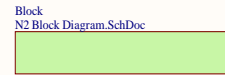
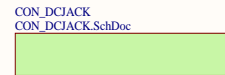
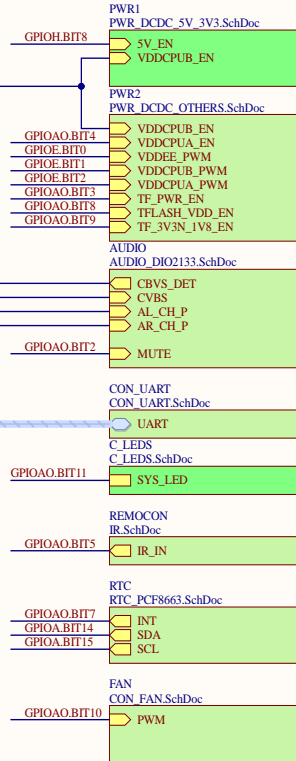
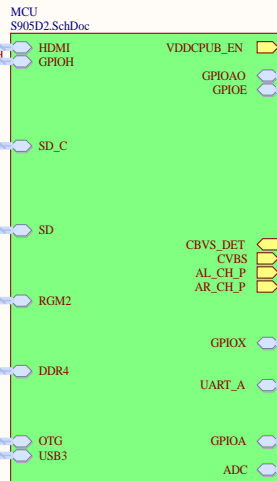
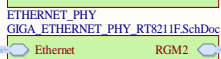


HDMI
GPIOH



SD
eMMC_nDET

GPIOH.BIT7



RGM2



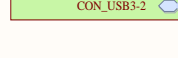
DDR4



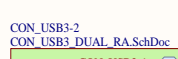
OTG
USB3



GPIOH.BIT6



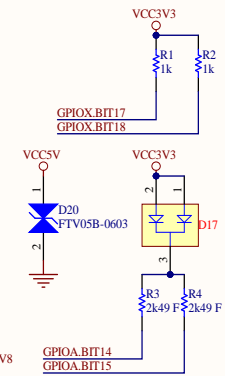
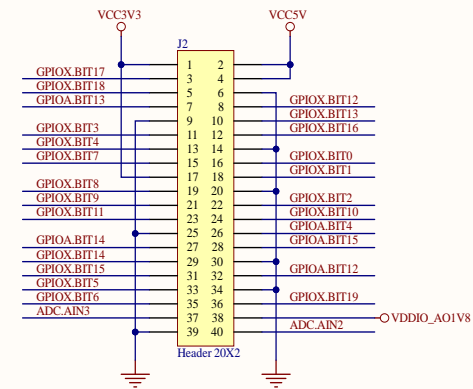
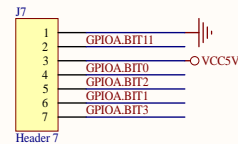
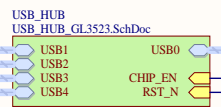
VCC5V



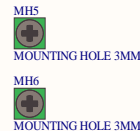
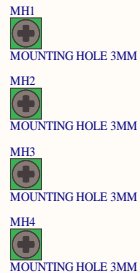
VCC5V

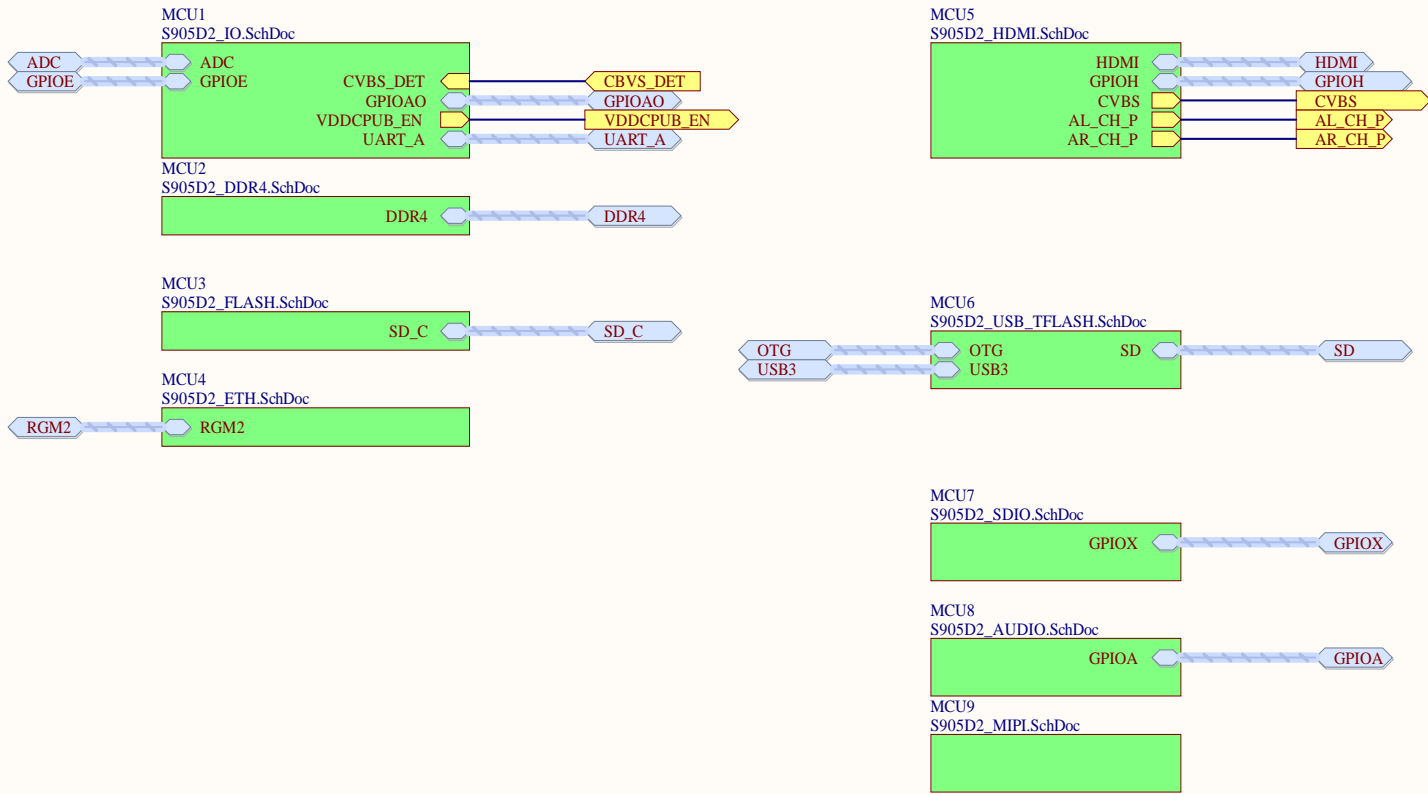


VCC5V

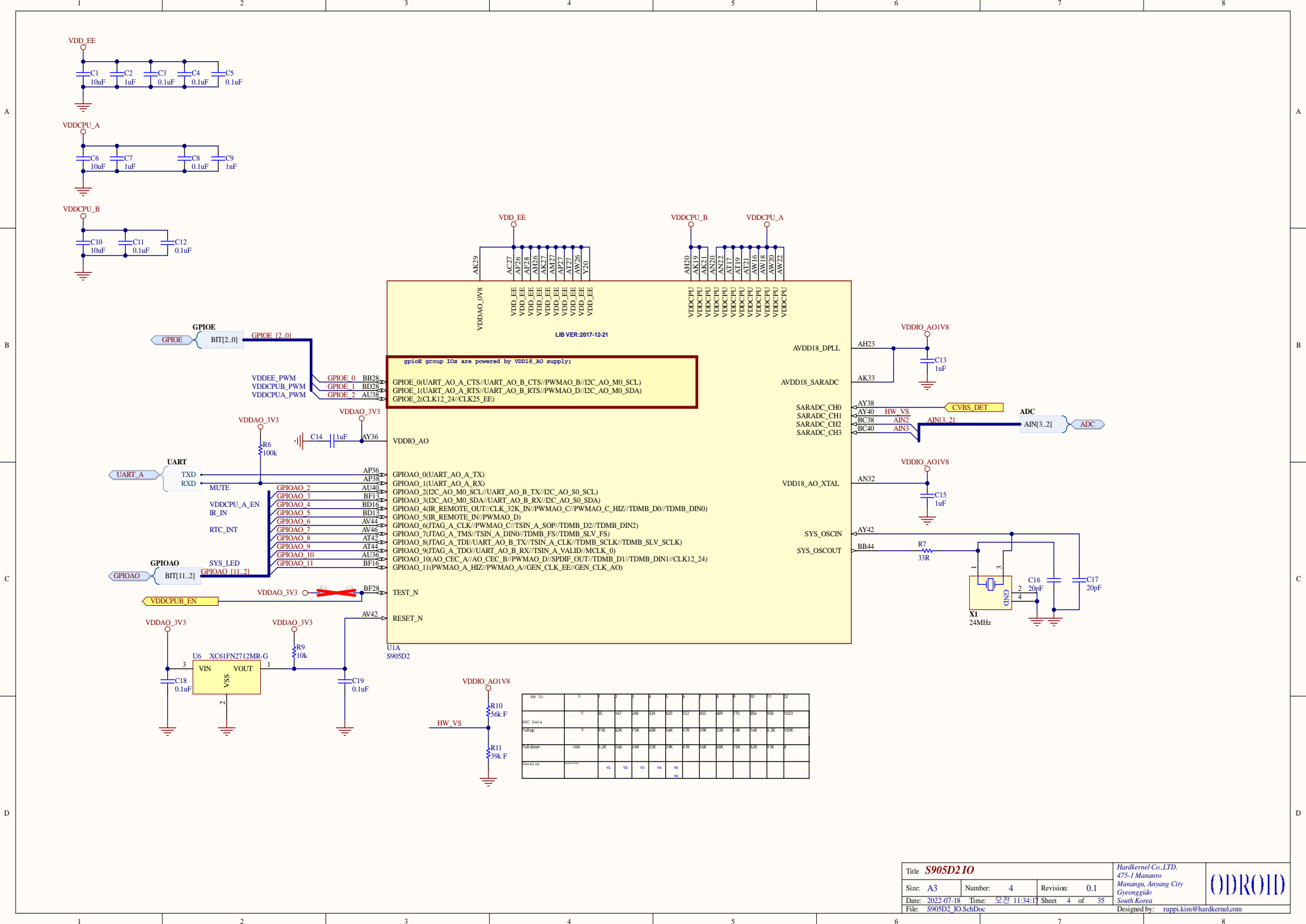


Mounting Holes





Title S905			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 3	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:17	Sheet 3 of 35			
File: S905D2.SchDoc			Designed by: ruppi kim@hardkernel.com		

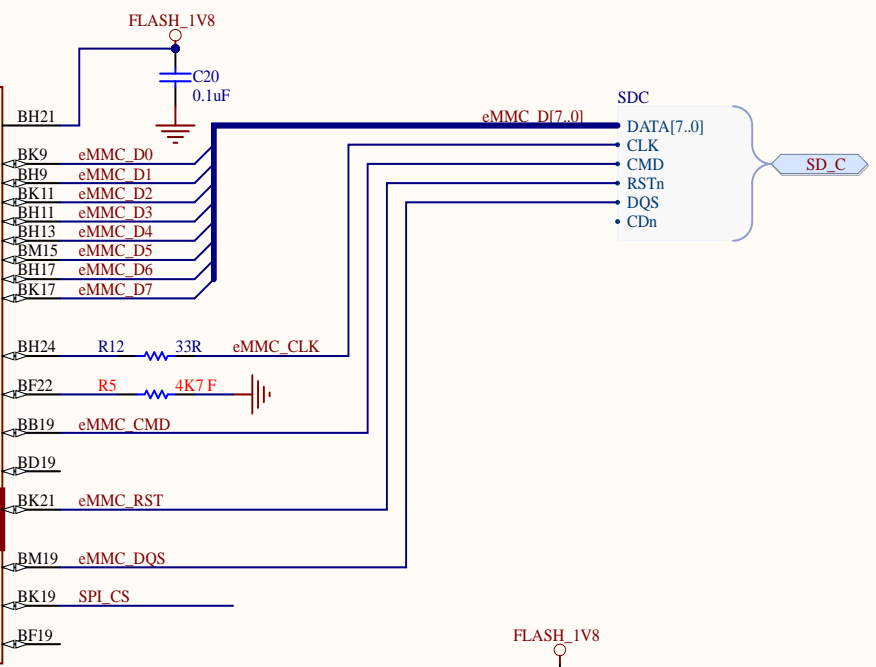
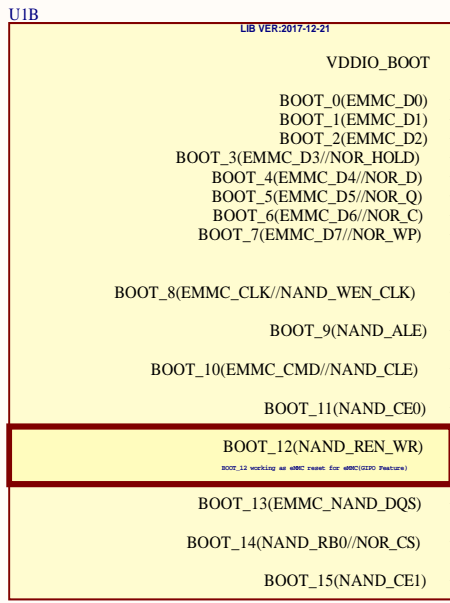


LIB VER:2017-12-21

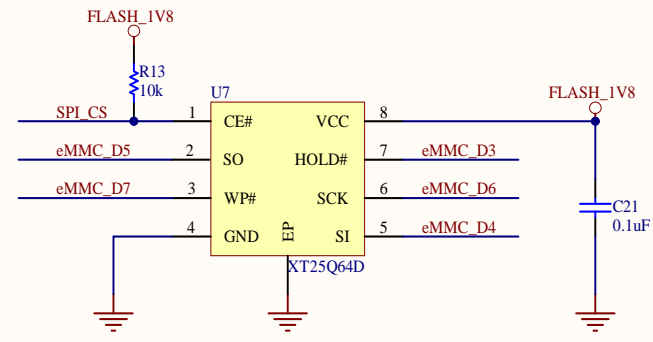
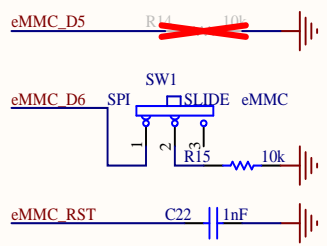
gpioE group IOs are powered by VDD18_AO supply;

GPIOE_0(UART_AO_A_CTS//UART_AO_B_CTS//PWMAO_B/I2C_AO_M0_SCL)
 GPIOE_1(UART_AO_A_RTS//UART_AO_B_RTS//PWMAO_D/I2C_AO_M0_SDA)
 GPIOE_2(CLK12_24//CLK25_EE)

