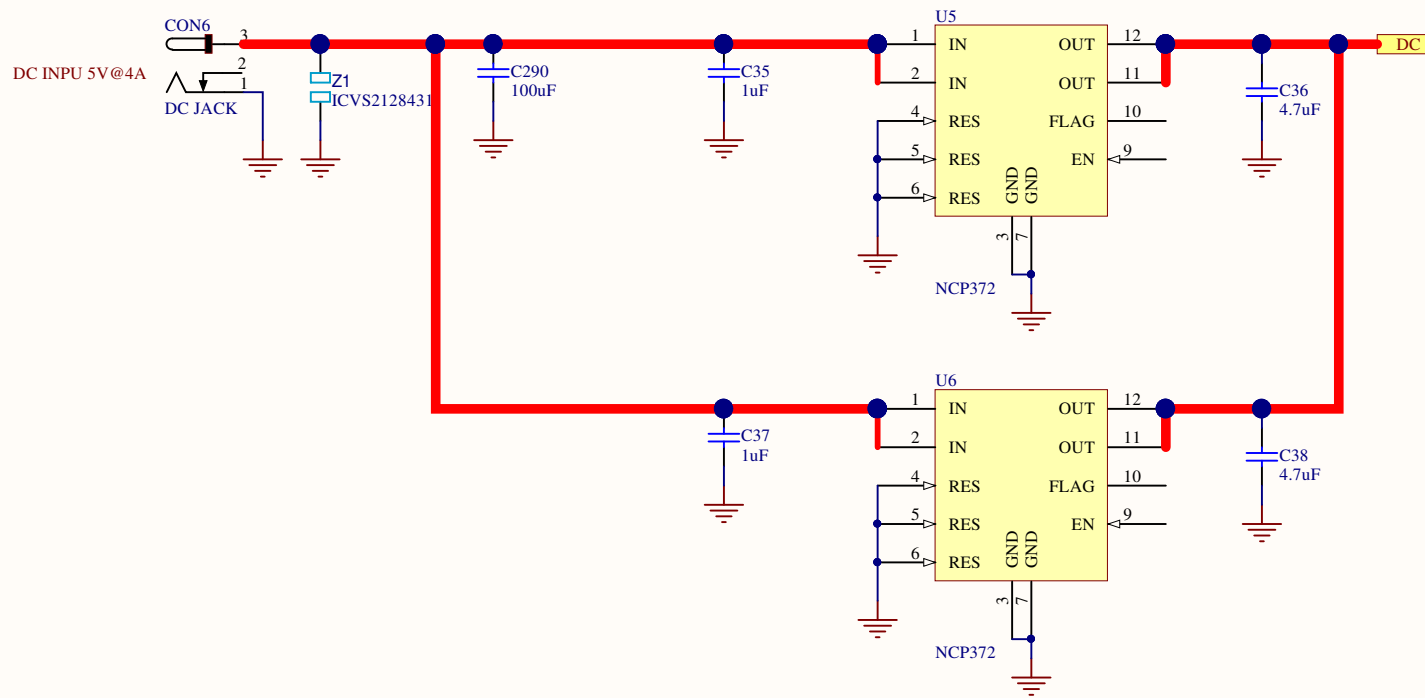
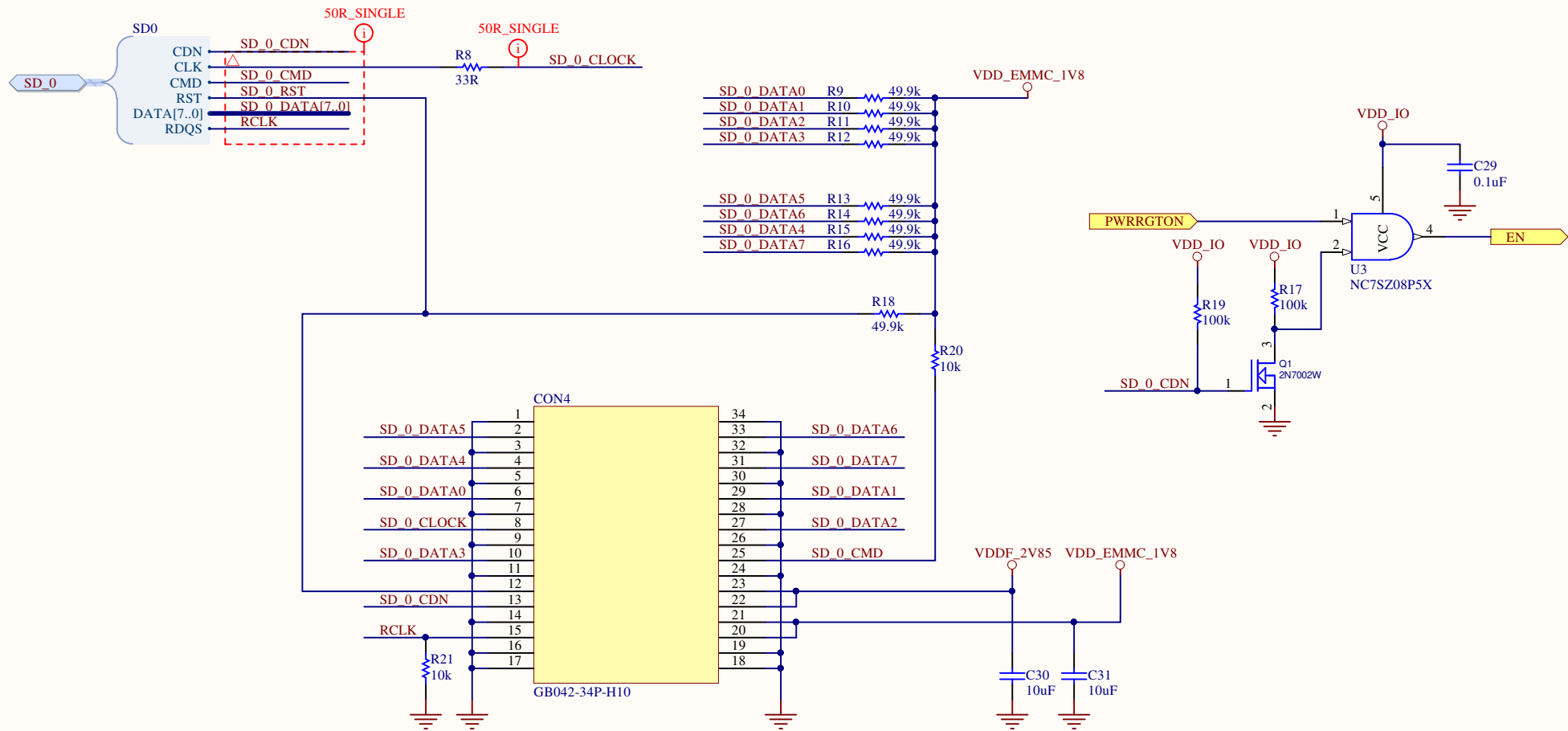


Title CLK			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:30.	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:21	Sheet 1 of 33	Designed by: ruppi.kim@hardkernel.com	
File: CLK.SchDoc				



Title DC Jack and Potection IC			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:22.	Revision:0.1	Designed by: ruppi.kim@hardkernel.com	
Date: 2016-07-04	Time: 오후 6:48:21	Sheet 2 of 33		
File: CON_DCJACK.SchDoc				



Title eMMC Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:29.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:22	Sheet 3 of 33	Designed by: ruppi.kim@hardkernel.com	
File: CON_EMMC.SchDoc				

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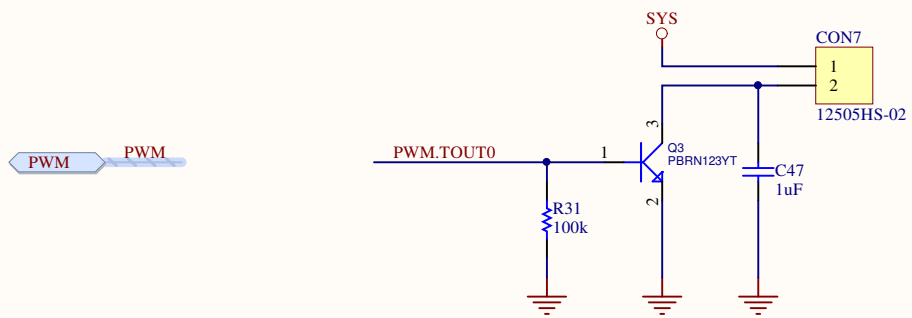
B


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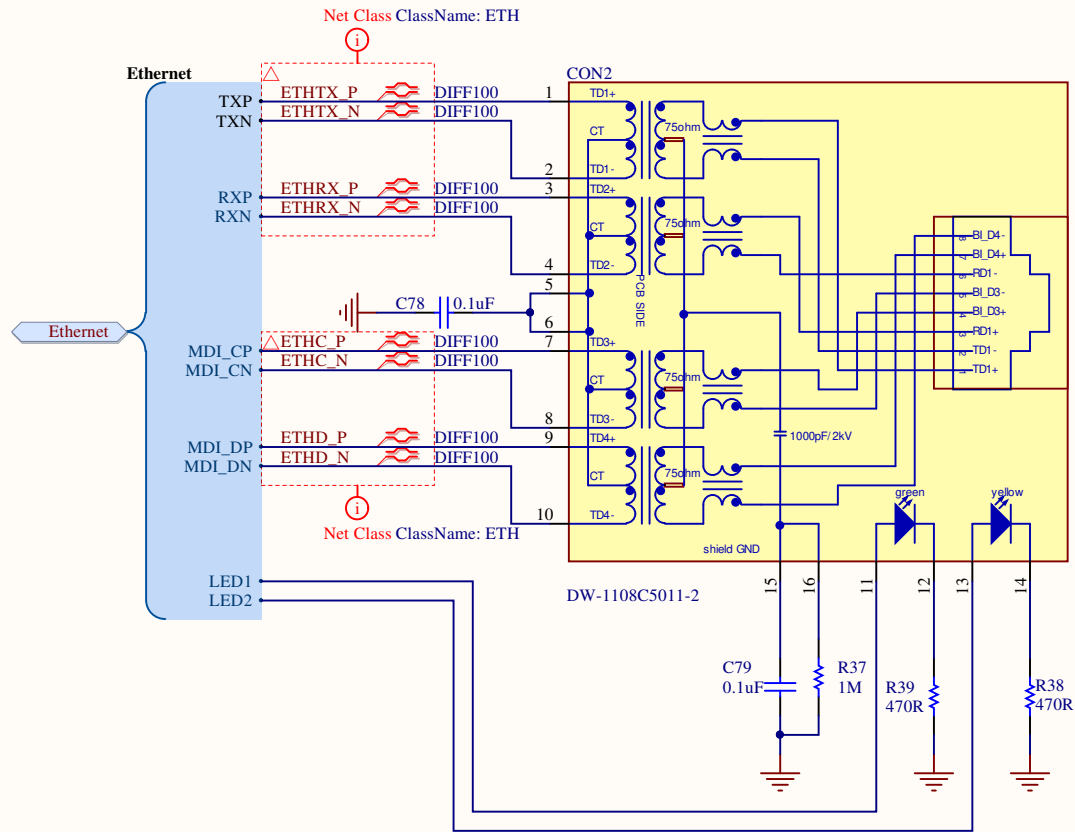
Title FAN Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:27.	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:22		Sheet4 of 33	
File: CON_FAN.SchDoc			Designed by: ruppi.kim@hardkernel.com	

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Title **Giga Ethernet Connector**

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



Size: A4

Number:13.

