



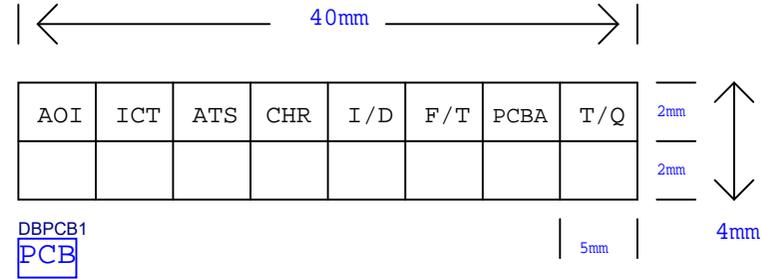
ELITEGROUP COMPUTER SYSTEMS

Project: NU50 3 in 1 Board Schematics Rev : C

Page Content

- 01 Cover Page
- 02 DB BLOCK DIAGRAM
- 03 I/O CONN
- 04 I/O USB3.0 TYPE A
- 05 I/O USB3.0 TYPE A2
- 06 I/O uSD(RTS5170)
- 07 I/O FAN/BAT LED
- 08 LED DB
- 09 SENSOR DB
- 10 Change Notice

Phase	Revision History	
A1	2019/12/06	REV.A1
B	2020/03/04	REV.B
C	2020/07/08	REV.C



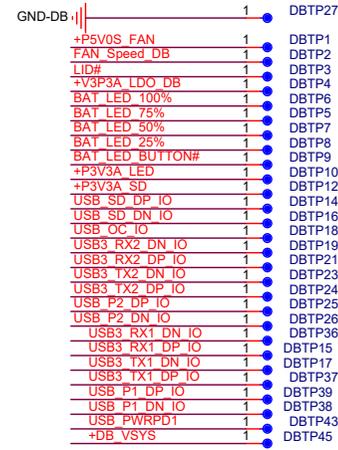
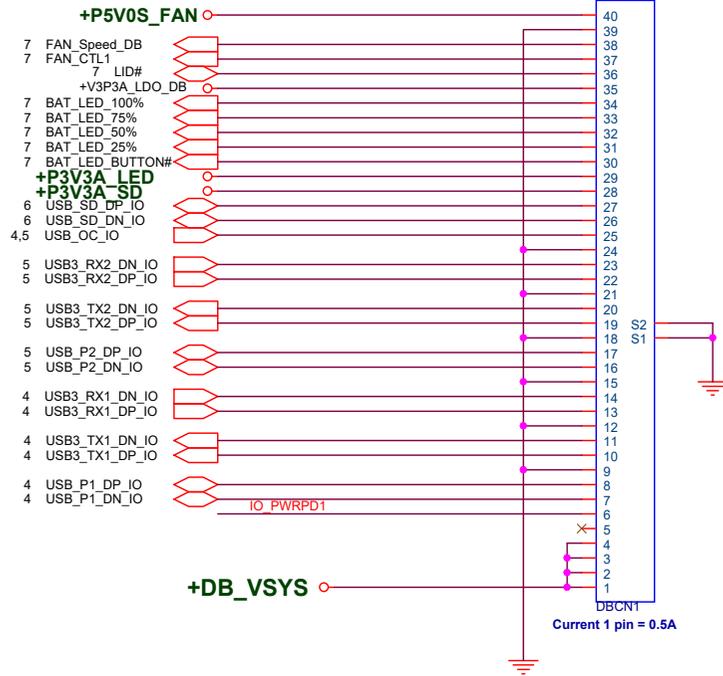
NU50 Rev. IO P/N List:

Phase Rev	PCB P/N	PCB Description	PCBA P/N (IDx)
REV.A1	15-XB8-050010(IO) 15-XB8-050012(LED) 15-XB8-050013(SENSOR)	PCB I/O.SF40KB6(NU50)..V.A1....102*34*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB LED BD.SF40KB6(NU50)..V.A1....74*8*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB SENSOR BD.SF40KB6(NU50)..V.A1....48*13.5*1mm.4L..LEAD-FREE.GREEN.....GE1	89B306-XB8AY1(IO) 89B306-XB8BY1(LED) 89B306-XB8CY1(SENSOR)
REV.B	15-XD2-050021(IO) 15-XD2-050020(LED) 15-XD2-050022(SENSOR)	PCB I/O.NU50..V.B....102*49.5*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB LED BD.NU50..V.B....84*8*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB SENSOR BD.NU50..V.B....48*13.5*1mm.4L..LEAD-FREE.GREEN.....GE1	89B306-XD2D00 / 89B306-XD2D10(IO) 89B306-XD2C00(LED) 89B306-XD2B00(SENSOR)
REV.C	15-XD2-050033(IO) 15-XD2-050032(LED) 15-XD2-050031(SENSOR)	PCB I/O.NU50..V.C....102*49.5*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB LED BD.NU50..V.C....84*8*1mm.4L..LEAD-FREE.GREEN.....GE1 PCB SENSOR BD.NU50..V.C....48*13.5*1mm.4L..LEAD-FREE.GREEN.....GE1	89B306-XD2D01(IO) 89B306-XD2C01(LED) 89B306-XD2B01(SENSOR)

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Title			
NU50			
Size	Document Number		Rev
Custom	DB Cover Page		C
Date:	Thursday, July 16, 2020		Sheet 1 of 10

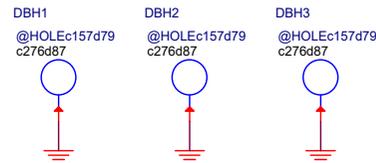
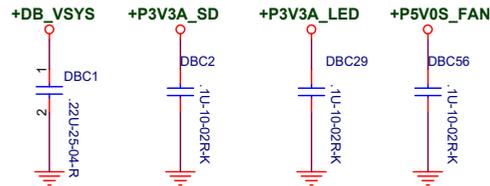
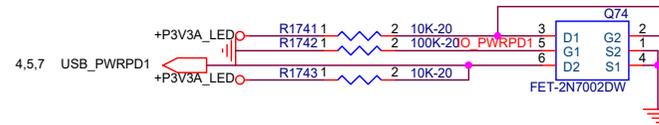
I/O Connector

con_ffc-40b05_f0502wr-s-40pt_hr



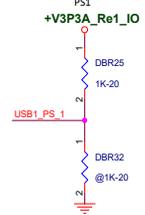
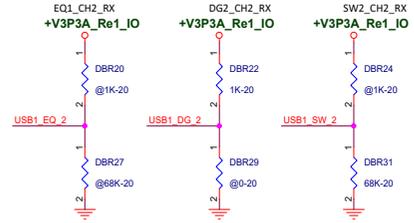
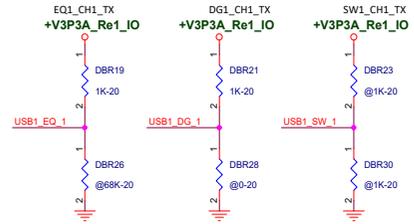
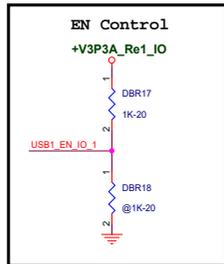
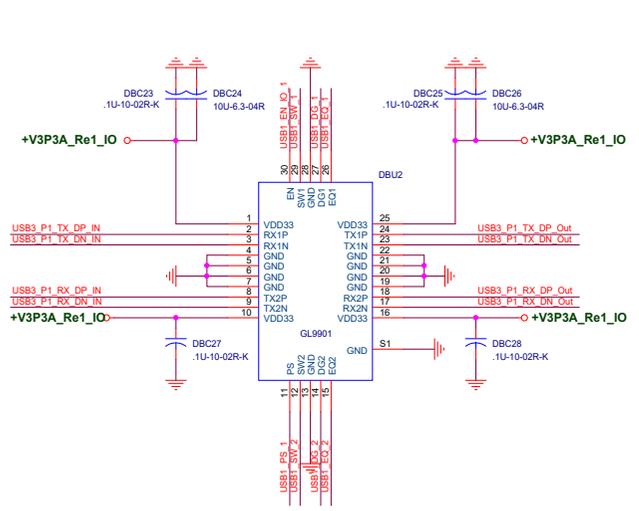
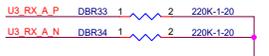
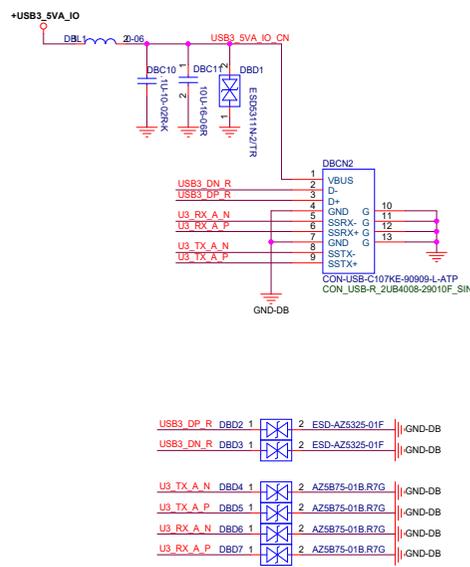
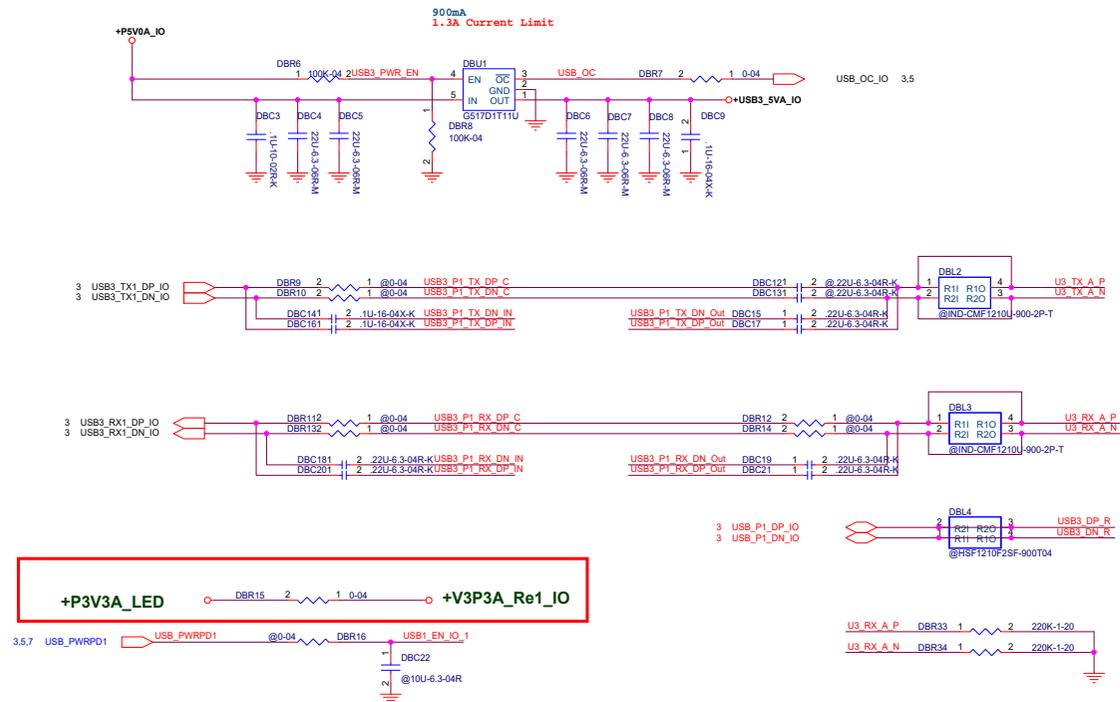
Operation Frequency Range:

WLAN : 802.11b/g/n-20: 2412-2462 MHz, 802.11n-40: 2422-2452 MHz
 802.11a/n-20MHz: 5180-5240MHz, 802.11n-40MHz: 5190-5230 MHz
 802.11ac-80MHz: 5210MHz, BLE / Bluetooth : 2402-2480 MHz

