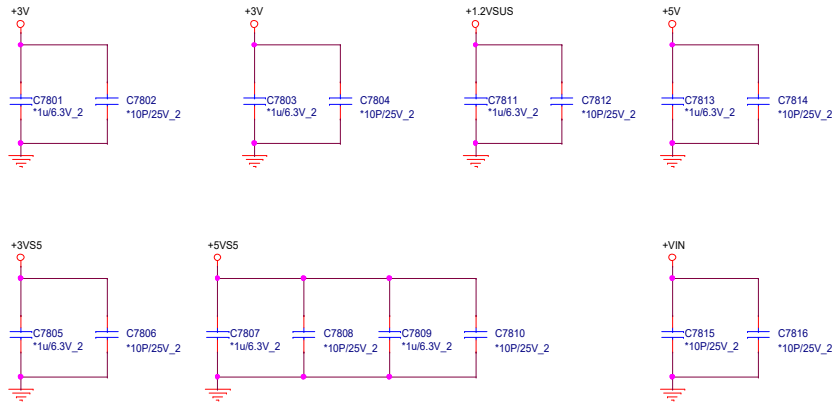
Can remove on MP

1214:modify to +1.8VSS for FP5 SCL



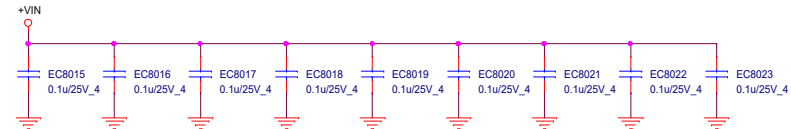
# EMI Cap/RF Cap/HOLE

## RF CAP



0117 ADD CAP for EMI request

## EMI Cap



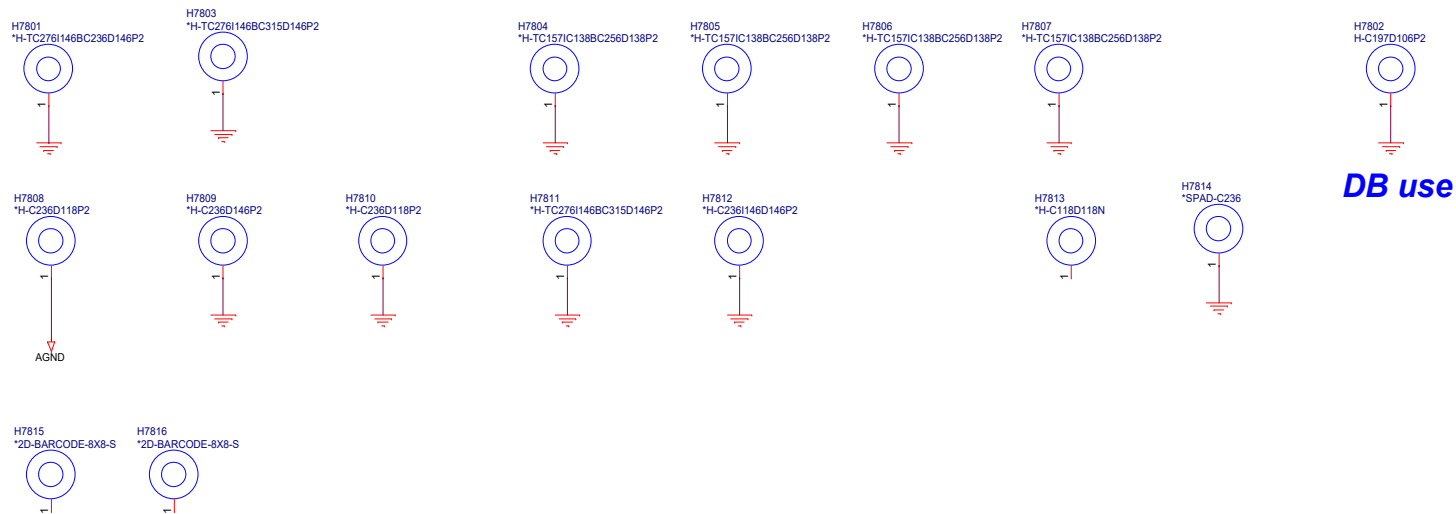
## RA stuff TOP



## RB stuff TOP



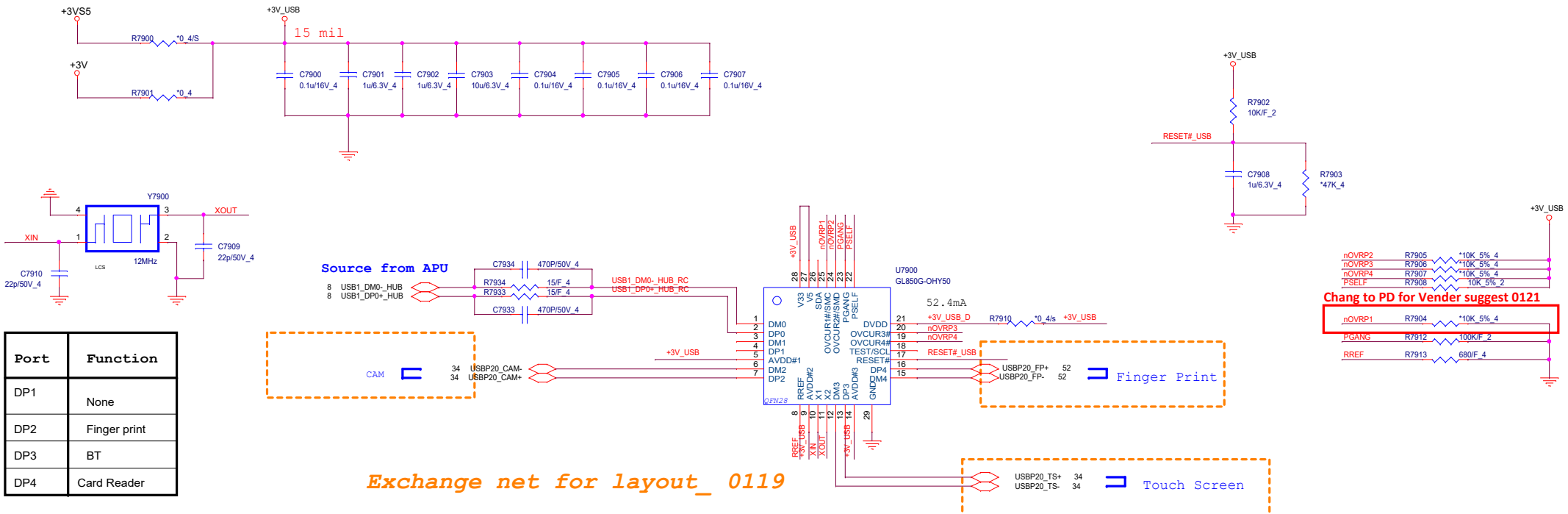
## Hole



DB use

	<b>PROJECT : G7E</b>		Rev 1A
	Quanta Computer Inc.		
	Size Document Number <b>EMI Cap/RF Cap</b>	Date: Wednesday, April 01, 2020	