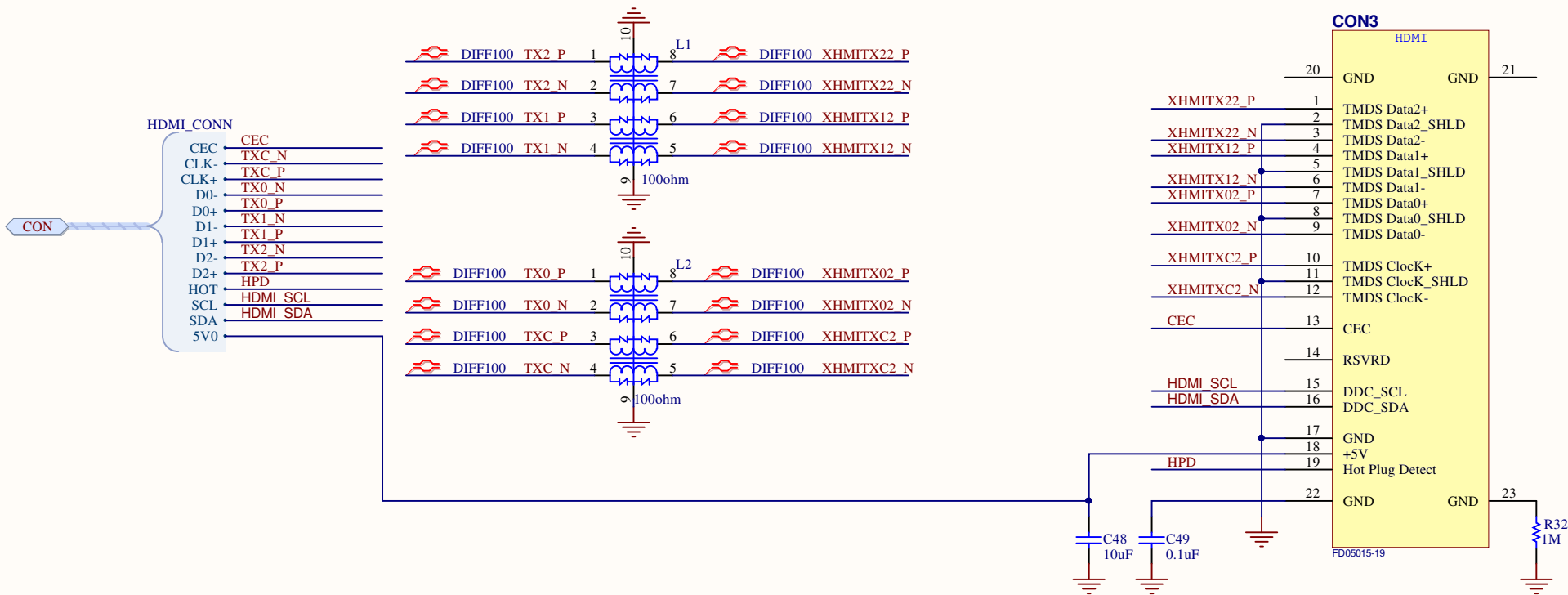
Revision0.1

Date: 2016-07-04

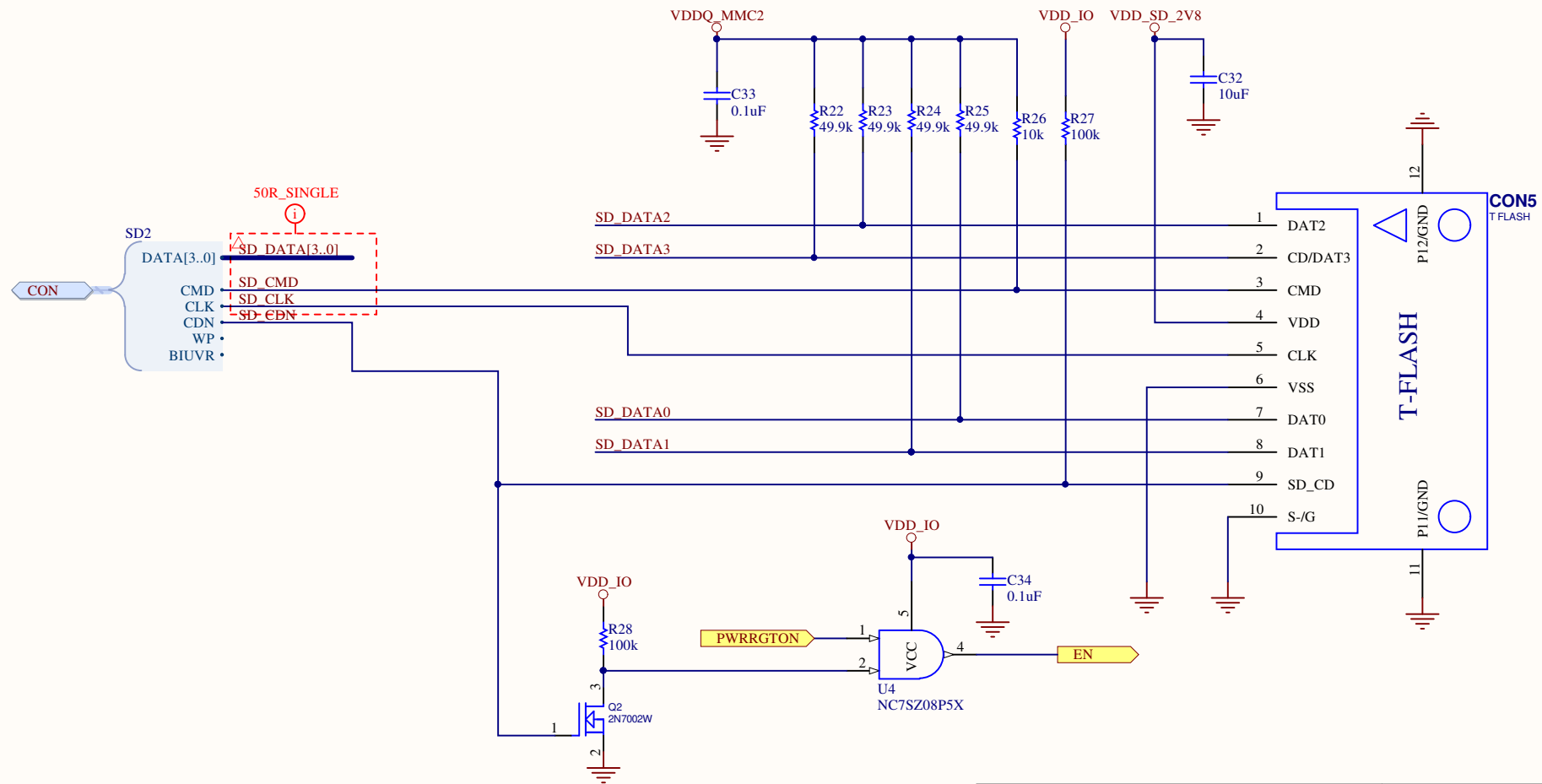
Time: 오후 6:48:22 Sheet5 of 33

File: CON_GIGA_ETH.SchDoc

Designed by: ruppi.kim@hardkernel.com



Title HDMI Type A Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:18.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:22	Sheet:6 of 33	Designed by: ruppi.kim@hardkernel.com	
File: CON_HDMI.SchDoc				



Title Micro SD Socket			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	ARDUINO
Size: A4	Number:24.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:22	Sheet 7 of 33		
File: CON_MICROSD_HD08-AL00335.SchDoc			Designed by: ruppi kim@hardkernel.com	

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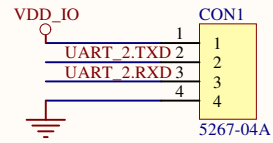
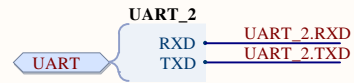
B


C

C

D

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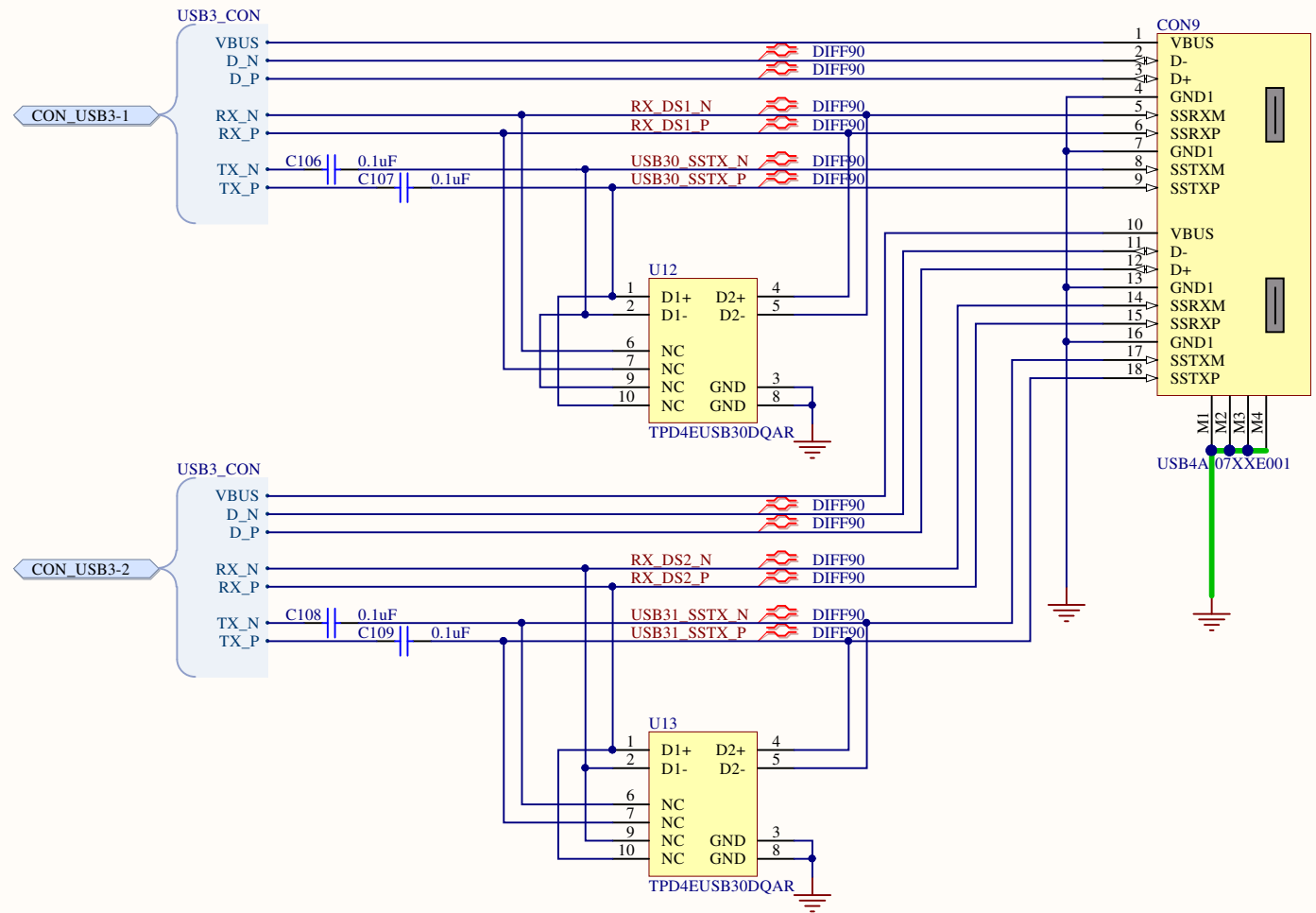
Title UART Connector			<i>Hardkernel Co.,LTD.</i> 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea Designed by: ruppi.kim@hardkernel.com	
Size: A4	Number:23.	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:22	Sheet8 of 33		
File: CON_UART.SchDoc				