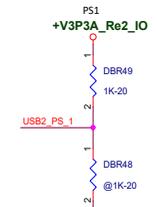
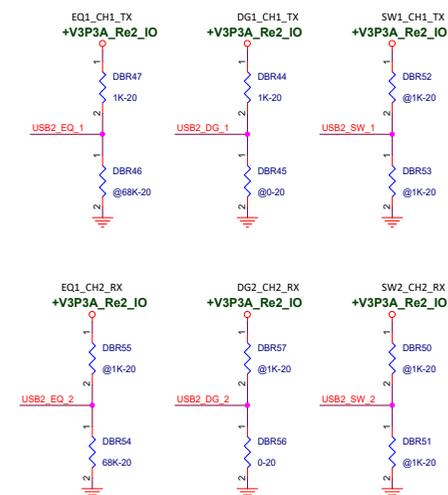
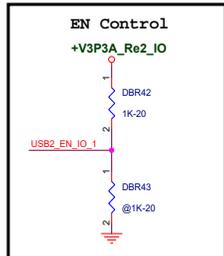
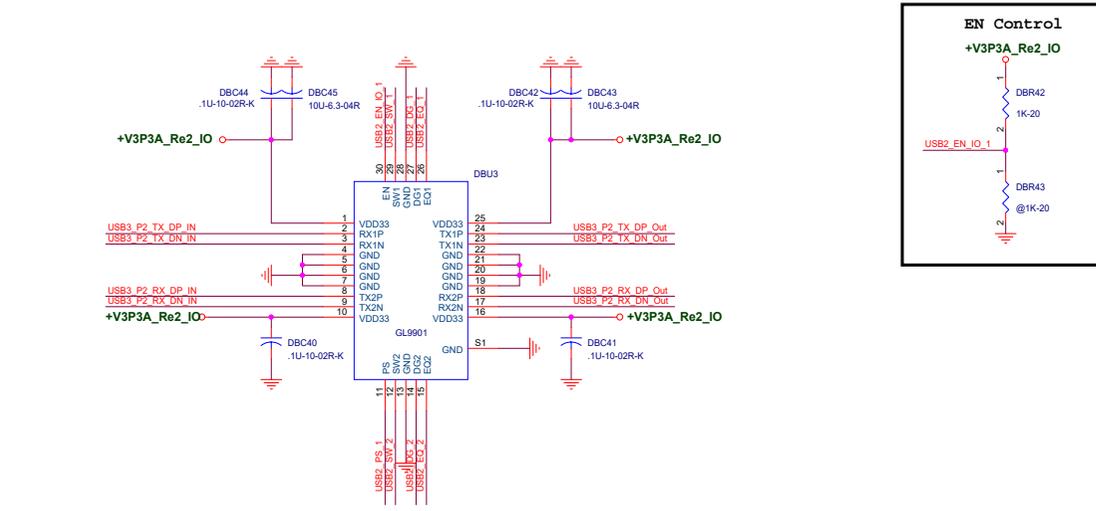
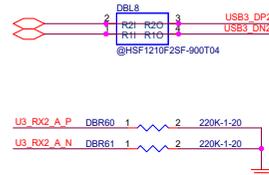
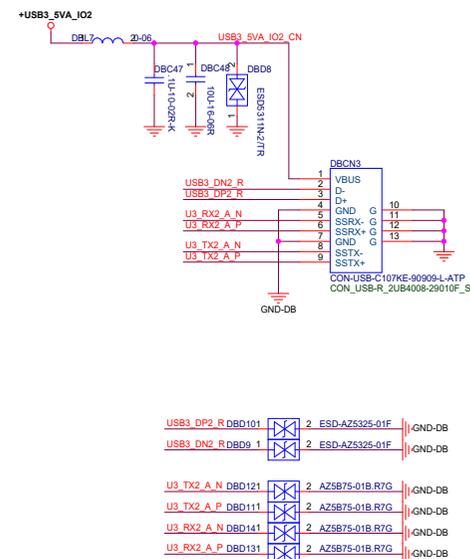
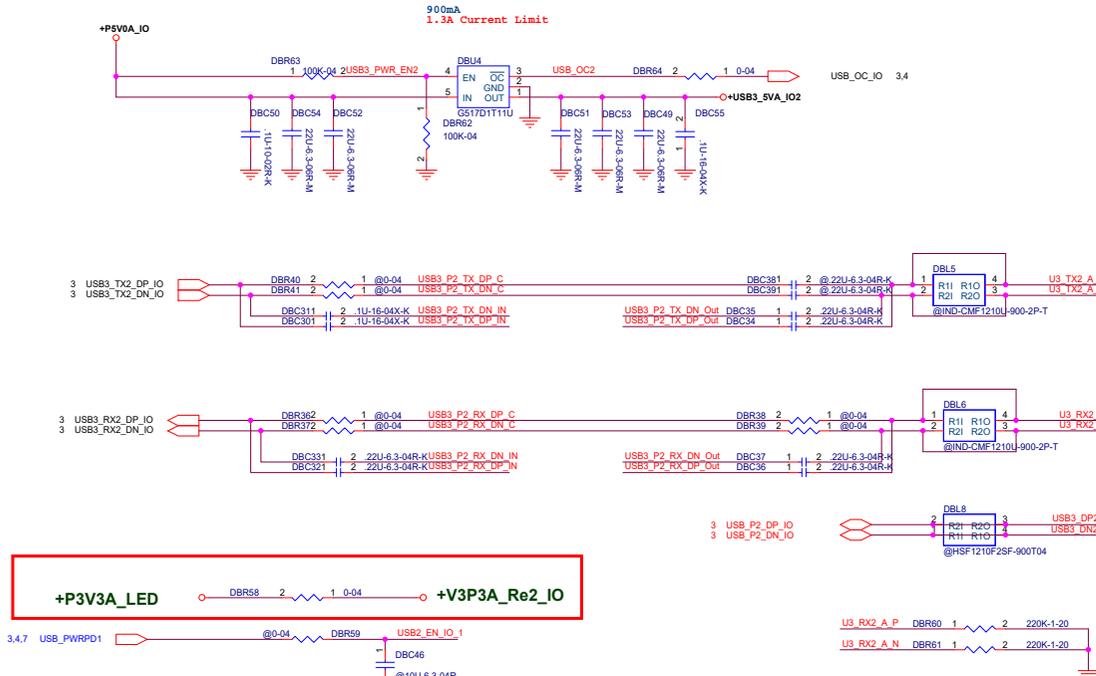


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Size B	Document Number	IO CONN	Rev C
Date:	Thursday, July 16, 2020	Sheet 3 of 10	

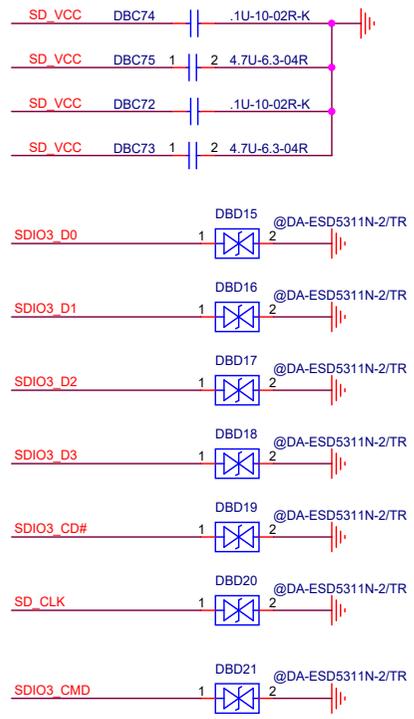
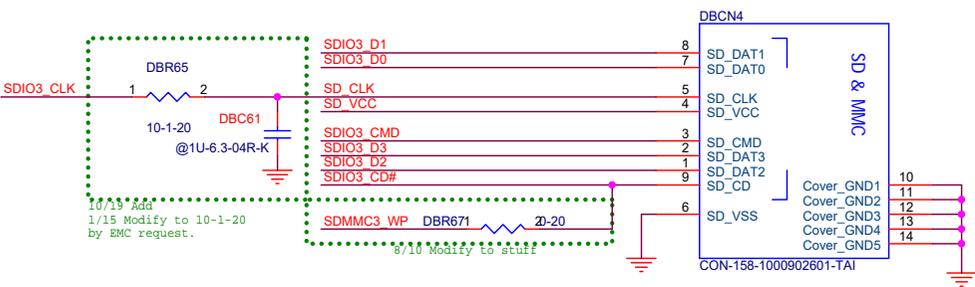
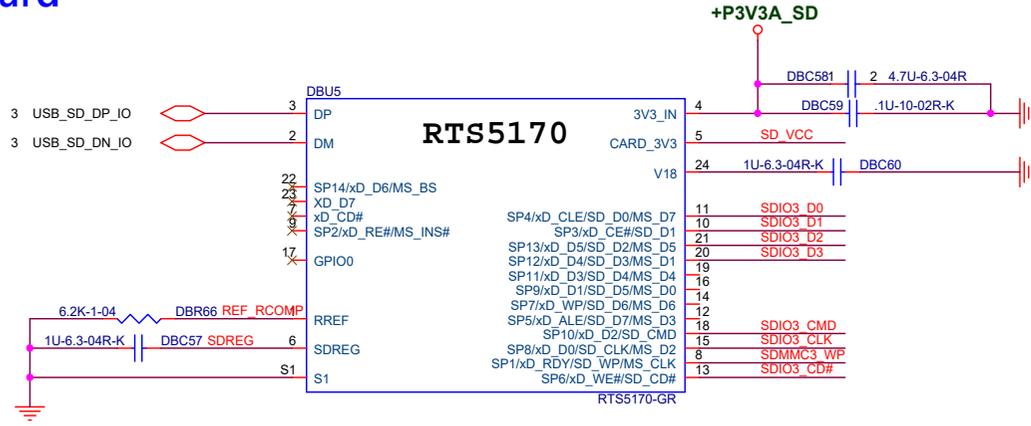
USB3.0 DB Side Connector



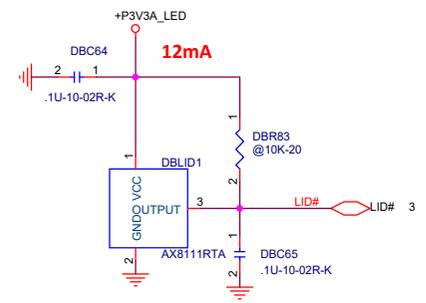
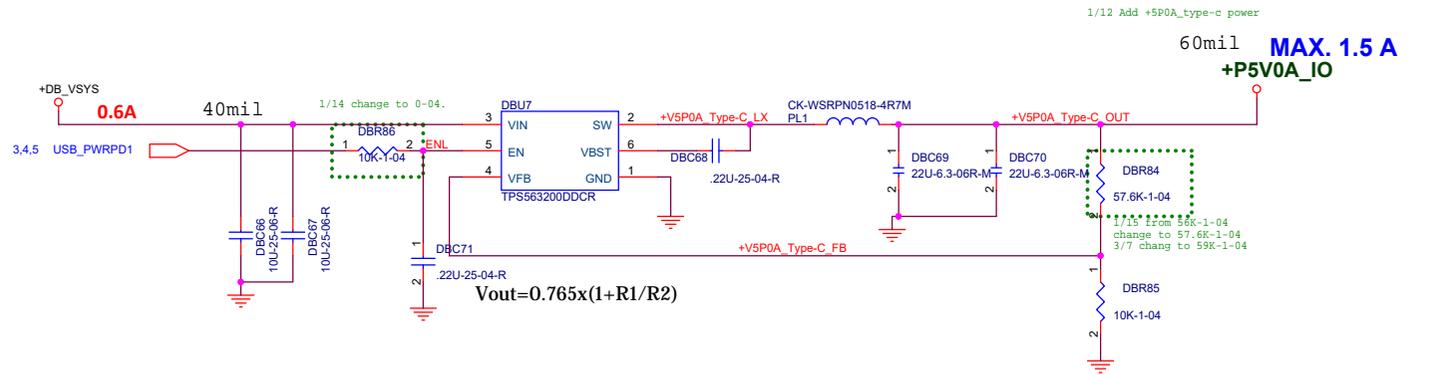
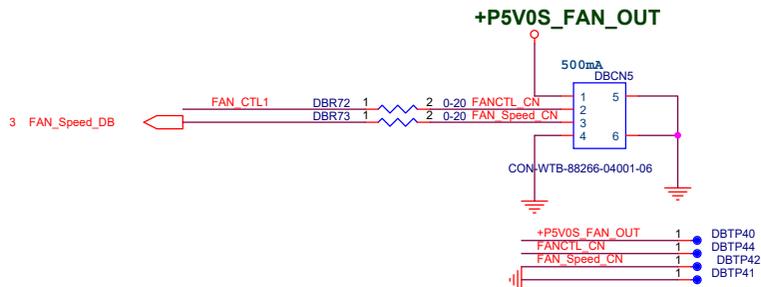
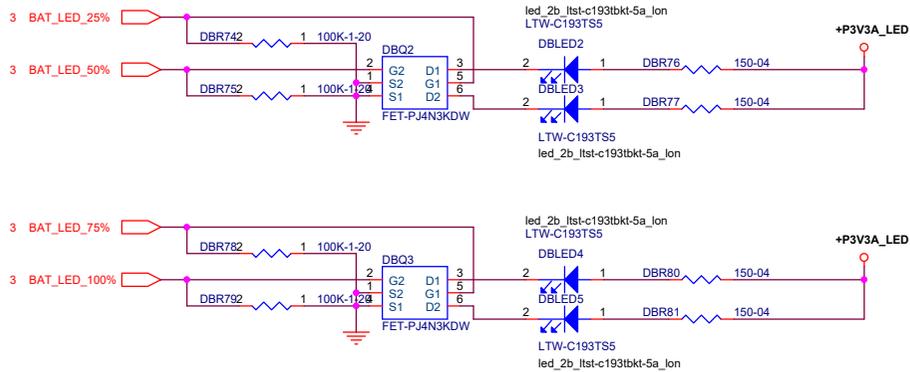
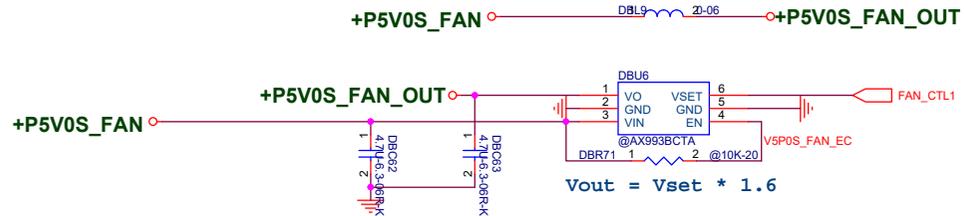
USB3.0 DB Side Connector

