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Generate Bill of Materials

Header:

Item\tPart\tDescription\tPCB Footprint\tReference\tQuantity\tOption

Combined property string:

{Item}\t{Value}\t{Description}\t{PCB Footprint}\t{Reference}\t{Quantity}\t{Option}

Description

Note

Option

Notes

NOTE 1:
Component parameter description
1. DNP stands for component not mounted temporarily
2. If Value or option is DNP, which means the area is reserved without being mounted

NOTE 2:
Please use our recommended components to avoid too many changes.
For more informations about the second source,please refer to our AVL.

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Size: A3	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: Index_and_Notes	
Date: Friday, December 31, 2021	Sheet 01 of 20	

Revision History

Version	Date	By	Change Dsecription	Approved
V1.0	2021-10			
V1.1	2021-12			

Size: A4	Title: ROCK3 Compute Module IO Board	REV V1.1
	Page Name: Revision_History	
Date: Friday, December 31, 2021	Sheet 02 of 20	

Gong Le Ref Block Diagram

1.Red fonts are unique to ROCK 3 Compute Module circuits.

POWER IN

12V_DC IN

12V_OUT
5V_OUT
4 PIN

DCDC
12V TO 5V

FAN_12V
4 PIN

RTC

RJ-45

Micro
TF Card

CHARGE
BAT_3.7V

LCD_EDP

LCD_MIPI_0

USB3.0_HOST1
USB SOCKET

USB3.0
Switch

SATA 1

USB2.0 HOST2
USB SOCKET

USB2.0 HOST3
CON

Phone
MIC
SPK

connector 3

1. I/O
2. 4 Lane ---- EDP
3. Phone MIC SPK
4. USB2.0_HOST------2 Path
5. USB3.0_HOST------1Path
6. 2 Lane ---- MIPI_DSI_TX0/LVDS_TX0

connector 1

1. on-board Ethernet
2. SDMMC_TF CARD
3. 5V SYS IN
4. I/O

connector 2

1. USB3.0_OTG0_DP,DM
2. on-board HDMI
3. 2 Lane ---- PCIE20
4. 4 Lane ---- MIPI_CSI_RX
5. 4 Lane ---- MIPI_DSI_TX1
6. 2 Lane ---- MIPI_DSI_TX0/LVDS_TX0

USB2.0
Switch

USB_HUB

USB2.0_1_USB SOCKET

USB2.0_2_USB SOCKET

USB2.0_3_CON

USB2.0_4_CON

MICRO USB
OTG

SATA 2

PCIEx1
36PIN

USB3.0
Switch

LCD_MIPI_0

MIPI CSI RX
2x2 Lane

HDMI2.0 TX

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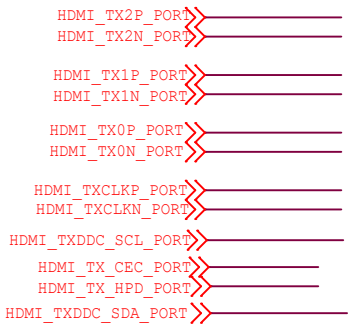
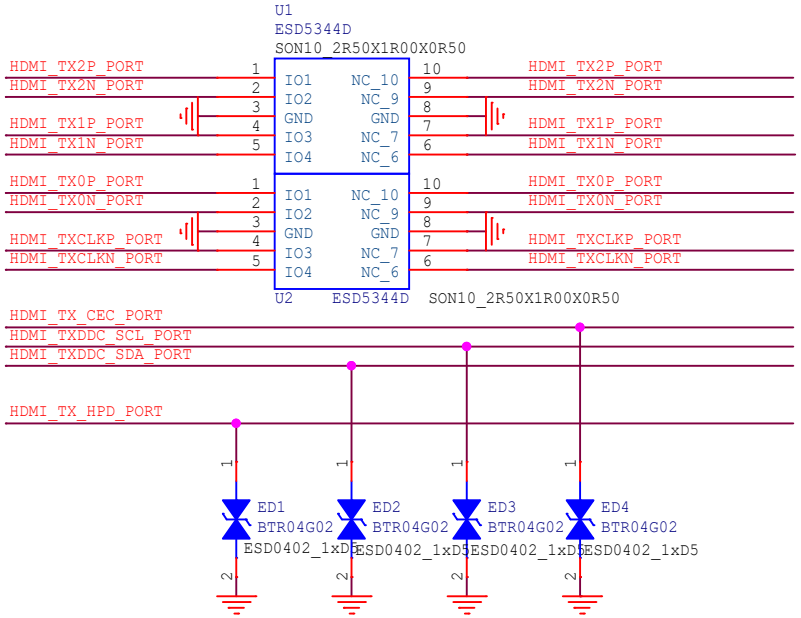
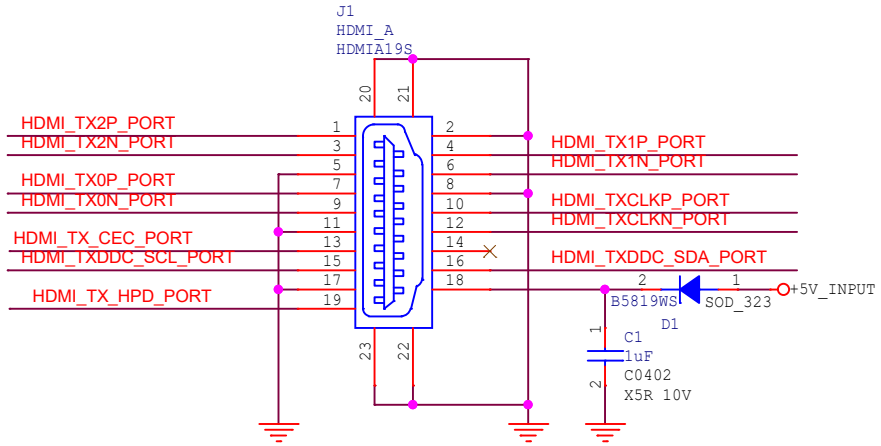
Size: Custom	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: Block_Diagram	
Date: Friday, December 31, 2021	Sheet 03 of 20	

HDMI2.0 TX

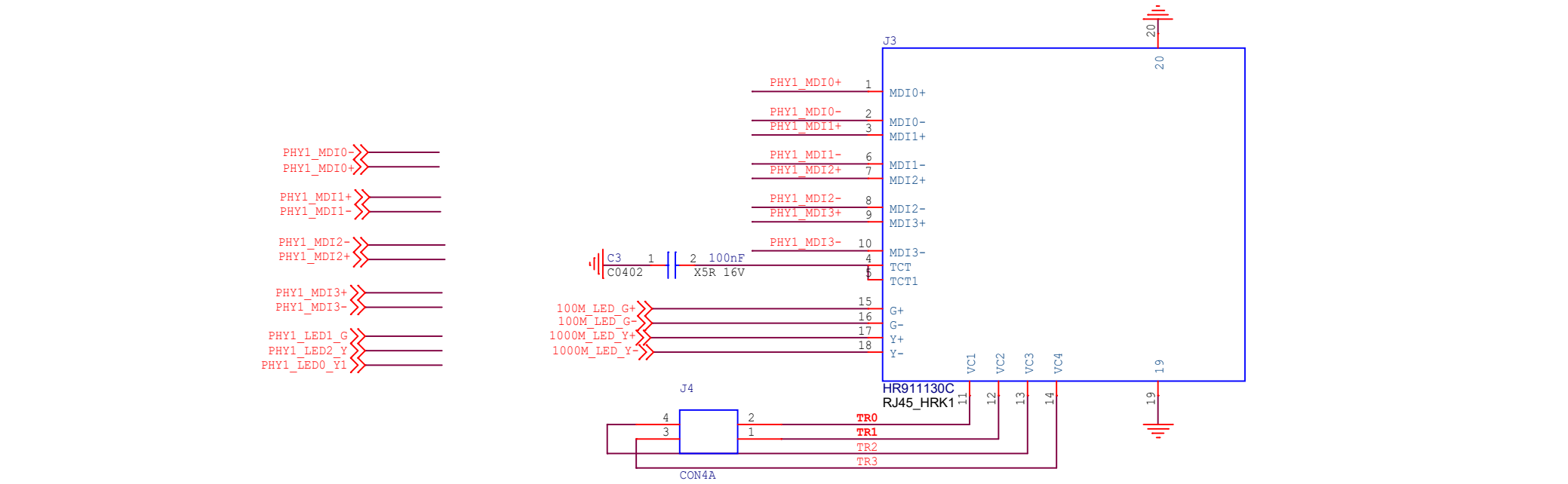
Cj<=0.4pF

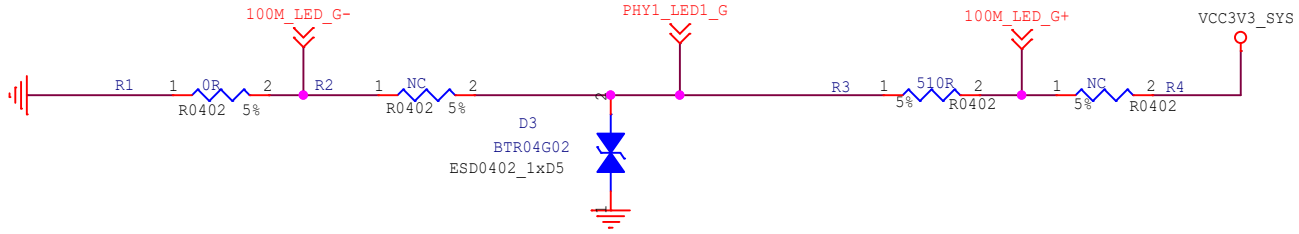


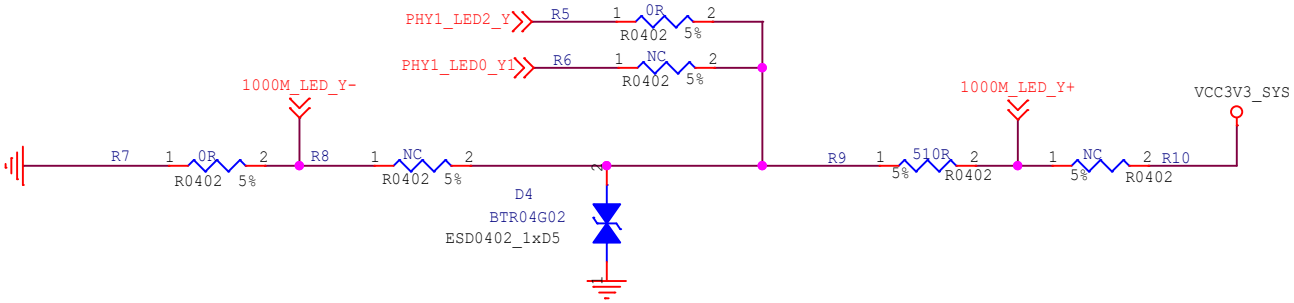


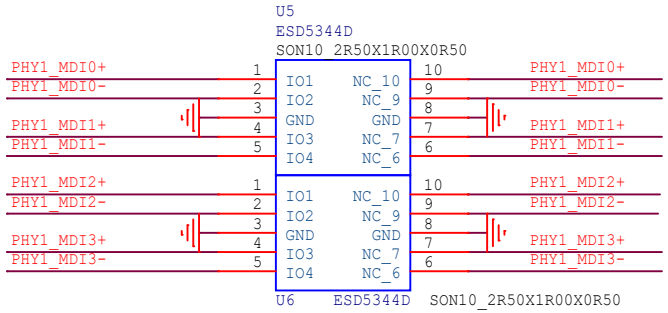


Size A4	Title: ROCK3 Compute Module IO Board	REV V1.1
	Page Name: HDMI0 OUT	
Date: Friday, December 31, 2021	Sheet 04 of 20	