1

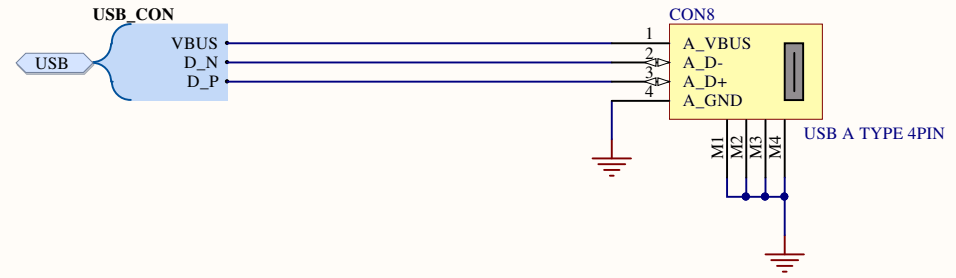
2


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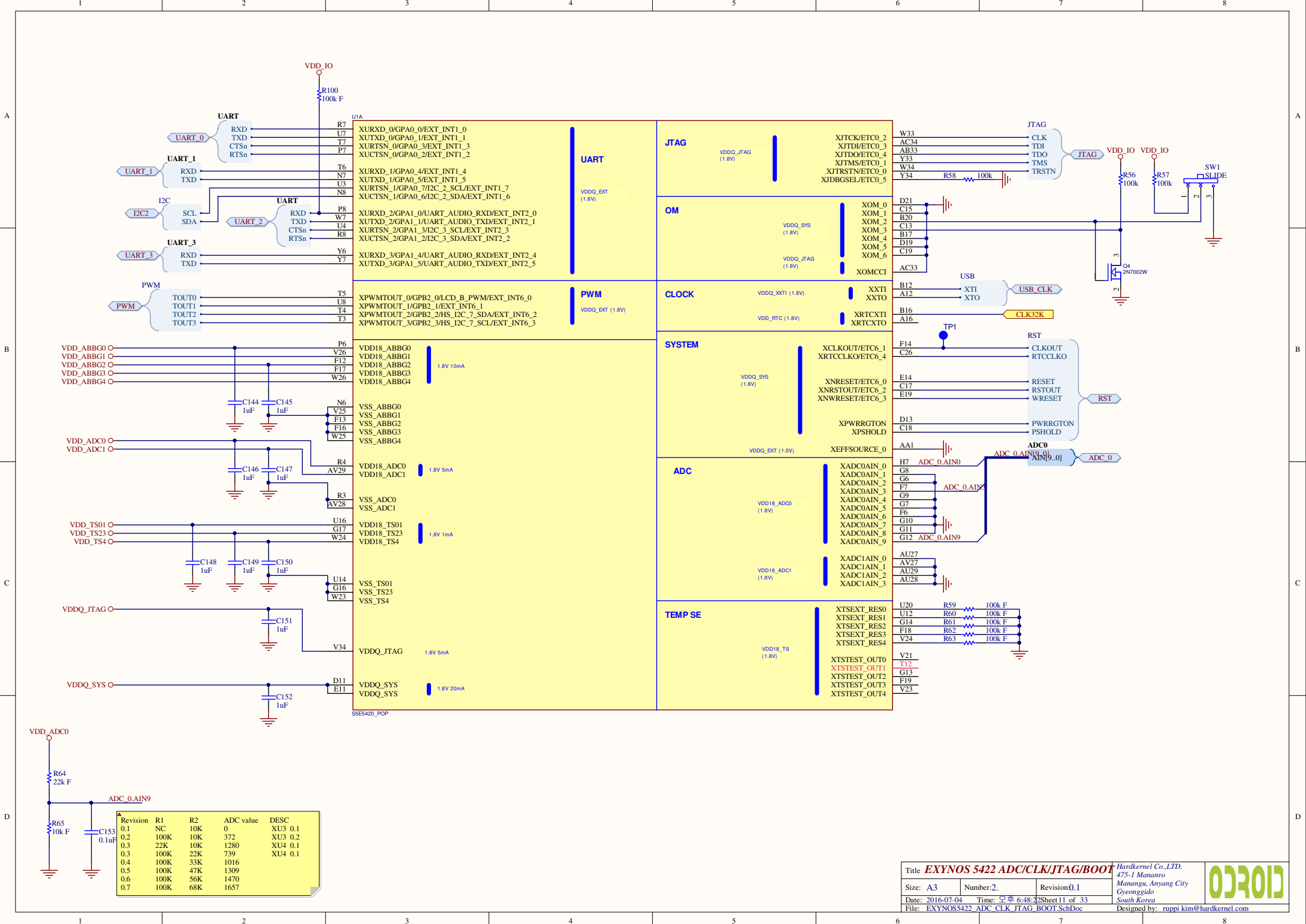
4



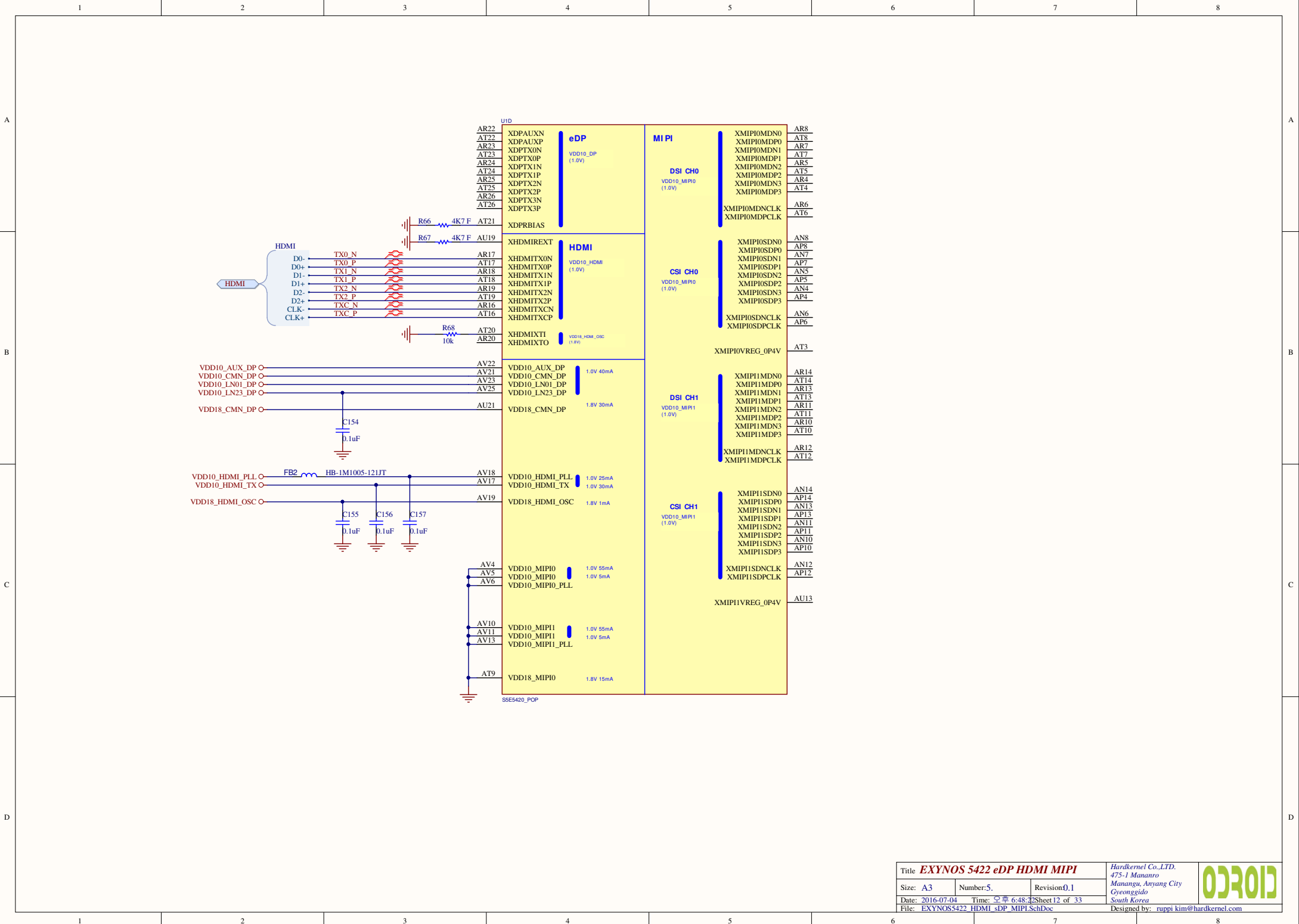
Title USB 3.0 Type A Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:15.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:22		Sheet9 of 33	
File: CON_USB3_DUAL_RA.SchDoc			Designed by: ruppi kim@hardkernel.com	