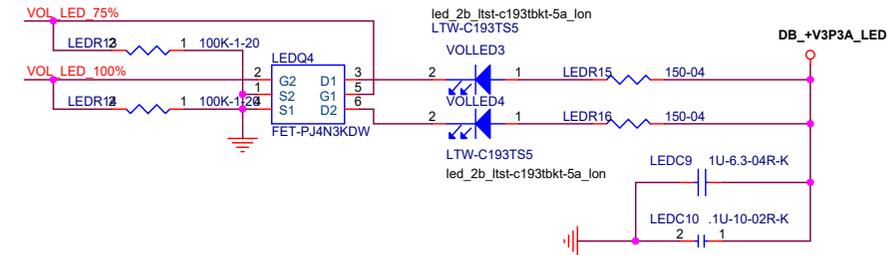
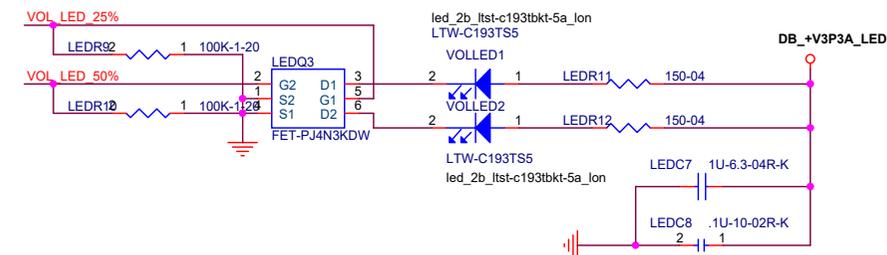
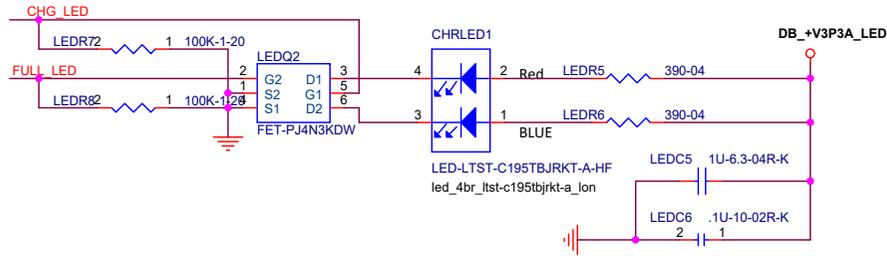
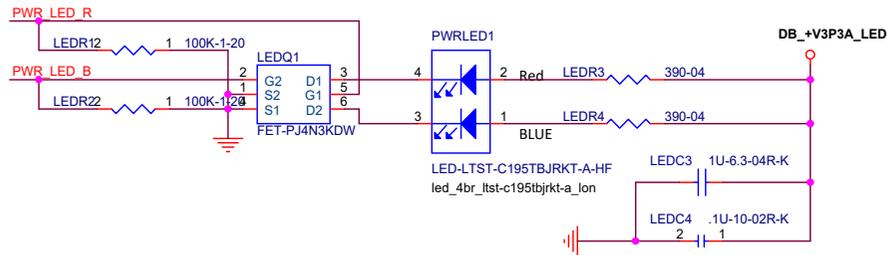


uSD Card

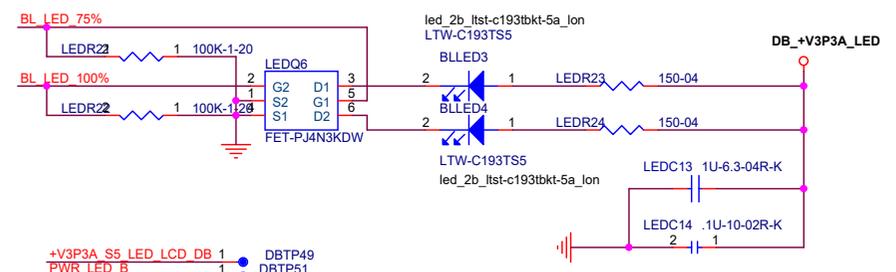
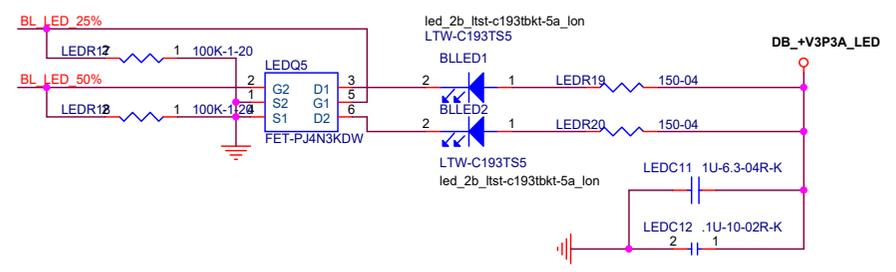
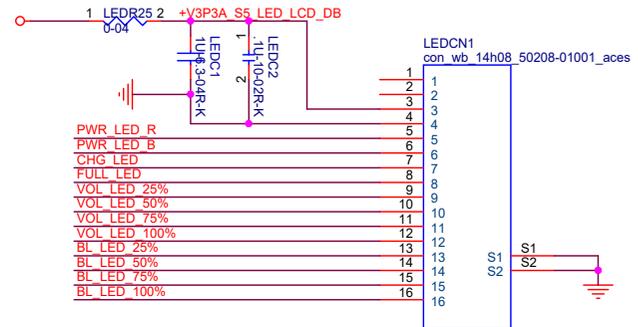


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	Title NU50	
Size Custom	Document Number I/O uSD(RTS5170)	Rev C
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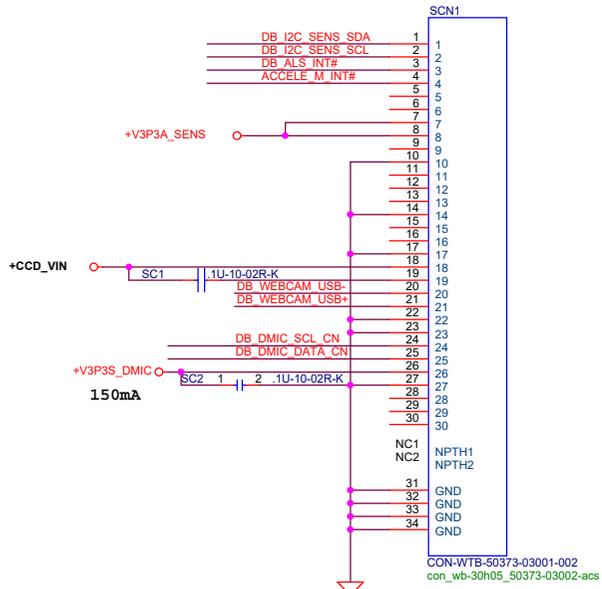
DB_+V3P3A_LED



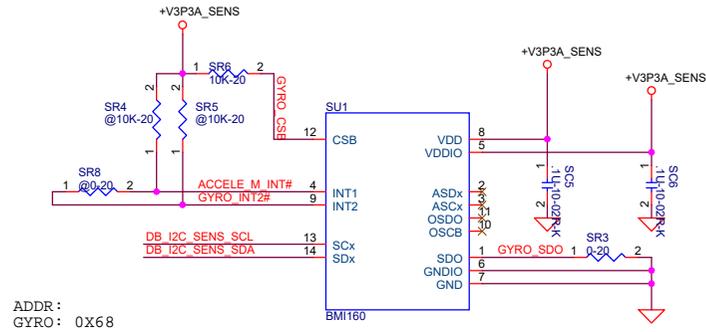
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- PWR_LED_B 1 DBTP51
- PWR_LED_R 1 DBTP50
- FULL_LED 1 DBTP48
- CHG_LED 1 DBTP47
- VOL_LED_25% 1 DBTP46
- VOL_LED_50% 1 DBTP56
- VOL_LED_75% 1 DBTP55
- VOL_LED_100% 1 DBTP57
- BL_LED_25% 1 DBTP52
- BL_LED_50% 1 DBTP54
- BL_LED_75% 1 DBTP53
- BL_LED_100% 1 DBTP62

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Title			
NU50			
Size	Document Number		Rev
B	LED DB		C
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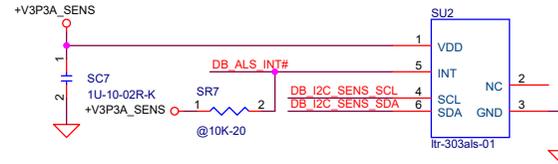
Sensor CONN



Accelemer



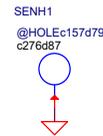
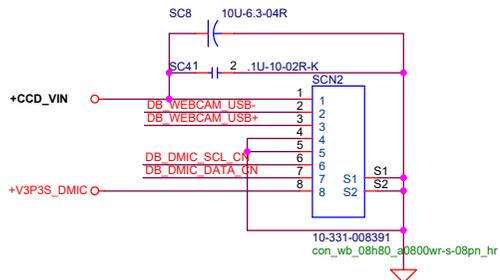
Ambinet Light



LID

- DB I2C SENS SDA 1 ● DBTP59
- DB I2C SENS SCL 1 ● DBTP63
- DB ALS INT# 1 ● DBTP58
- ACCELE M INT# 1 ● DBTP61
- +V3P3A_SENS 1 ● DBTP65
- +V3P3A_SENS 1 ● DBTP67
- +V3P3S_DMIC 1 ● DBTP68
- DB WEBCAM USB- 1 ● DBTP66
- DB WEBCAM USB+ 1 ● DBTP70
- DB DMIC_SCL_CN 1 ● DBTP69
- DB DMIC_DATA_CN 1 ● DBTP72

CCD+DMIC



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Size: Custom	Document Number: Sensor DB	Rev: C
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Change list

1. USB +5V droop solution add caps & change current limit
2. MB to DB pin define modify for +5V add 2 pin

 精英電腦		ECS COMPUTER CORP. TEL:+886-2-2162-1177 Fax :+886-2-2797-0690 No. 239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan 11493 (R.O.C)	
Title			
NU50			
Size	Document Number		Rev
A	I/O , LED , Sensor Change Notice		C
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- 01. COVER PAGE
- 02. SYSTEM BLOCK DIAGRAM
- 03. POWER BLOCK DIAGRAM
- 04. Computer Card GPIO Table
- 05. EC GPIO Table
- 06. Computer Card Power
- 07. Computer Card DDI/M.2 SSD
- 08. Computer Card PCIe/USB
- 09. Computer Card HDA/I2C/UART
- 10. Computer Card eSPI/ACPI
- 11. eDP Panel+TPL/WEBCAM+Sensor
- 12. M.2 SSD
- 13. TP/LED/PW Button/FP/RTC/DEB
- 14. LED DB
- 15. HDMI
- 16. AUDIO CODEC(ALC233/256)
- 17. Type-C-1(USB/PD)
- 18. Type-C-2(FULL/No Adp PD)
- 19. DB IO+FAN/KB BL/HOLE
- 20. Sensor/Sensor Hub/LID
- 21. EC (IT5571E)/KBC/SPI ROM
- 22. Charger (BQ24770)
- 23. +V1P8A/+5VA_USB
- 24. +V5P0A/+V3P3A_S5
- 25. +V3P3A/+V3P3S/+V5P0S/+V1P8S
- 26. LAN (RTL8111H)
- 27. USB3.1 Gen1 Redriver

Phase	Revision History	
A	2019/12/06	Initial REV.A1
	2019/12/23	Initial REV.A2
	2020/02/05	Initial REV.A3
B	2020/03/06	Initial REV.B
	2020/04/20	Initial REV.B1
	2020/04/28	Initial REV.B2
C	2020/07/08	Initial REV.C



PCB1
PCB
15-XD2-050030
P/N:15-XD2-050030
PCB CARRY BD.NU50..V.C....140.7*133.7*1mm.6L..LEAD-FREE.GREEN.....GE1

NU50 Rev. P/N List :