# USB2.0 HUB



Port	Function
DP1	None
DP2	Finger print
DP3	BT
DP4	Card Reader

Source from APU

CAM

Finger Print

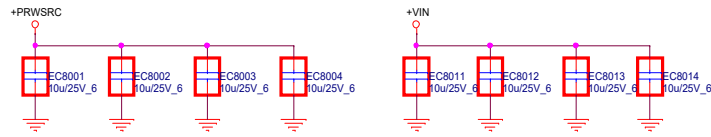
Touch Screen

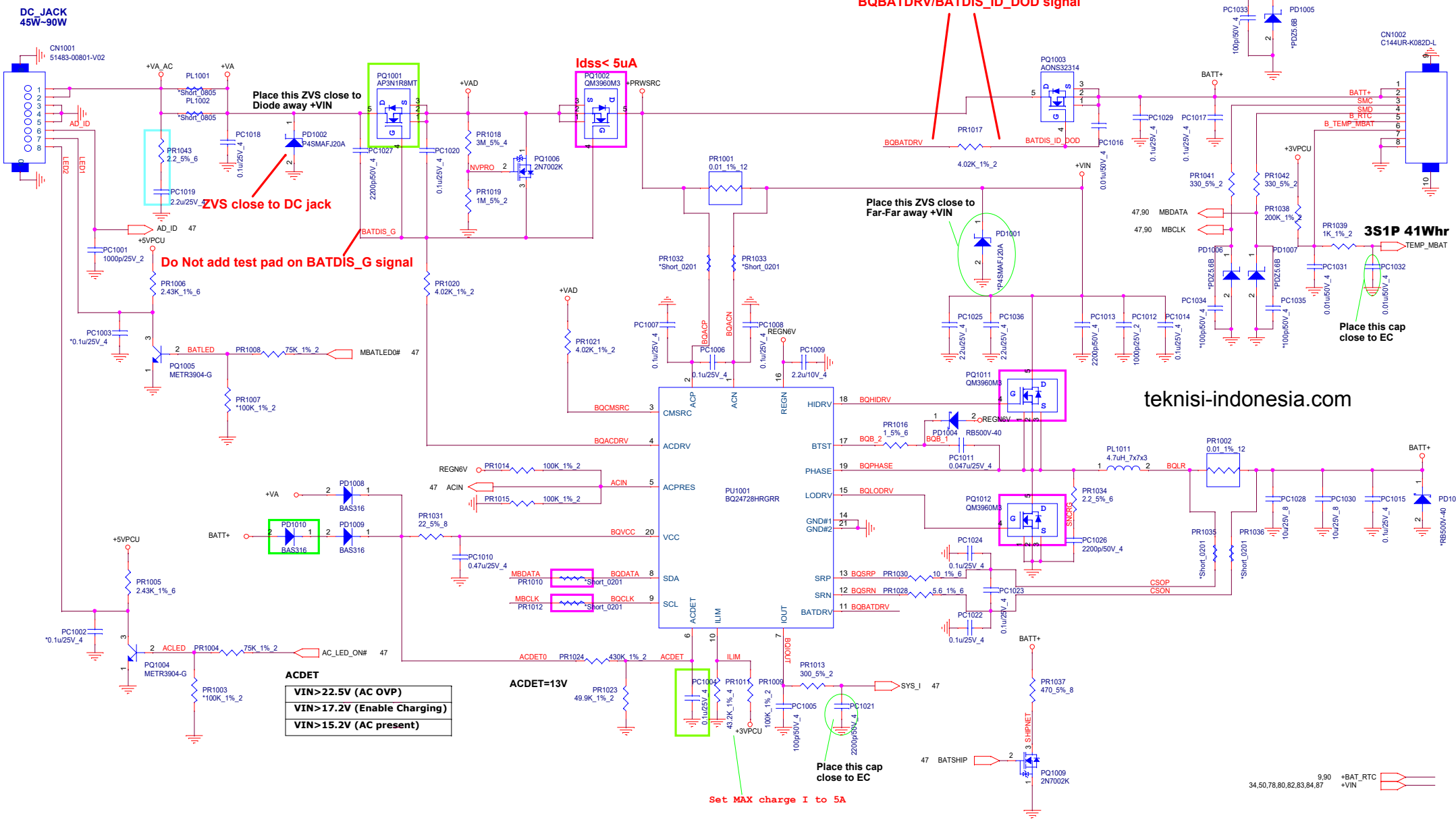
Exchange net for layout\_0119

Chang to PD for Vender suggest 0121

	<b>PROJECT : G7E</b> Quanta Computer Inc.	
	Size: Document Number <b>USB2.0 HUB</b>	Rev 1A
Date: Friday, April 10, 2020		Sheet 79 of 90