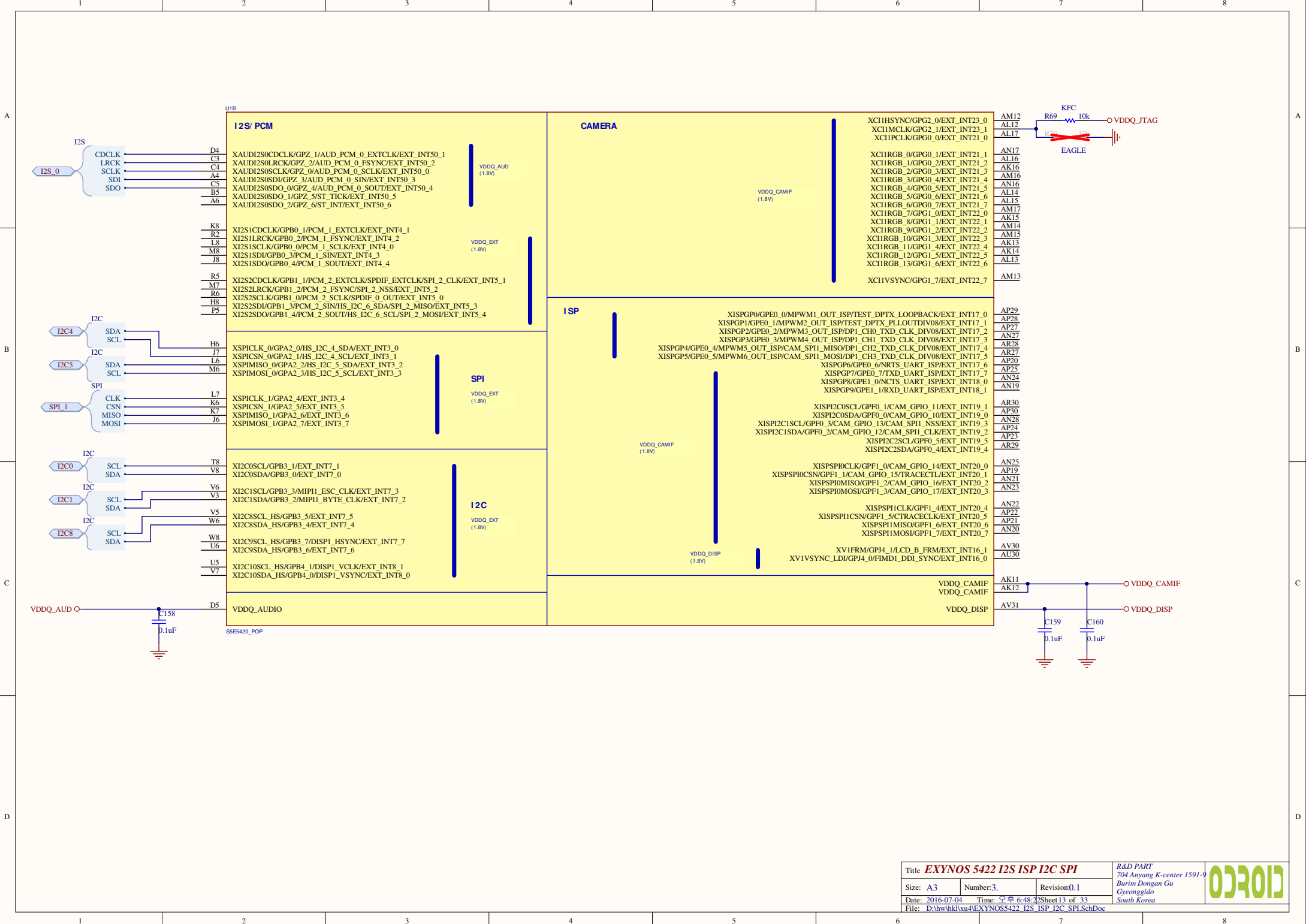


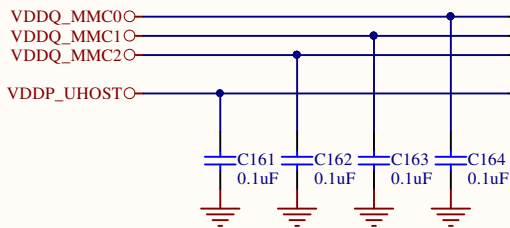
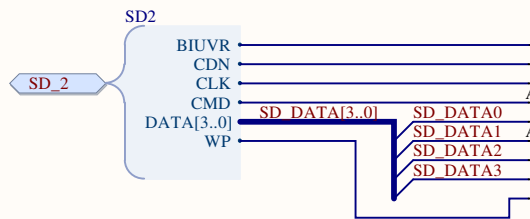
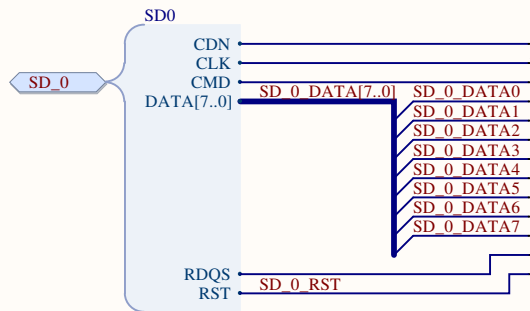
Title USB 2.0 Type A Connector			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea Designed by: ruppi.kim@hardkernel.com	
Size: A4	Number:21.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:22 Sheet 10 of 33			
File: CON_USB_RA.SchDoc				



Revision	R1	R2	ADC value	DESC
0.1	NC	10K	0	XU3 0.1
0.2	100K	10K	372	XU3 0.2
0.3	22K	10K	1280	XU4 0.1
0.4	100K	22K	739	XU4 0.1
0.5	100K	33K	1016	
0.6	100K	47K	1309	
0.7	100K	56K	1470	
0.8	100K	68K	1657	







U1F

AK6	XMMC0CDN/GPC0_2/EXT_INT9_2
AL10	XMMC0CLK/GPC0_0/EXT_INT9_0
AM9	XMMC0CMD/GPC0_1/EXT_INT9_1
AG2	XMMC0DATA_0/GPC0_3/EXT_INT9_3
AG1	XMMC0DATA_1/GPC0_4/EXT_INT9_4
AJ8	XMMC0DATA_2/GPC0_5/EXT_INT9_5
AL11	XMMC0DATA_3/GPC0_6/EXT_INT9_6
AG3	XMMC0DATA_4/GPC3_0/EXT_INT12_0
AF3	XMMC0DATA_5/GPC3_1/EXT_INT12_1
AK7	XMMC0DATA_6/GPC3_2/EXT_INT12_2
AJ9	XMMC0DATA_7/GPC3_3/EXT_INT12_3
AK9	XMMC0RDQS/GPC0_7/EXT_INT9_7
AE3	XMMC0RESETOUT/GPD1_0/EXT_INT14_0

AC3	XMMC1BEPW/GPD1_2/EXT_INT14_2
AK10	XMMC1CDN/GPC1_2/EXT_INT10_2
AD2	XMMC1CLK/GPC1_0/EXT_INT10_0
AD1	XMMC1CMD/GPC1_1/EXT_INT10_1
AJ10	XMMC1DATA_0/GPC1_3/EXT_INT10_3
AH8	XMMC1DATA_1/GPC1_4/EXT_INT10_4
AJ5	XMMC1DATA_2/GPC1_5/EXT_INT10_5
AJ6	XMMC1DATA_3/GPC1_6/EXT_INT10_6
AC2	XMMC1DATA_4/GPD1_4/EXT_INT14_4
AC1	XMMC1DATA_5/GPD1_5/EXT_INT14_5
AB2	XMMC1DATA_6/GPD1_6/EXT_INT14_6
AH5	XMMC1DATA_7/GPD1_7/EXT_INT14_7
AH6	XMMC1INTN/GPD1_1/EXT_INT14_1
AD3	XMMC1RDQS/GPC1_7/EXT_INT10_7
AB3	XMMC1WP/GPD1_3/EXT_INT14_3

AM6	XMMC2BIUVR/GPC4_1/EXT_INT13_1
AL6	XMMC2CDN/GPC2_2/EXT_INT11_2
AM7	XMMC2CLK/GPC2_0/EXT_INT11_0
AM11	XMMC2CMD/GPC2_1/EXT_INT11_1
AM5	XMMC2DATA_0/GPC2_3/EXT_INT11_3
AM10	XMMC2DATA_1/GPC2_4/EXT_INT11_4
AN9	XMMC2DATA_2/GPC2_5/EXT_INT11_5
AL5	XMMC2DATA_3/GPC2_6/EXT_INT11_6
AK5	XMMC2WP/GPC4_0/EXT_INT13_0

AL7	VDDQ_MMC0	1.8V 150mA
AH7	VDDQ_MMC1	1.8V 150mA
AL8	VDDQ_MMC2	2.8V 250mA
AL9	VDDP_MMC	1.8V 50mA

SSE5420_POP

MMC

CH0

VDDQ_MMC0 (1.8V)

CH1

VDDQ_MMC1 (1.8V)

CH2

VDDQ_MMC2 (1.8V/2.8V)

UFS

VDDQ_EXT (1.8V)

VDD_RX_UFS (1.0V)

VDD_TX_UFS (1.0V)

VDD_UFS_OSC (1.8V)

VDD_CMN_UFS (1.0V)

1.0V 60mA

1.0V 60mA

1.0V 60mA

1.8V 5mA

1.8V 1mA

XUFSNRESET/ETC6_7

XUFSRXDN0

XUFSRXDP0

XUFSRXDN1

XUFSRXDP1

XUFSTXDN0

XUFSTXDP0

XUFSTXDN1

XUFSTXDP1

XUFSXTI

XUFSXTO

XUFSREFCLK

XUFSREFCLK_OUT

XUFSREXT

VDD_CMN_UFS

VDD_RX_UFS

VDD_TX_UFS

VDD_UFS_OSC

VDDH_CMN_UFS

Y3

AJ4

AJ3

AH4

AH3

AL4

AL3

AM4

AM3

AP1

AN1

AK4

AK3

AH2

AK1

AL1

AJ1

AN2

AK2

VDD_UFS_OSC

Title **EXYNOS 5422 MMC UFS**

Size: A4 Number:7. Revision:0.1

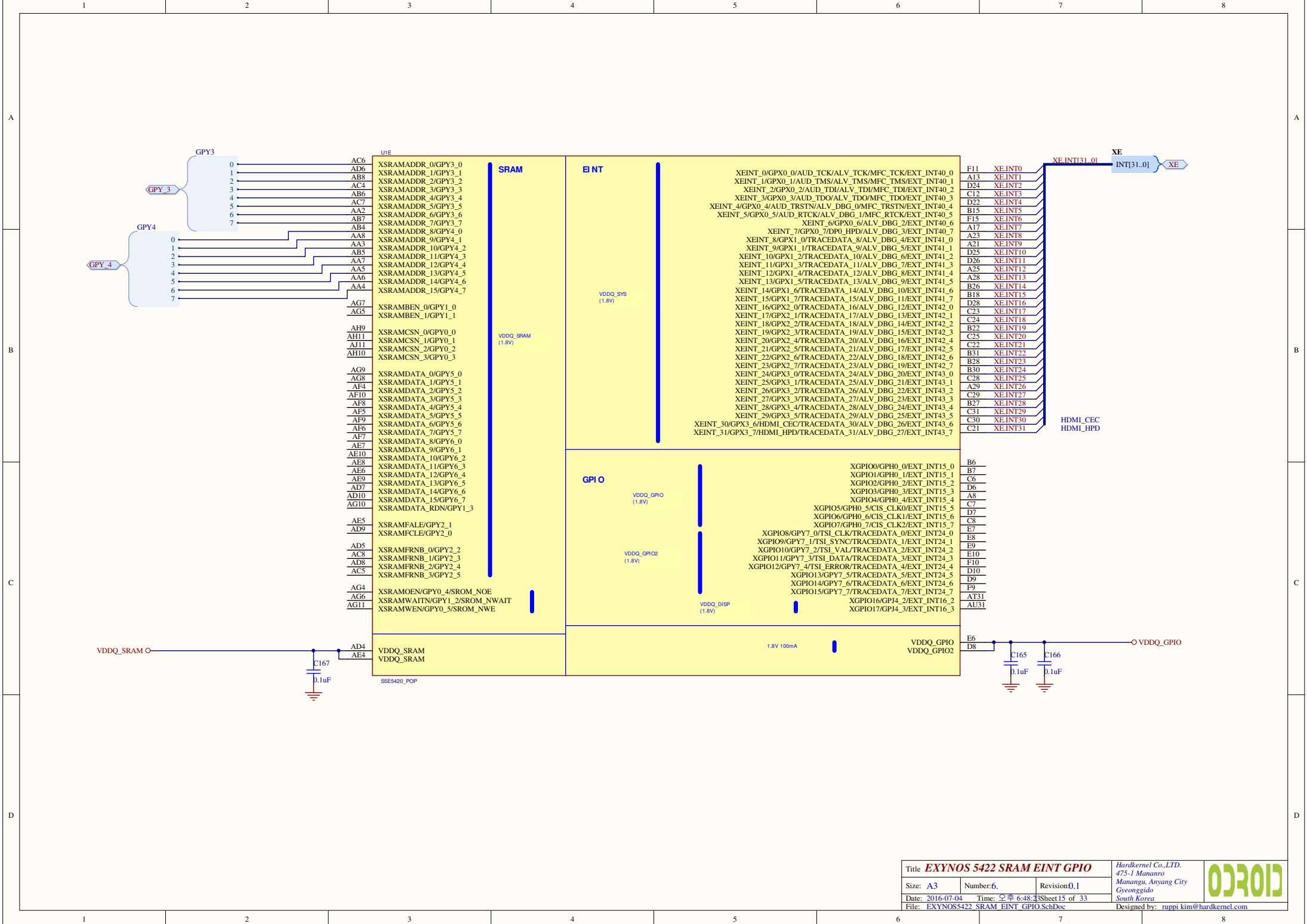
Date: 2016-07-04 Time: 오후 6:48:22 Sheet 14 of 33