Phase Revision	PCB P/N
Initial REV.A1	15-XB8-050011 PCB CARRY BD.SF40KB6(NU50)..V.A1....130.7*136.7*1mm.8L..LEAD-FREE.GREEN.....GE1
Initial REV.A2	15-XB8-050014 PCB CARRY BD.SF40KB6(NU50)..V.A2....130.7*136.7*1mm.6L..LEAD-FREE.GREEN.....GE1
Initial REV.A3	15-XD2-050010 PCB CARRY BD.NU50..V.A3....135.7*131.8*1mm.8L..LEAD-FREE.GREEN.....GE1
Initial REV.B	15-XD2-050023 PCB CARRY BD.NU50..V.B....140.7*133.7*1mm.6L..LEAD-FREE.GREEN.....GE1
Initial REV.B1	15-XD2-050024 PCB CARRY BD.NU50..V.B1....140.7*133.7*1mm.6L..LEAD-FREE.GREEN.....GE1
Initial REV.B2	15-XD2-050025 PCB CARRY BD.NU50..V.B2....140.7*133.7*1mm.6L..LEAD-FREE.GREEN.....GE1
Initial REV.C	15-XD2-050030 PCB CARRY BD.NU50..V.C....140.7*133.7*1mm.6L..LEAD-FREE.GREEN.....GE1

NU50 Rev. P/N List :

SOC Name	P/N:	Value
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N/A	89B306-XB8DY2	CARD.SF40KB6(A2) CARRIER DB.....W/M.2(2280)*2/.FP/SENSOR HUB/TYPE-C*2..FOR NU50..LEAD-FREE.
N/A	89B306-XD2A00	CARD.NU50(B) CARRIER DB.....W/M.2(2280)*2/FP/SENSOR HUB/.TYPE-C*2.MAIN.....LEAD-FREE.
	89B306-XD2A10	CARD.NU50(B) CARRIER DB.....W/M.2(2280)*2/FP/SENSOR HUB/.TYPE-C*2.SEC.....LEAD-FREE.
N/A	89B306-XD2A01	CARD.NU50(B1) CARRIER DB.....W/M.2(2280)*2/FP/SENSOR HUB/.TYPE-C*2.MAIN.....LEAD-FREE.
	89B306-XD2A11	CARD.NU50(B1) CARRIER DB.....W/M.2(2280)*2/FP/SENSOR HUB/.TYPE-C*2.SEC.....LEAD-FREE.
N/A	89B306-XD2A03	CARD.NU50(C) CARRIER DB.....W/M.2(2280)*2/FP/SENSOR HUB/.TYPE-C*2.....LEAD-FREE.

Modify History

5

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D

C

C

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B

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A

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Title <p style="text-align: center;">NU50</p>			
Size A	Document Number <p style="text-align: center;">Computer Card GPIO Table</p>		Rev C
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D

D

C

C

B

B

A

A

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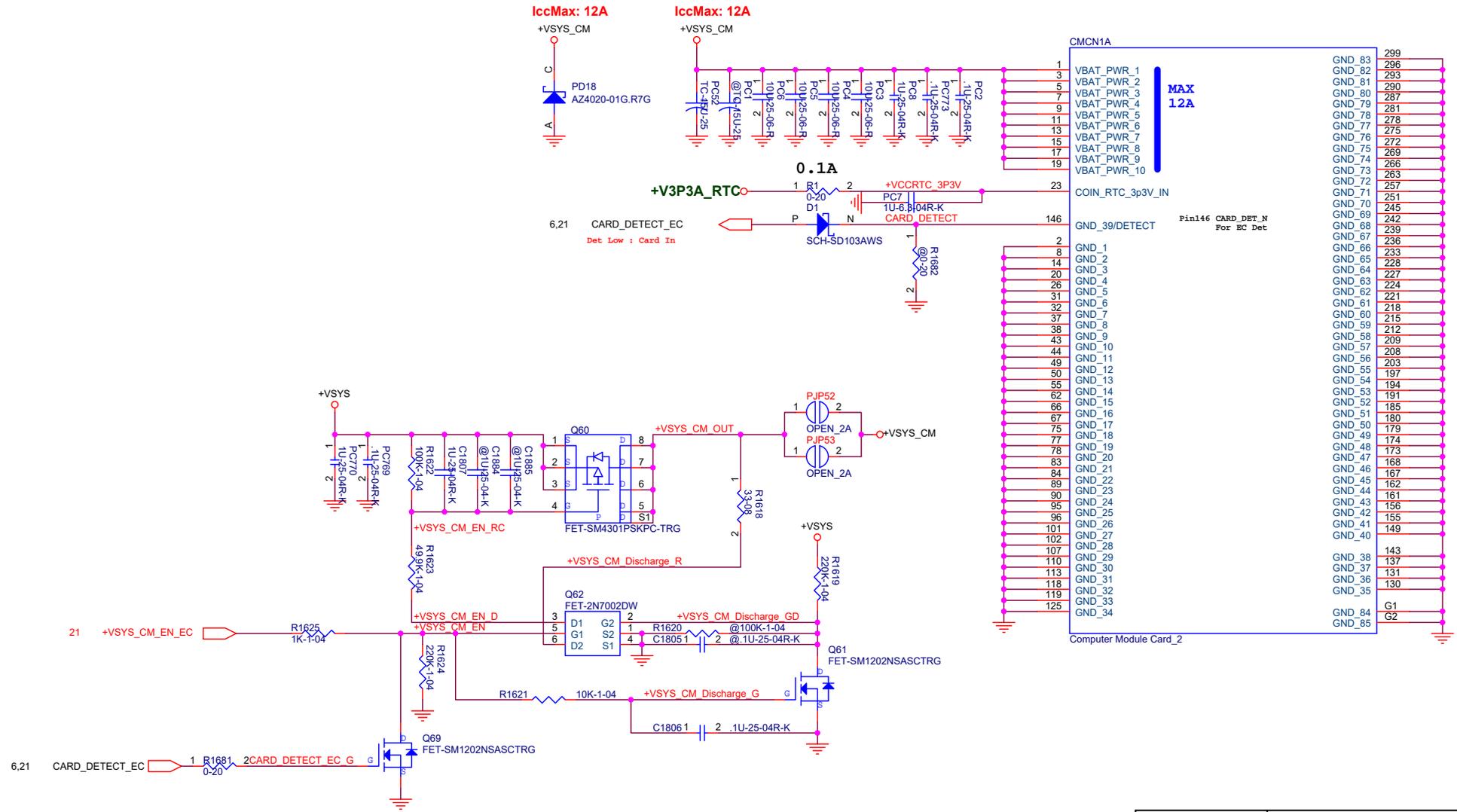
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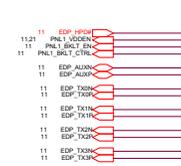
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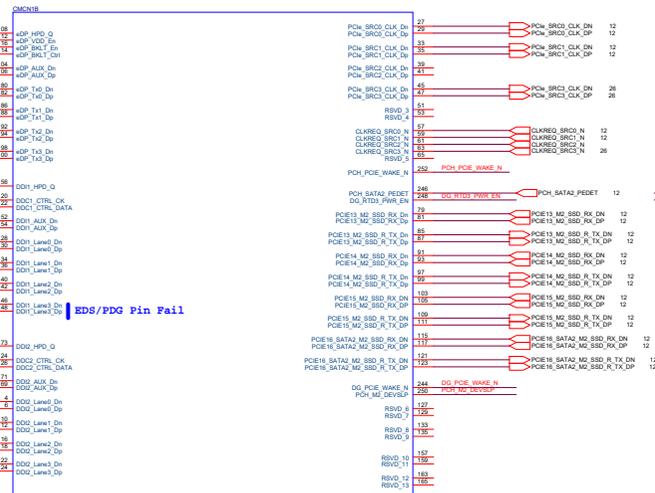
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Title			
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Type-C DP

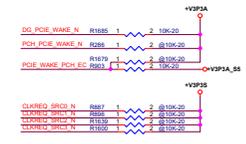


HDMI Type A



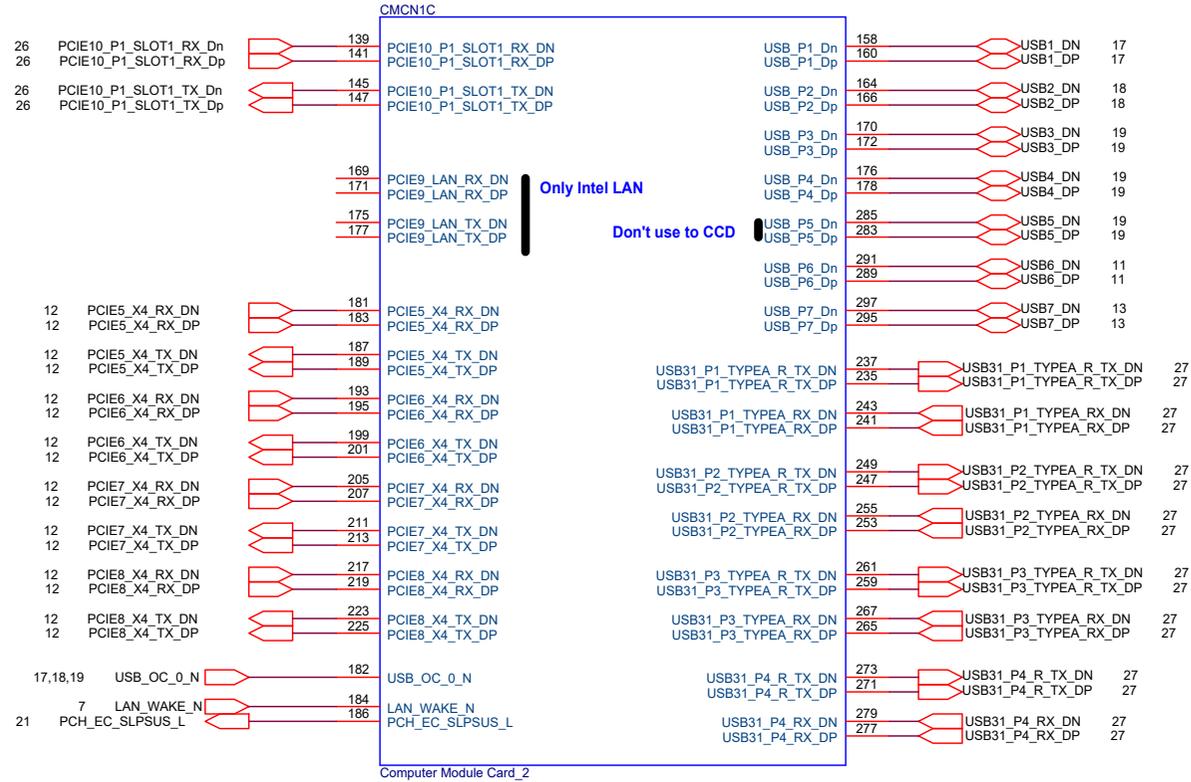
I/O D/B Table

PCIe CLK0	M.2 SSD PCIe X4 / SATA
PCIe CLK1	M.2 SSD PCIe X4
PCIe CLK2	N/C
PCIe CLK3	LAN



SOC PCIe Ports Table

Port 10	Realtek LAN
Port 09	

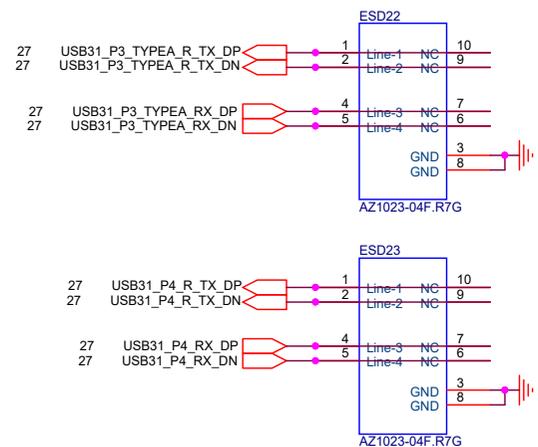
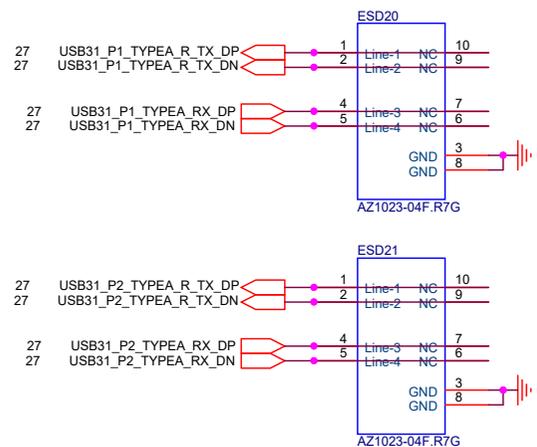
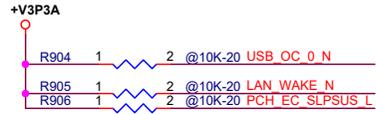


USB2.0 Ports Table

USB1	Type-C 1
USB2	Type-C 2
USB3	DB USB Type-A 1
USB4	DB USB Type-A 2
USB5	uSD Card Reader
USB6	WEBCAM (DnX mode)
USB7	Finger Printer