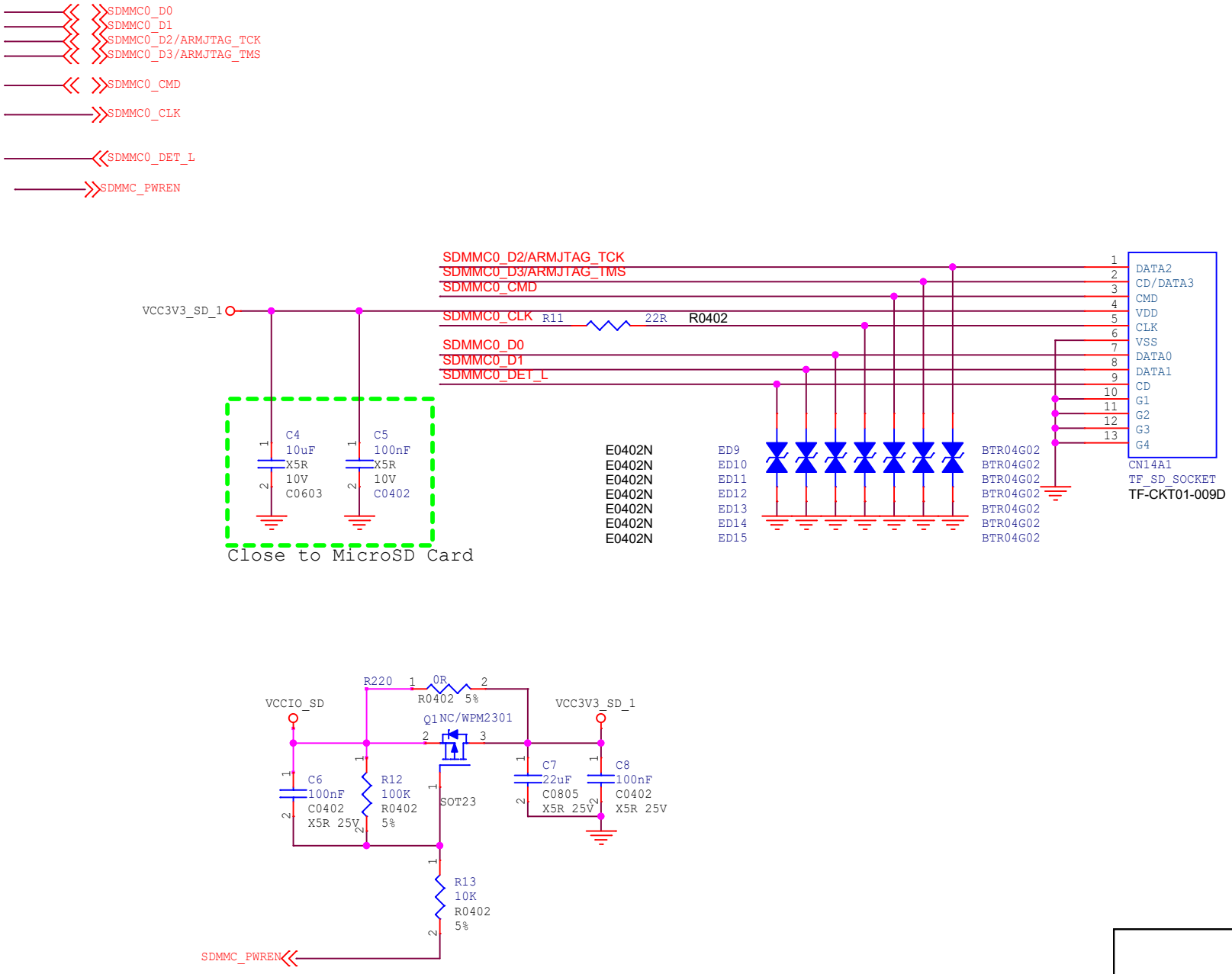




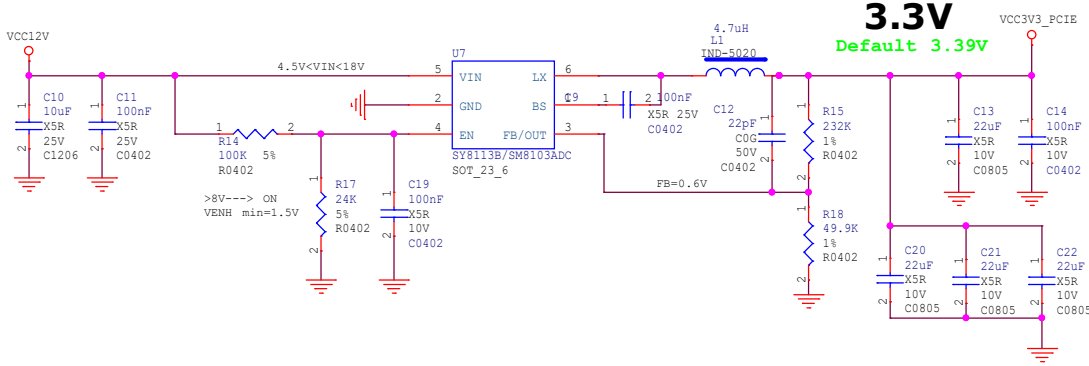


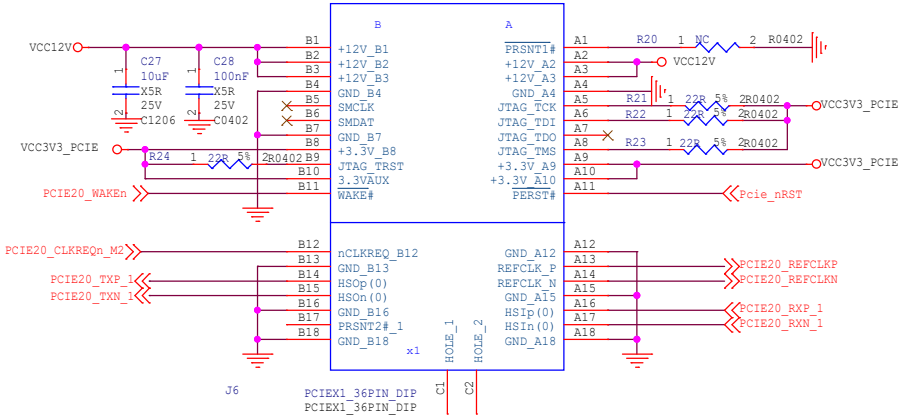
Size A4	Title: ROCK3 Compute Module IO Board	REV V1.1
	Page Name: Ethernet	
Date: Friday, December 31, 2021	Sheet 05 of 20	

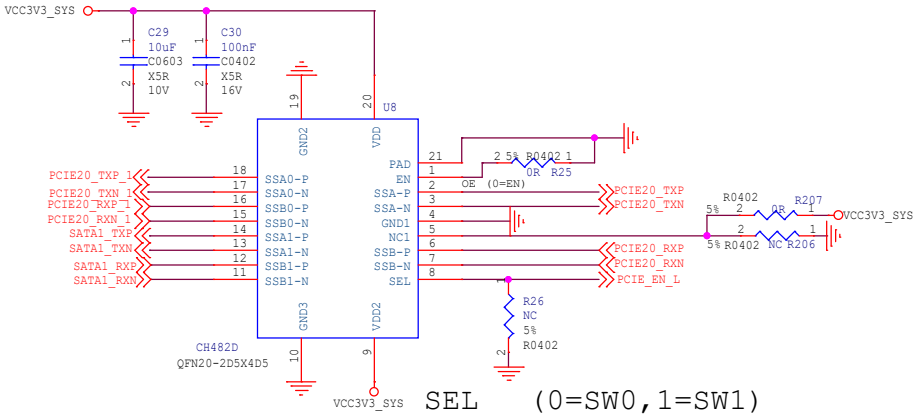
MicroSD Card



Size A4	Title: ROCK3 Compute Module IO Board		REV V1.1
	Page Name: MicroSD Card		
Date: Friday, December 31, 2021	Sheet 06 of 20		