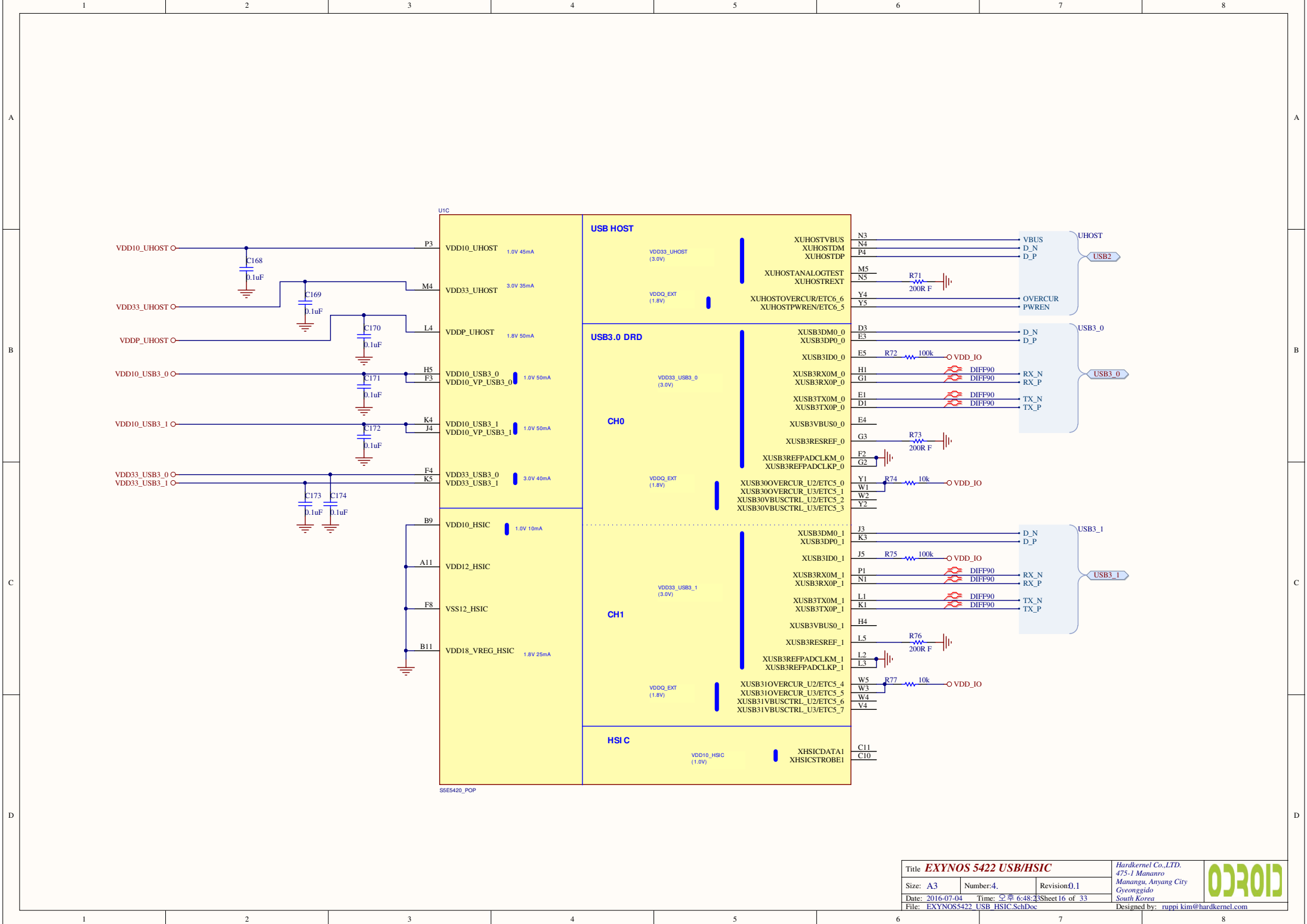
File: EXYNOS5422_MMC_UFS.SchDoc

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



Designed by: ruppi.kim@hardkernel.com

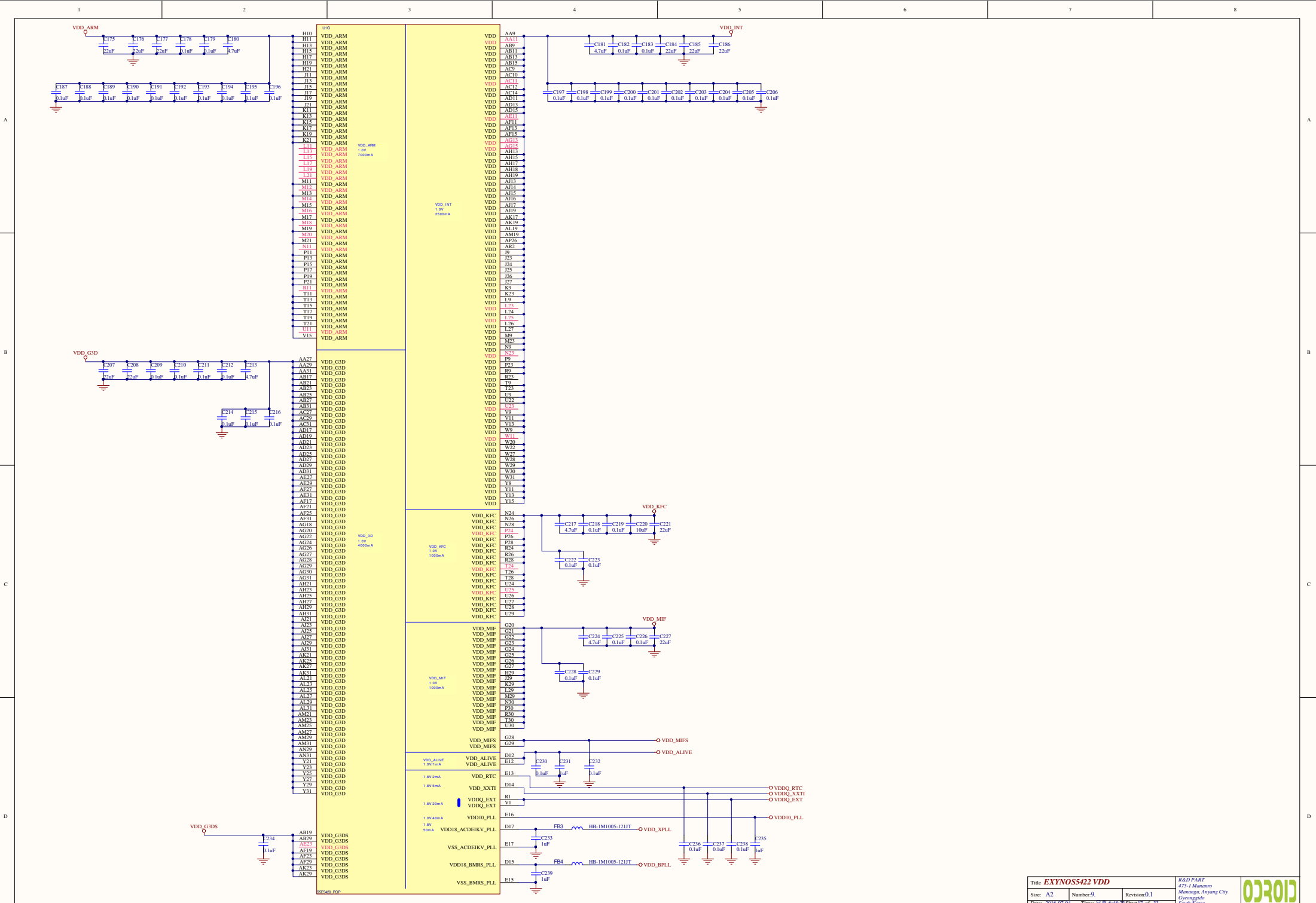


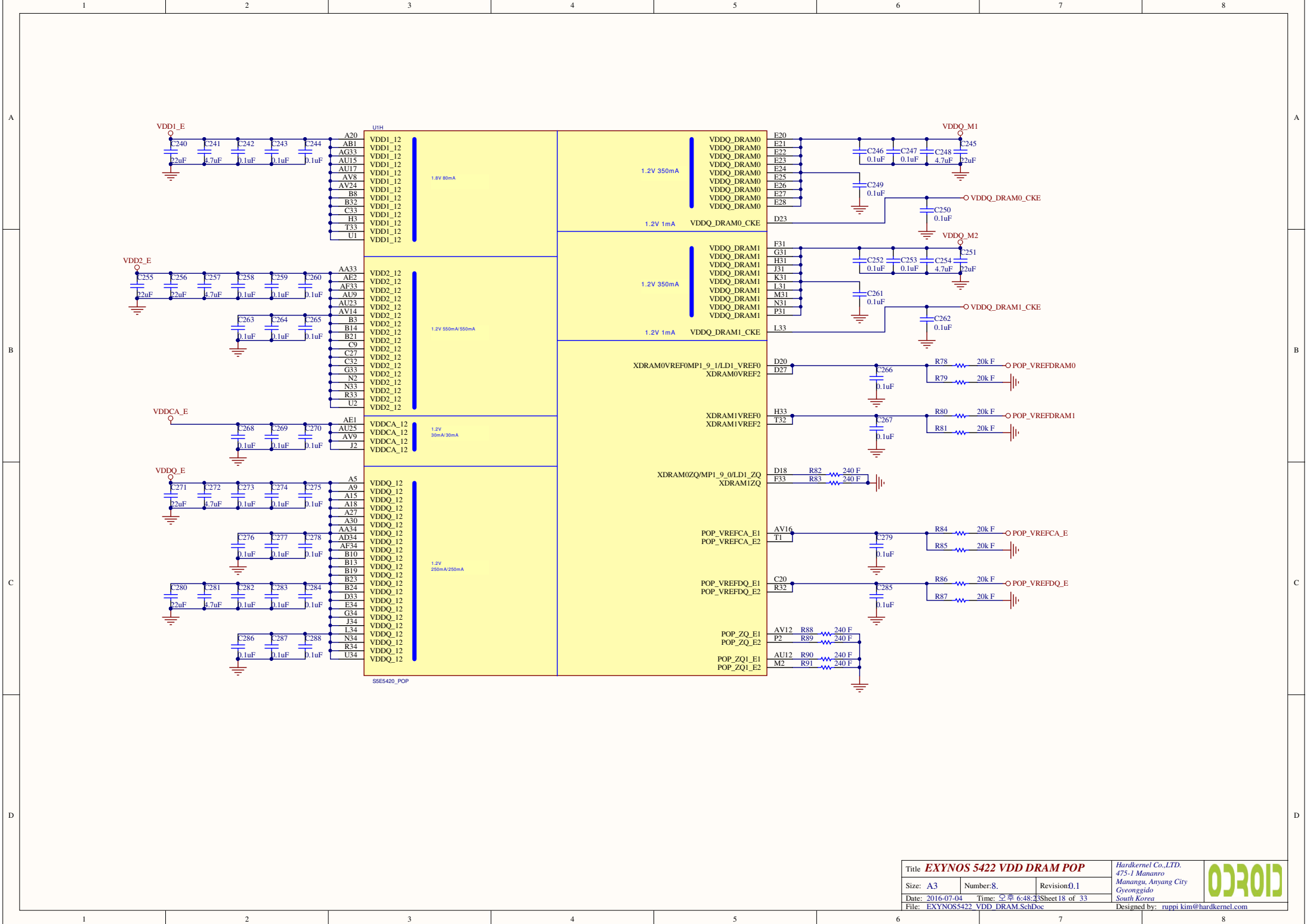


UIC

S8E5420_POP

Title EXYNOS 5422 USB/HSIC			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeongdo South Korea	02010D
Size: A3	Number: 4	Revision: 0.1		
Date: 2016-07-04	Time: 6:48:33	Sheet 16 of 33		
File: EXYNOS5422_USB_HSIC.SchDoc			Designed by: ruppi.kim@hardkernel.com	