SOC USB3.0 Ports Table

Port1	Type-C 1
Port2	Type-C 2
Port3	DB USB Type-A 1
Port4	DB USB Type-A 2

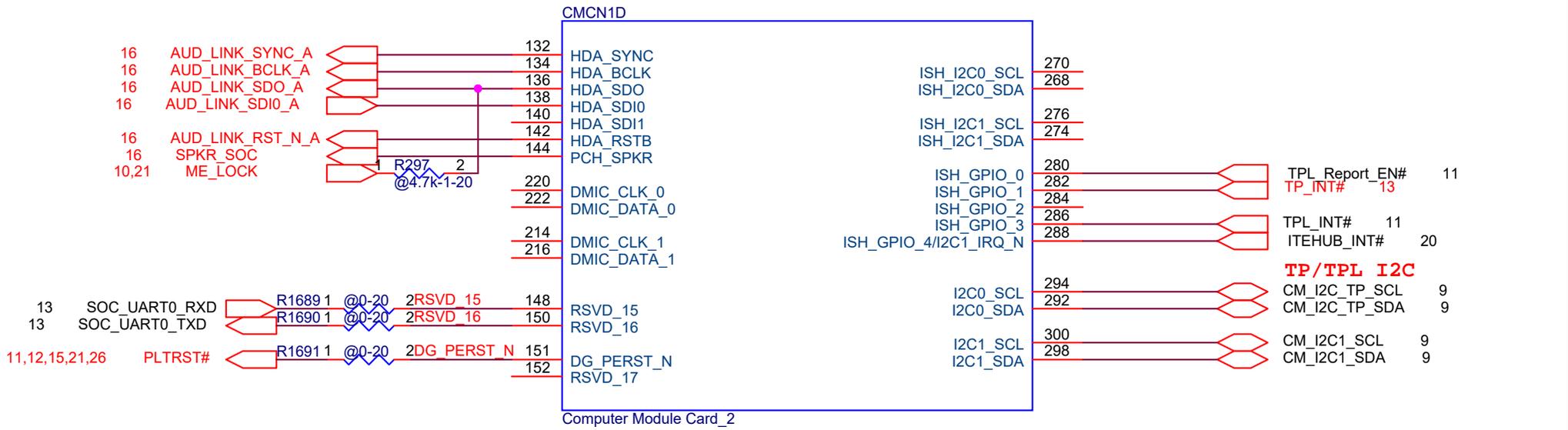


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Title: **NU50**

Size B Document Number: **Computer Card PCIe/USB** Rev C

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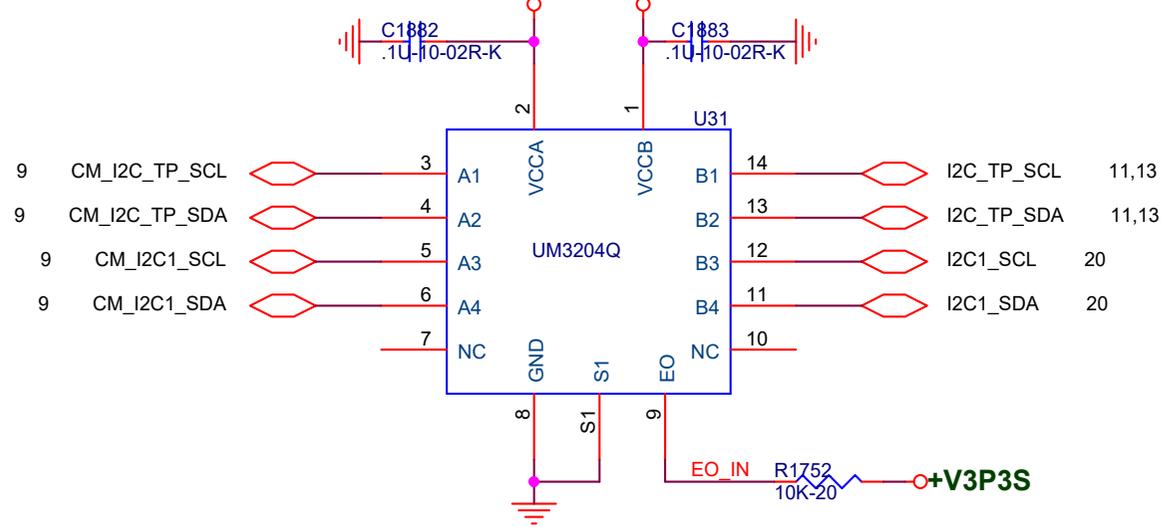
+V3P3A



+V3P3A

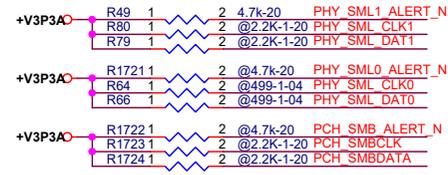
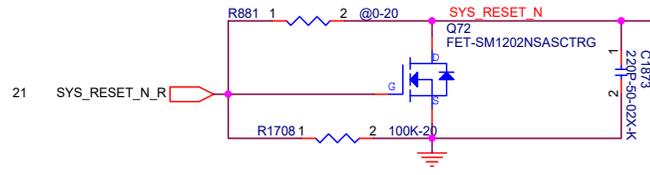
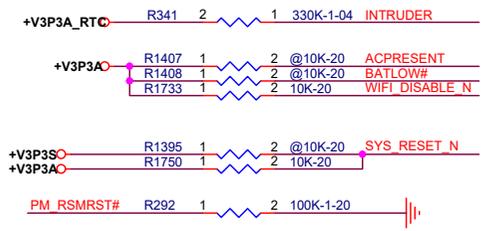
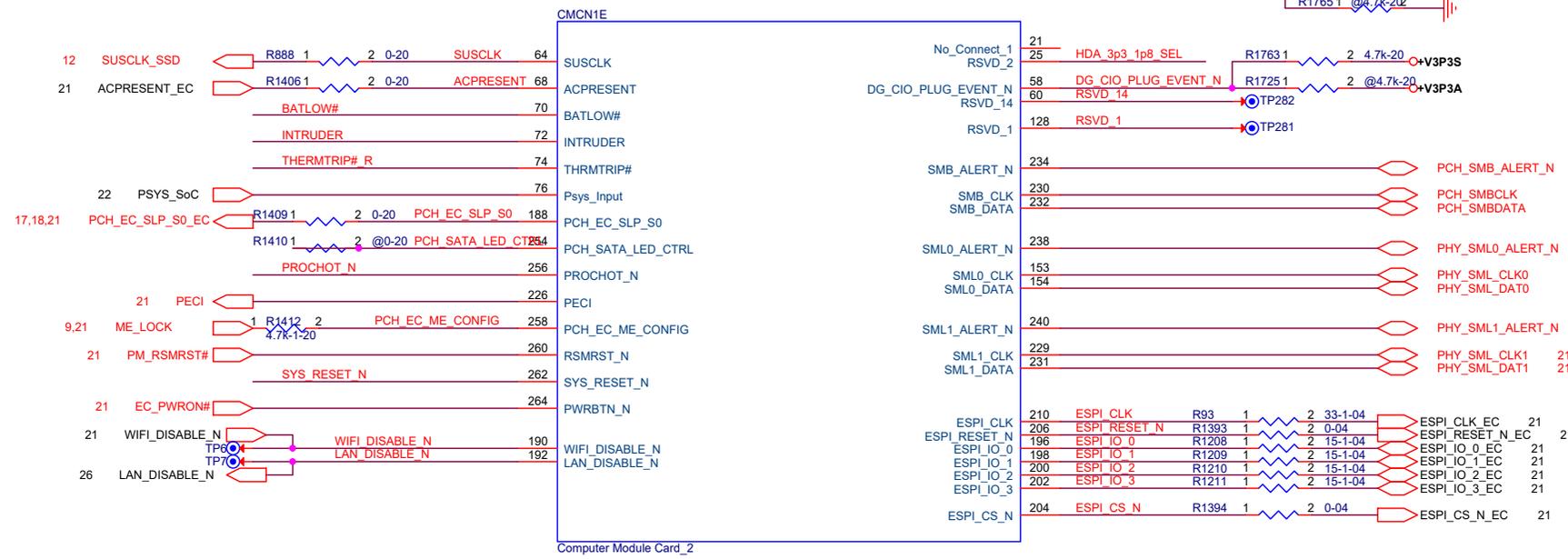


+V3P3A +V3P3S

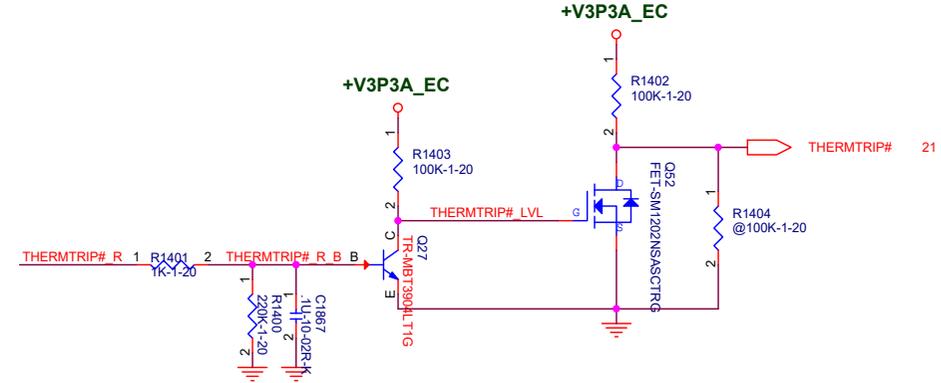
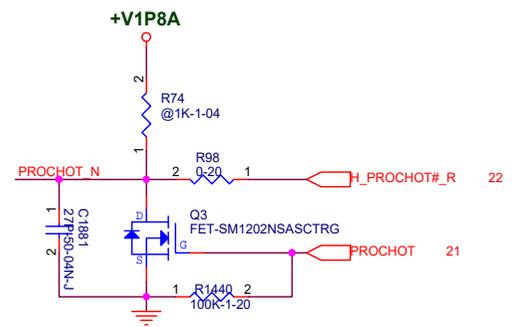


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A			
Computer Card HDA/I2C/UART			
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High: 3.3V
Low: 1.8V



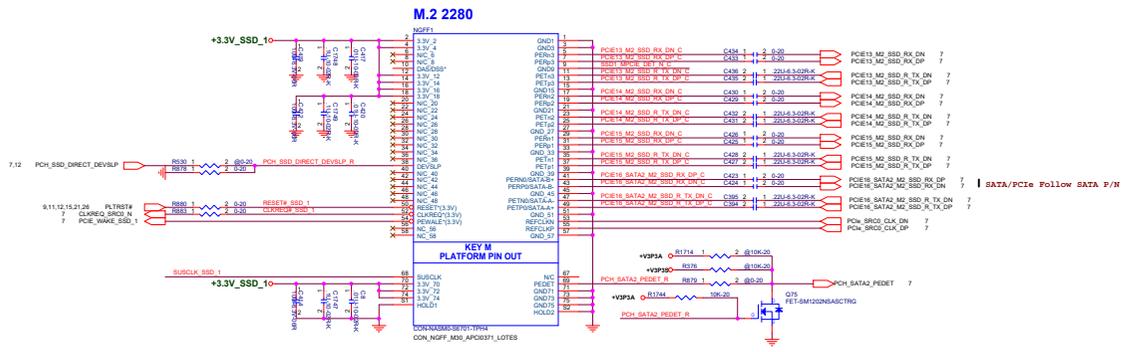
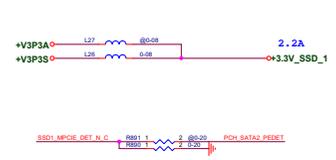
THERMTRIP#



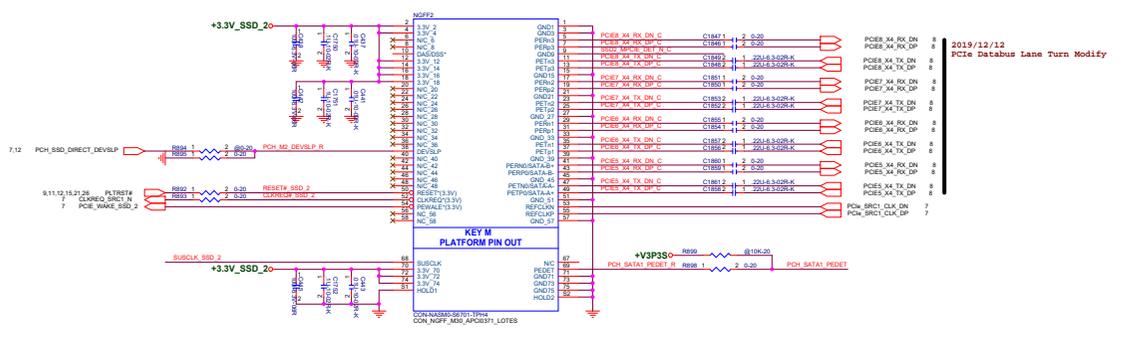
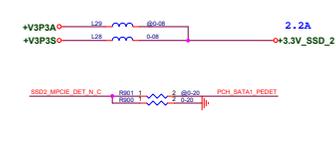
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	NU50	

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M.2 M Key PCIe/SATA NVME SSD