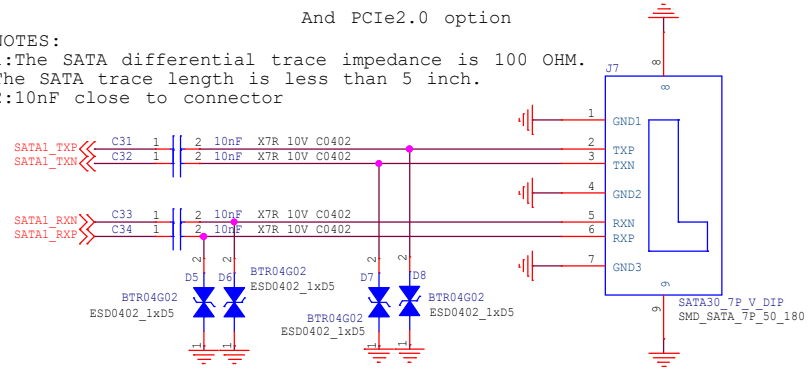


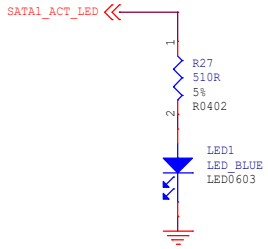


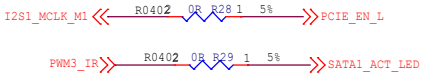
SATA3.0 Port2

And PCIe2.0 option

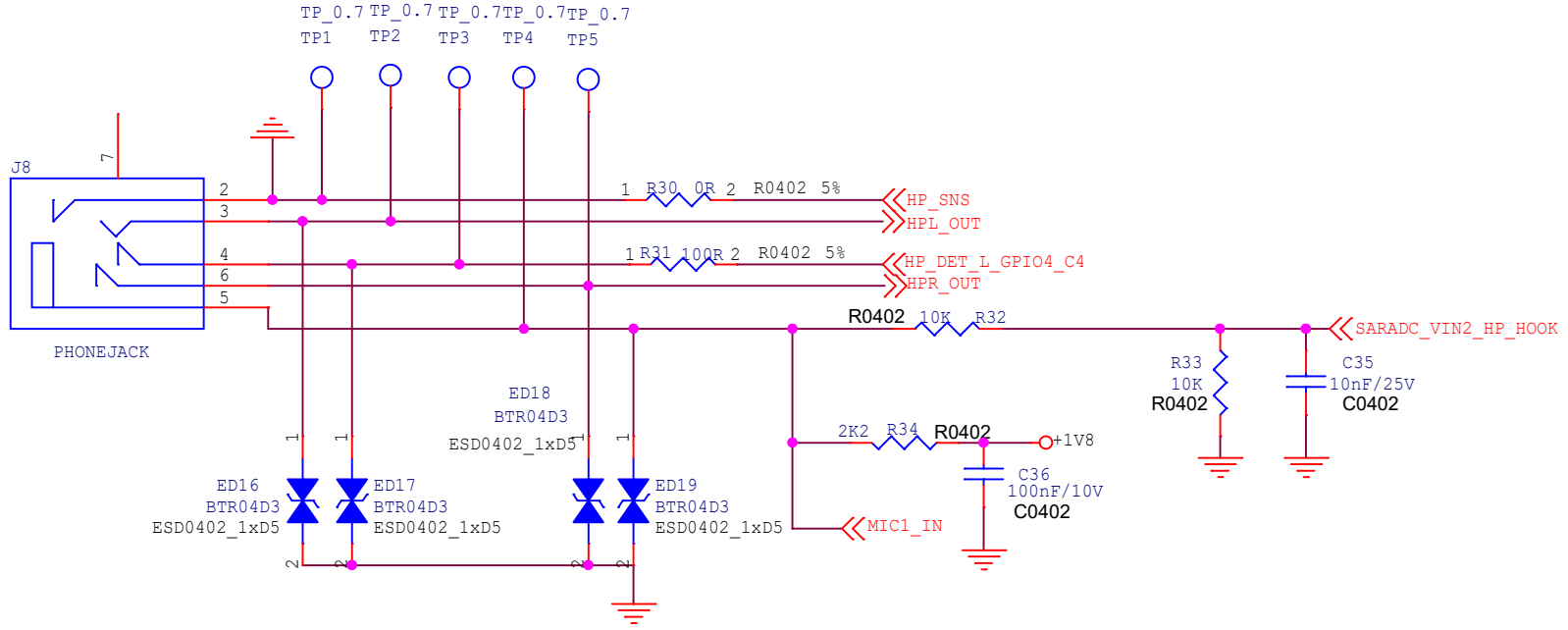
NOTES:
1:The SATA differential trace impedance is 100 OHM.
The SATA trace length is less than 5 inch.
2:10nF close to connector

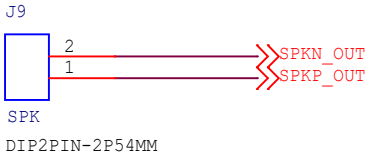


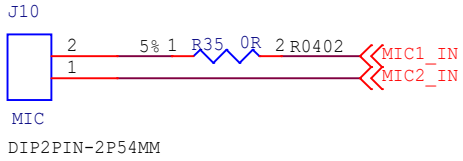




Size B	Title: ROCK3 Compute Module IO Board		REV V1.1
	Page Name: PCIE2.0		
Date: Friday, December 31, 2021	Sheet 07 of 20		

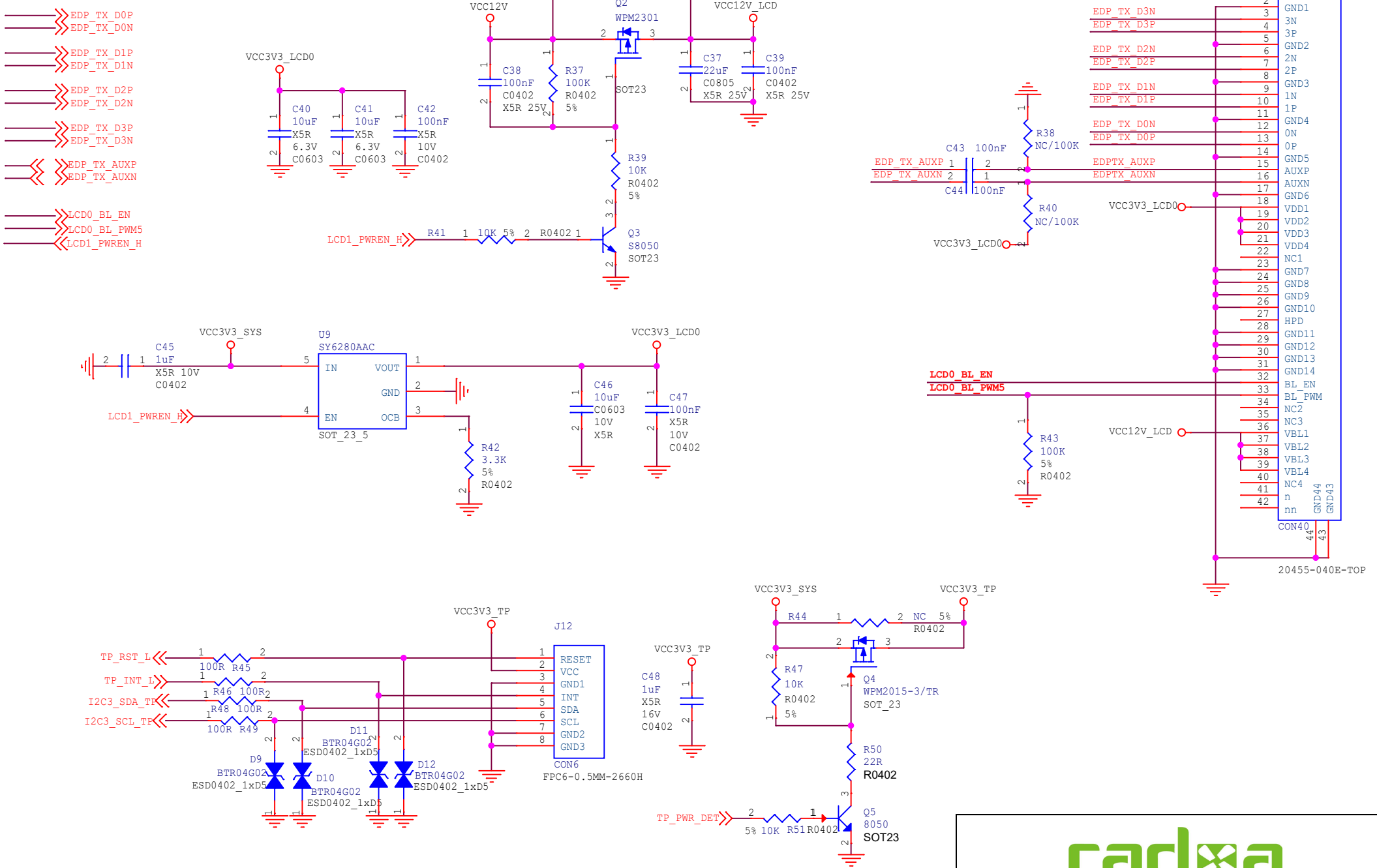






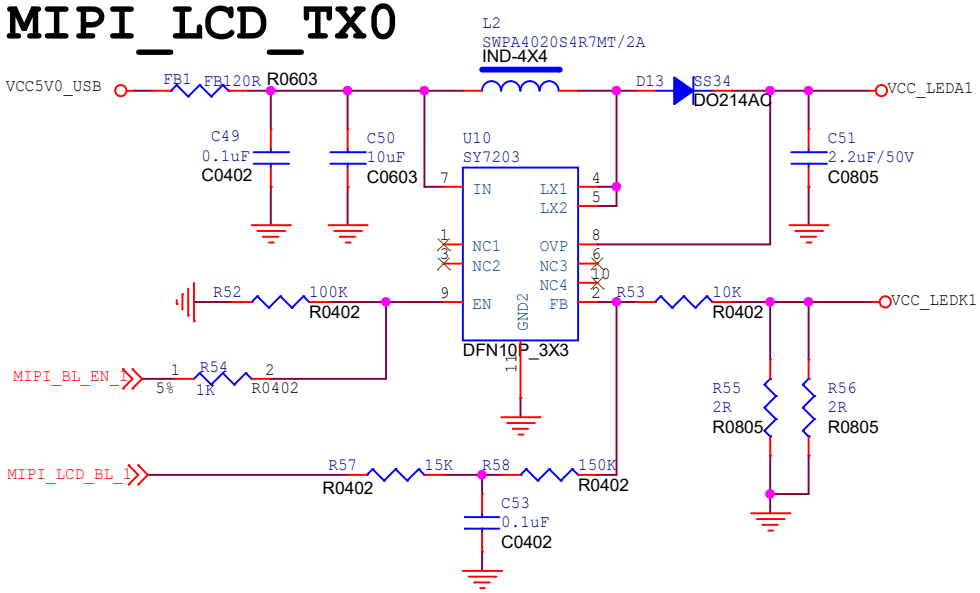
Size A	Title: ROCK3 Compute Module IO Board	REV V1.1
	Page Name: AUDIO	
Date: Friday, December 31, 2021	Sheet 08 of 20	