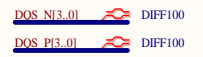
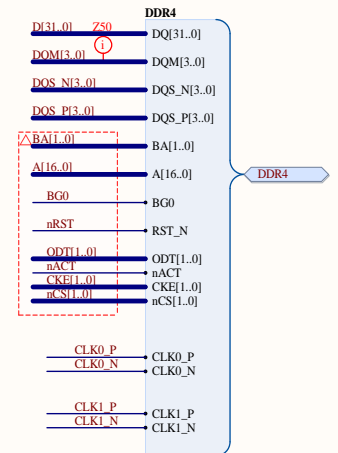
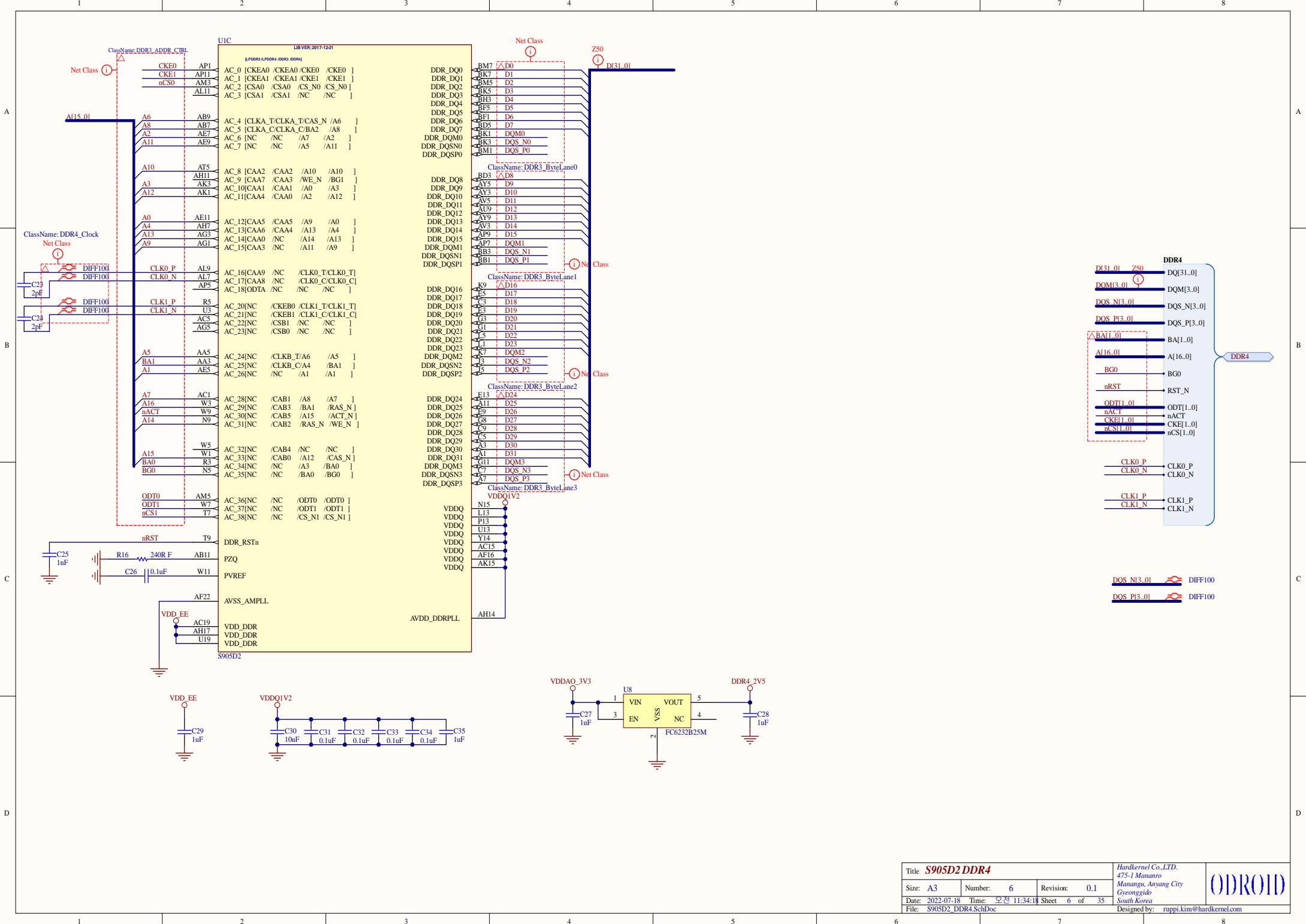
IO#	0	1	2	3	4	5	6	7	8	9	10	11	12
ADC Data	0	05	07	08	09	10	11	12	13	14	15	16	17
pull-up	X	91k	82k	75k	68k	62k	56k	50k	45k	40k	36k	32k	28k
pull-down	100k	91k	82k	75k	68k	62k	56k	50k	45k	40k	36k	32k	28k
level-sh	-----	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12

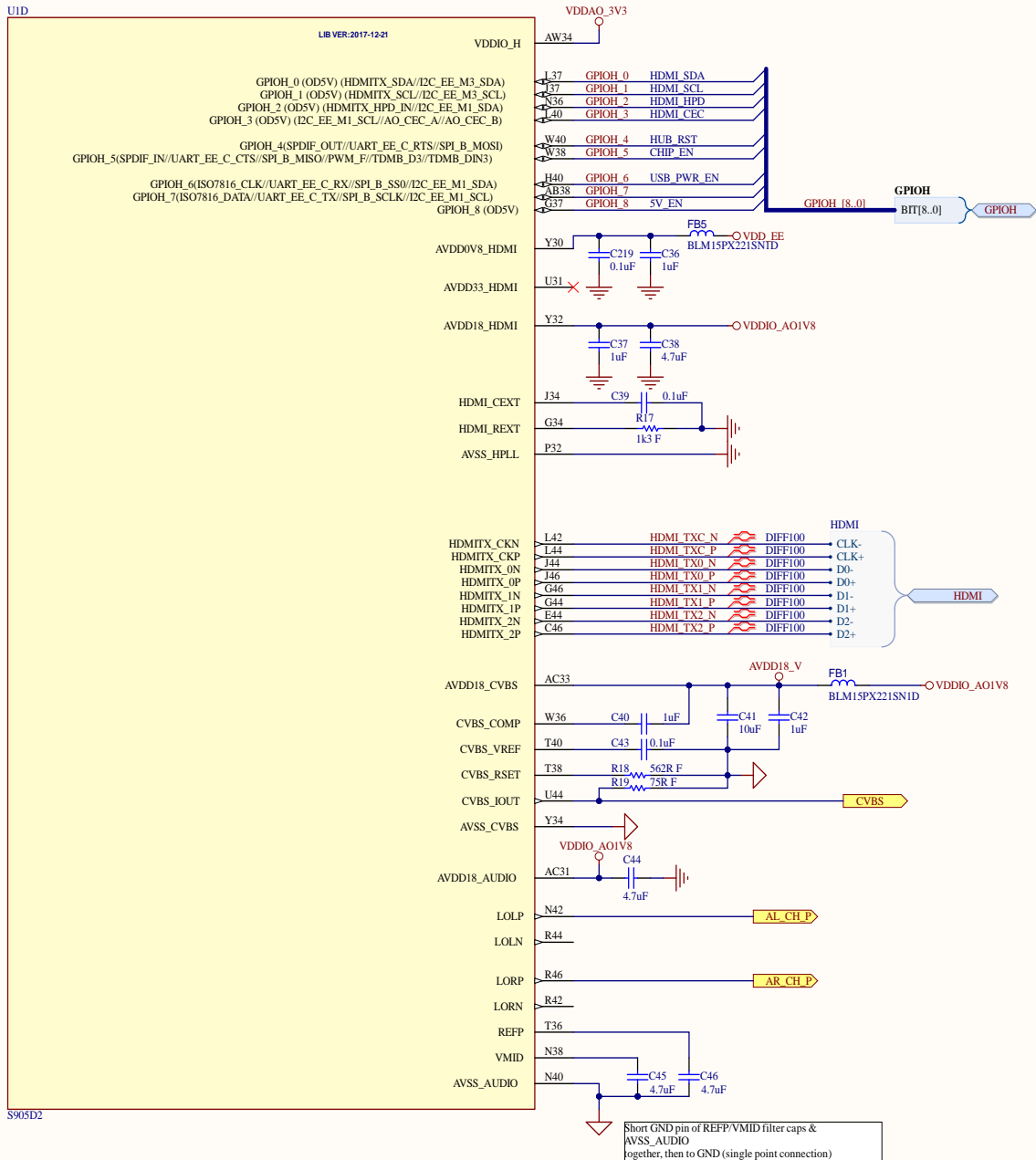


S905D2



Title S905D2 FLASH			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		ODROID
Size: A4	Number: 5	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:18	Sheet 5 of 35			
File: S905D2_FLASH.SchDoc			Designed by: ruppi.kim@hardkernel.com		

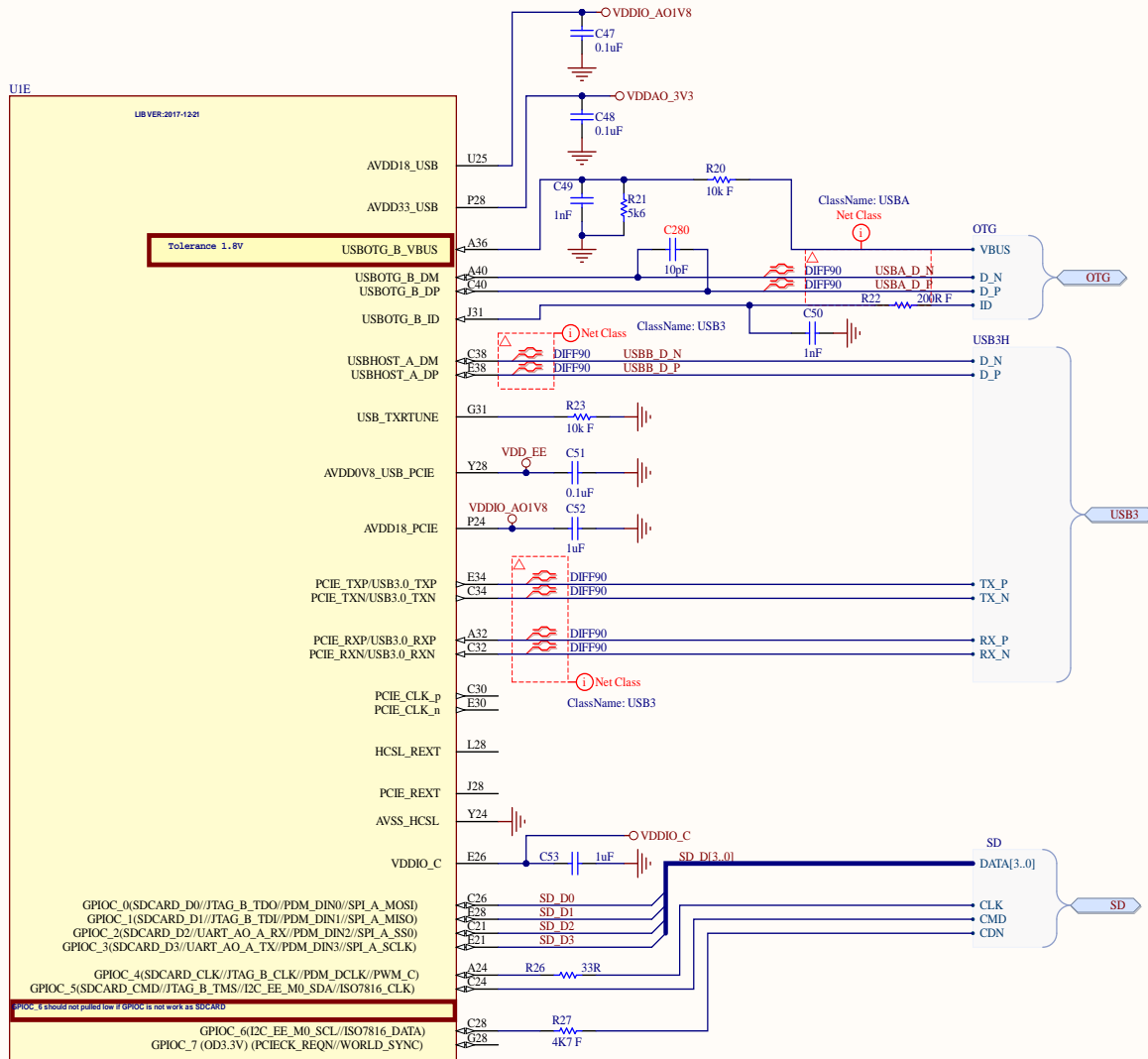





S905D2

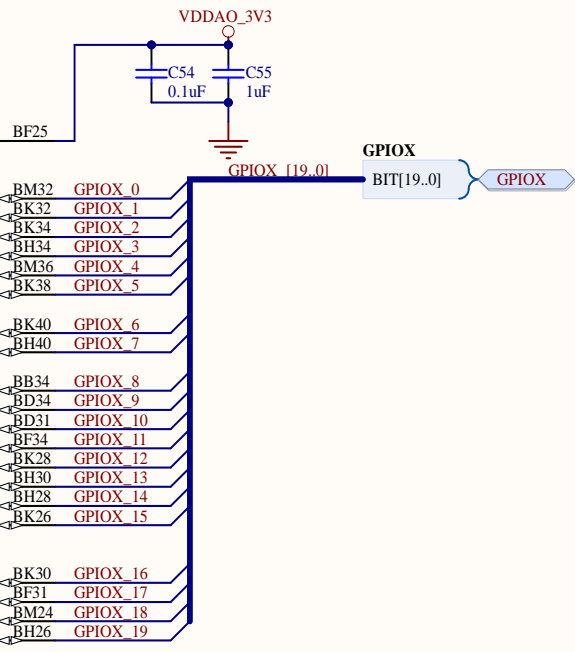
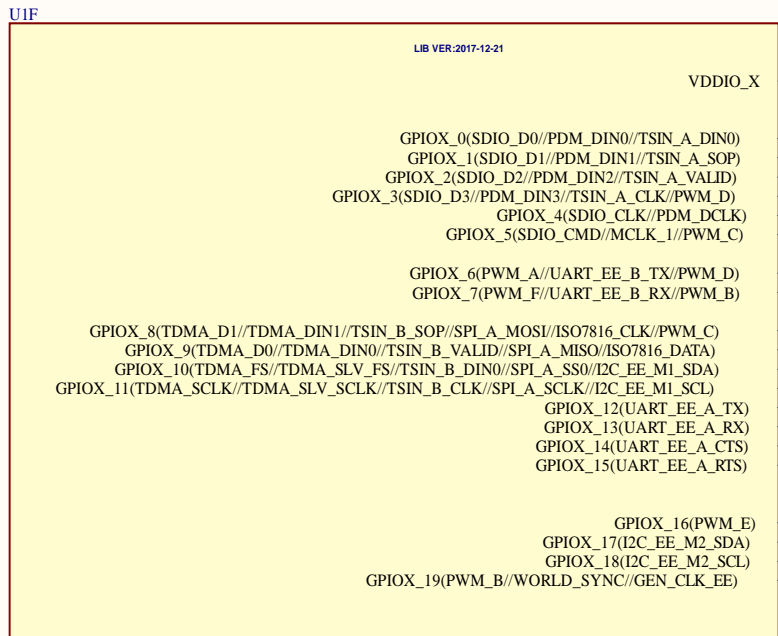
Short GND pin of REFP/VMID filter caps & AVSS_AUDIO together, then to GND (single point connection)