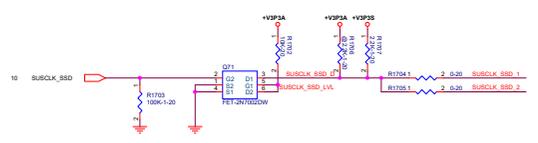


M.2 M Key PCIe NVME SSD

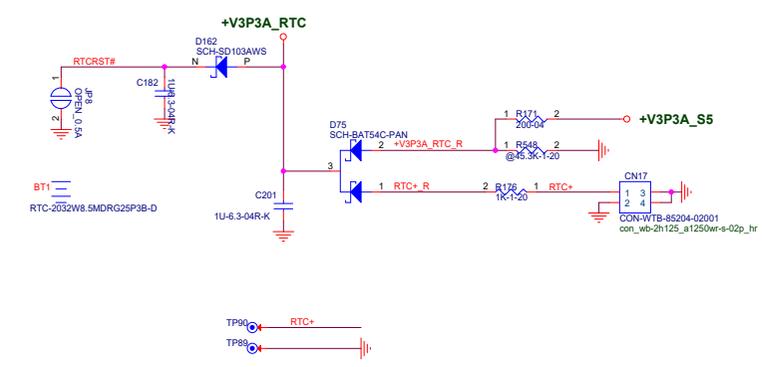


2019/12/12
PCIe Database Lane Turn Modify

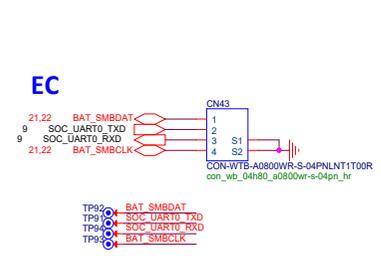
SSD SUSCLK



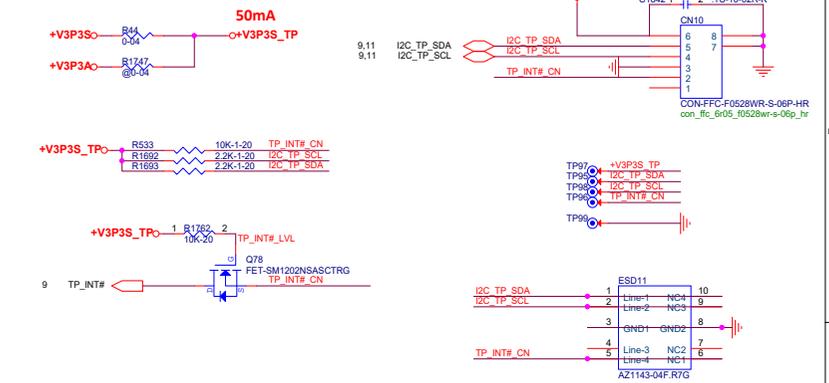
RTC



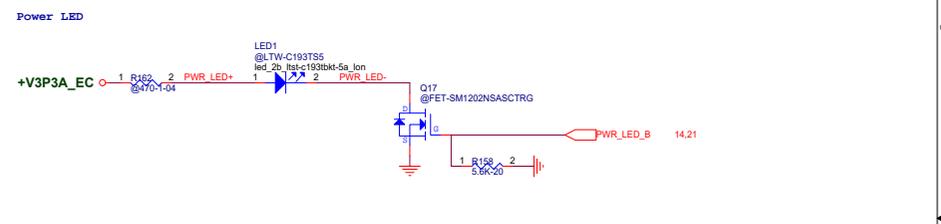
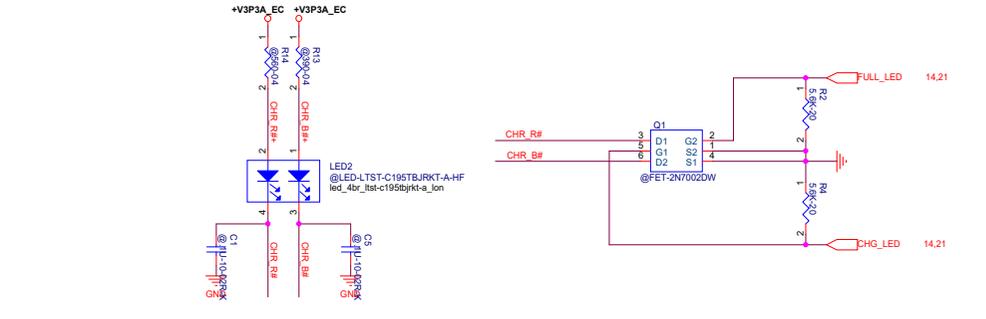
DEBUG PORT



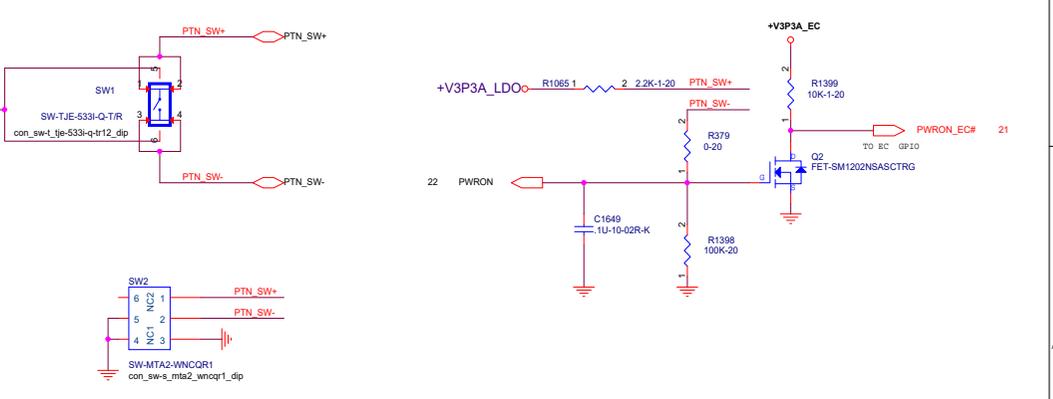
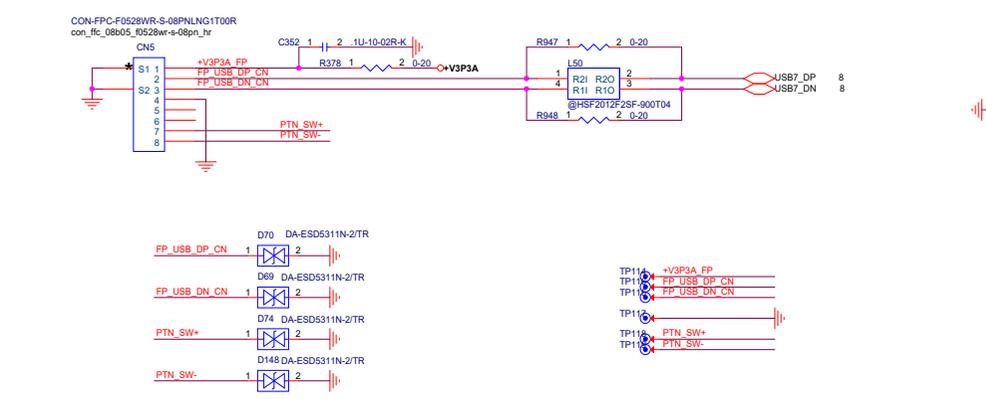
Touch Pad Connector



LED

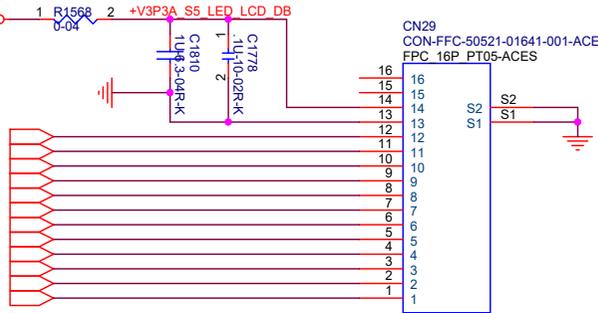


Finger Printer / Power Button Switch

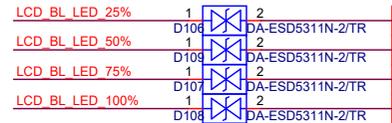
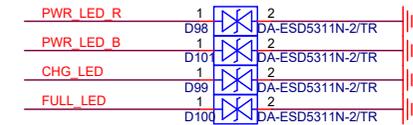
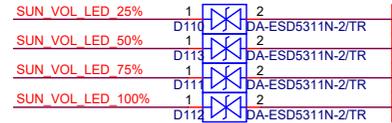
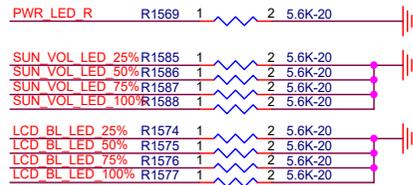


+V3P3A_S5

- 21 PWR_LED_R
- 13,21 PWR_LED_B
- 13,21 CHG_LED
- 13,21 FULL_LED
- 21 SUN_VOL_LED_25%
- 21 SUN_VOL_LED_50%
- 21 SUN_VOL_LED_75%
- 21 SUN_VOL_LED_100%
- 21 LCD_BL_LED_25%
- 21 LCD_BL_LED_50%
- 21 LCD_BL_LED_75%
- 21 LCD_BL_LED_100%

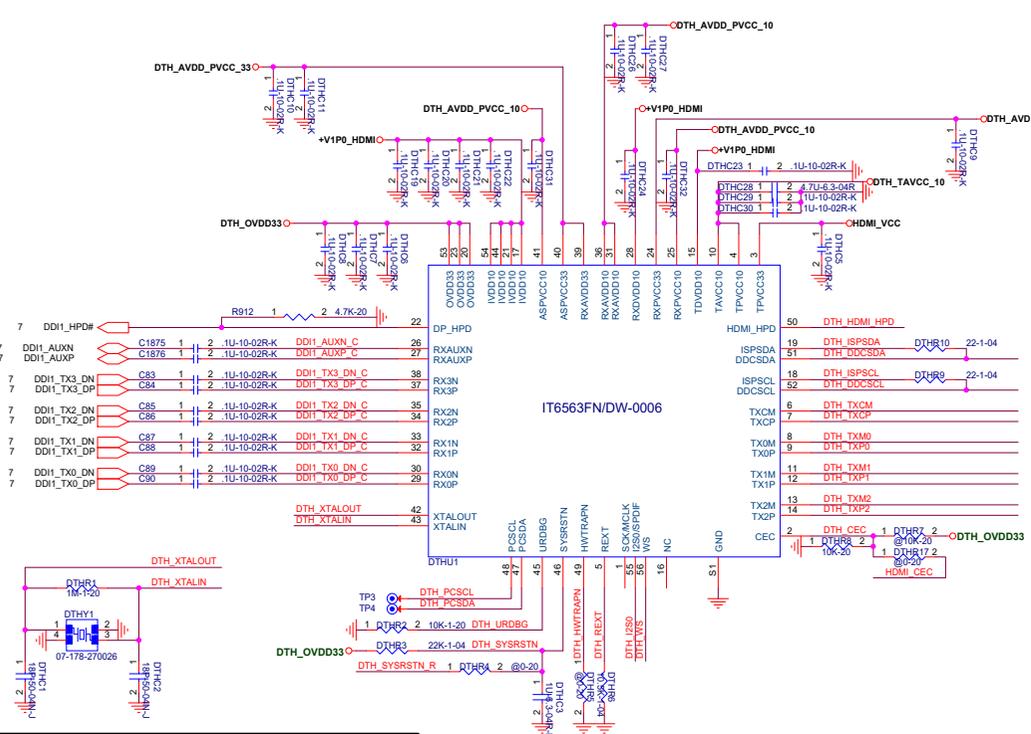


- TP106 +V3P3A_S5_LED_LCD_DB
- TP105
- TP103 PWR_LED_R
- TP103 PWR_LED_B
- TP104 CHG_LED
- TP103 FULL_LED
- TP106 SUN_VOL_LED_25%
- TP103 SUN_VOL_LED_50%
- TP103 SUN_VOL_LED_75%
- TP103 SUN_VOL_LED_100%
- TP116 LCD_BL_LED_25%
- TP113 LCD_BL_LED_50%
- TP113 LCD_BL_LED_75%
- TP113 LCD_BL_LED_100%

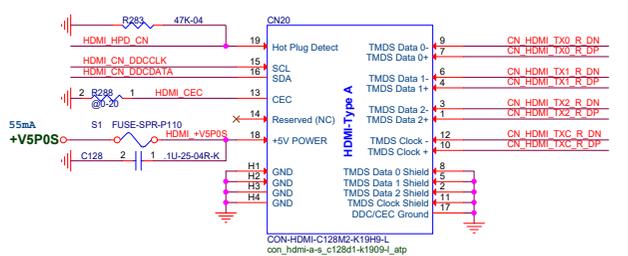


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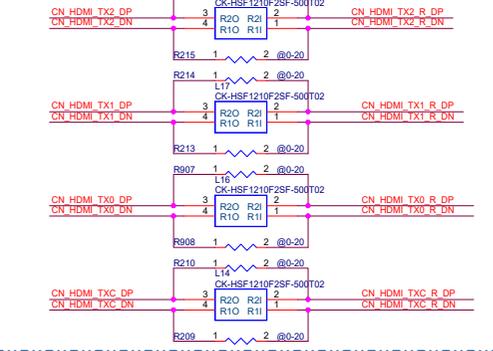
HDMI Converter (IT6563FN/DW-0006)