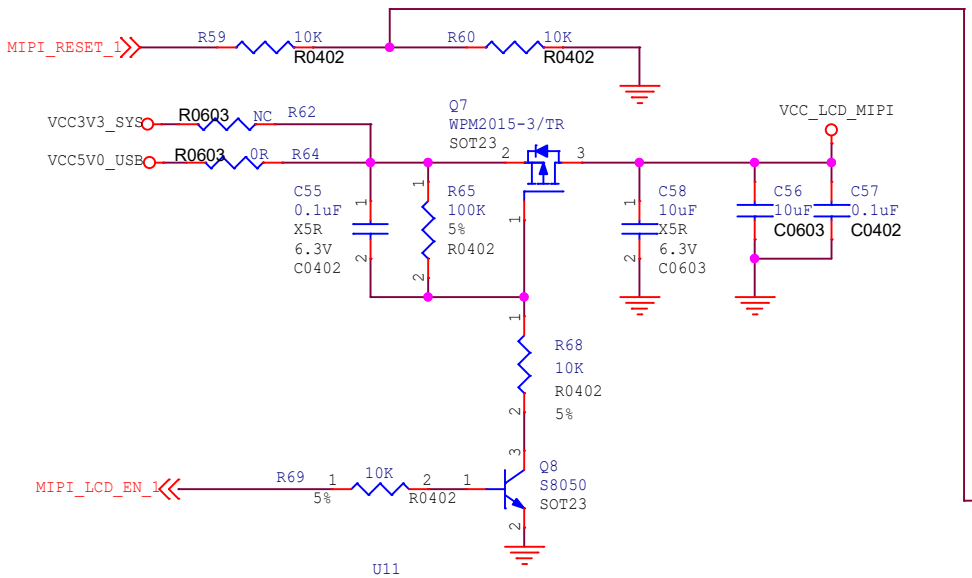
Single-eDP LCM

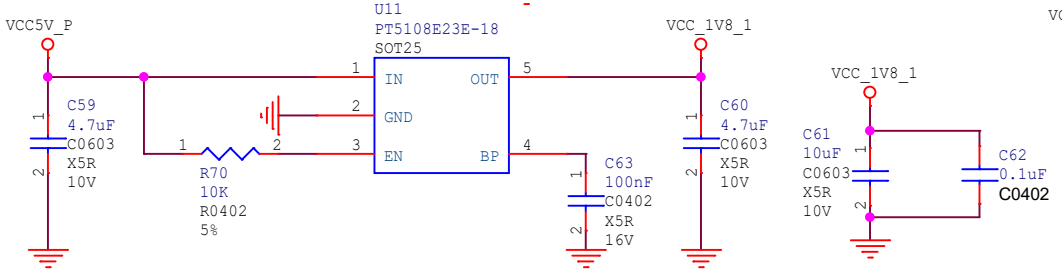


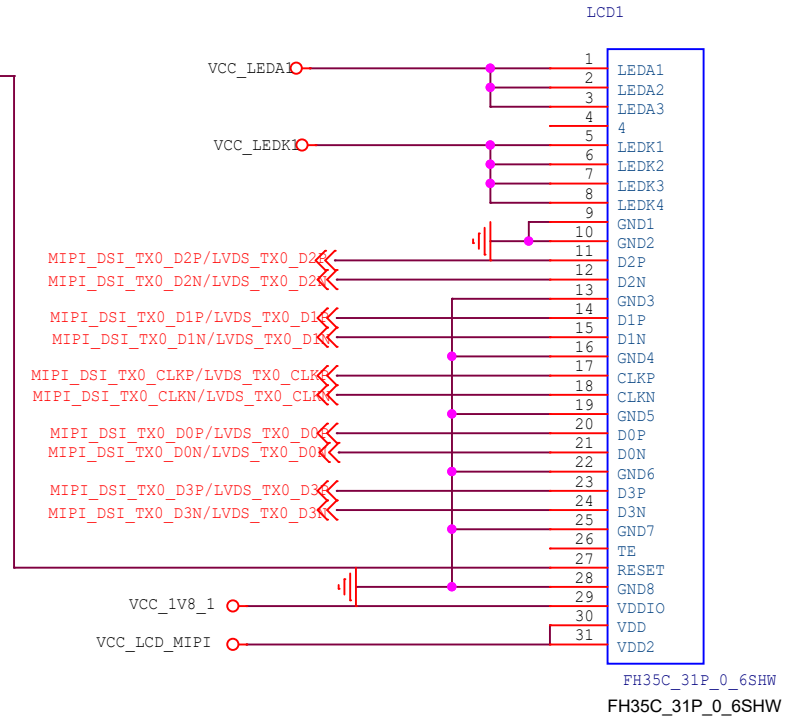
Size: A4	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: LCD_eDP TX	
Date: Friday, December 31, 2021	Sheet 09 of 20	

MIPI_LCD_TX0









FH35C_31P_0_6SHW

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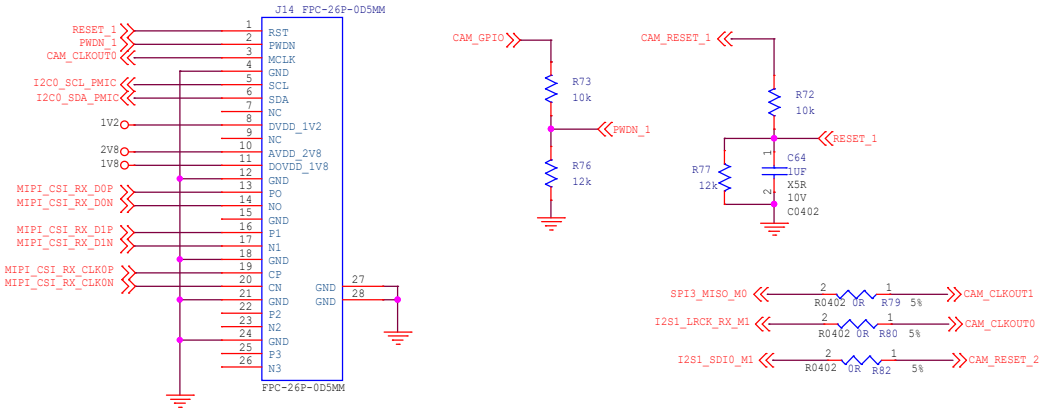
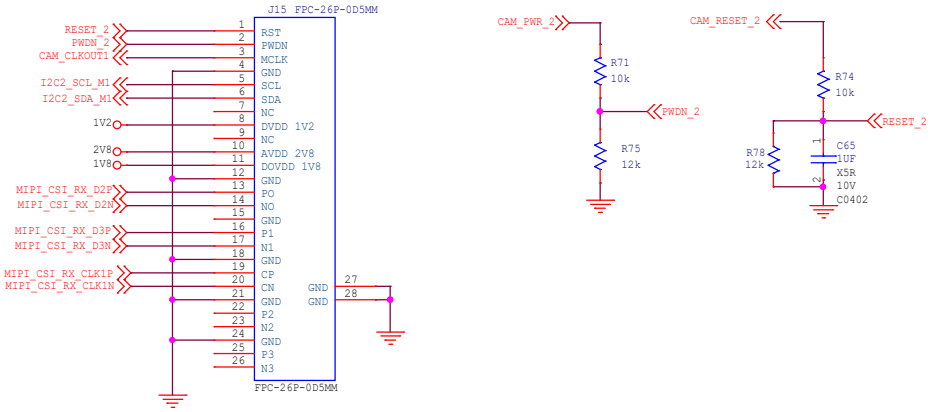
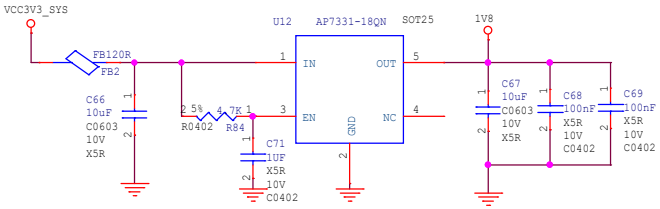
Size	Title:	REV
A4	ROCK3 Compute Module IO Board	V1.1
	Page Name: MIPI_LCD_TX0	
Date: Friday, December 31, 2021	Sheet 10 of 20	