# Reserve for EMI function test





Do Not add test pad on BATDIS\_G signal

Do Not add test pad on BQBATDRV/BATDIS\_ID\_DOD signal

Place this ZVS close to Diode away +VIN

ZVS close to DC jack

Place this ZVS close to Far-Far away +VIN

Place this cap close to EC

Set MAX charge I to 5A

**ACDET**

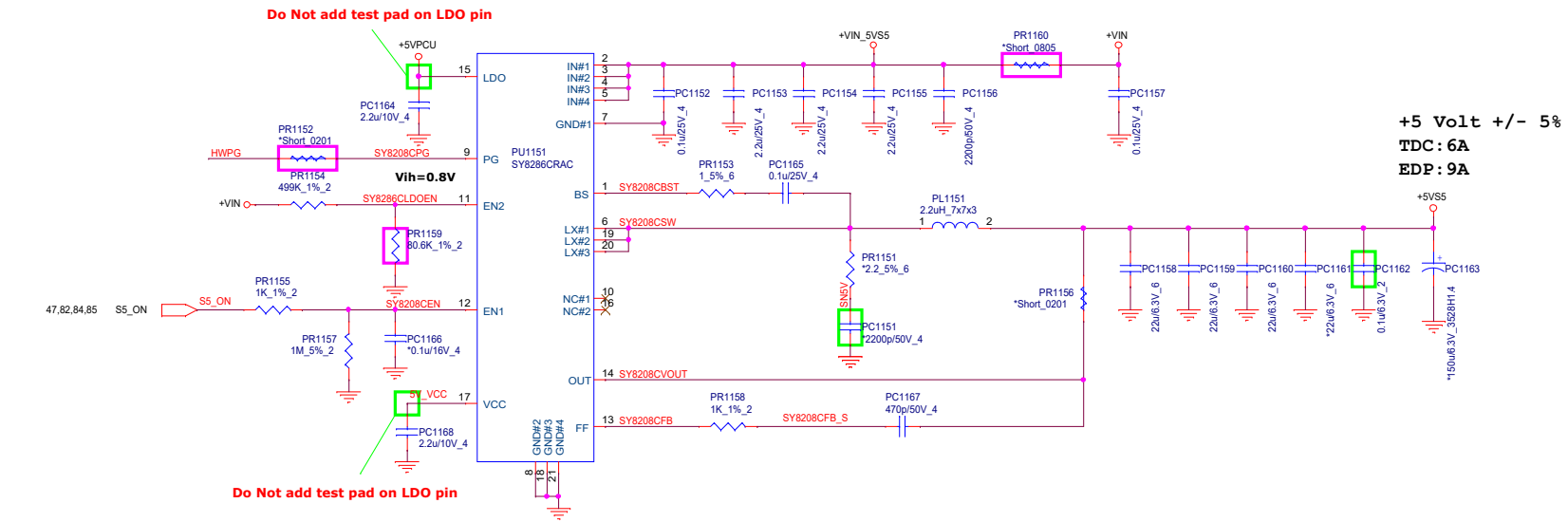
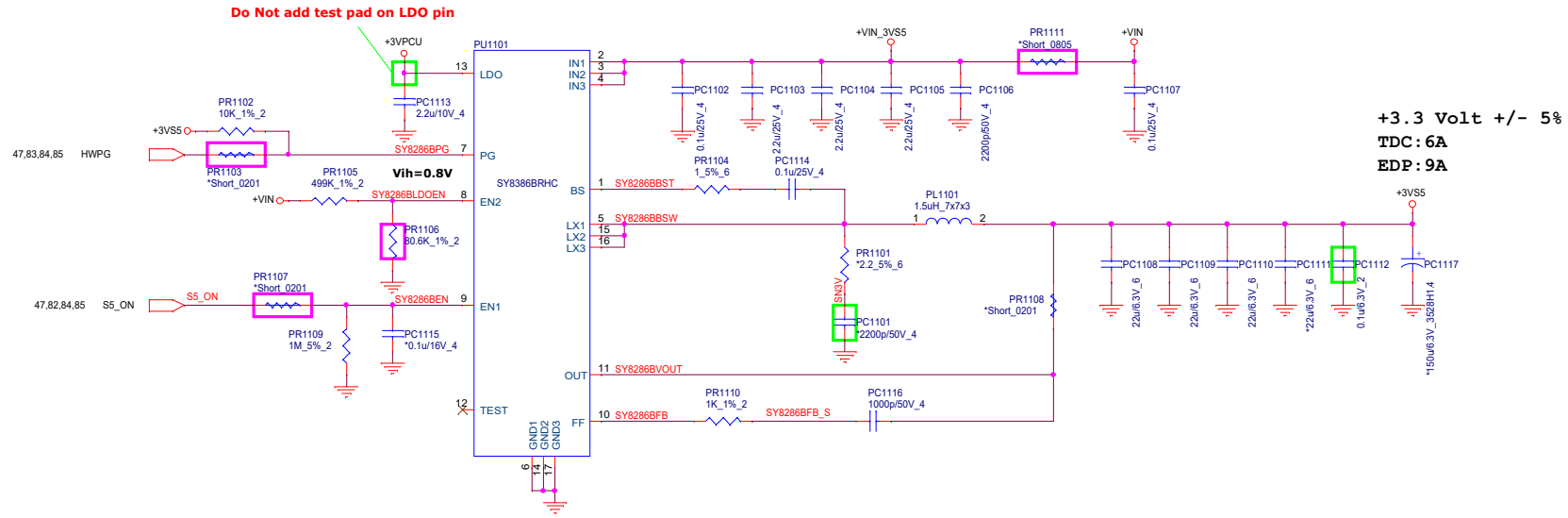
VIN > 22.5V (AC OVP)
VIN > 17.2V (Enable Charging)
VIN > 15.2V (AC present)

teknisi-indonesia.com

	<b>PROJECT : G74(P15-BPA)</b>		Rev 1A
	Quanta Computer Inc.		
Size Custom	Document Number	CHARGER	
Date: Wednesday, April 01, 2020	Sheet	81 of 90	