Title: S905D2 HDMI			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A3	Number: 7	Revision: 0.1			
Date: 2022-07-18	Time: 2023-11-30 11:34:18	Sheet 7 of 35			
File: S905D2_HDMI.SchDoc			Designed by: ruppi.kim@hardkernel.com		



S905D2

Title USB TFLASH			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	
Size: A3	Number: 8	Revision: 0.1		
Date: 2022-07-18	Time: 23:11:34:19	Sheet 8 of 35		
File: S905D2_USB_TFLASH.SchDoc				
			Designed by: ruppi.kim@hardkernel.com	



S905D2

Title S905D2 SDIO			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		ODROID
Size: A4	Number: 9	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:19	Sheet 9 of 35			
File: S905D2_SDIO.SchDoc			Designed by: ruppi.kim@hardkernel.com		

U1G

LIB VER:2017-12-21

ENET_TXP A42
 ENET_TXN C42
 ENET_RXP A44
 ENET_RXN C44
 ENET_ATP U27
 ENET_EXTRES E36
 AVSS_ENETPLL U29
 AVDD18_ENET P26

VDDIO_Z AW32

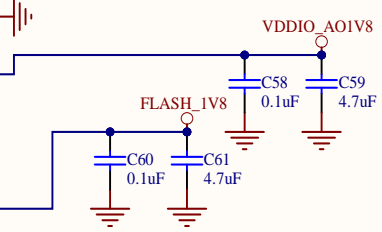
GPIOZ_0(ETH_MDIO//ISO7816_CLK//BT656_A_VS//I2C_EE_M0_SDA)
 GPIOZ_1(ETH_MDC//ISO7816_DATA//BT656_A_HS//I2C_EE_M0_SCL)

GPIOZ_2(ETH_RGMII_RX_CLK//TSIN_B_VALID//TDMC_D0//TDMC_DIN0//PDM_DIN0//SDCARD_D0)
 GPIOZ_3(ETH_RX_DV//TSIN_B_SOP//BT656_A_CLK//TDMC_D1//TDMC_DIN1//PDM_DIN1//SDCARD_D1)
 GPIOZ_4(ETH_RXD0//TSIN_B_DIN0//BT656_A_DIN0//TDMC_D2//TDMC_DIN2//PDM_DIN2//SDCARD_D2)
 GPIOZ_5(ETH_RXD1//TSIN_B_CLK//BT656_A_DIN1//TDMC_D3//TDMC_DIN3//PDM_DIN3//SDCARD_D3)
 GPIOZ_6(ETH_RXD2_RGMII//TSIN_B_FAIL//BT656_A_DIN2//TDMC_FS//TDMC_SLV_FS//PDM_DCLK//SDCARD_CLK)
 GPIOZ_7(ETH_RXD3_RGMII//TSIN_B_DIN1//BT656_A_DIN3//TDMC_SCLK//TDMC_SLV_SCLK//I2C_EE_M0_SDA//SDCARD_CMD)
CARD port on GPIOZ is not bootable

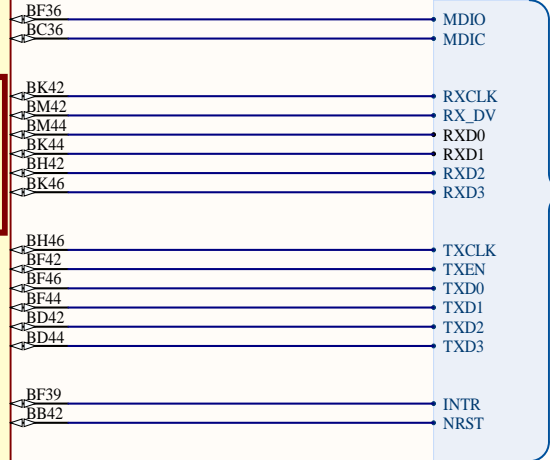
GPIOZ_8(ETH_RGMII_TX_CLK//TSIN_B_DIN2//BT656_A_DIN4//MCLK_1//I2C_EE_M0_SCL)
 GPIOZ_9(ETH_TXEN//TSIN_B_DIN3//BT656_A_DIN5)
 GPIOZ_10(ETH_TXD0//TSIN_B_DIN4//BT656_A_DIN6)
 GPIOZ_11(ETH_TXD1//TSIN_B_DIN5//BT656_A_DIN7)
 GPIOZ_12(ETH_TXD2_RGMII//TSIN_B_DIN6)
 GPIOZ_13(ETH_TXD3_RGMII//TSIN_B_DIN7//GEN_CLK_EE)

GPIOZ_14 (OD3.3V) (ETH_LINK_LED//I2C_EE_M2_SDA)
 GPIOZ_15 (OD3.3V) (ETH_ACT_LED//I2C_EE_M2_SCL)

S905D2



RGM2



RGM2

Title **S905D2 ETHERNET**

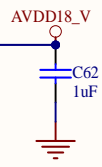
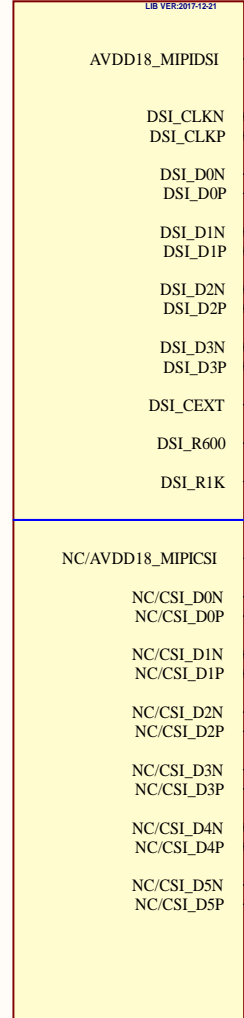
Hardkernel Co.,LTD.
 475-1 Mananro
 Manangu, Anyang City
 Gyeonggido
 South Korea



Size: A4 Number: 11 Revision: 0.1
 Date: 2022-07-18 Time: 오전 11:34:19 Sheet 11 of 35
 File: S905D2_ETH.SchDoc

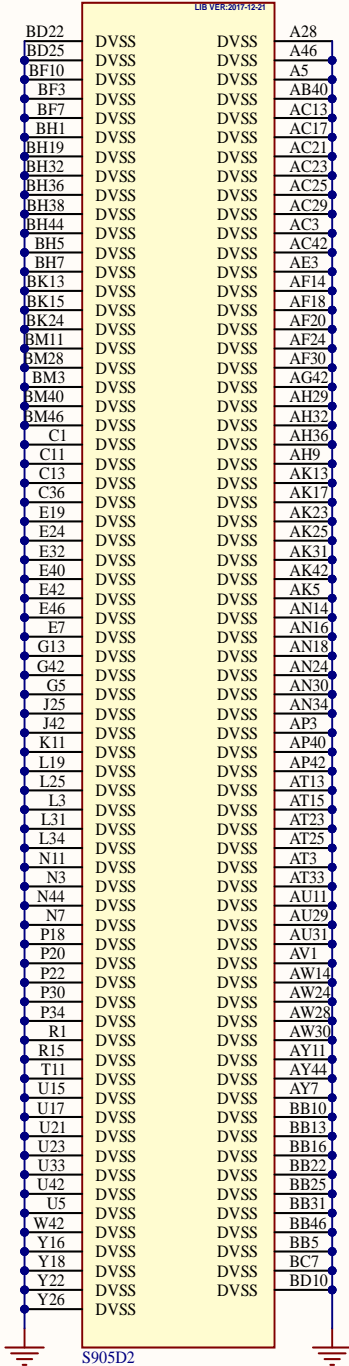
Designed by: rупpi.kim@hardkernel.com

UIH



VDDIO_A01V8

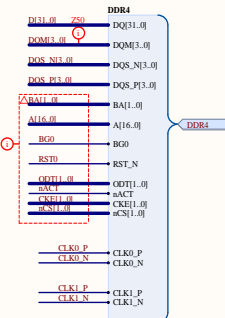
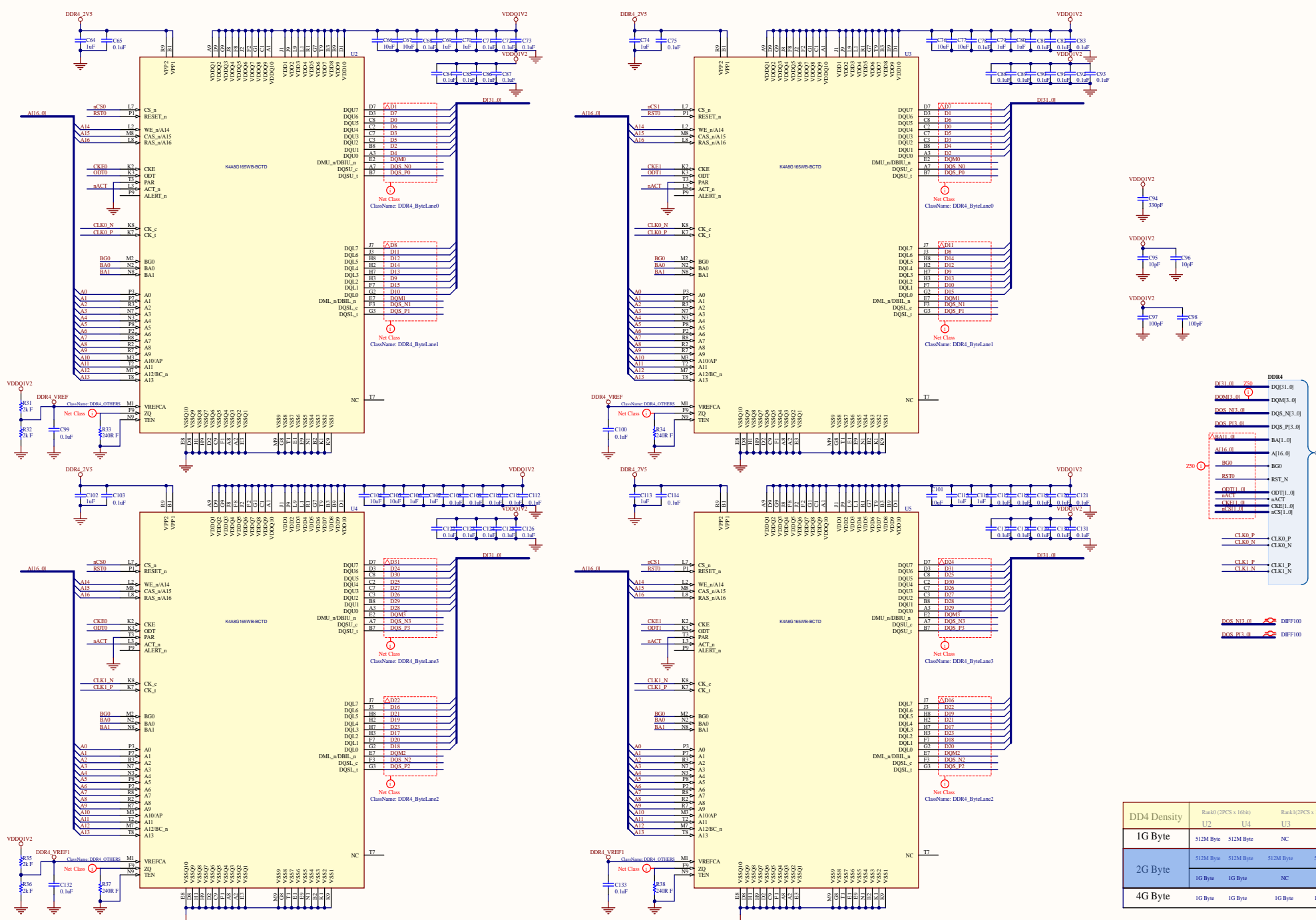
UIJ



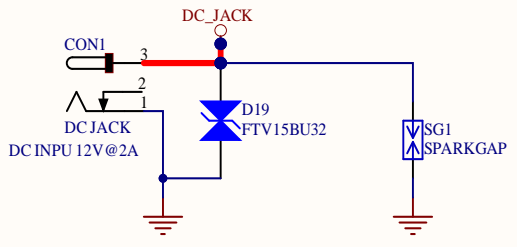
S905D2

S905D2

Title S905D2 MIPI GND			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 12	Revision: 0.1	Designed by: ruppi.kim@hardkernel.com		
Date: 2022-07-18	Time: 오전 11:34:20	Sheet 12 of 35			
File: S905D2_MIPI.SchDoc					



DD4 Density	Rank0 (2PCS x 16Gb)		Rank1 (2PCS x 16Gb)	
	U12	U14	U3	U5
1G Byte	512M Byte	512M Byte	NC	NC
2G Byte	512M Byte	512M Byte	512M Byte	512M Byte
	1G Byte	1G Byte	NC	NC
4G Byte	1G Byte	1G Byte	1G Byte	1G Byte



Title DC JACK			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	ODROID
Size: A4	Number: 14	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:20	Sheet 14 of 35	Designed by: ruppi.kim@hardkernel.com	
File: CON_DCJACK.SchDoc				