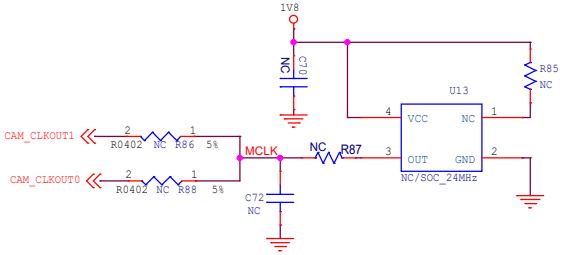
MIPI_CSI_RX 2Lanes

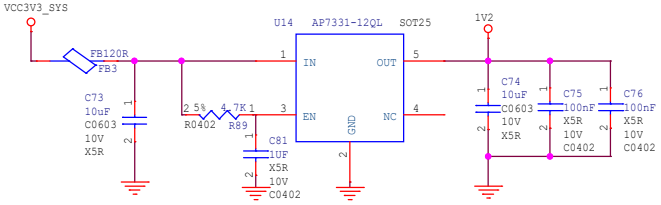


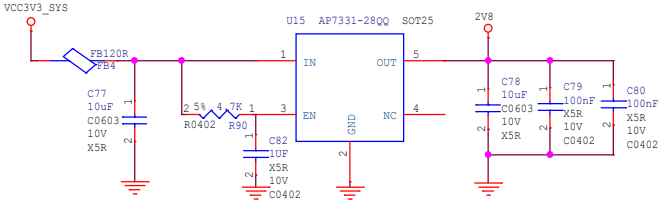
MIPI_CSI_RX 2Lanes











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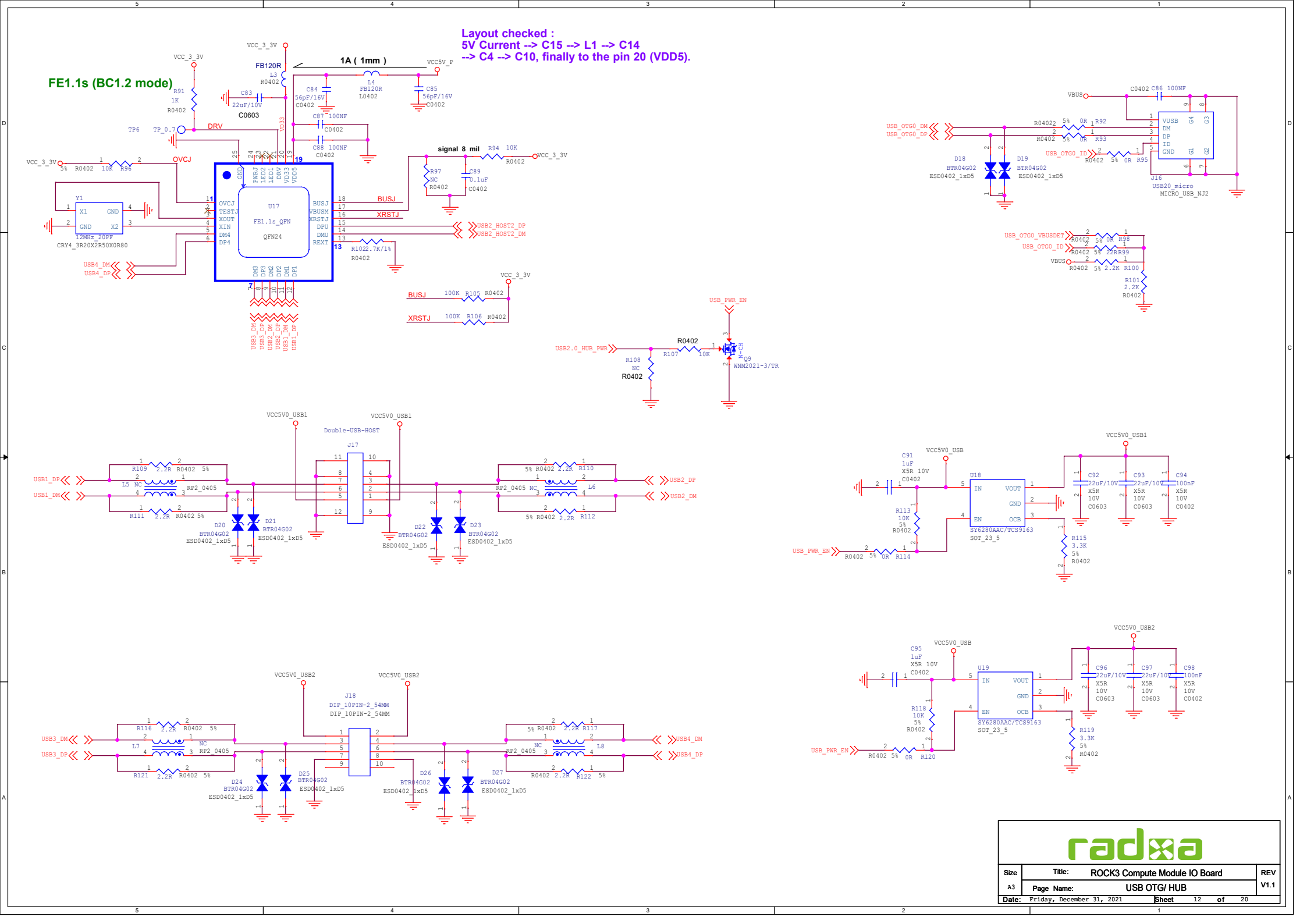
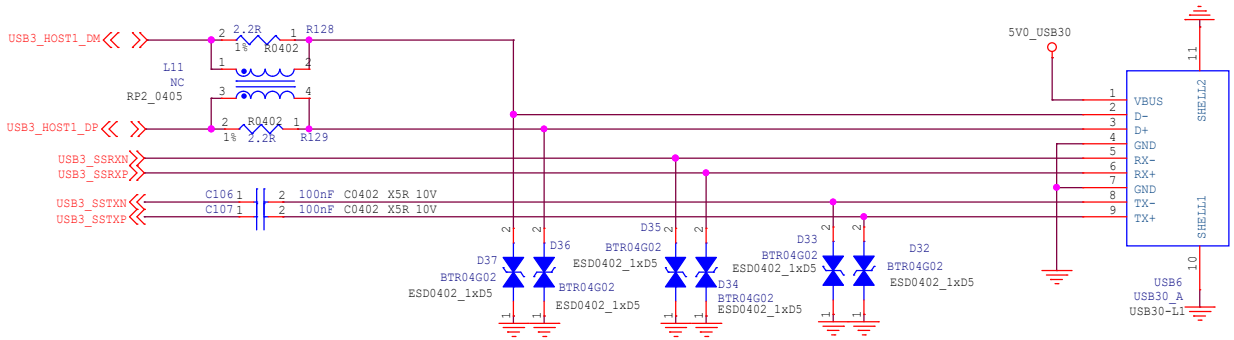
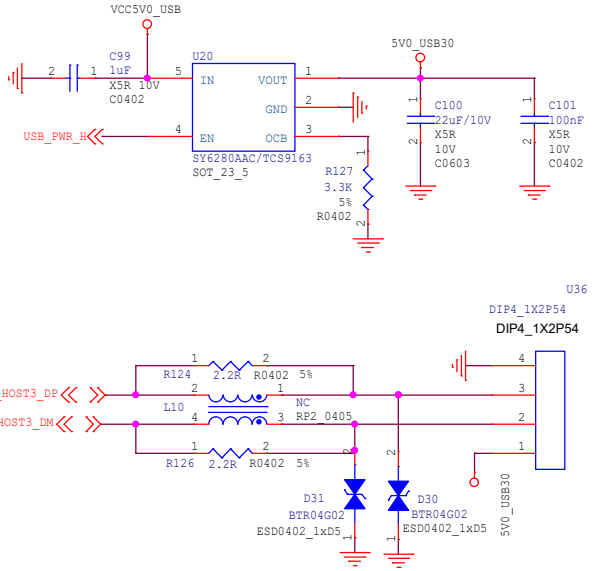
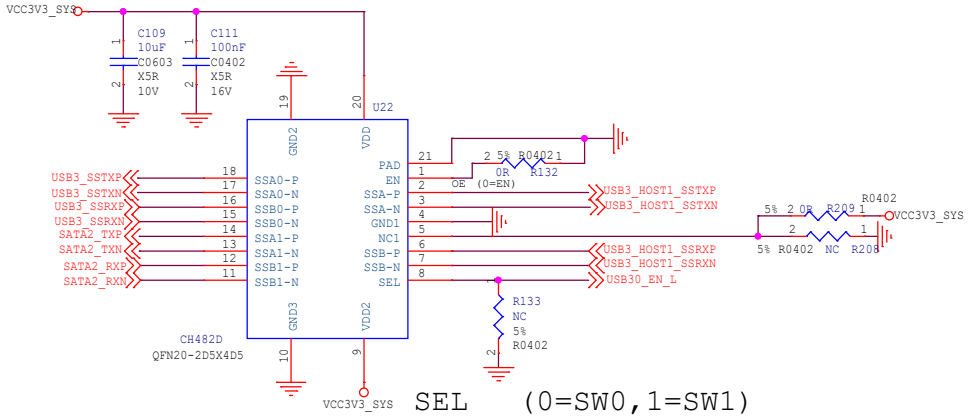
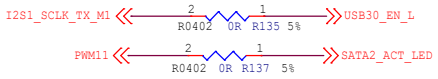
Size	Title:	REV
A3	ROCK3 Compute Module IO Board	V1.1
	Page Name: MIPI_CSI_RX	
Date: Friday, December 31, 2021	Sheet 11 of 20	


Layout checked :
5V Current --> C15 --> L1 --> C14
--> C4 --> C10, finally to the pin 20 (VDD5).
FE1.1s (BC1.2 mode)
VCC_3_3V
FB120R
1A (1mm)
VCC5V_P
L3
R0402
L4
FB120R
L0402
C83
22uF/10V
C0603
C84
56pF/16V
C0402
C85
56pF/16V
C0402
C87 100NF
C0402
C88 100NF
C0402
R91
1K
R0402
TP6
TP_0.7
DRV
OVCJ
R96 10K
R0402
Y1
12MHz_20PF
CRY4_3R20X2R50X0R80
U17
FE1.1s_QFN
QFN24
BUSJ
XRSTJ
USB2_HOST2_DP
USB2_HOST2_DM
R1022.7K/1%
R0402
USB4_DM
USB4_DP
signal 8 mil
R94 10K
R0402
R97
NC
R0402
C89
0.1uF
C0402
BUSJ
100K R105 R0402
XRSTJ
100K R106 R0402
USB_PWR_EN
USB2.0_HUB_PWR
R108
NC
R0402
R107
10K
R0402
Q9
WNM2021-3/TR
VCC5V0_USB1
Double-USB-HOST
J17
USB1_DP
USB1_DM
R109 2.2R R0402 5%
R111 2.2R R0402 5%
RP2_0405
L5 NC
D20
BTR04G02
ESD0402_1xD5
D21
BTR04G02
ESD0402_1xD5
D22
BTR04G02
ESD0402_1xD5
D23
BTR04G02
ESD0402_1xD5
R110 2.2R R0402 5%
R112 2.2R R0402 5%
L6
USB2_DP
USB2_DM
VCC5V0_USB2
J18
DIP_10PIN-2_54MM
USB3_DP
USB3_DM
R116 2.2R R0402 5%
R121 2.2R R0402 5%
RP2_0405
L7 NC
D24
BTR04G02
ESD0402_1xD5
D25
BTR04G02
ESD0402_1xD5
D26
BTR04G02
ESD0402_1xD5
D27
BTR04G02
ESD0402_1xD5
R117 2.2R R0402 5%
R122 2.2R R0402 5%
L8
USB4_DP
USB4_DM
VBUS
C0402 C86 100NF
USB_OTG0_DM
USB_OTG0_DP
R04022 5% 0R R92
R0402 5% 0R R93
USB_OTG0_ID
R0402 5% 0R R95
D18
BTR04G02
ESD0402_1xD5
D19
BTR04G02
ESD0402_1xD5
VUSB
DM
DP
ID
GND
J16
USB20_micro
MICRO_USB_NJ2
USB_OTG0_VBUSDET
R0402 5% 0R R98
USB_OTG0_ID
R0402 5% 22R R99
VBUS
R0402 5% 2.2K R100
R101
2.2K
R0402
C91
1uF
X5R 10V
C0402
U18
SY6280AAC/TCS9163
SOT_23_5
IN
VOUT
GND
EN
OCB
R113
10K
5%
R0402
R114
R0402 5% 0R
C92
22uF/10V
X5R
10V
C0603
C93
22uF/10V
X5R
10V
C0603
C94
100nF
X5R
10V
C0402
R115
3.3K
5%
R0402
C95
1uF
X5R 10V
C0402
U19
SY6280AAC/TCS9163
SOT_23_5
R118
10K
5%
R0402
R120
R0402 5% 0R
C96
22uF/10V
X5R
10V
C0603
C97
22uF/10V
X5R
10V
C0603
C98
100nF
X5R
10V
C0402
R119
3.3K
5%
R0402
radxa
Size
A3
Title: ROCK3 Compute Module IO Board
REV
V1.1
Page Name: USB OTG/ HUB
Date: Friday, December 31, 2021
Sheet 12 of 20