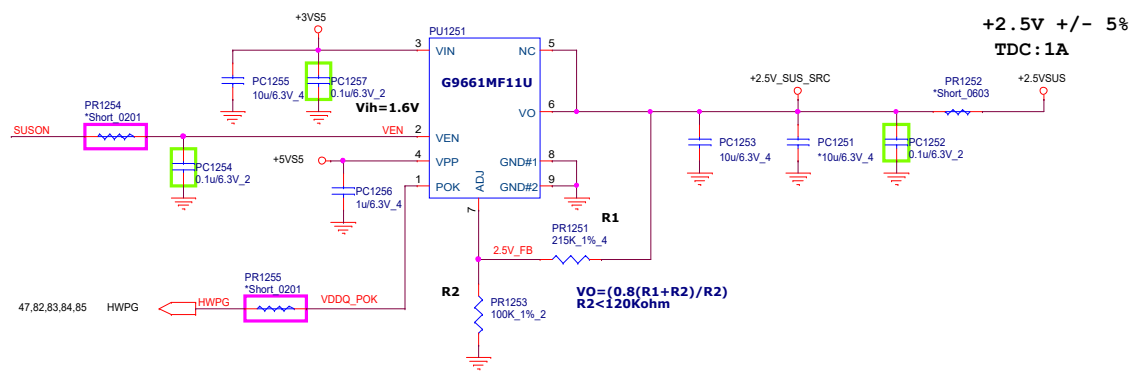
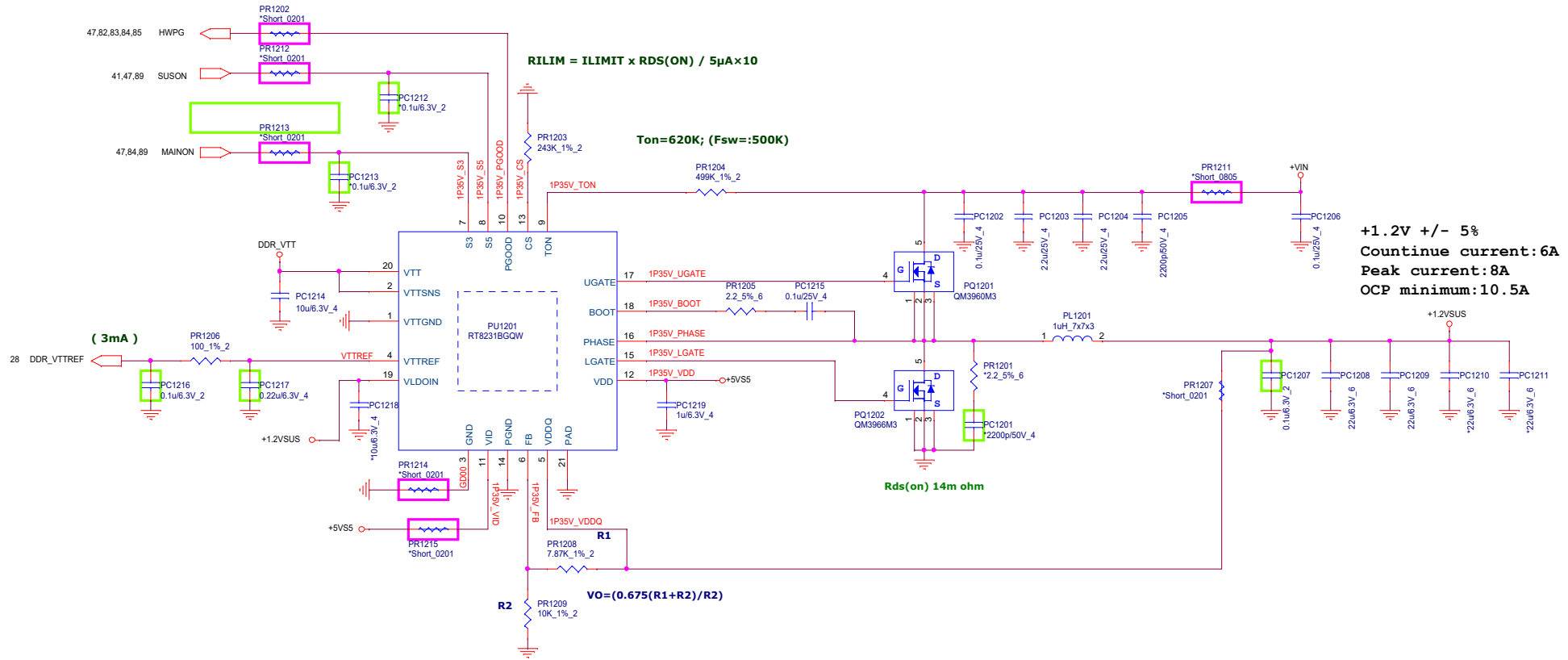
DC/DC +3VS5/+5VS5

- +VIN 34,50,78,80,81,83,84,87
- +3VS5 6,7,8,9,41,43,45,47,63,78,79,83,84,89
- +5VS5 57,63,78,83,84,85,86,89
- +3VPCU 9,36,41,47,54,63,81,90
- +5VPCU 81,89



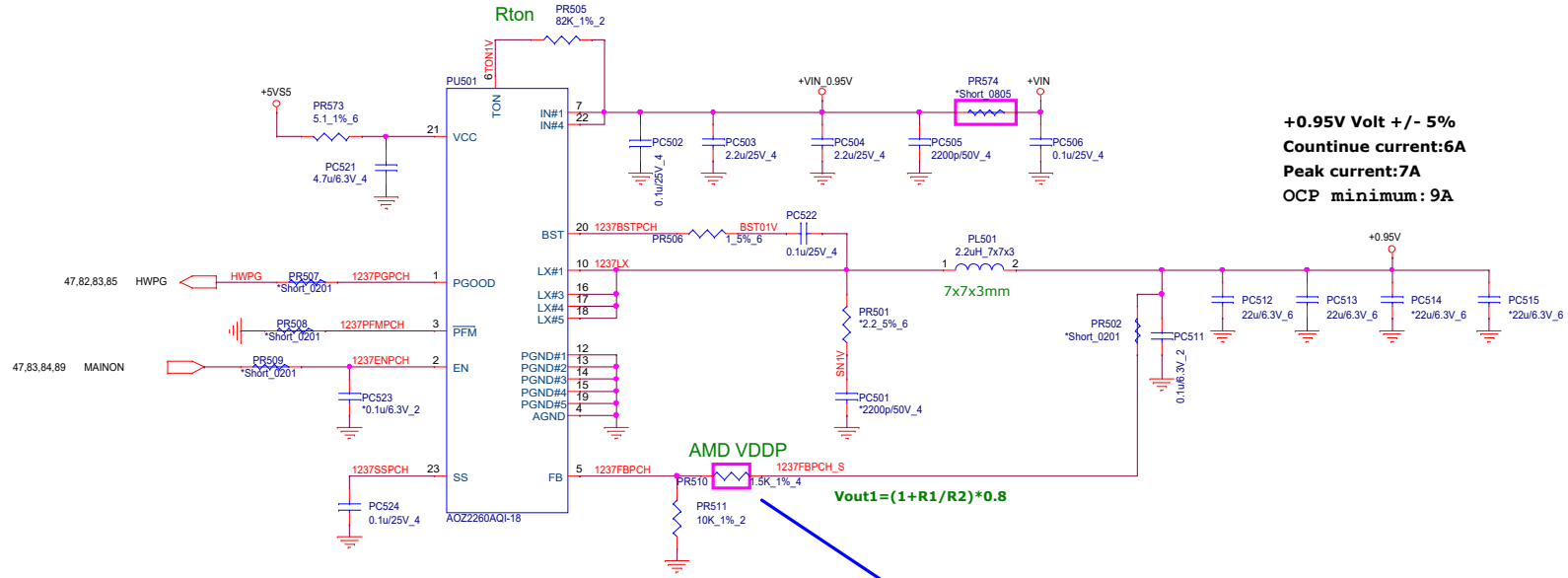
	<b>PROJECT : G7C</b>		Rev 1A
	Quanta Computer Inc.		
	Size Custom	Document Number +3/5VS5( SY8286B/SY8286C)	
Date: Wednesday, April 01, 2020		Sheet 82 of 90	