1

2

3

4

A

A

B

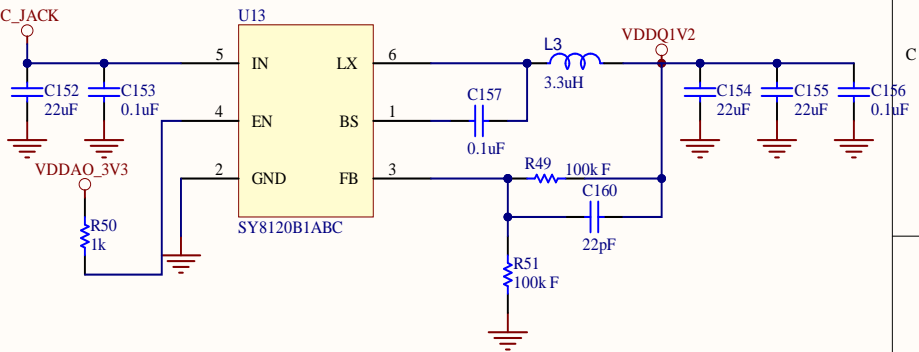
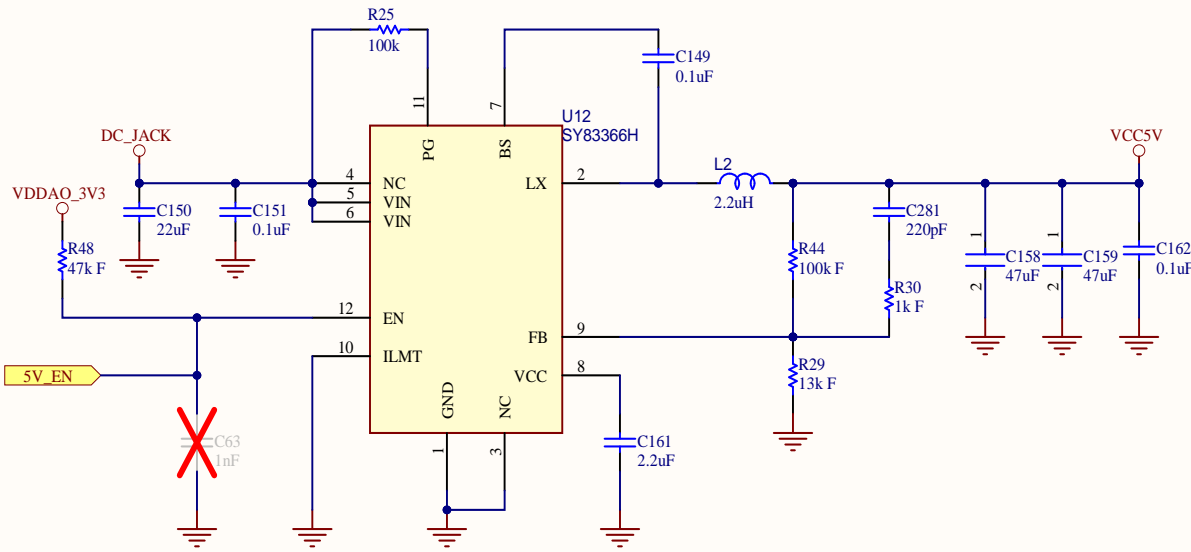
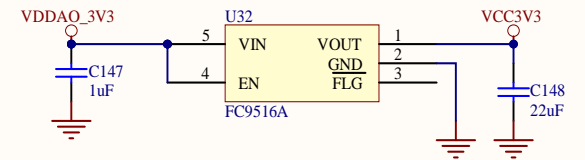
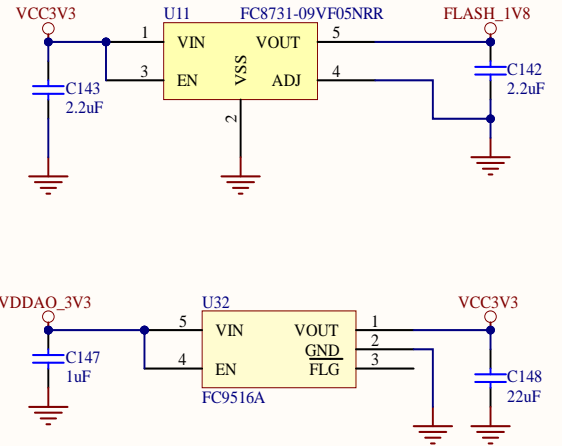
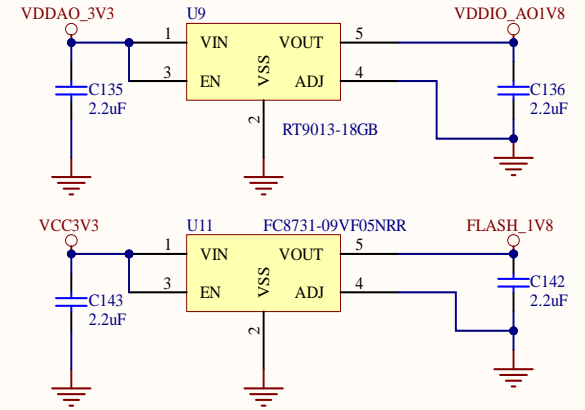
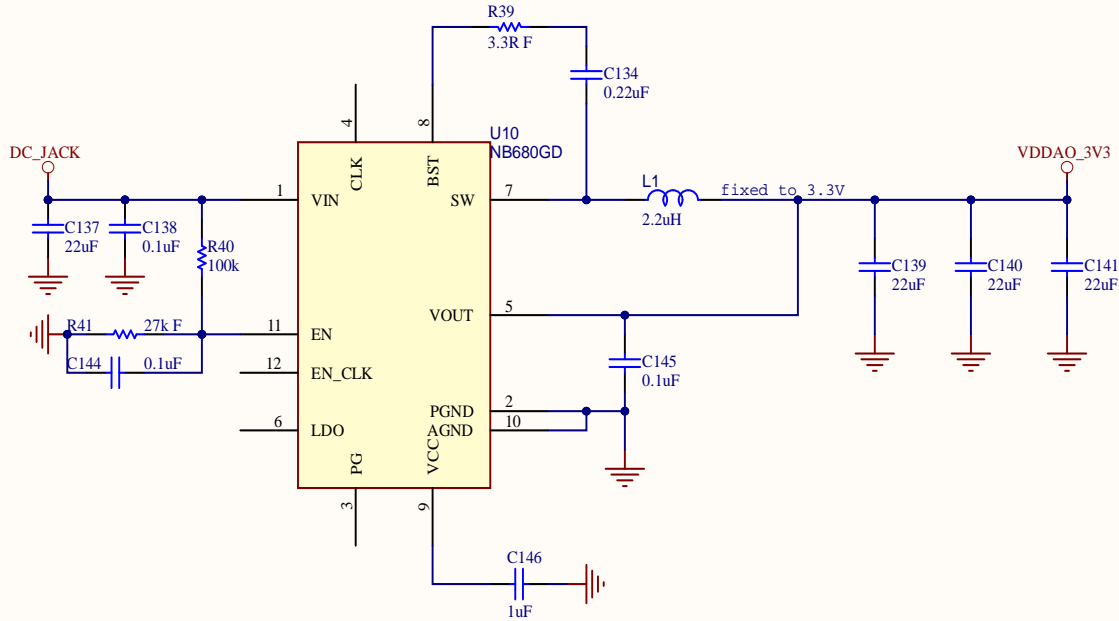
B

C

C

D

D



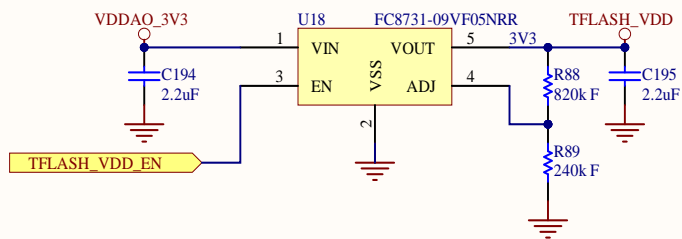
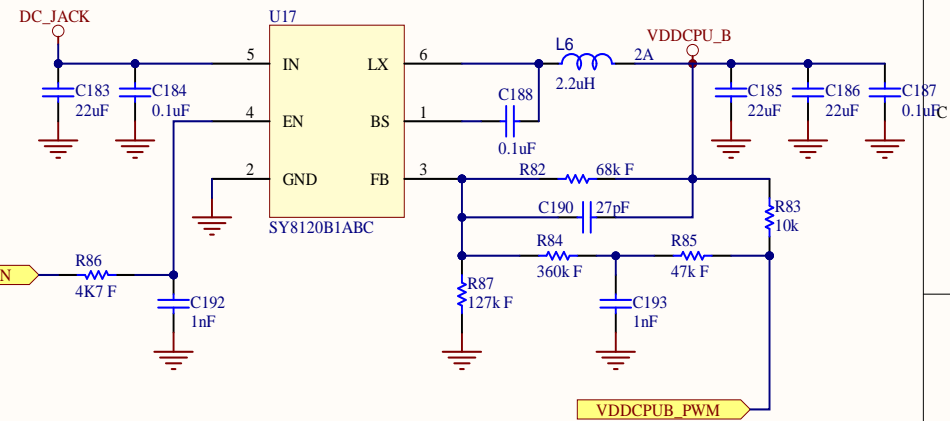
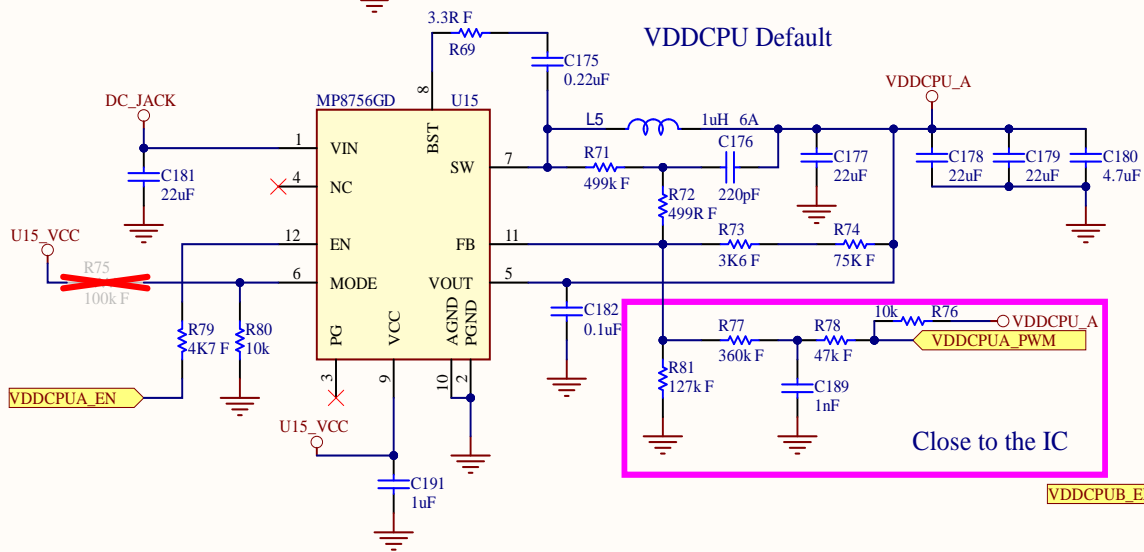
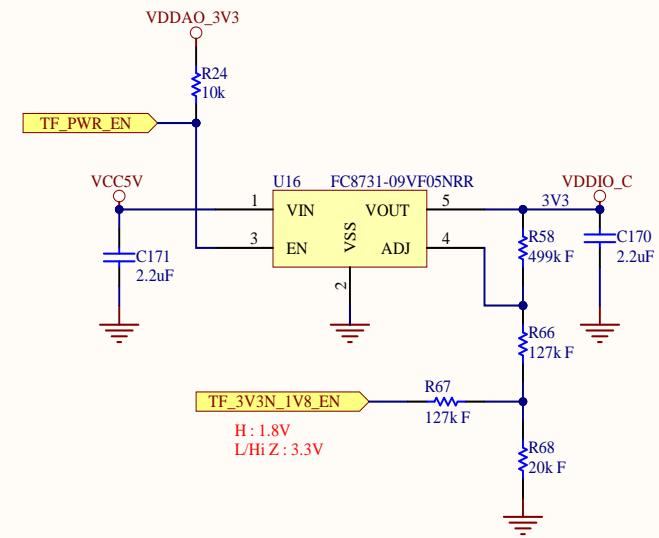
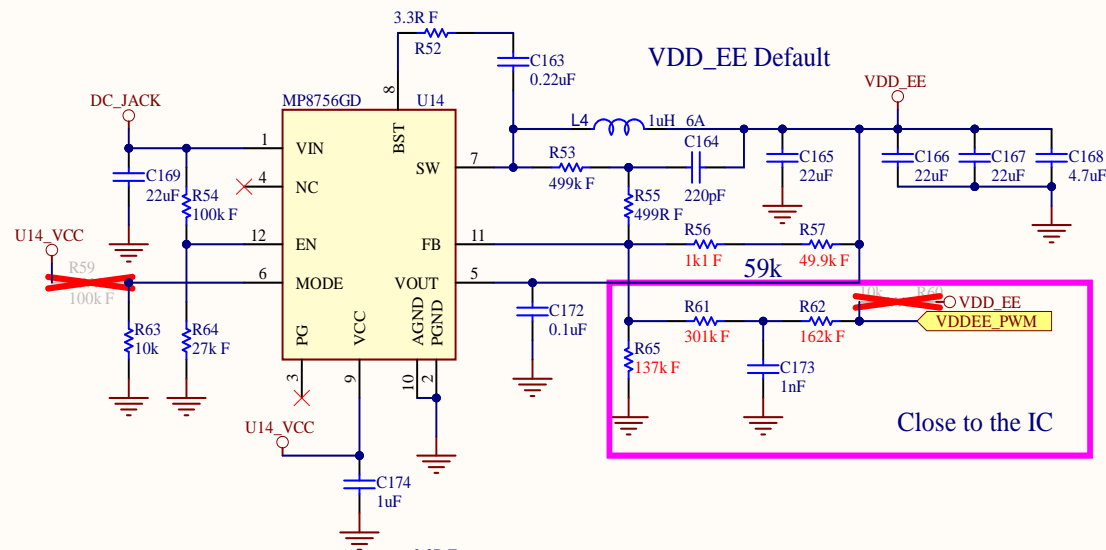
Title PWR DC/DC 5V 3.3V			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number: 15	Revision: 0.1	ODROID	
Date: 2022-07-18	Time: 2022 11:34:21	Sheet 15 of 35		
File: PWR_DCDC_5V_3V3.SchDoc				
			Designed by: ruppi.kim@hardkernel.com	