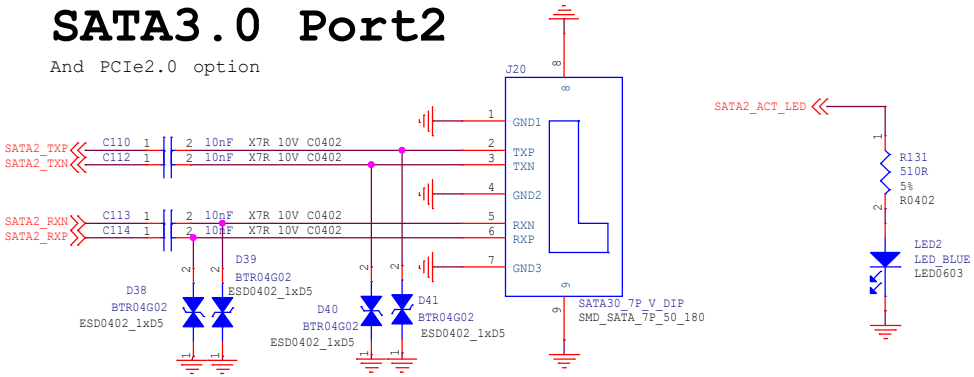






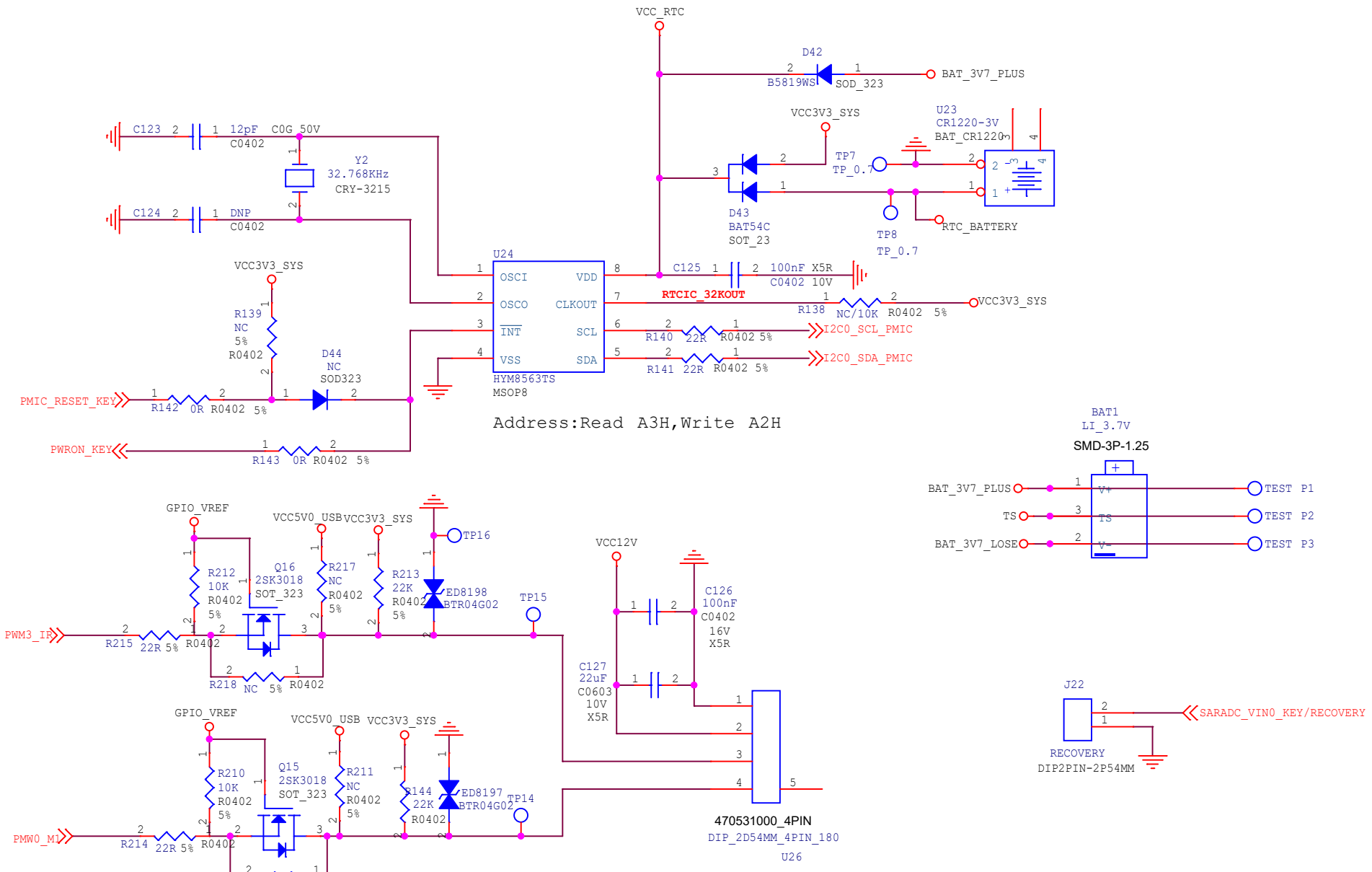
SATA3.0 Port2

And PCIe2.0 option



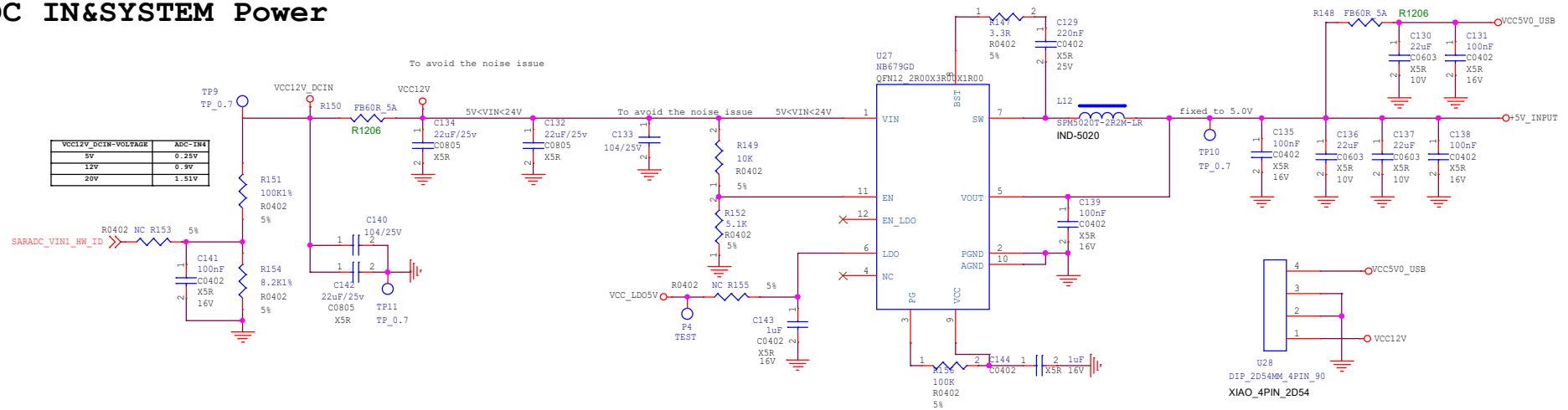
NOTES:
1:The SATA differential trace impedance is 100 OHM.
The SATA trace length is less than 5 inch.
2:10nF close to connector

Size B	Title: ROCK3 Compute Module IO Board		REV V1.1
	Page Name: USB HOST		
Date: Friday, December 31, 2021	Sheet 13 of 20		



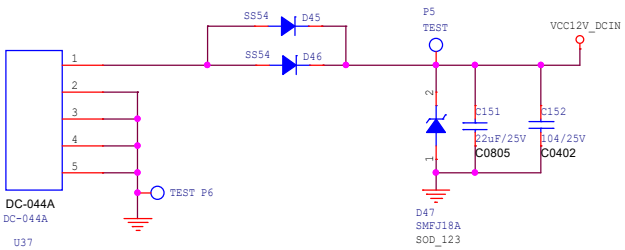
Size: A4	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: FAN_RTC_BAT	
Date: Friday, December 31, 2021	Sheet 14 of 20	

DC IN&SYSTEM Power



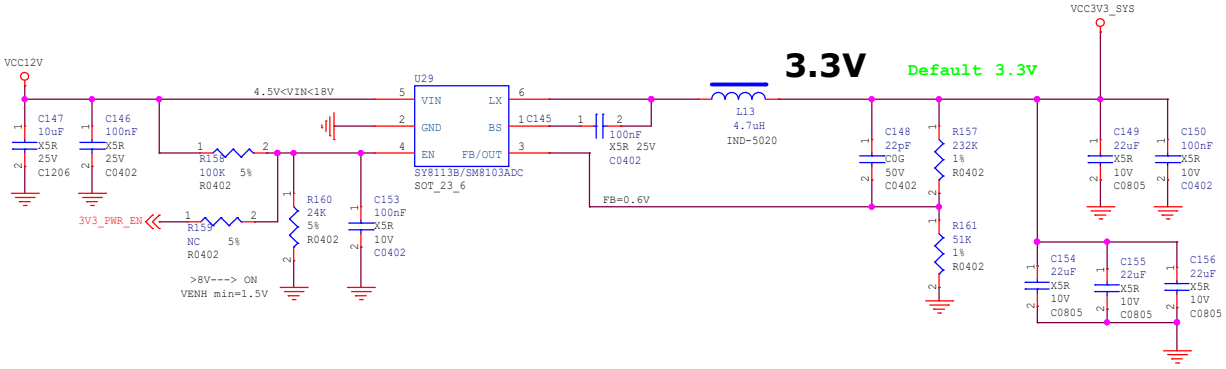
VCC12V_DCIN-VOLTAGE	ADC-IN4
5V	0.25V
12V	0.9V
20V	1.51V