+VIN	34,50,78,80,81,82,84,87
+1.2VSUS	9,28,29,78
+2.5VSUS	28,29
DDR_VTT	28,29



	<b>PROJECT : G7C</b>	
	Quanta Computer Inc.	
	Size Custom	Document Number <b>DDR/2.5VSUS(RT8231B)</b>
Date: Wednesday, April 01, 2020		Sheet 83 of 90

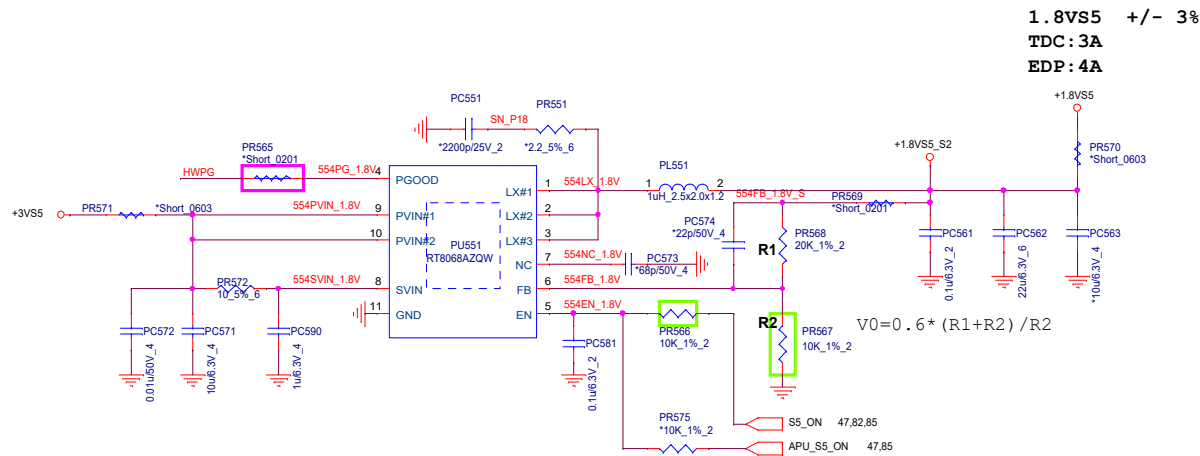
+VIN	34,50,78,80,81,82,83,87
+3VS5	6,7,8,9,41,43,45,47,63,78,79,82,83,89
+5VS5	57,63,78,82,83,85,86,89
+0.95V	6,9
+1.8VS5	7,8,9,34,45,47,77,85,89
MAINON	47,83,84,89



**+0.95V Volt +/- 5%**  
**Countinue current:6A**  
**Peak current:7A**  
**OCp minimum: 9A**

Vo	Rton
0.95V	82k
1V	84.5k
1.05V	95.3k
1.35V	113k
1.5V	127k

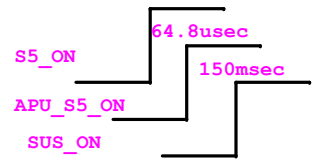
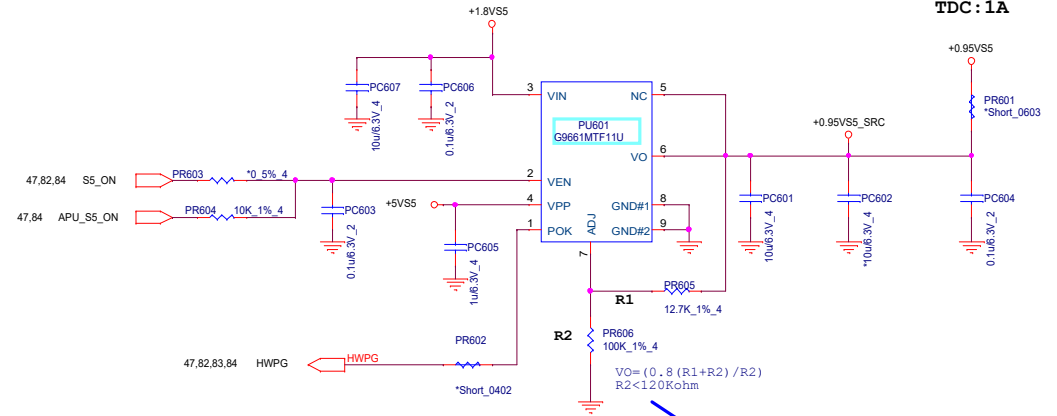
	R1		
<b>Raven</b>	<b>1.27K</b>	<b>CS21272FB15</b>	<b>0.9V</b>
<b>Stoney / Bristol</b>	<b>1.91K</b>	<b>CS21912FB13</b>	<b>0.95V</b>
	<b>3.16K</b>	<b>CS23162FB04</b>	<b>1.05V</b>