1

2

3

4



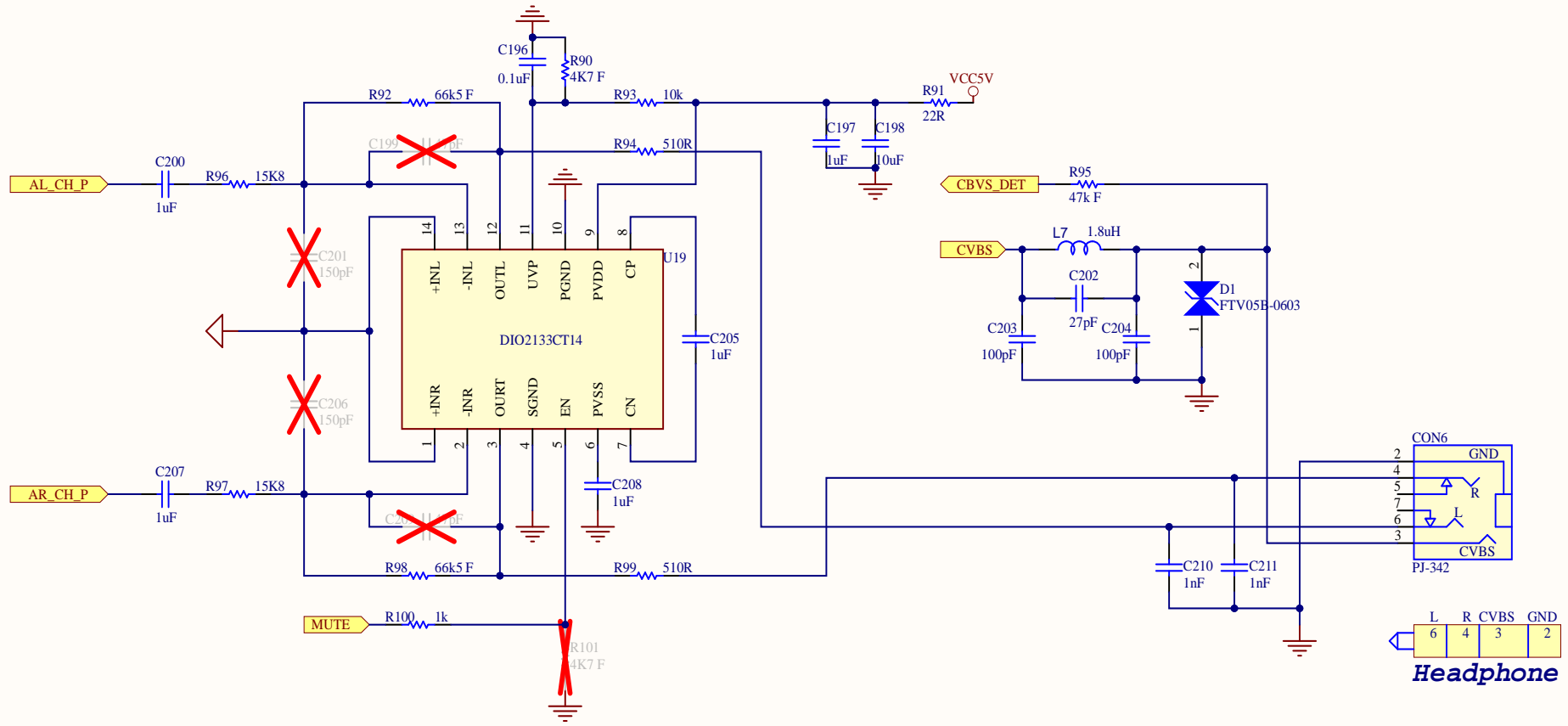
Title **PWR DC/DC OTHERS**

Size: A4 Number: 16 Revision: 0.1
 Date: 2022-07-18 Time: 2022-07-18 11:34:21 Sheet 16 of 35
 File: PWR_DCDC_OTHERS.SchDoc

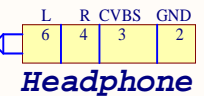
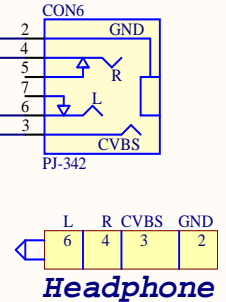
Hardkernel Co.,LTD.
 475-1 Mananro
 Manangu, Anyang City
 Gyeonggido
 South Korea

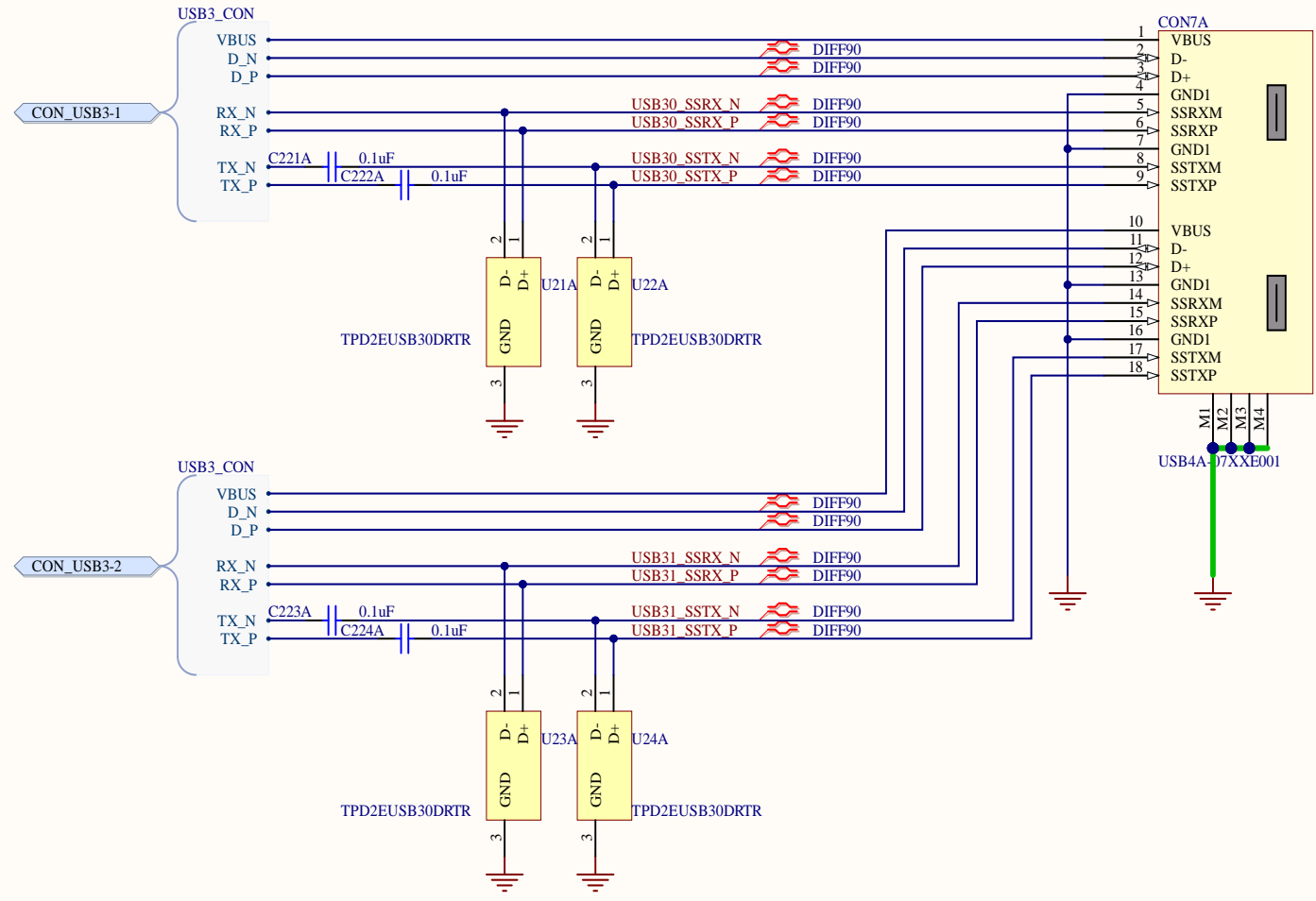
ODROID


Designed by: rупpi.kim@hardkernel.com

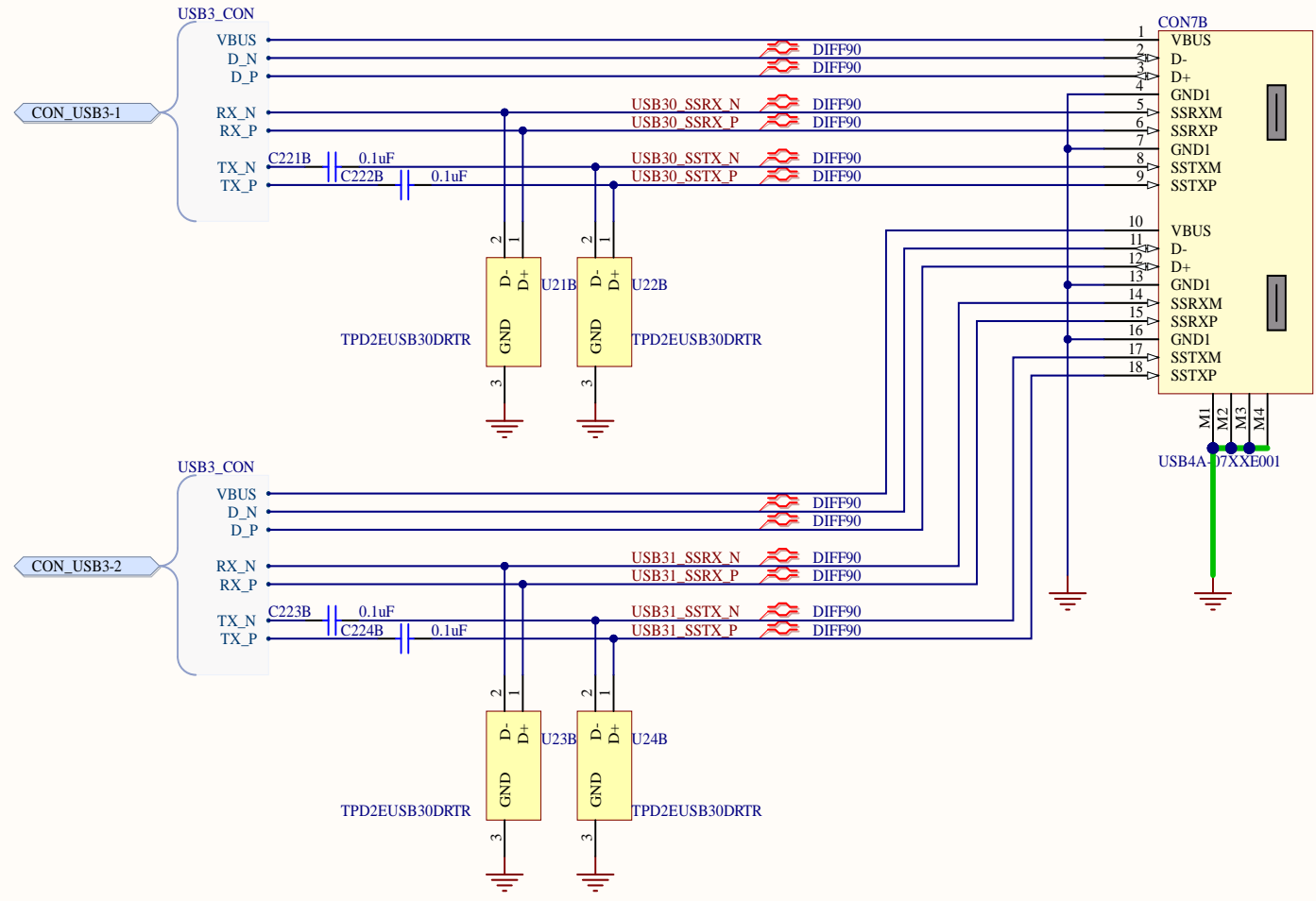



Title Audio Driver DIO2133			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		ODROID
Size: A4	Number: 17	Revision: 0.1	Designed by: *@hardkernel.com		
Date: 2022-07-18	Time: 오전 11:34:21	Sheet 17 of 35			
File: AUDIO_DIO2133.SchDoc					