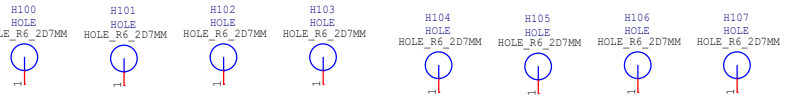
DC12V

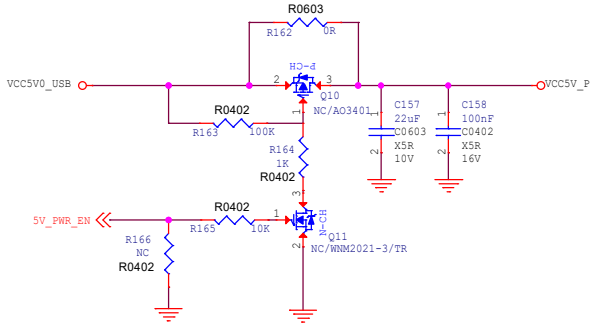


3.3V

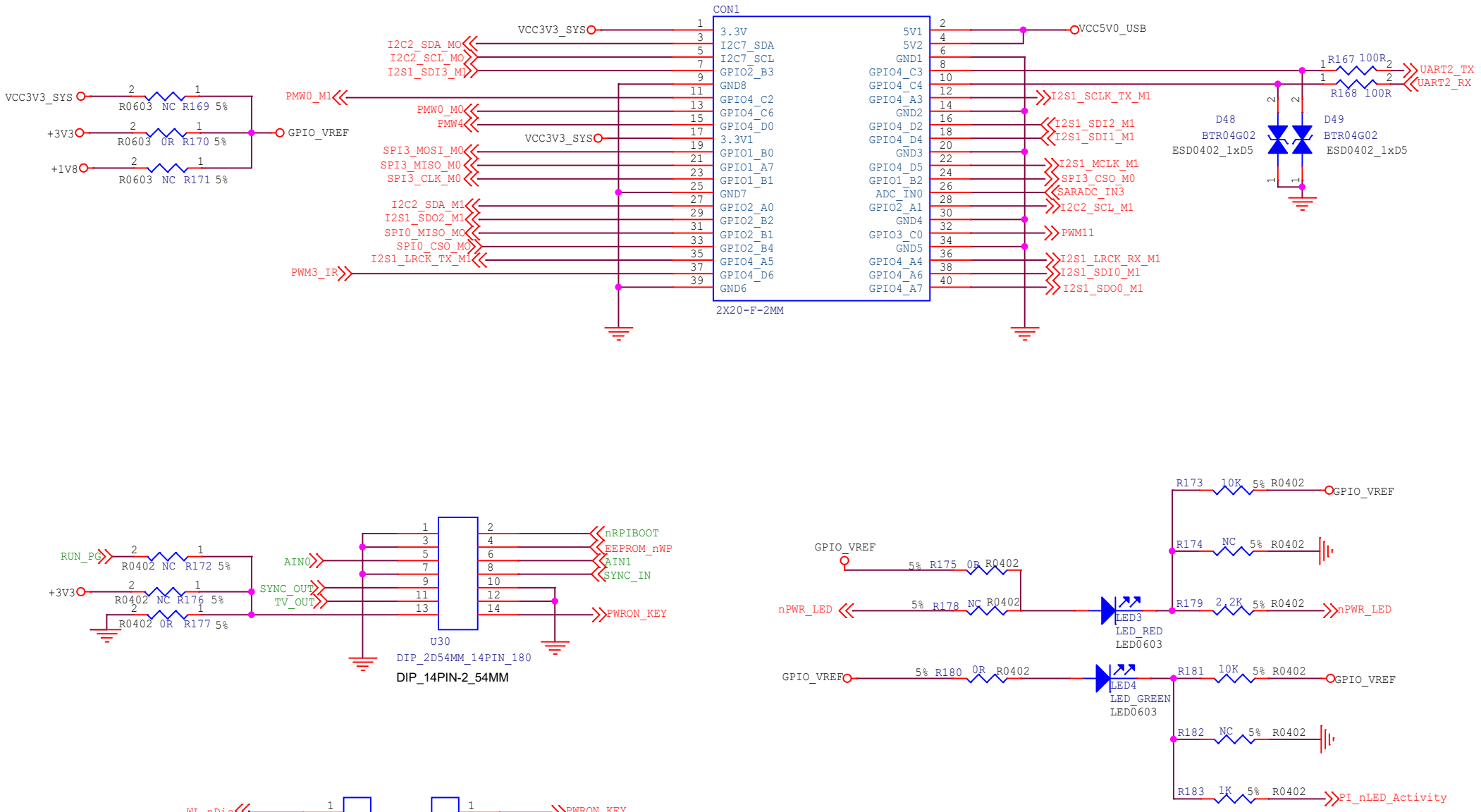
Default 3.3V



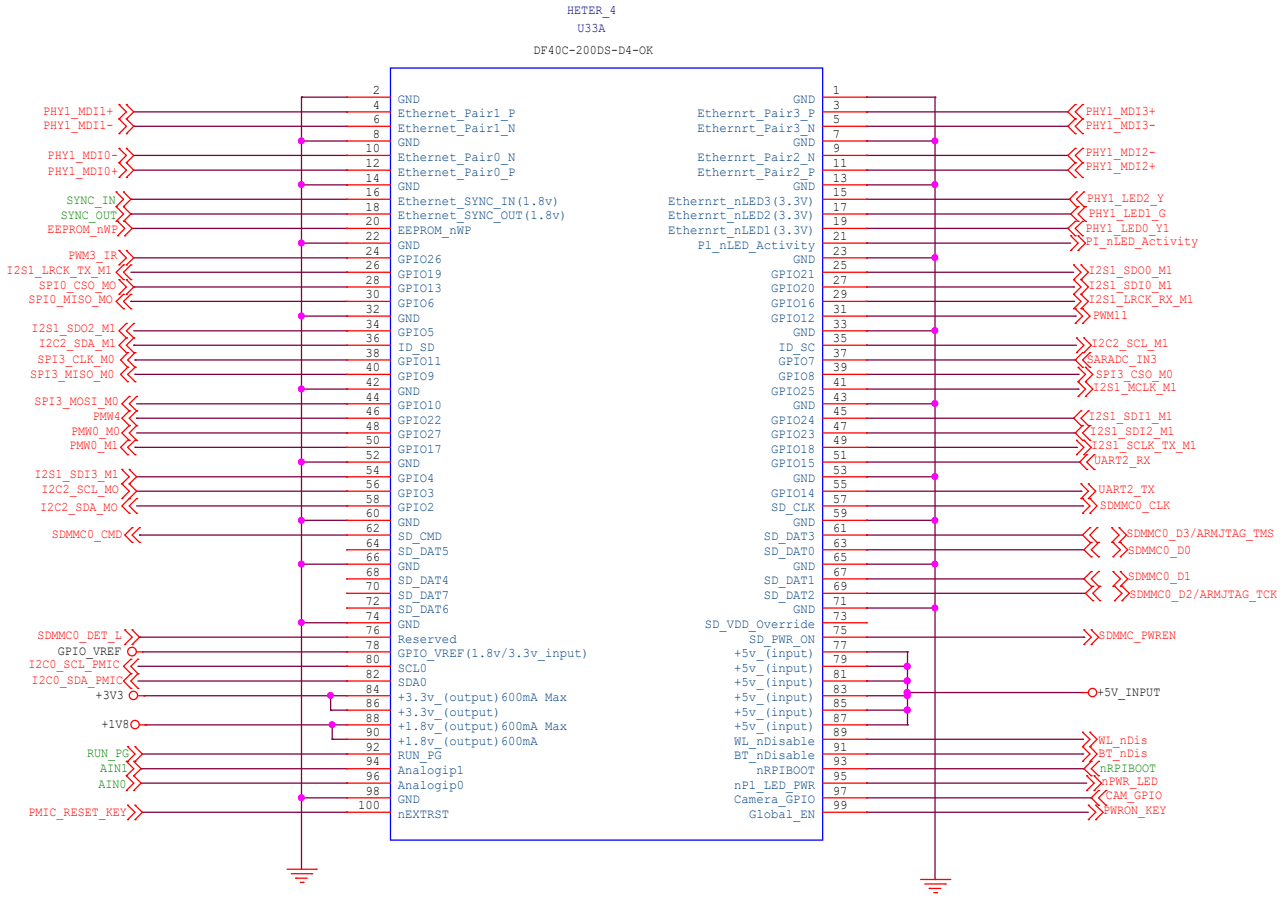




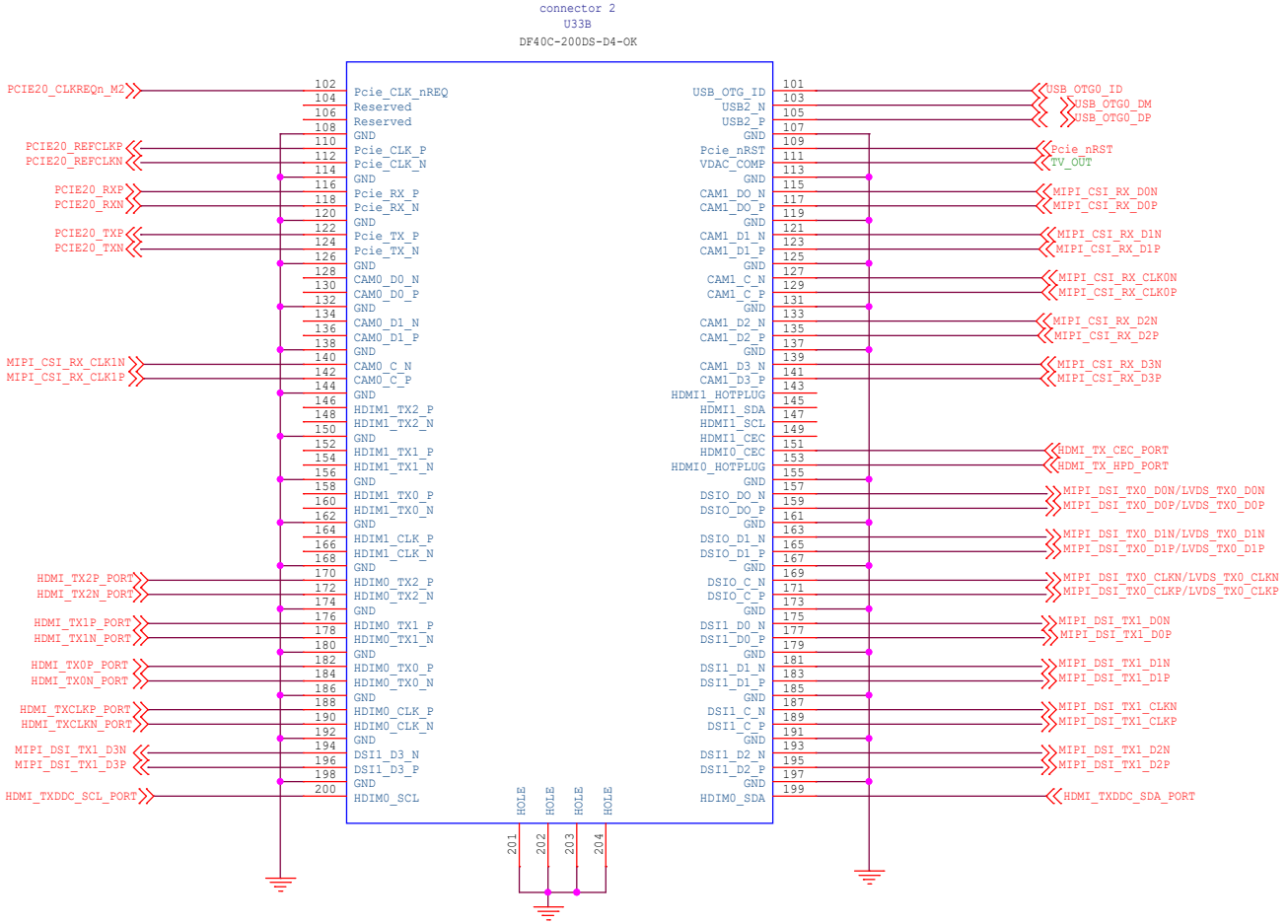
Size: A3	Title: ROCK3 Compute Module IO Board		REV: V1.1
	Page Name: Power-DC IN		
Date: Friday, December 31, 2021	Sheet 15 of 20		