**1.8VS5 +/- 3%**  
**TDC : 3A**  
**EDP : 4A**

	<b>PROJECT : G7C</b>		Rev 1A
	Quanta Computer Inc.		
Size Custom	Document Number	+0.95V/+1.8VS5	
Date: Wednesday, April 01, 2020		Sheet 84	of 90

**+0.95V +/- 5%**  
**TDC: 1A**

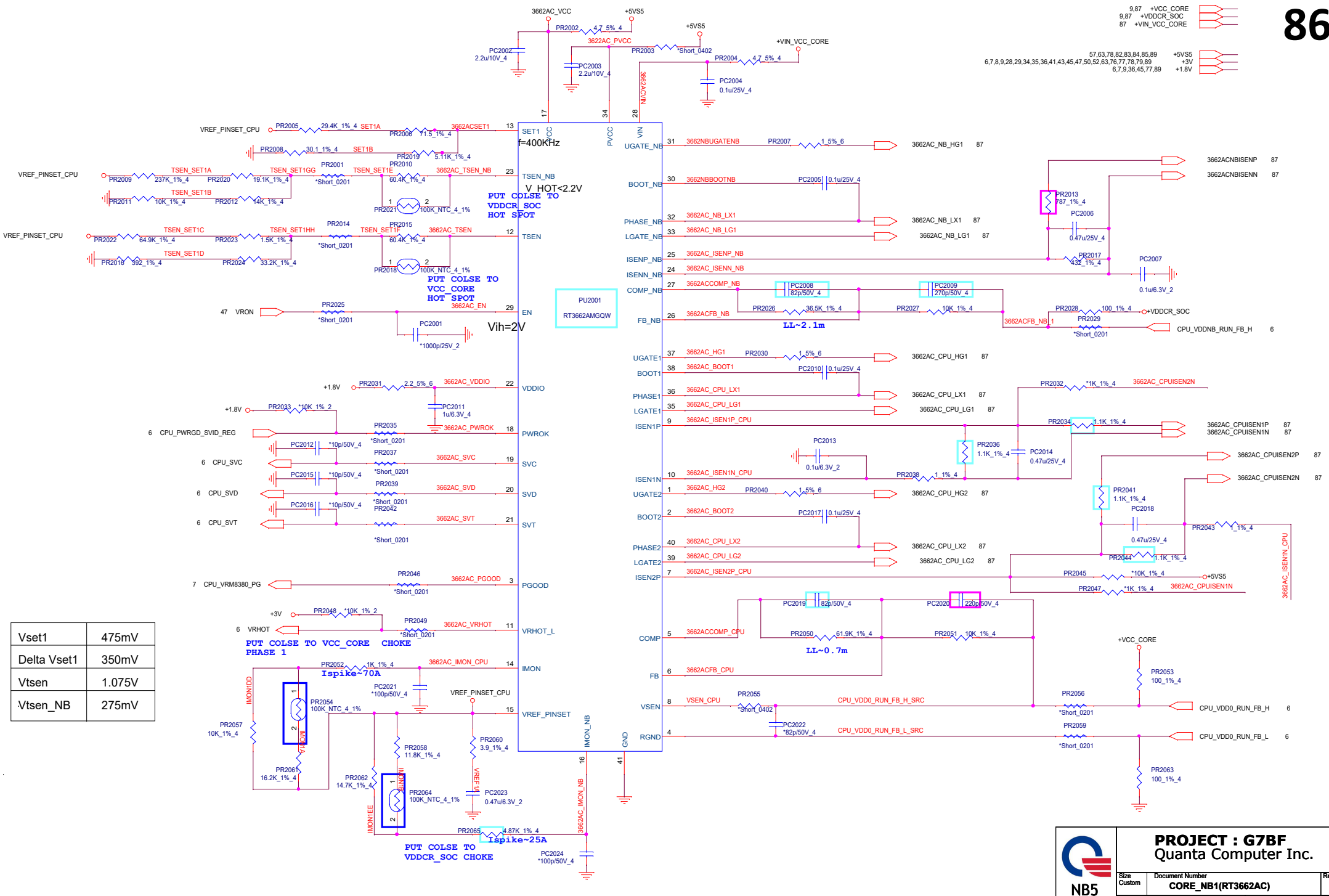


	R1		
Raven	12.7K	CS31272FB17	0.9V
Stoney/Bristol	18.7K	CS31872FB19	0.95V
	31.6K	CS33162FB14	1.05V

Bristol VDDP=1.05V  
Stoney VDDP=0.95V

**PROJECT : G7CE**  
**Quanta Computer Inc.**

Size Custom	Document Number <b>+0.95VS5</b>	Rev 1A
Date: Wednesday, April 01, 2020		Sheet 85 of 90