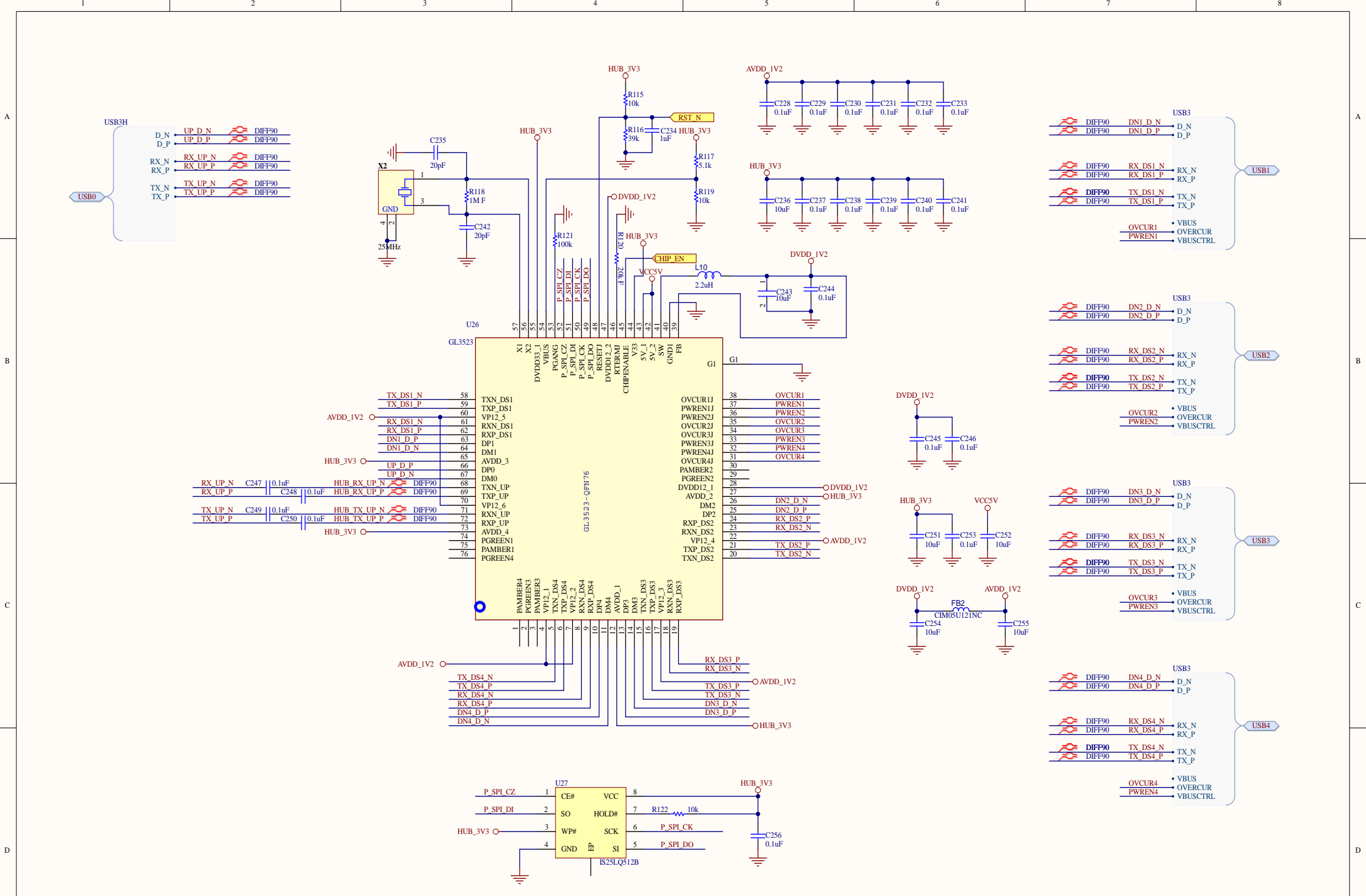


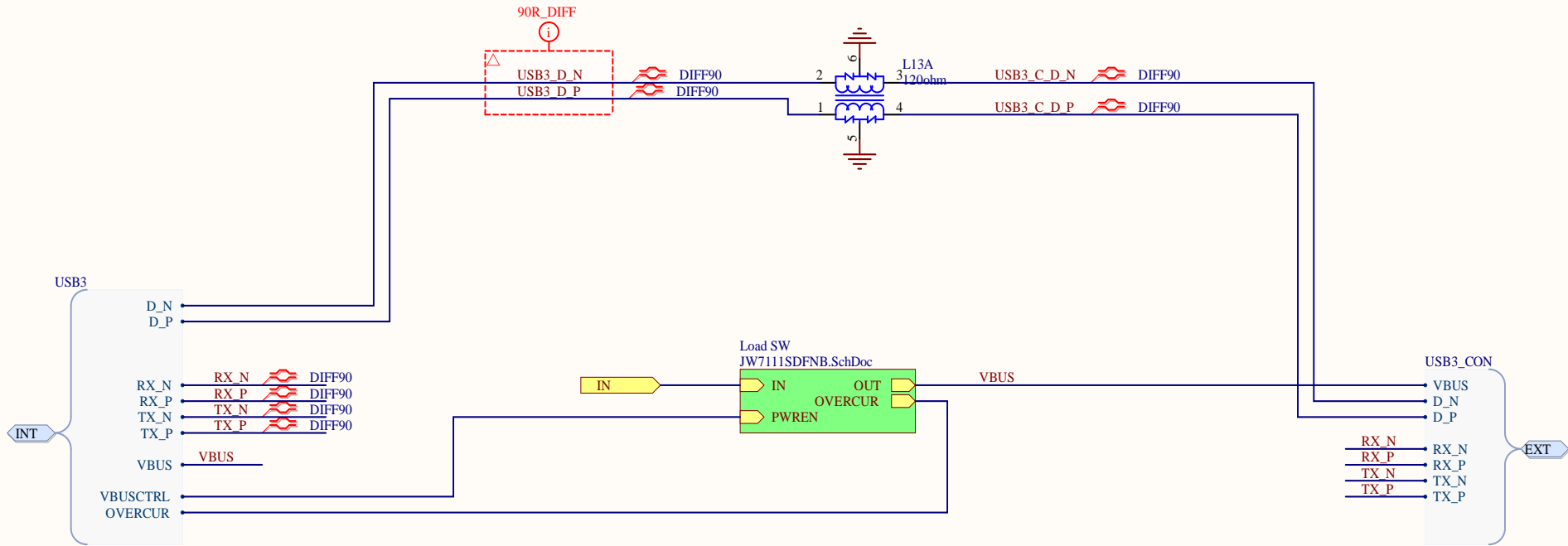


Title USB 3.0 Type A Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number: 18	Revision: 0.1		
Date: 2022-07-18	Time: 2022-07-18 11:34:22	Sheet 18 of 35		
File: CON_USB3_DUAL_RA.SchDoc				

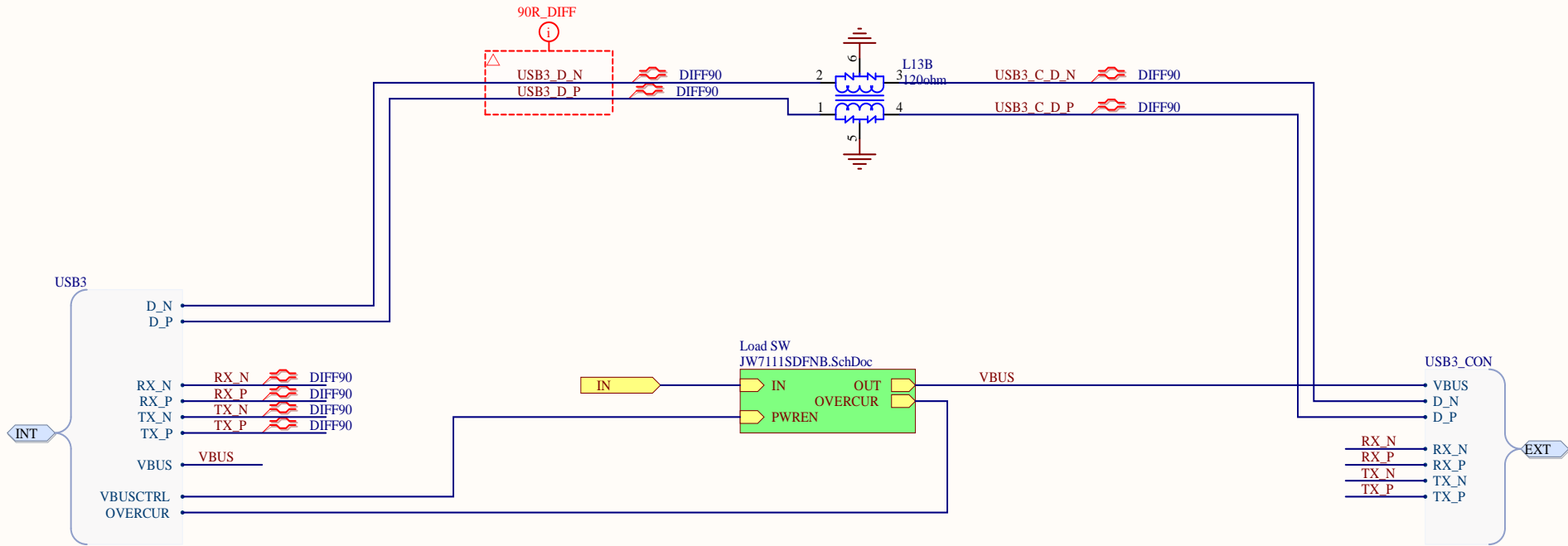


Title USB 3.0 Type A Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number: 18	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:22	Sheet 18 of 35		
File: CON_USB3_DUAL_RA.SchDoc			Designed by: ruppi.kim@hardkernel.com	

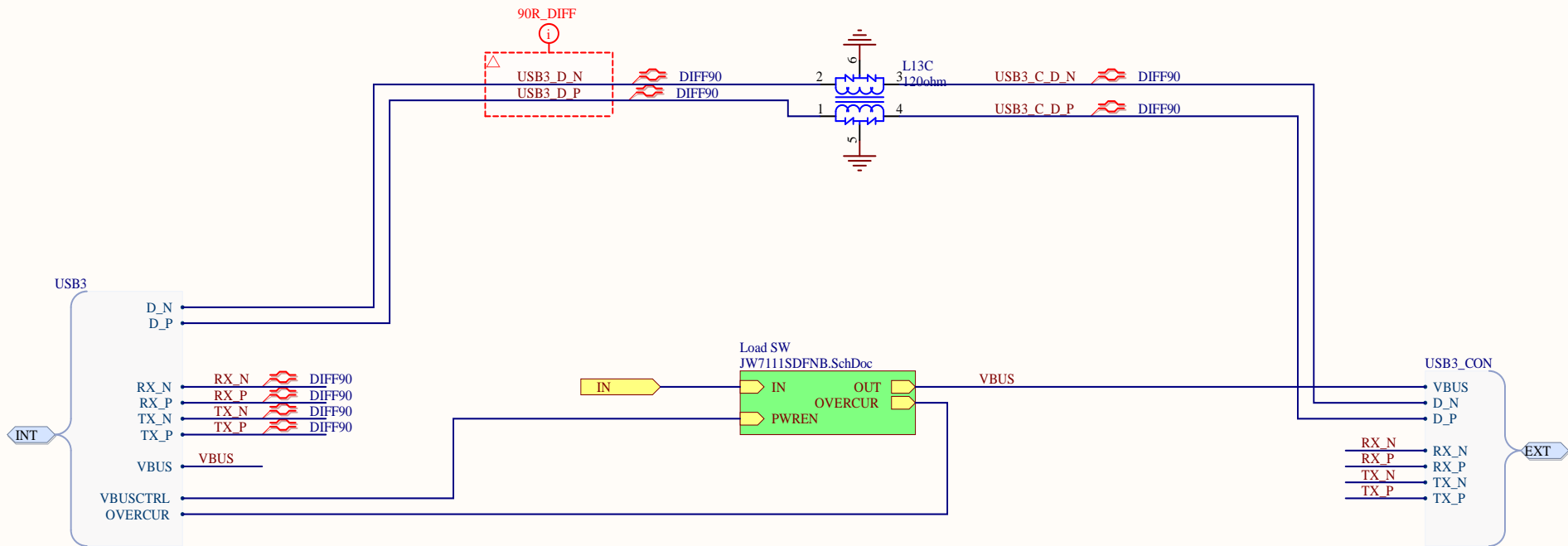




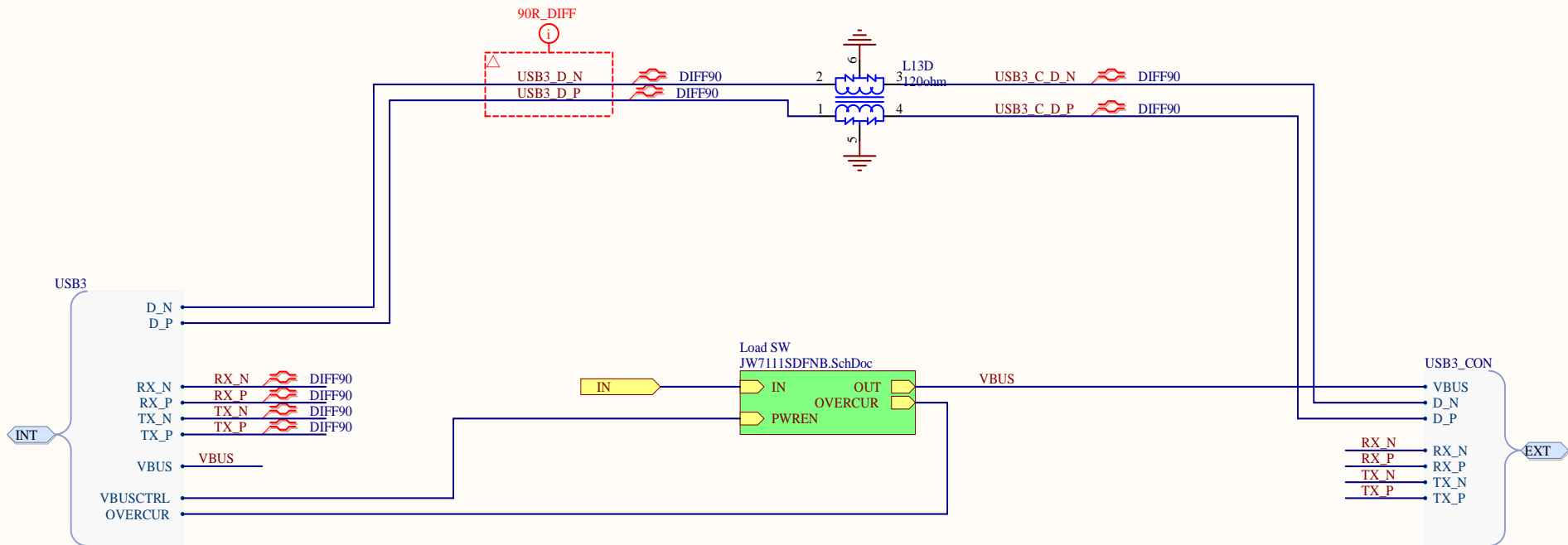
Title USB3 BUS Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido		ODROID
Size: A4	Number: 20	Revision: 0.1	South Korea		
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 20 of 35	Designed by: ruppi kim@hardkernel.com		
File: USB3_BUS_PWR.SchDoc					



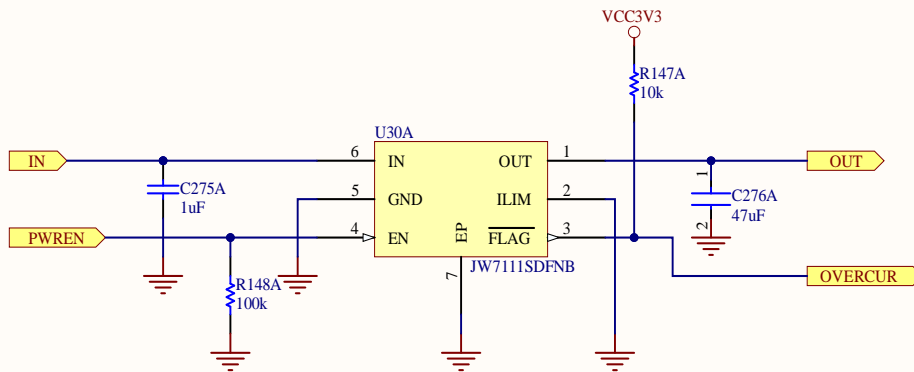
Title USB3 BUS Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido		ODROID
Size: A4	Number: 20	Revision: 0.1	South Korea		
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 20 of 35	Designed by: ruppi kim@hardkernel.com		
File: USB3_BUS_PWR.SchDoc					



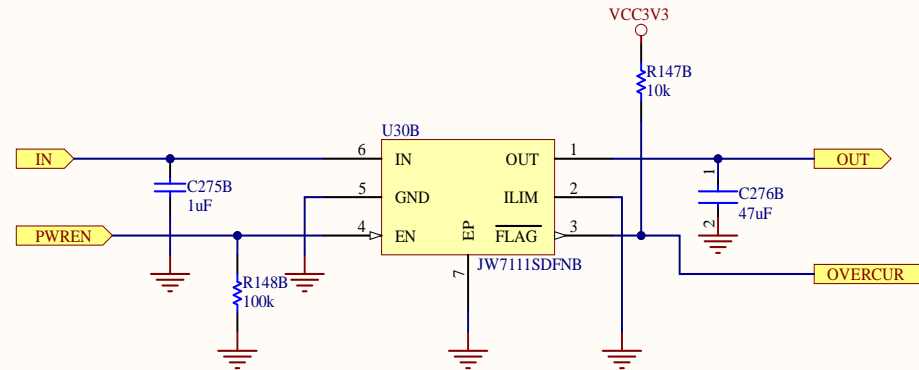
Title USB3 BUS Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido		ODROID
Size: A4	Number: 20	Revision: 0.1	South Korea		
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 20 of 35	Designed by: ruppi kim@hardkernel.com		
File: USB3_BUS_PWR.SchDoc					