Size A4	Title: ROCK3 Compute Module IO Board	REV V1.1
	Page Name: 40PIN CONNECT	
Date: Friday, December 31, 2021	Sheet 16 of 20	

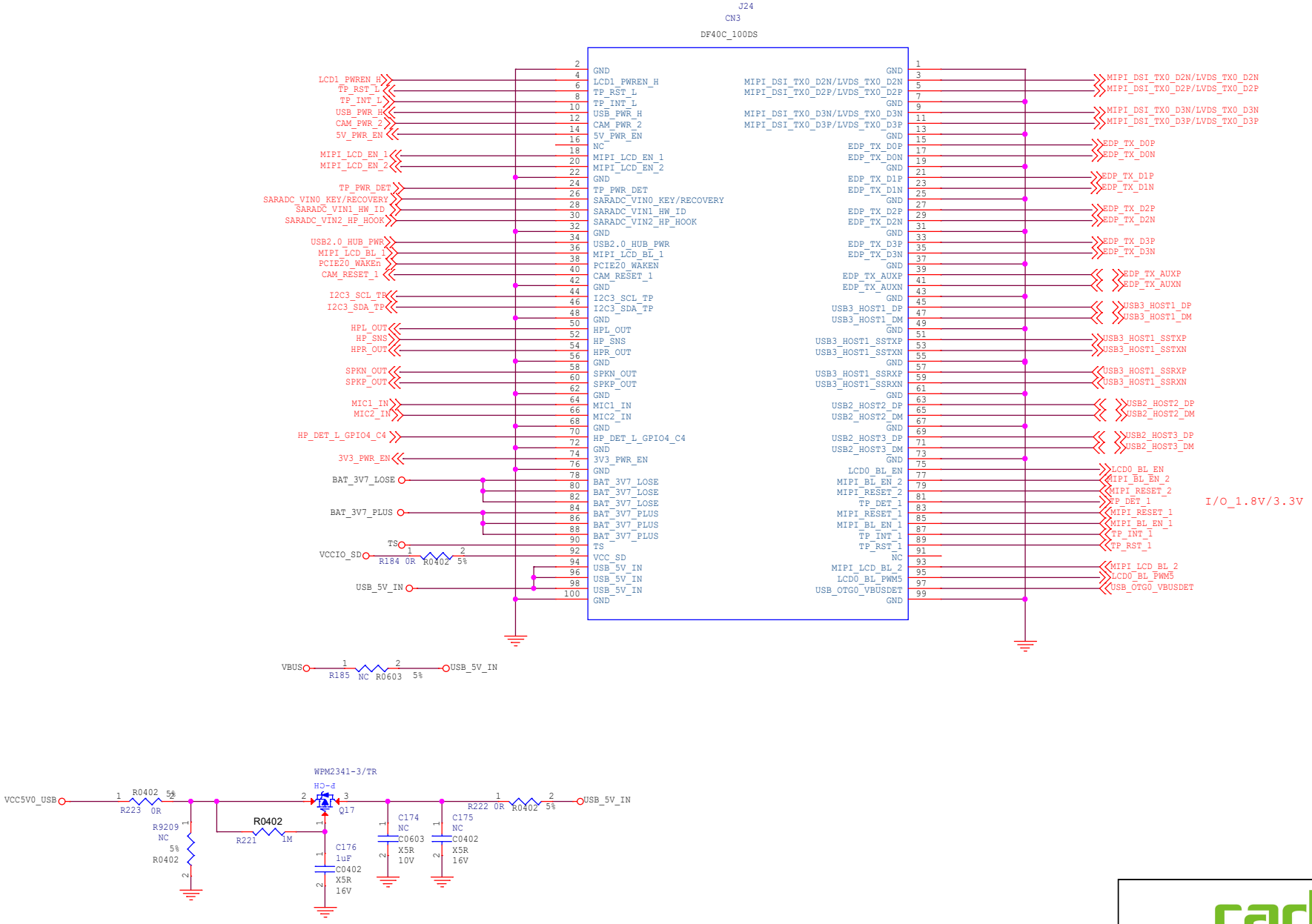


Size: B	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: GPIO+VCC_Connector	
Date: Friday, December 31, 2021	Sheet 17 of 20	



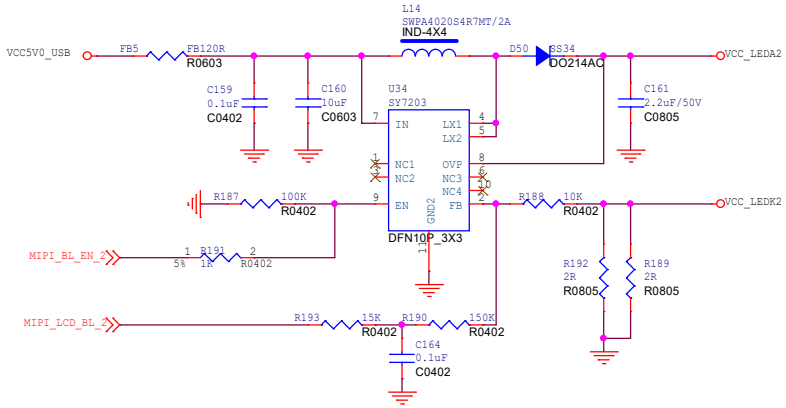
radxa

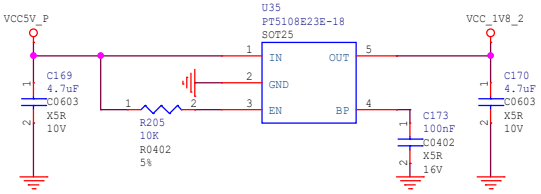
Size	Title:	REV
B	ROCK3 Compute Module IO Board	V1.1
	Page Name: High Speed Serial_Connector	
Date: Friday, December 31, 2021	Sheet 18 of 20	

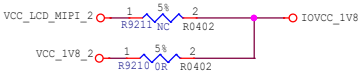


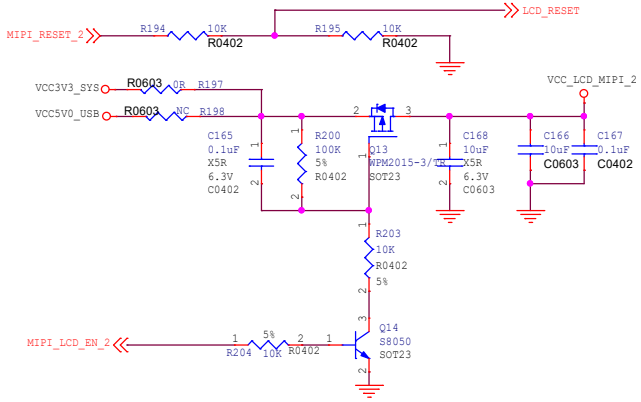
Size: B	Title: ROCK3 Compute Module IO Board	REV: V1.1
	Page Name: IO_Connector	
Date: Friday, December 31, 2021	Sheet 19 of 20	

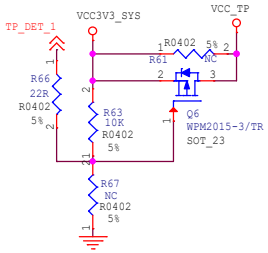
MIPI_LCD_TX1

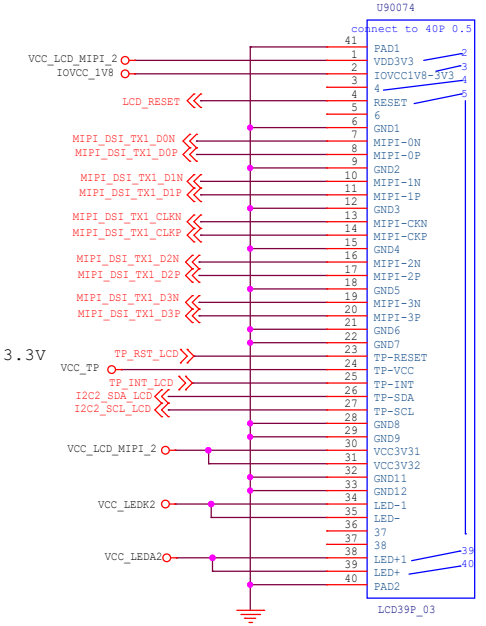


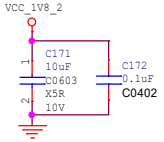




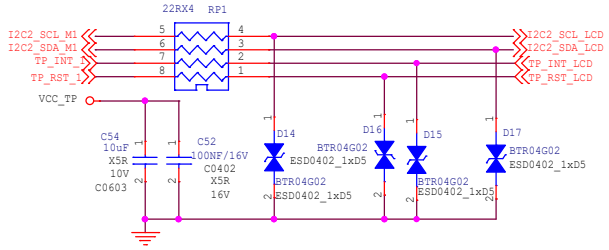








LCD_TP



Size A3	Title: ROCK3 Compute Module IO Board		REV V1.1
	Page Name: MIPI_LCD_TX1		
Date: Friday, December 31, 2021	Sheet 20 of 20		