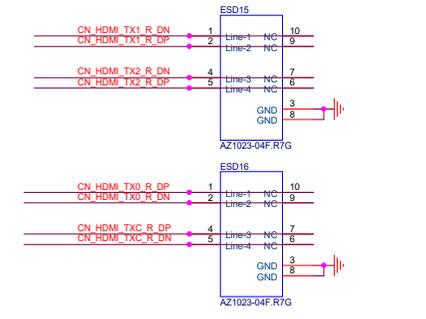
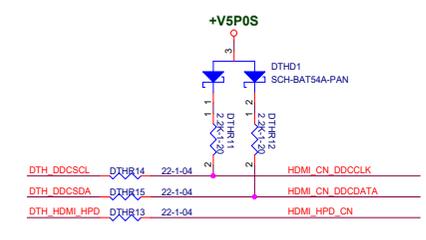
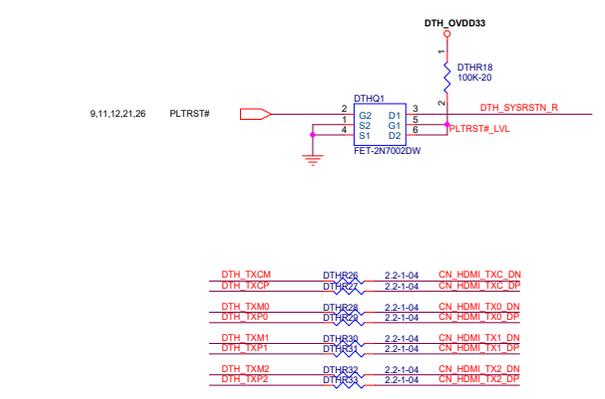
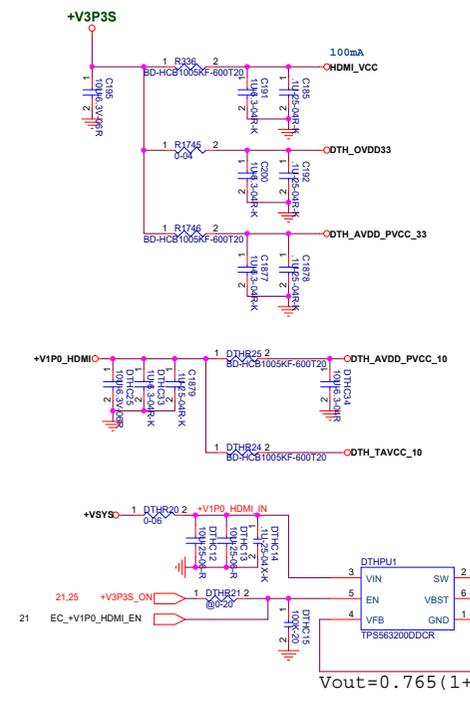
HDMI Connector



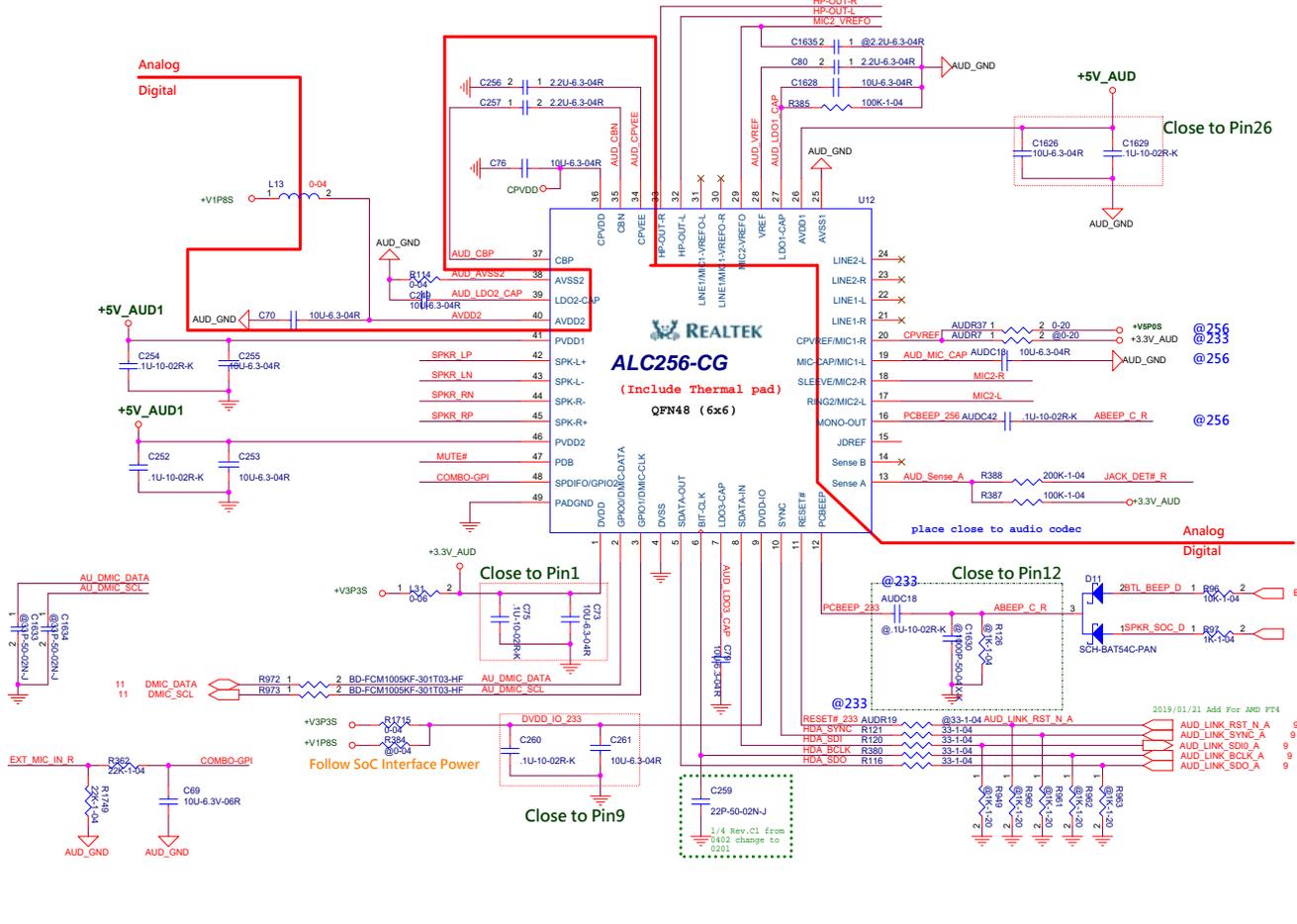
HDMI CMC



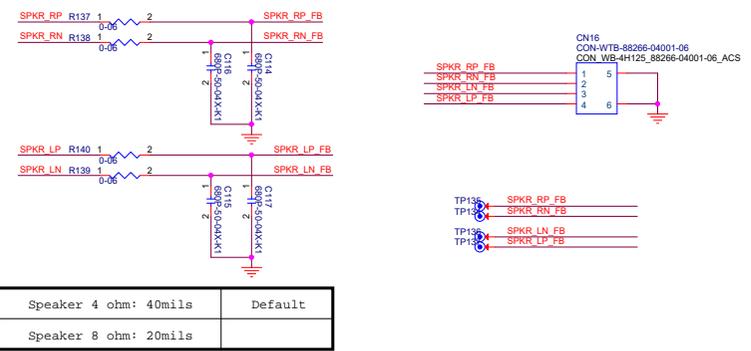
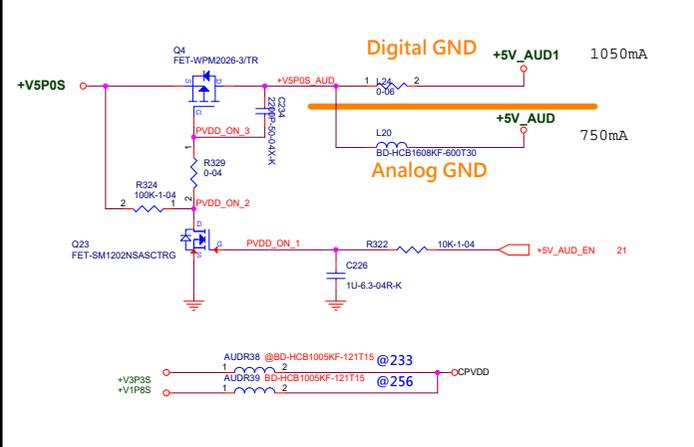
Power Block