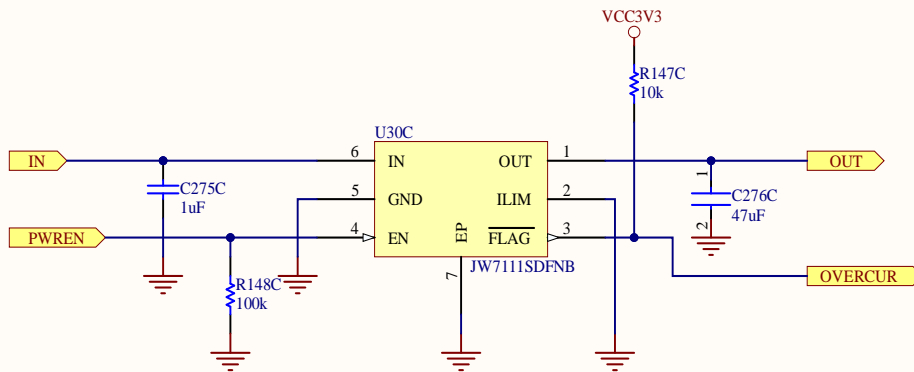
Title USB3 BUS Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido		ODROID
Size: A4	Number: 20	Revision: 0.1	South Korea		
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 20 of 35	Designed by: ruppi kim@hardkernel.com		
File: USB3_BUS_PWR.SchDoc					



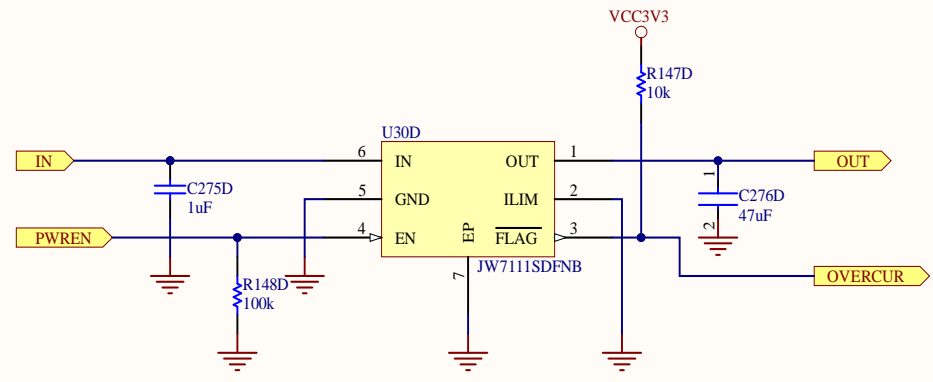
Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 21	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 21 of 35			
File: JW7111SDFNB.SchDoc			Designed by: ruppi.kim@hardkernel.com		



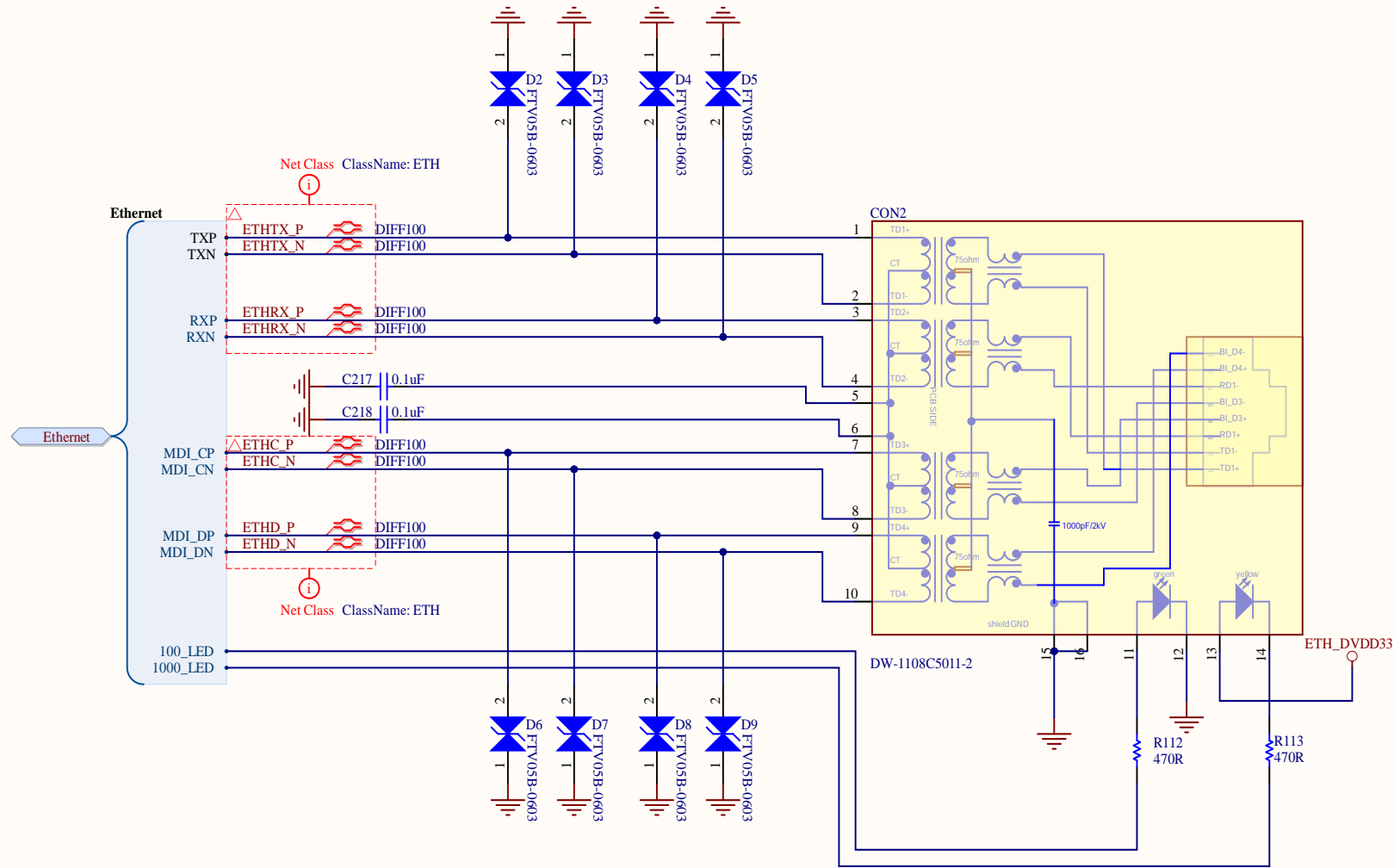
Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	ODROID
Size: A4	Number: 21	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:23	Sheet 21 of 35	Designed by: ruppi.kim@hardkernel.com	
File: JW7111SDFNB.SchDoc				




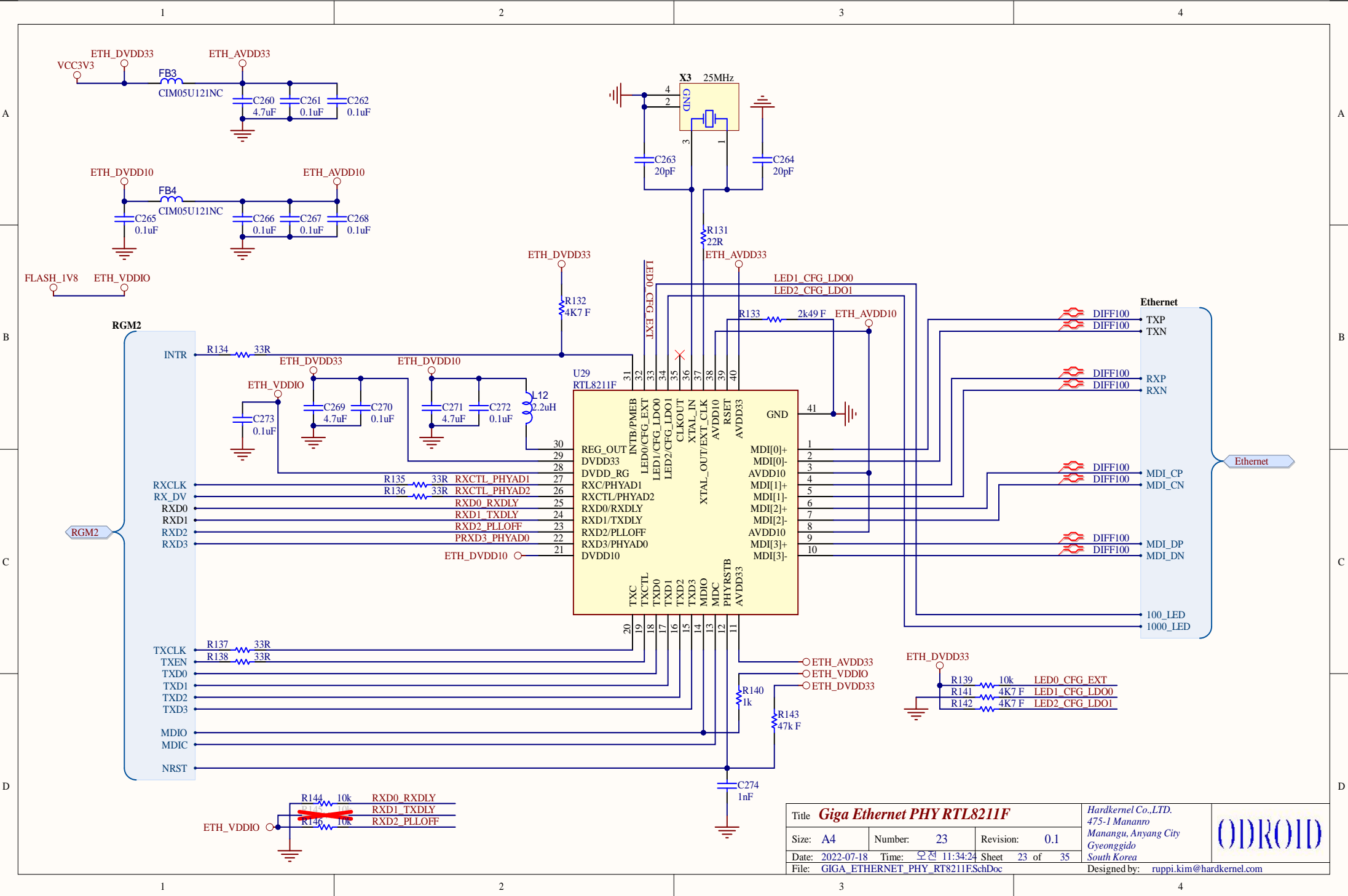
Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	ODROID
Size: A4	Number: 21	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:24	Sheet 21 of 35	Designed by: rupper.kim@hardkernel.com	
File: JW7111SDFNB.SchDoc				



Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 21	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:24	Sheet 21 of 35			
File: JW7111SDFNB.SchDoc			Designed by: ruppi.kim@hardkernel.com		



Title Giga Ethernet Connector		Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number: 22	Revision: 0.1	
Date: 2022-07-18	Time: 2022.07.18 11:34:24	Sheet 22 of 35	
File: CON_GIGA_ETH.SchDoc		Designed by: rупpi.kim@hardkernel.com	

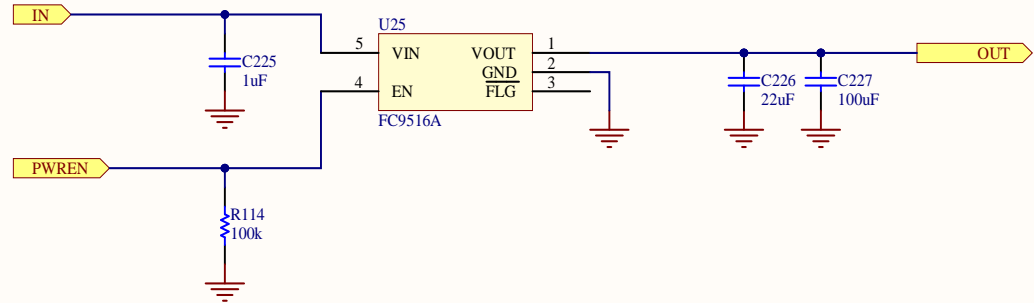


Title **Giga Ethernet PHY RTL8211F**

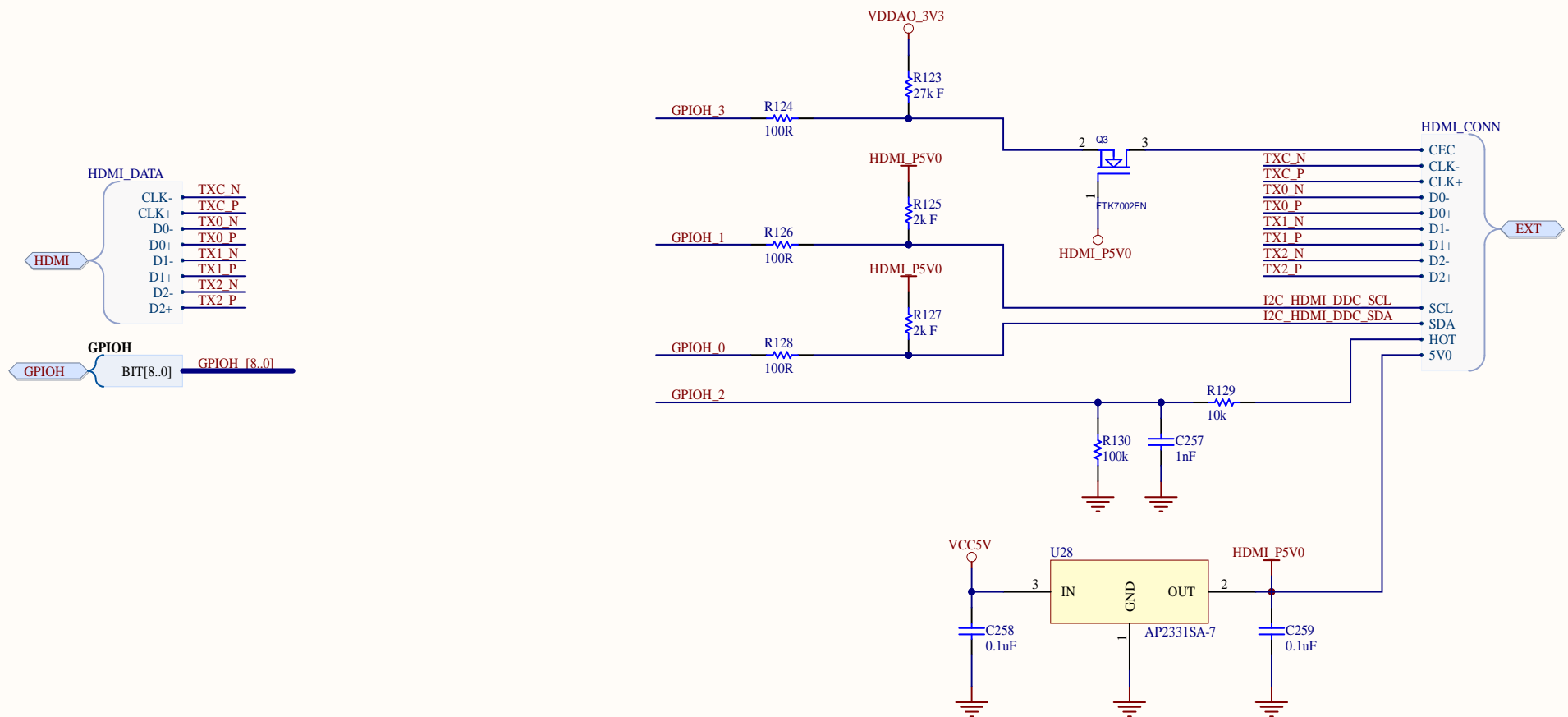
Size: A4 Number: 23 Revision: 0.1
 Date: 2022-07-18 Time: 오전 11:34:24 Sheet 23 of 35
 File: GIGA_ETHERNET_PHY_RT8211F.SchDoc