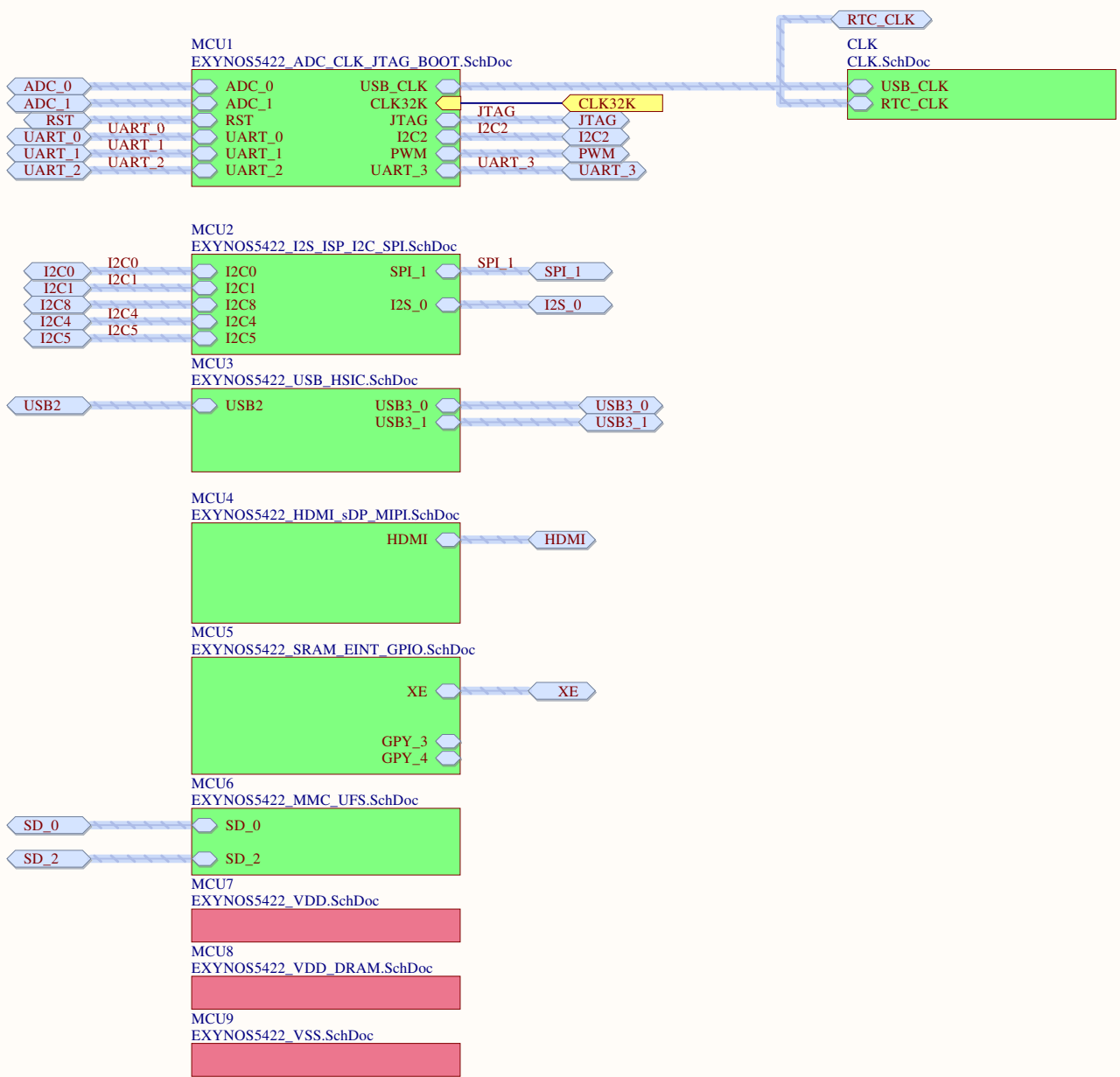


A1	VSS	A1	VSS
A10	VSS	A10	VSS
A11	VSS	A11	VSS
AA10	VSS	AA12	VSS
AA12	VSS	AA12	VSS
AA30	VSS	AA32	VSS
AA32	VSS	AA32	VSS
AB12	VSS	AB26	VSS
AB26	VSS	AB34	VSS
AC20	VSS	AC22	VSS
AC28	VSS	AC30	VSS
AD24	VSS	AD26	VSS
AD32	VSS	AD33	VSS
AH16	VSS	AH18	VSS
AH24	VSS	AH26	VSS
AH33	VSS	AH33	VSS
AH34	VSS	AH34	VSS
AH35	VSS	AH35	VSS
AF2	VSS	AF28	VSS
AF26	VSS	AF28	VSS
AG17	VSS	AG14	VSS
AG34	VSS	AH1	VSS
AH16	VSS	AH20	VSS
AH26	VSS	AH28	VSS
AH33	VSS	AH34	VSS
AH35	VSS	AH35	VSS
AJ2	VSS	AJ26	VSS
AJ32	VSS	AB3	VSS
AK18	VSS	AK30	VSS
AK26	VSS	AK28	VSS
AK3	VSS	AK34	VSS
AL20	VSS	AL22	VSS
AL28	VSS	AL30	VSS
AL41	VSS	AM1	VSS
AM18	VSS	AM30	VSS
AM26	VSS	AM28	VSS
AM33	VSS	AM34	VSS
AN18	VSS	AN26	VSS
AN31	VSS	AN34	VSS
AP9	VSS	AP15	VSS
AP18	VSS	AP31	VSS
AP34	VSS	AP31	VSS
AR14	VSS	AR21	VSS
AR33	VSS	AB34	VSS
AT14	VSS	AT27	VSS
AT40	VSS	AT32	VSS
AH1	VSS	AH12	VSS
AU3	VSS	AU6	VSS
AU10	VSS	AU11	VSS
AU18	VSS	AU20	VSS
AU26	VSS	AU32	VSS
AV1	VSS	AV2	VSS
AV15	VSS	AV30	VSS
AV33	VSS	AV34	VSS
B4	VSS	B25	VSS
B34	VSS	C1	VSS
C16	VSS	C34	VSS
D29	VSS	D30	VSS
D34	VSS	E2	VSS
E30	VSS	E31	VSS
F1	VSS	F5	VSS
F22	VSS	F23	VSS
F26	VSS	F27	VSS
F30	VSS	F32	VSS
G5	VSS	G15	VSS
G20	VSS	G2	VSS
H12	VSS	H14	VSS
H20	VSS	H22	VSS
H25	VSS	H26	VSS
H30	VSS	H32	VSS
J10	VSS	J12	VSS
J18	VSS	J20	VSS
J30	VSS	J32	VSS
K10	VSS	K13	VSS
K18	VSS	K20	VSS
K35	VSS	K36	VSS
K40	VSS	K42	VSS
L10	VSS	L12	VSS
L18	VSS	L20	VSS
L30	VSS	L32	VSS
M10	VSS	M2	VSS
M3	VSS	M3	VSS
M32	VSS	M33	VSS
N17	VSS	N14	VSS
N20	VSS	N22	VSS
N29	VSS	N32	VSS
P2	VSS	P23	VSS
R12	VSS	P33	VSS
R20	VSS	R14	VSS
R29	VSS	R23	VSS
T25	VSS	R31	VSS
T34	VSS	T27	VSS
U32	VSS	U10	VSS
V12	VSS	U33	VSS
V30	VSS	V32	VSS
W10	VSS	V31	VSS
Y9	VSS	W12	VSS
Y26	VSS	Y17	VSS
		Y28	VSS
			VSS

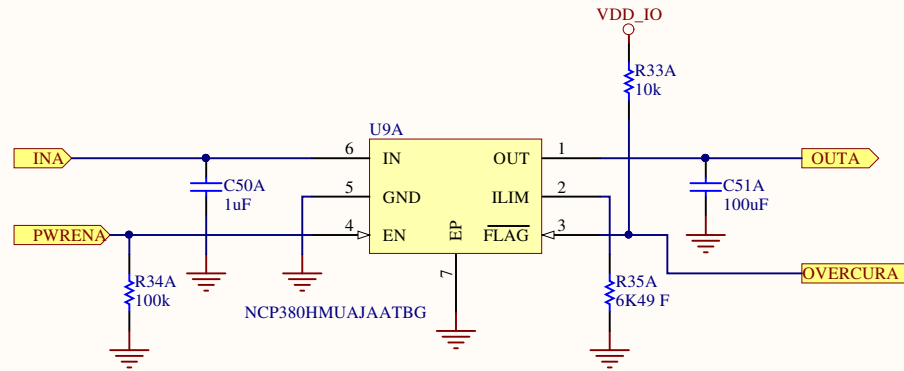
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Y20	NC1	NC40	AA15
Y19	NC2	NC41	AA16
Y18	NC3	NC42	AA17
Y17	NC4	NC43	AA18
Y16	NC5	NC44	AA19
Y14	NC6	NC45	AA21
W19	NC7	NC46	AB14
W18	NC8	NC47	AB16
W17	NC9	NC48	AB22
W16	NC10	NC49	AB23
W15	NC11	NC50	AB25
W13	NC12	NC51	AC13
W12	NC13	NC52	AC15
W11	NC14	NC53	AC17
W10	NC15	NC54	AC19
W9	NC16	NC55	AC21
W8	NC17	NC56	AD14
W7	NC18	NC57	AD16
W6	NC19	NC58	AD18
W5	NC20	NC59	AD20
W4	NC21	NC60	AD22
W3	NC22	NC61	R14
W2	NC23	NC62	R15
W1	NC24	NC63	R17
W0	NC25	NC64	R19
T22	NC26	NC65	R31
T20	NC27	NC66	T4
T18	NC28	NC67	T16
T15	NC29	NC68	T18
T13	NC30	NC69	T20
T11	NC31	NC70	AF18
T9	NC32	NC71	P24
T7	NC33	NC72	P25
T5	NC34	NC73	AF20
T3	NC35	NC74	P16
T1	NC36	NC75	AF14
T0	NC37	NC76	AF22
T-1	NC38	NC77	P18

BSE420_POP

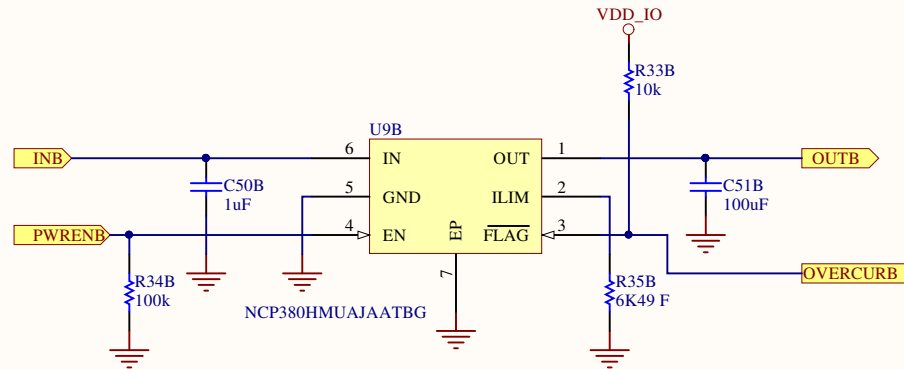




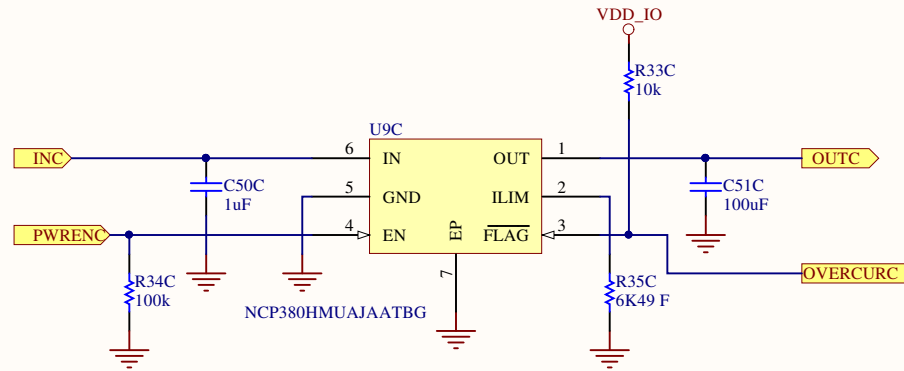
Title MCU EXYNOS5422		Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea		
Size: A4	Number: 1.	Revision: 0.1		
Date: 2016-07-04	Time: 오후 6:48:24	Sheet 22 of 33		
File: MCU_EXYNOS5422.SchDoc		Designed by: ruppi kim@hardkernel.com		