Audio Codec

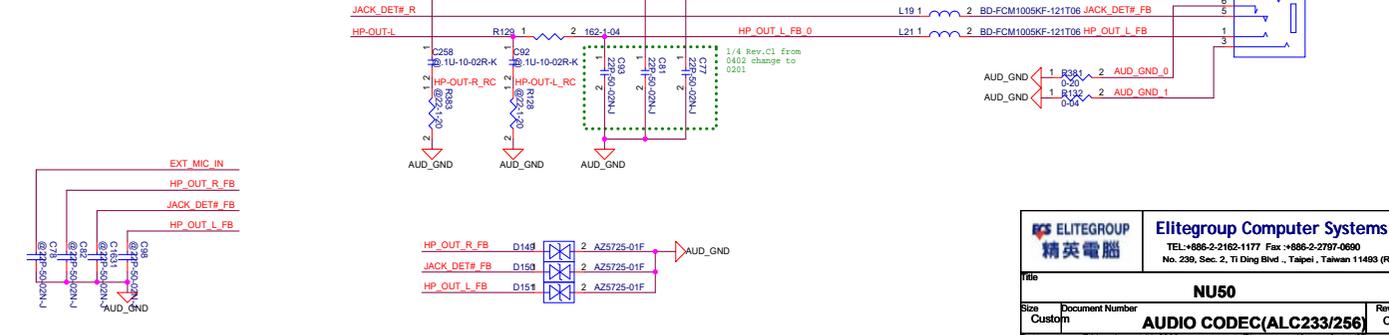


Speaker AMP / Codec DAC&ADC Power

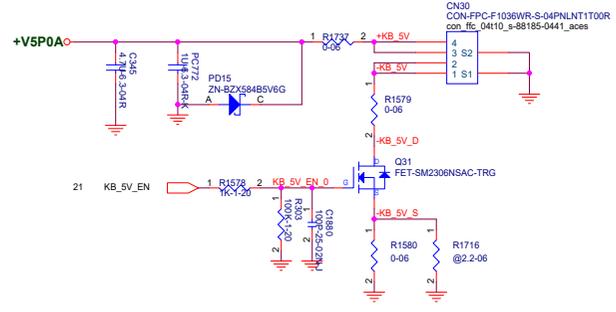


Microphone+Headphone Jack

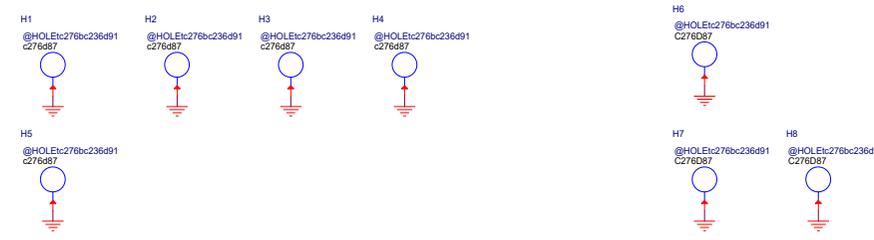
JACK_DET#	Status
Normal	High
Insert	Low



KEY BOARD LED



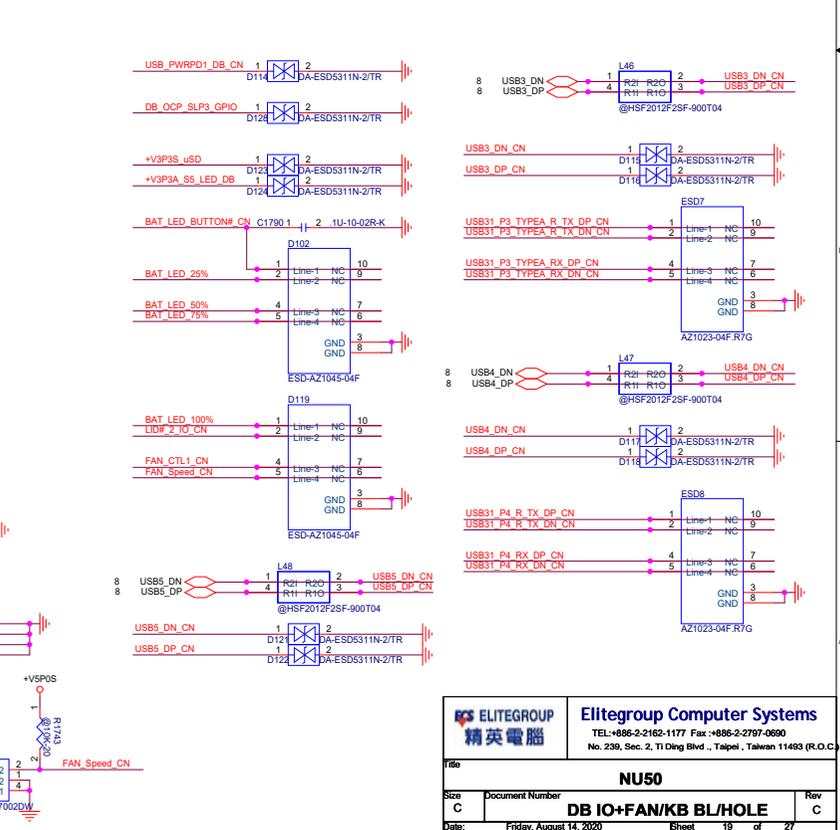
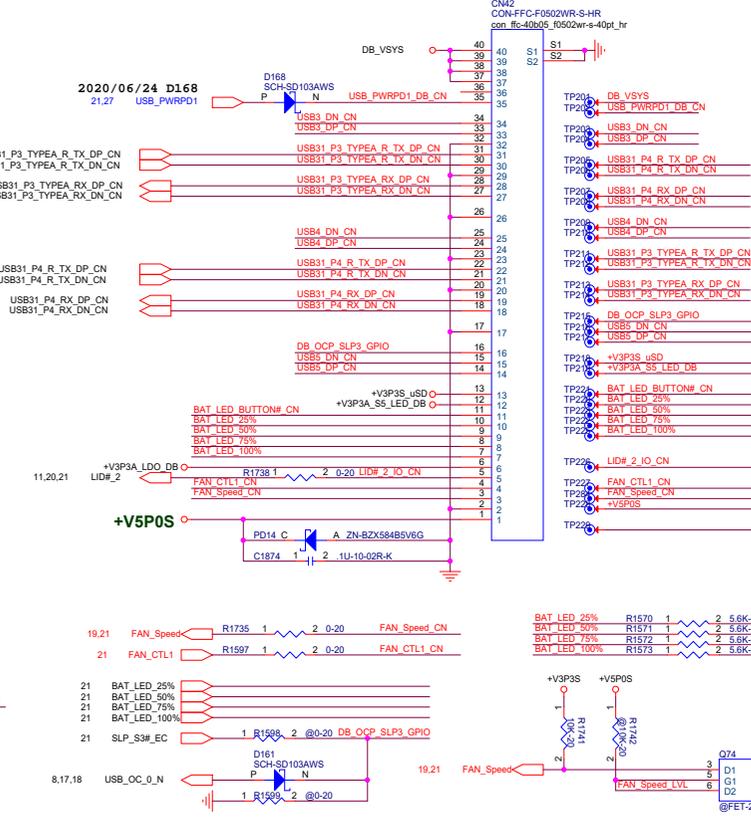
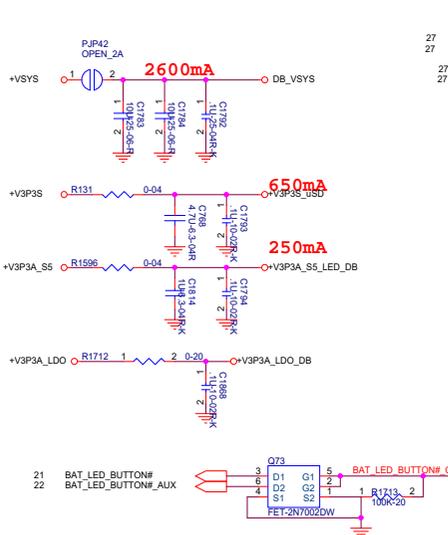
Hole/Screw



I/O D/B Connector

I/O D/B Table

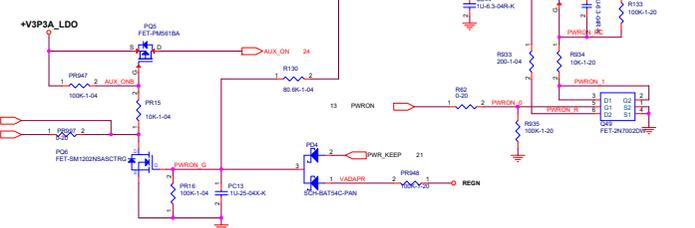
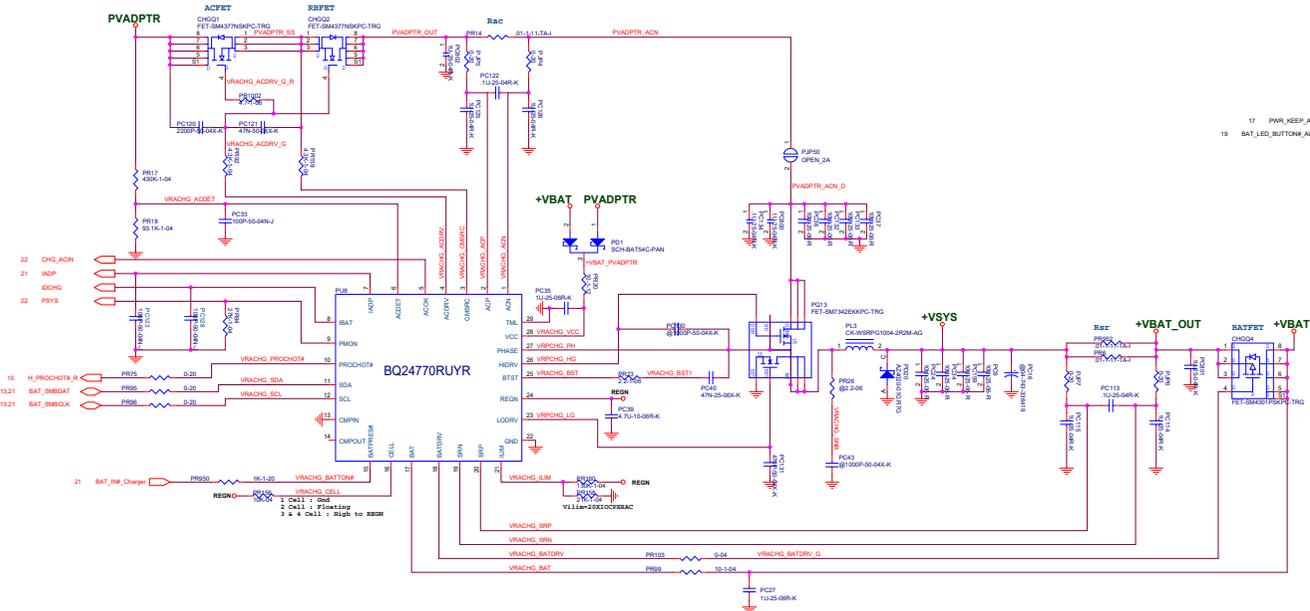
Pin ?	USB 3.0 Type-A x 2
Pin ?	USB 2.0 uSD Card Reader
Pin ?	Bat LED
Pin ?	Power Button/Button VCC
Pin ?	Fan Controller



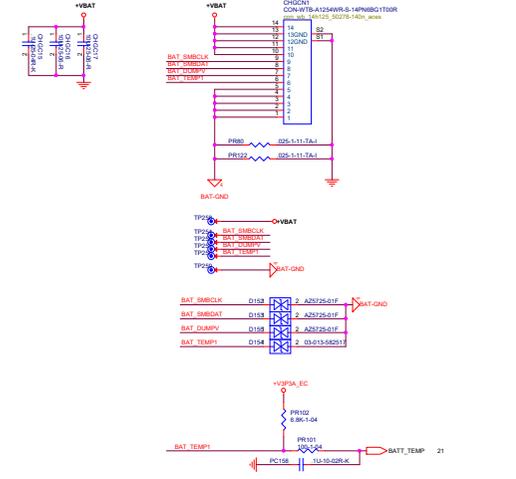
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NU50			
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C	DB IO+Fan/KB BL/HOLE	C	
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DC-In/Charger (BQ24770)

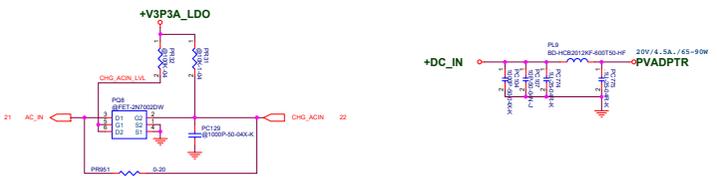
AUX_ON



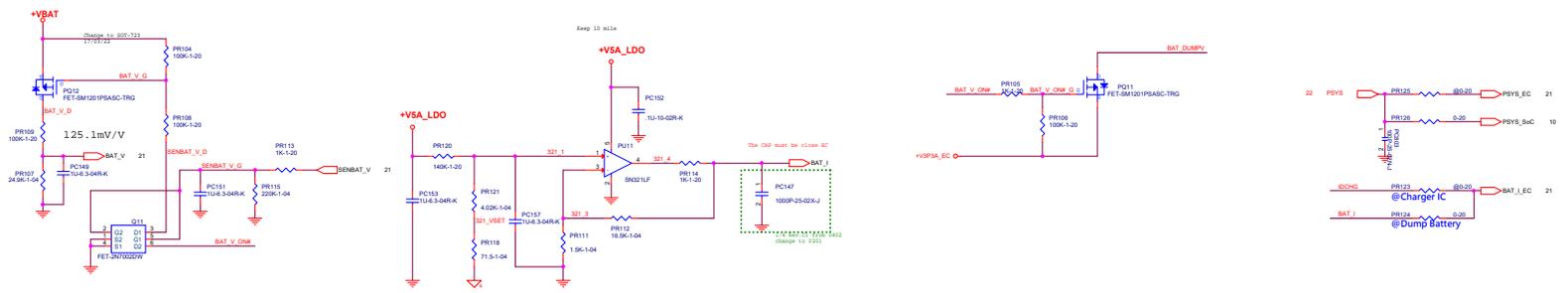
Battery Connector



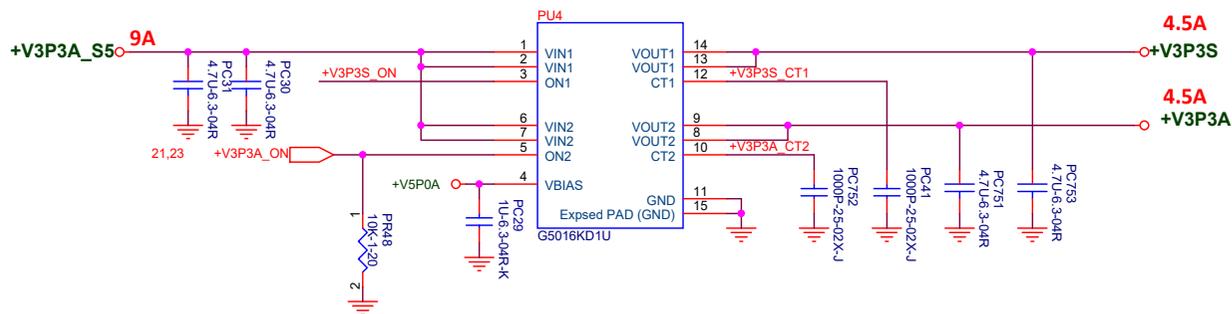
ACIn Level Shift



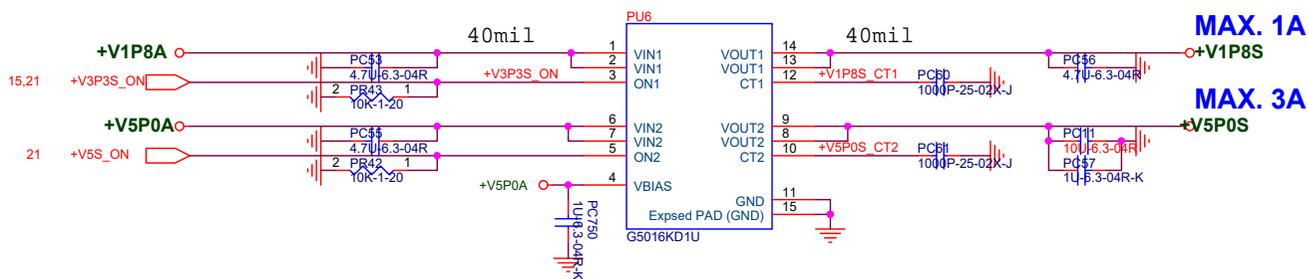
Charge / Discharge Detect



+V3P3A / +V3P3S



+V5P0S / +V1P8S



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Title NU50			
Size B	Document Number +V3P3A/+V3P3S/+V5P0S/+V1P8S		Rev
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LAN Power