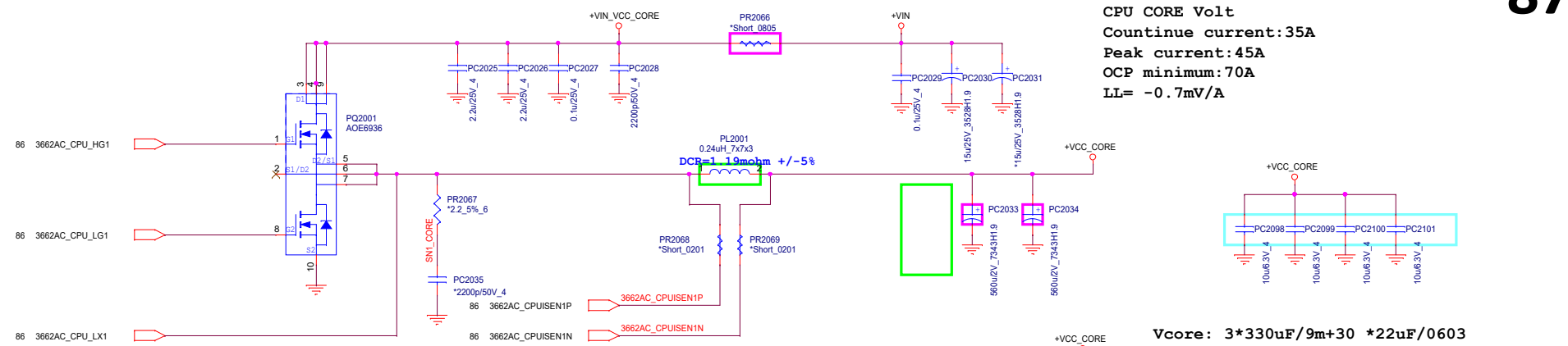


Vset1	475mV
Delta Vset1	350mV
Vtsen	1.075V
Vtsen_NB	275mV

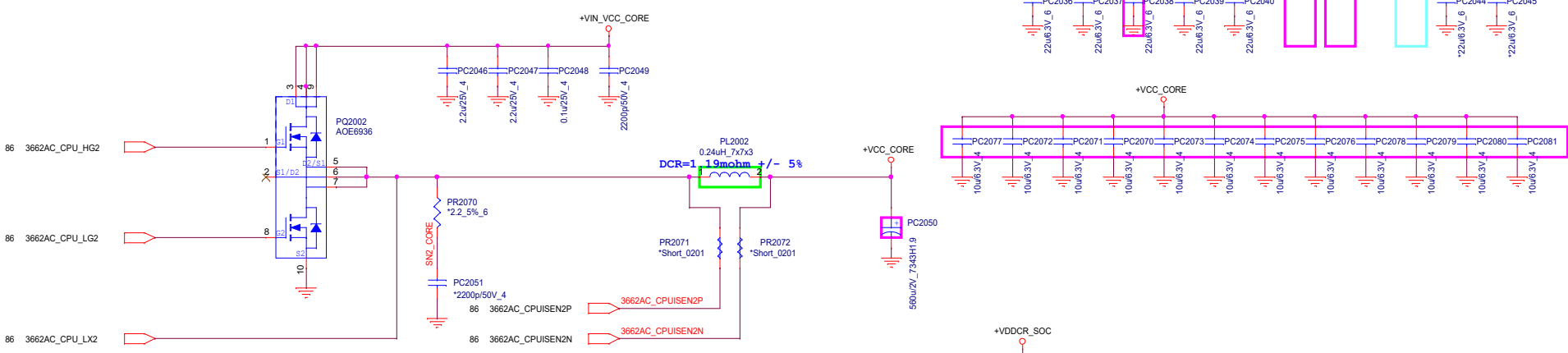
**PROJECT : G7BF**  
Quanta Computer Inc.

Size Custom	Document Number <b>CORE_NB1(RT3662AC)</b>	Rev 1A
Date: Wednesday, April 01, 2020		Sheet 86 of 90

FP5 APU 15W  
 CPU CORE Volt  
 Countinue current:35A  
 Peak current:45A  
 OCP minimum:70A  
 LL= -0.7mV/A