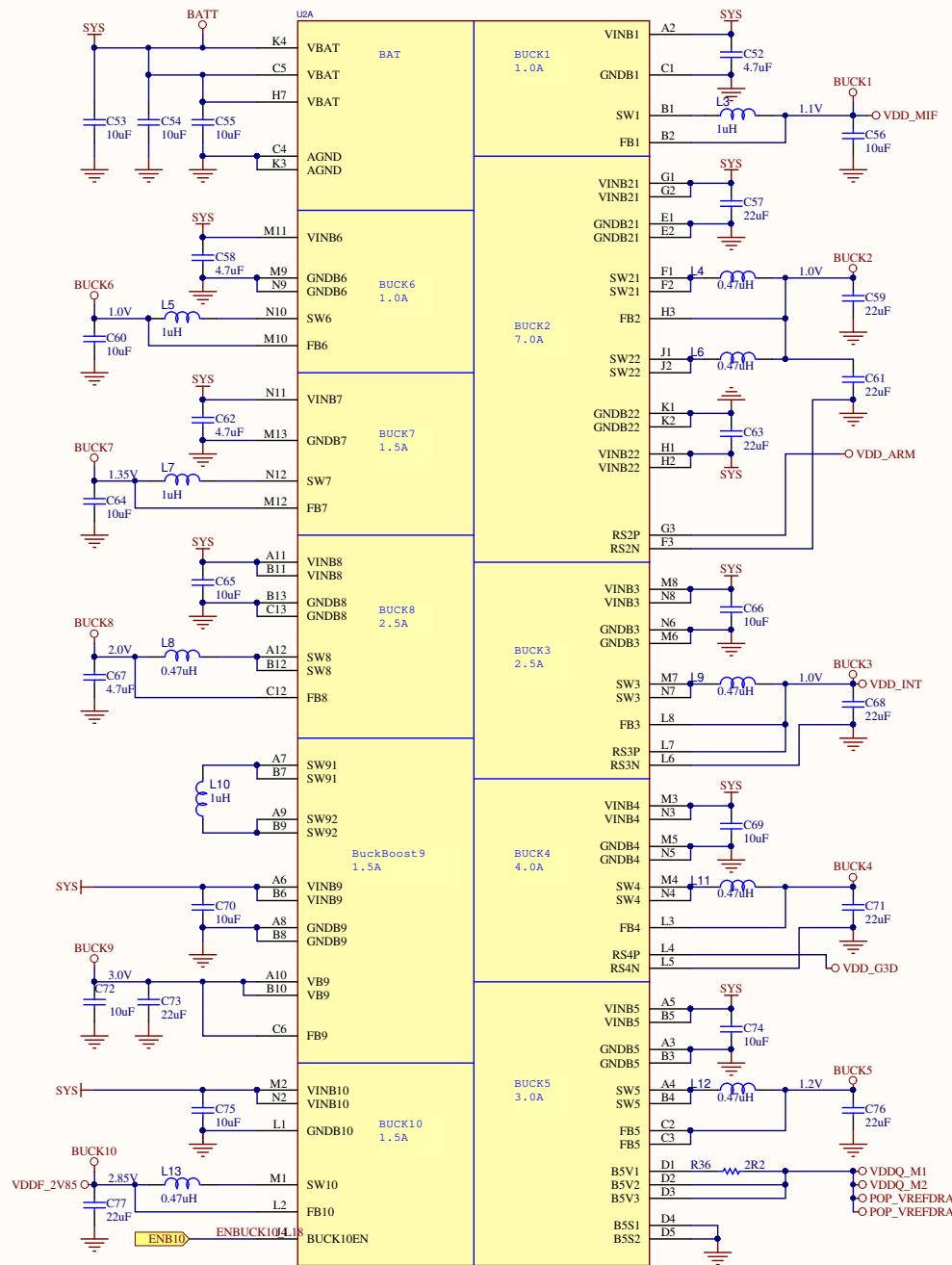
Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:16.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:24 Sheet 23 of 33		Designed by: ruppi.kim@hardkernel.com	
File: NCP380HM.SchDoc				



Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:16.1.1	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:24Sheet24 of 33		Designed by: ruppi.kim@hardkernel.com	
File: NCP380HM.SchDoc				

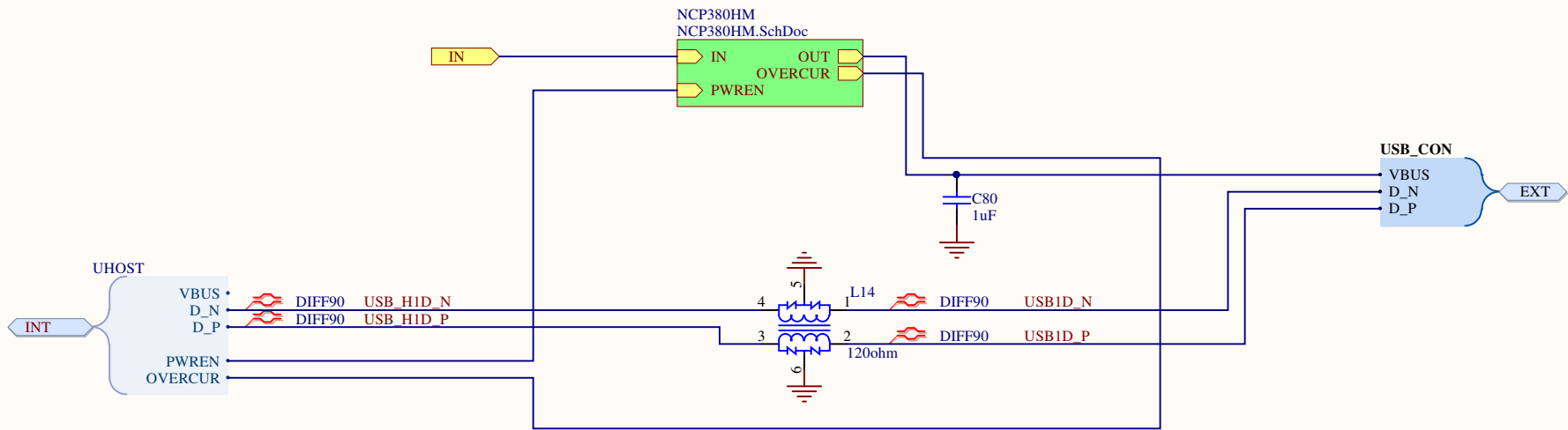


Title USB HOST Power Switch			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:16.2.1	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:24	Sheet 25 of 33		
File: NCP380HM.SchDoc			Designed by: ruppi kim@hardkernel.com	

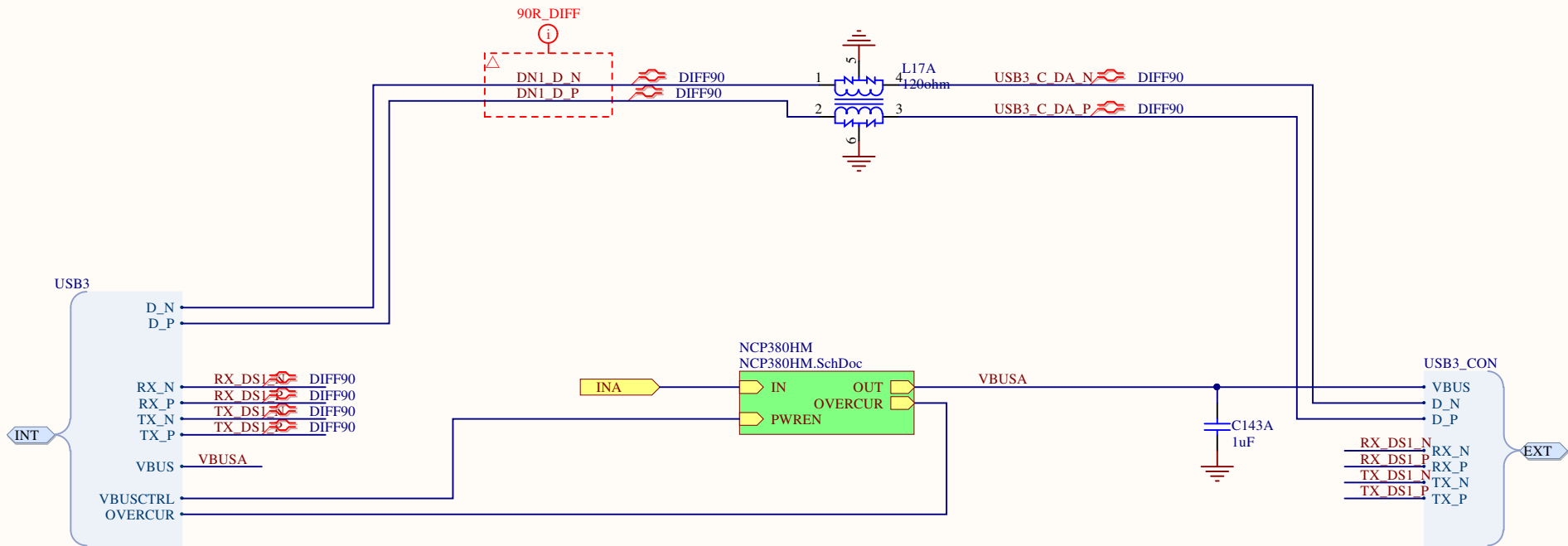


S2MPS11B 4TH
IC ADDR : 0xCG(F8) 0x0C(RTC)

- VDD_MEM
- VDDCA_E
- VDD2_E
- POP_VREFCA_E
- VDDQ_DRAM0_CKE
- VDDQ_DRAM1_CKE
- VDDQ_E
- POP_VREFDQ_E

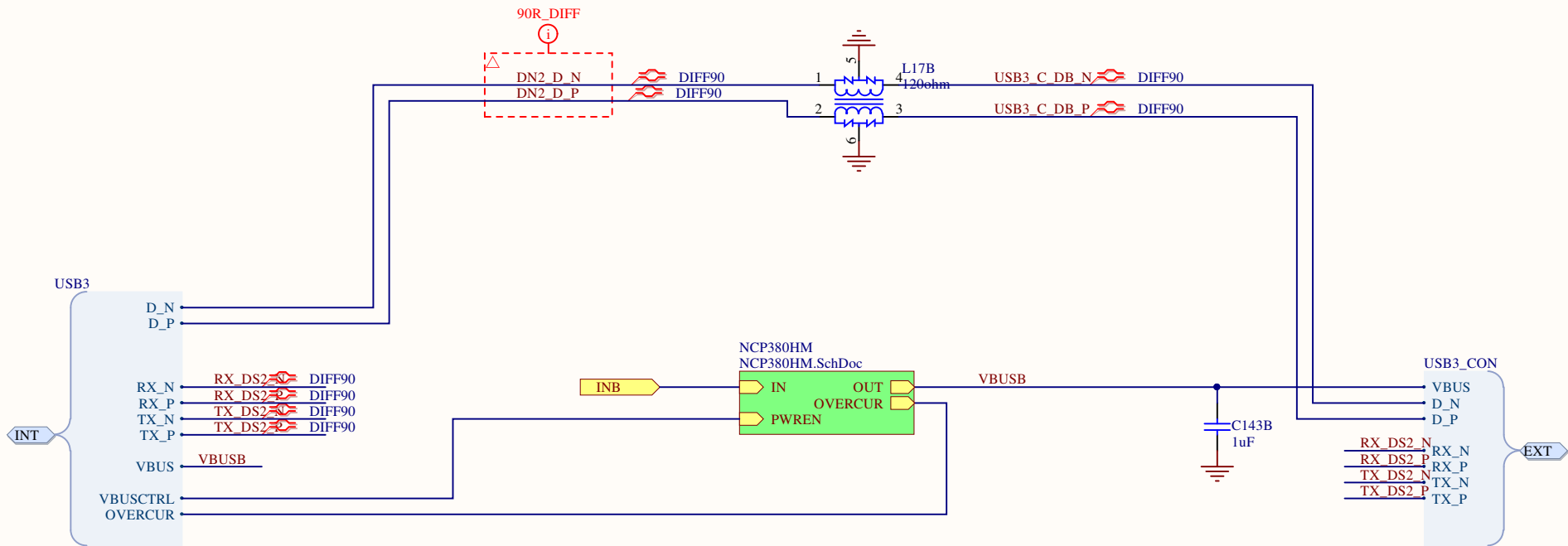


Title USB HOST PWR SW			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:28.	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:24	Sheet:28 of 33		
File: USB2_HOST_PWR_SW.SchDoc			Designed by: ruppi kim@hardkernel.com	