Hardkernel Co.,LTD.
 475-1 Mananro
 Manangu, Anyang City
 Gyeonggido
 South Korea
 Designed by: ruppi.kim@hardkernel.com

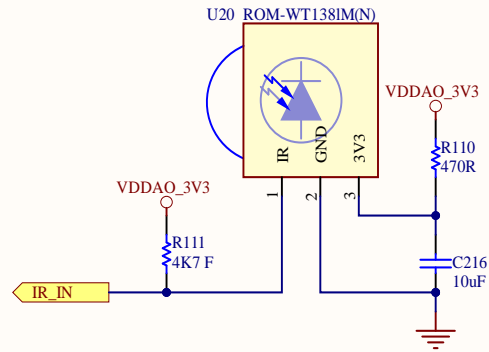




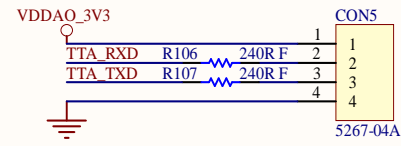
Title USB HOST PWR RT9715			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	ODROID
Size: A4	Number: 24	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:24	Sheet 24 of 35	Designed by: ruppi.kim@hardkernel.com	
File: RT9715EGB.SchDoc				



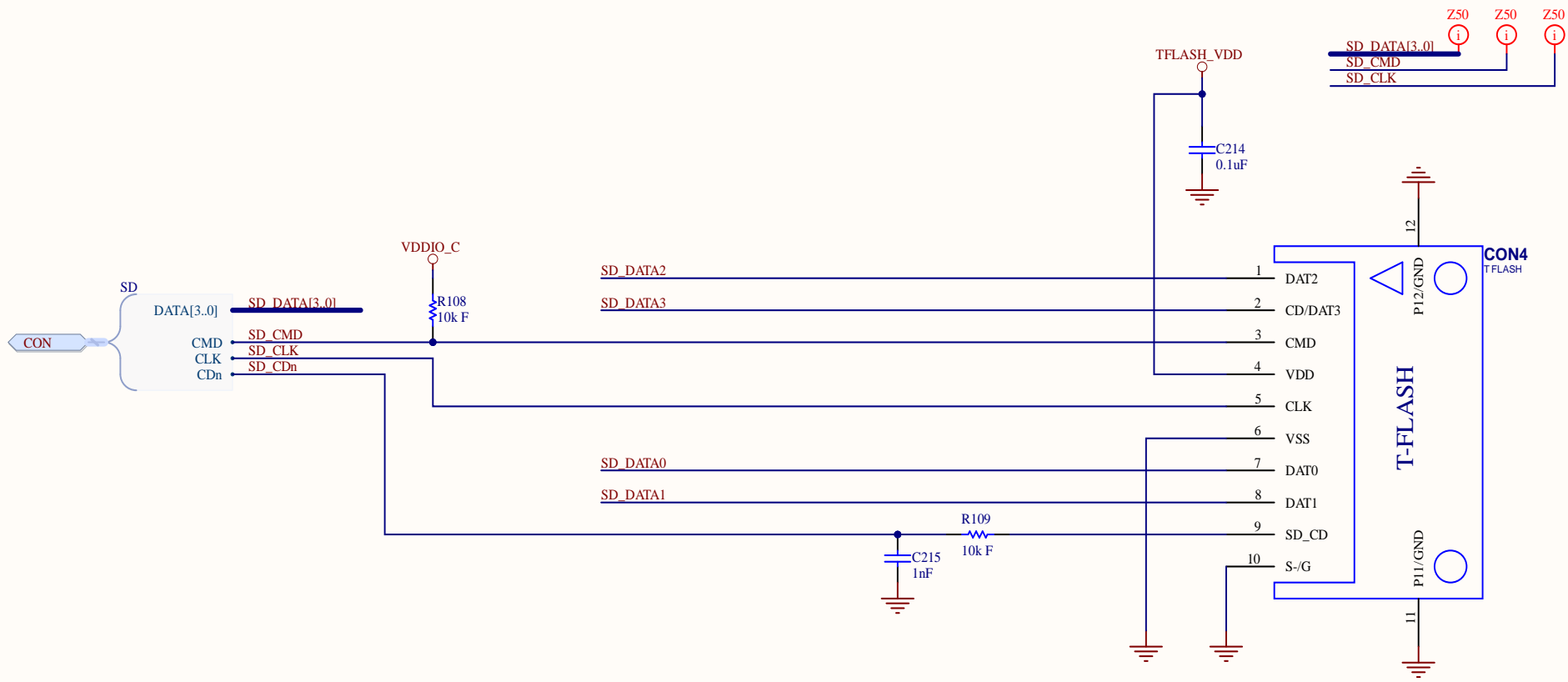
Title HDMI I2C			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		ODROID
Size: A4	Number: 25	Revision: 0.1	Designed by: rупpi.kim@hardkernel.com		
Date: 2022-07-18	Time: 2022 11:34:25	Sheet 25 of 35			
File: HDMI_I2C.SchDoc					



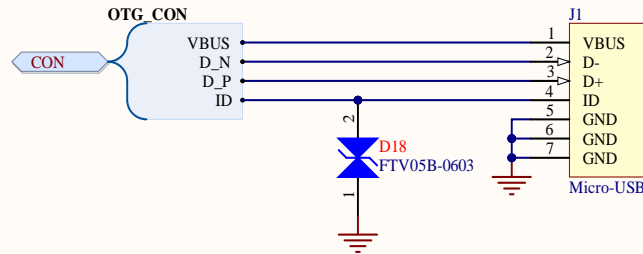
Title Remote Controller Receiver			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	
Size: A4	Number: 28	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:25	Sheet 28 of 35	Designed by: ruppi.kim@hardkernel.com	
File: IR.SchDoc				



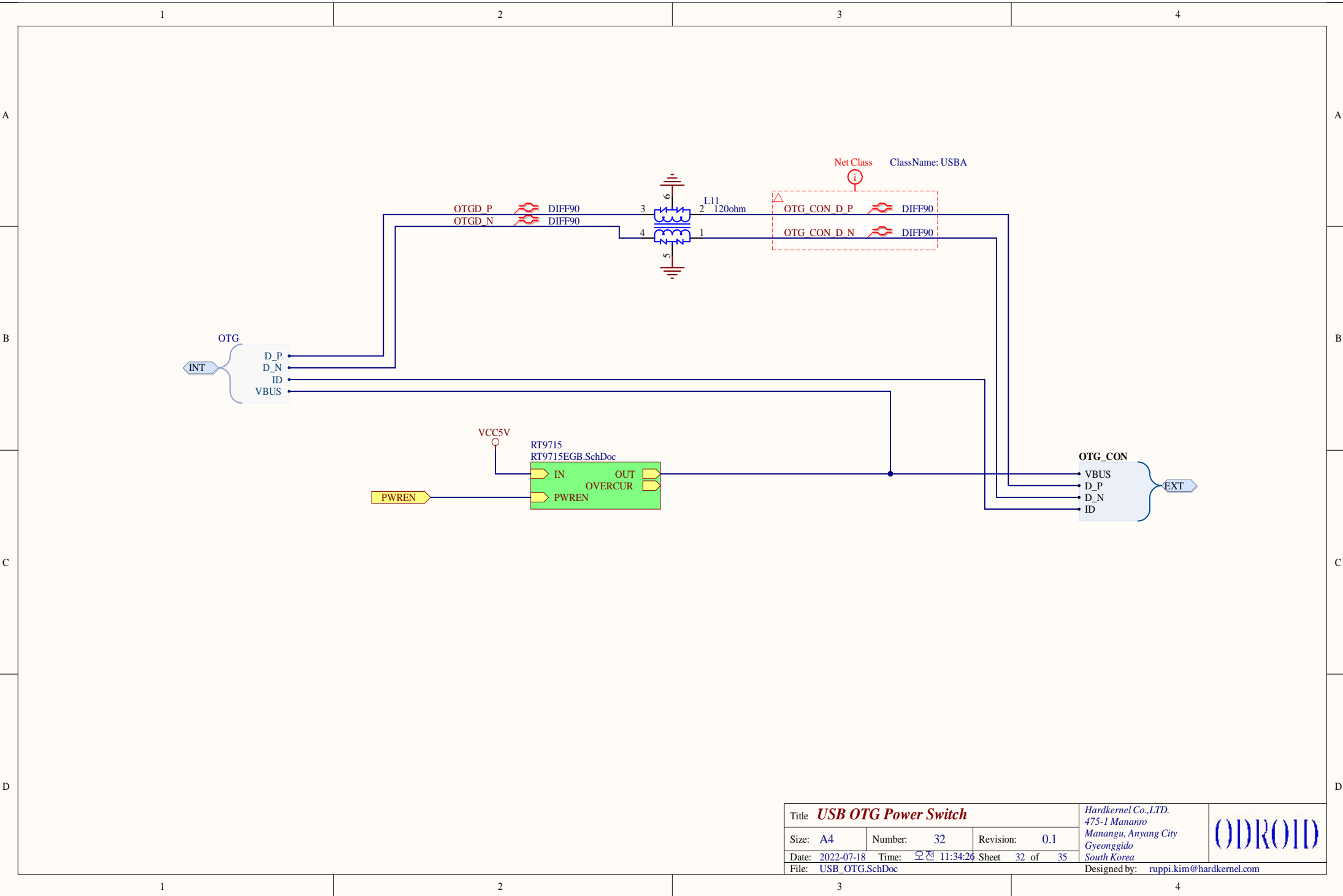
Title UART Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido		ODROID
Size: A4	Number: 29	Revision: 0.1	South Korea		
Date: 2022-07-18	Time: 오전 11:34:26	Sheet 29 of 35	Designed by: ruppi.kim@hardkernel.com		
File: CON_UART.SchDoc					




Title MicroSD Socket			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 30	Revision: 0.1	Designed by: ruppi.kim@hardkernel.com		
Date: 2022-07-18 Time: 오전 11:34:26 Sheet 30 of 35					
File: CON_MICROSD_HD08-AL00335.SchDoc					



Title Micro USB Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		ODROID
Size: A4	Number: 31	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:26	Sheet 31 of 35			
File: CON_MICROUSB.SchDoc			Designed by: ruppi.kim@hardkernel.com		



Title USB OTG Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	
Size: A4	Number: 32	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:26	Sheet 32 of 35		
File: USB_OTG.SchDoc			Designed by: ruppi.kim@hardkernel.com	

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A

A

B

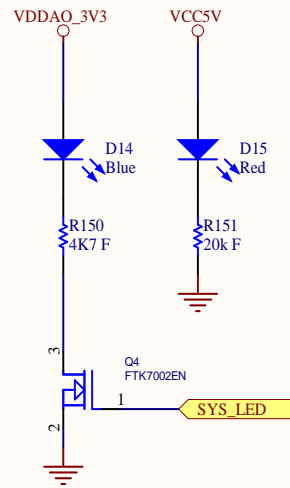
B

C

C

D

D



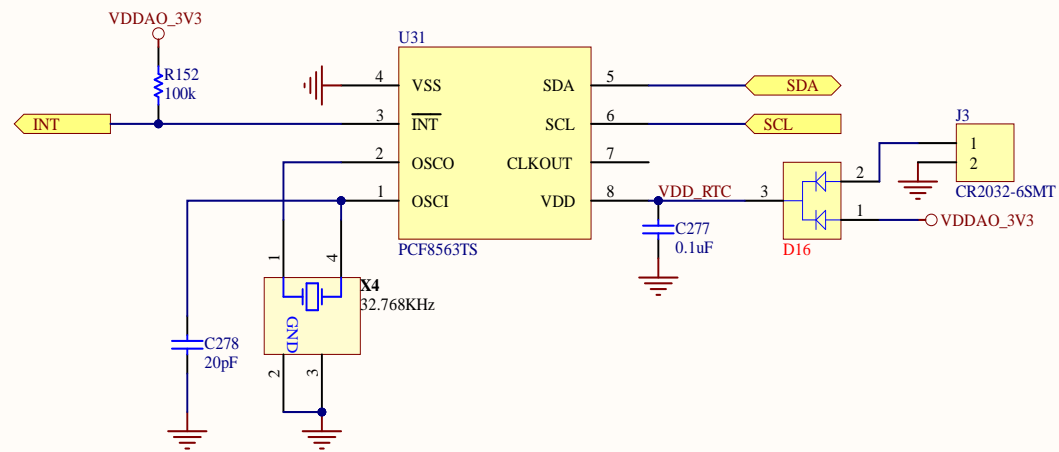
Title PWR SYSTEM LEDs			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea	
Size: A4	Number: 33	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:27	Sheet 33 of 35	Designed by: *@hardkernel.com	
File: C_LEDS.SchDoc				

1

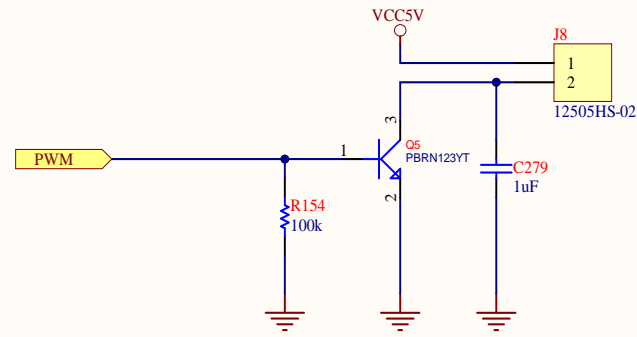
2

3

4



Title RTC PCF8563			R&D PART 704 Anyang K-center 1591-9 Burim Dongan Gu Gyeonggido South Korea	
Size: A4	Number: 34	Revision: 0.1		
Date: 2022-07-18	Time: 오전 11:34:27	Sheet 34 of 35	Designed by: john lee	
File: RTC_PCF8663.SchDoc				



Title *			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongido South Korea		ODROID
Size: A4	Number: 1	Revision: 0.1			
Date: 2022-07-18	Time: 오전 11:34:27	Sheet * of 1			
File: CON_FAN.SchDoc			Designed by: *@hardkernel.com		