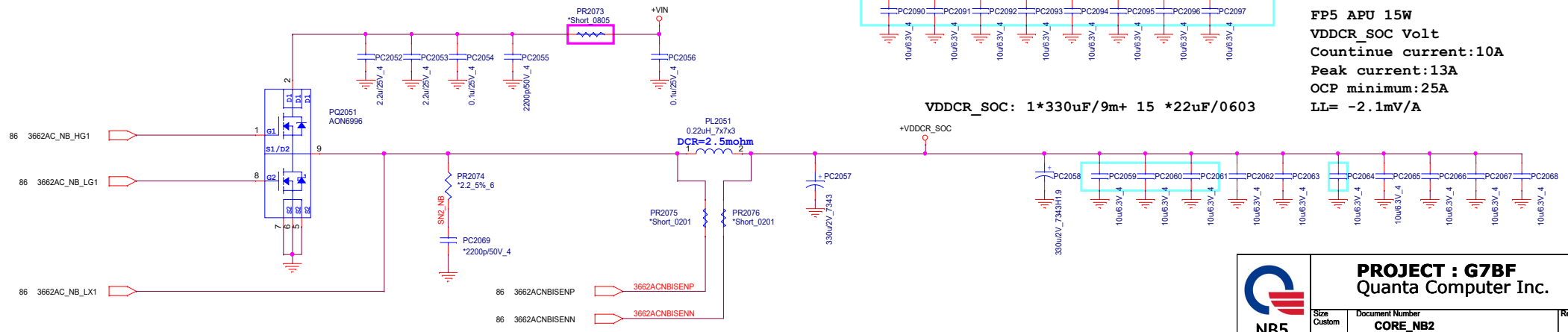


Vcore: 3\*330uF/9m+30 \*22uF/0603




VDDCR\_SOC: 1\*330uF/9m+ 15 \*22uF/0603

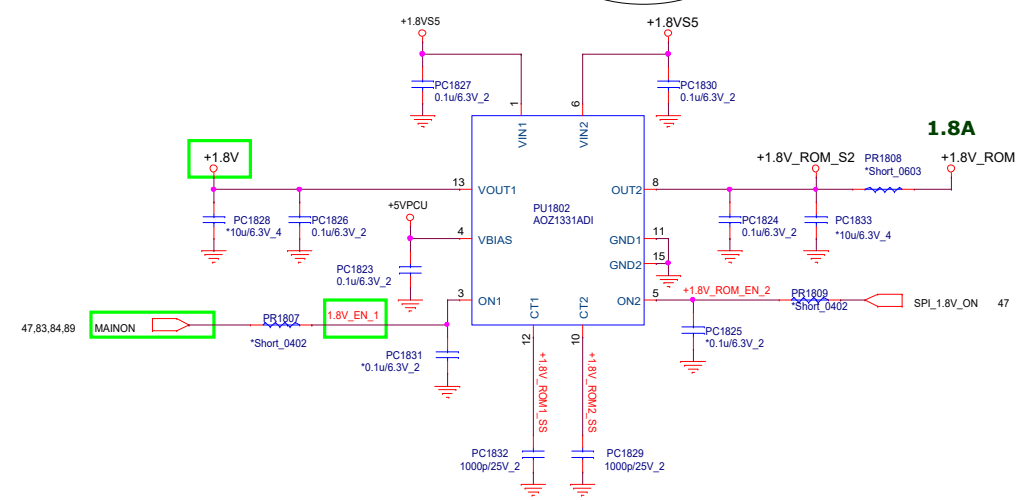
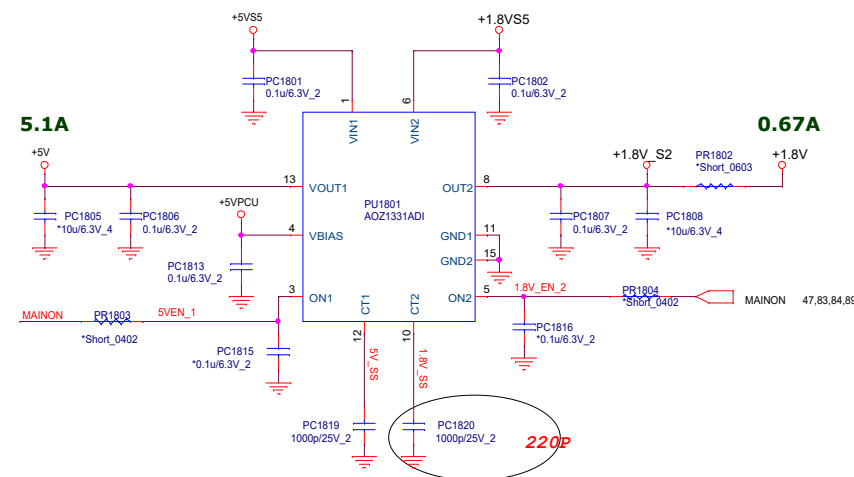
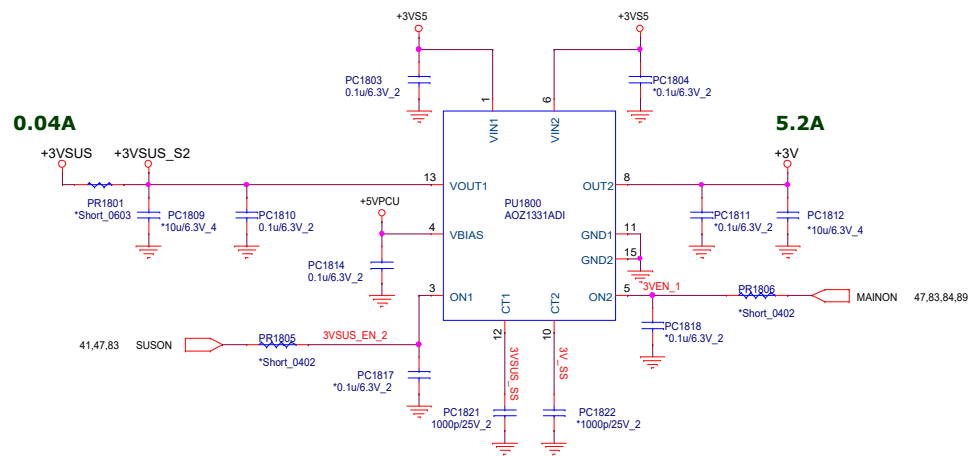
FP5 APU 15W  
 VDDCR\_SOC Volt  
 Countinue current:10A  
 Peak current:13A  
 OCP minimum:25A  
 LL= -2.1mV/A




	<b>PROJECT : G7BF</b>	
	Quanta Computer Inc.	
	Size Custom	Document Number CORE_NB2
Date: Wednesday, April 01, 2020		Sheet 87 of 90

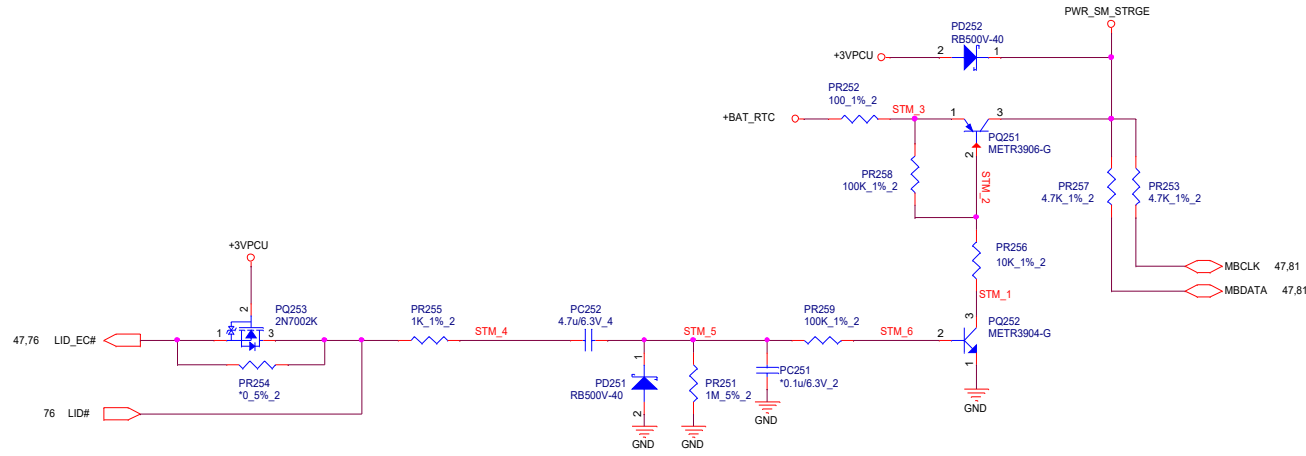
# VDDCR\_FCH only for Bristol ridge and Stoney Ridge


 NB5	<b>PROJECT : G7CE</b> Quanta Computer Inc.	
	Size Custom	Document Number <b>VDDCR_FCH/0.775VS5</b>
Date: Wednesday, April 01, 2020		
Sheet 88 of 90		



	<b>PROJECT : G7C</b> Quanta Computer Inc.	
	Size: Document Number Load switch IC(APL3523A)	Rev: 1A
Date: Wednesday, April 01, 2020		Sheet 89 of 90

+BAT\_RTC 9,81  
+3VPCU 9,36,41,47,54,63,81,82



	<b>PROJECT : G7C</b>	
	Quanta Computer Inc.	
	Size Custom	Document Number <b>STORAGE MODE</b>
Date: Wednesday, April 01, 2020   Sheet 90 of 90		