Title USB3 BUS POWER			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea Designed by: ruppi.kim@hardkernel.com
Size: A4	Number:19.1	Revision:0.1	
Date: 2016-07-04	Time: 오후 6:48:25	Sheet:29 of 33	
File: USB3_BUS_PWR.SchDoc			





Title USB3 BUS POWER			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:19.2	Revision:0.1		
Date: 2016-07-04	Time: 오후 6:48:25	Sheet:30 of 33		
File: USB3_BUS_PWR.SchDoc			Designed by: ruppi kim@hardkernel.com	

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A

A

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C

C

D

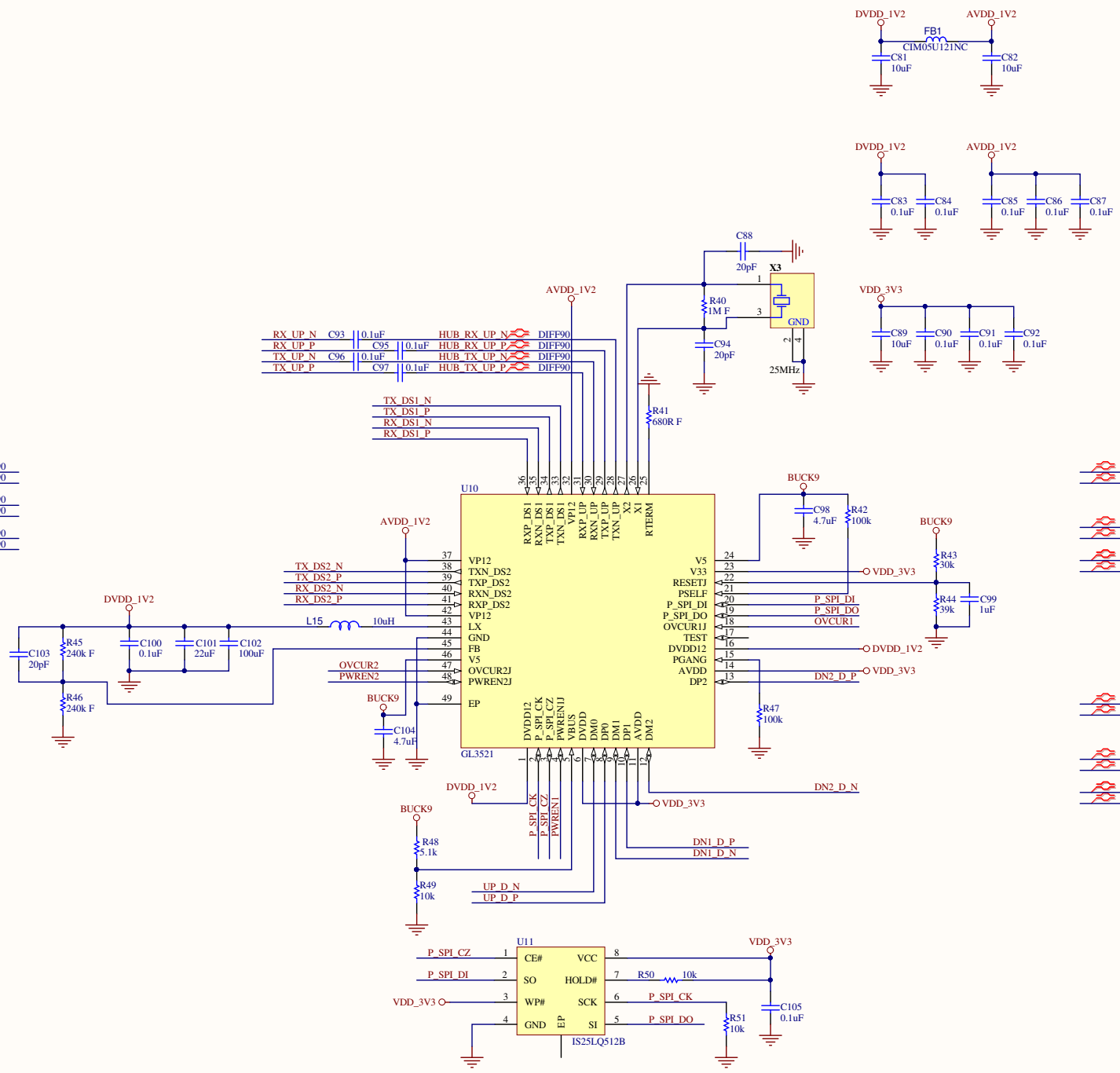
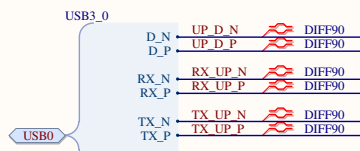
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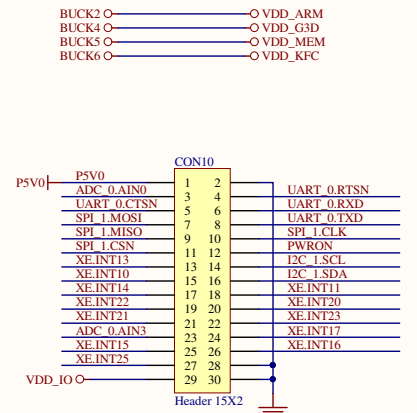
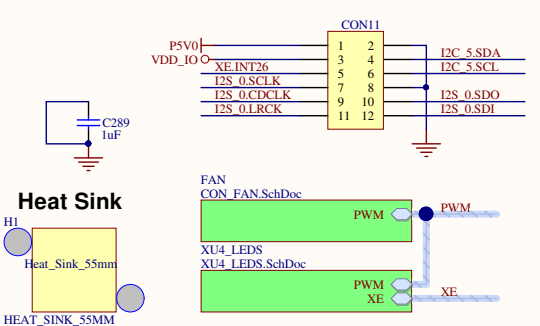
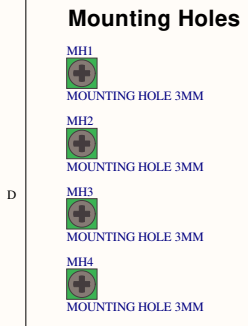
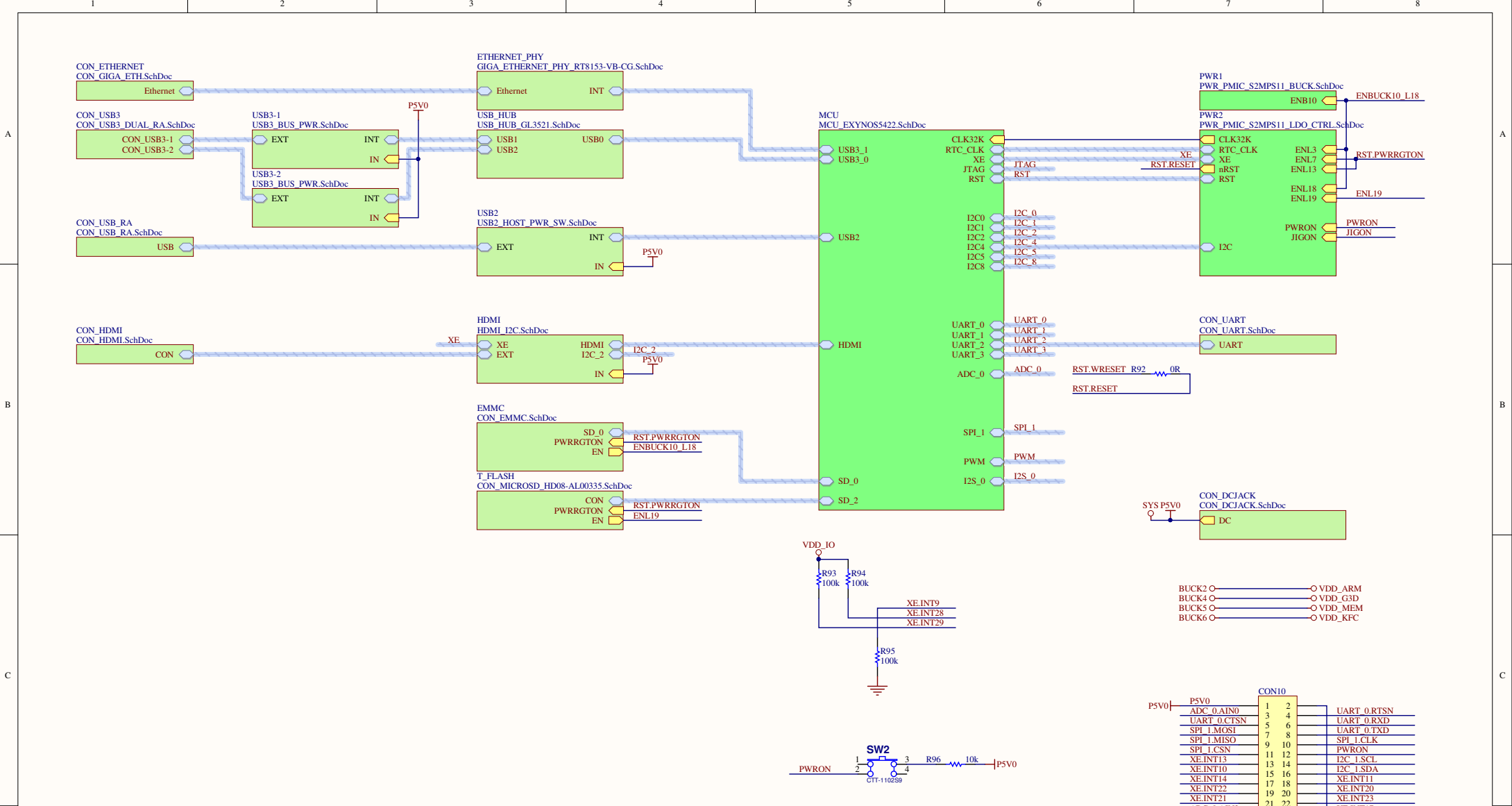
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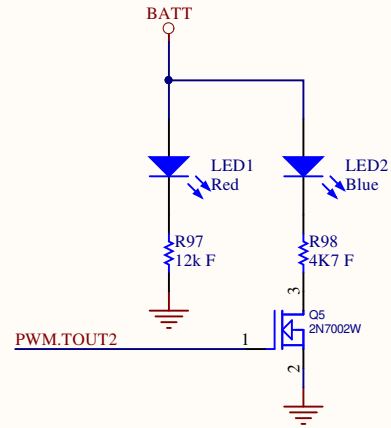
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3

4







Title Indicator LEDs			Hardkernel Co.,LTD. 475-1 Mananro Manangu, Anyang City Gyeonggido South Korea	
Size: A4	Number:25.	Revision0.1		
Date: 2016-07-04	Time: 오후 6:48:25	Sheet33 of 33	Designed by: rupperkim@hardkernel.com	
File: XU4_LEDS.SchDoc				