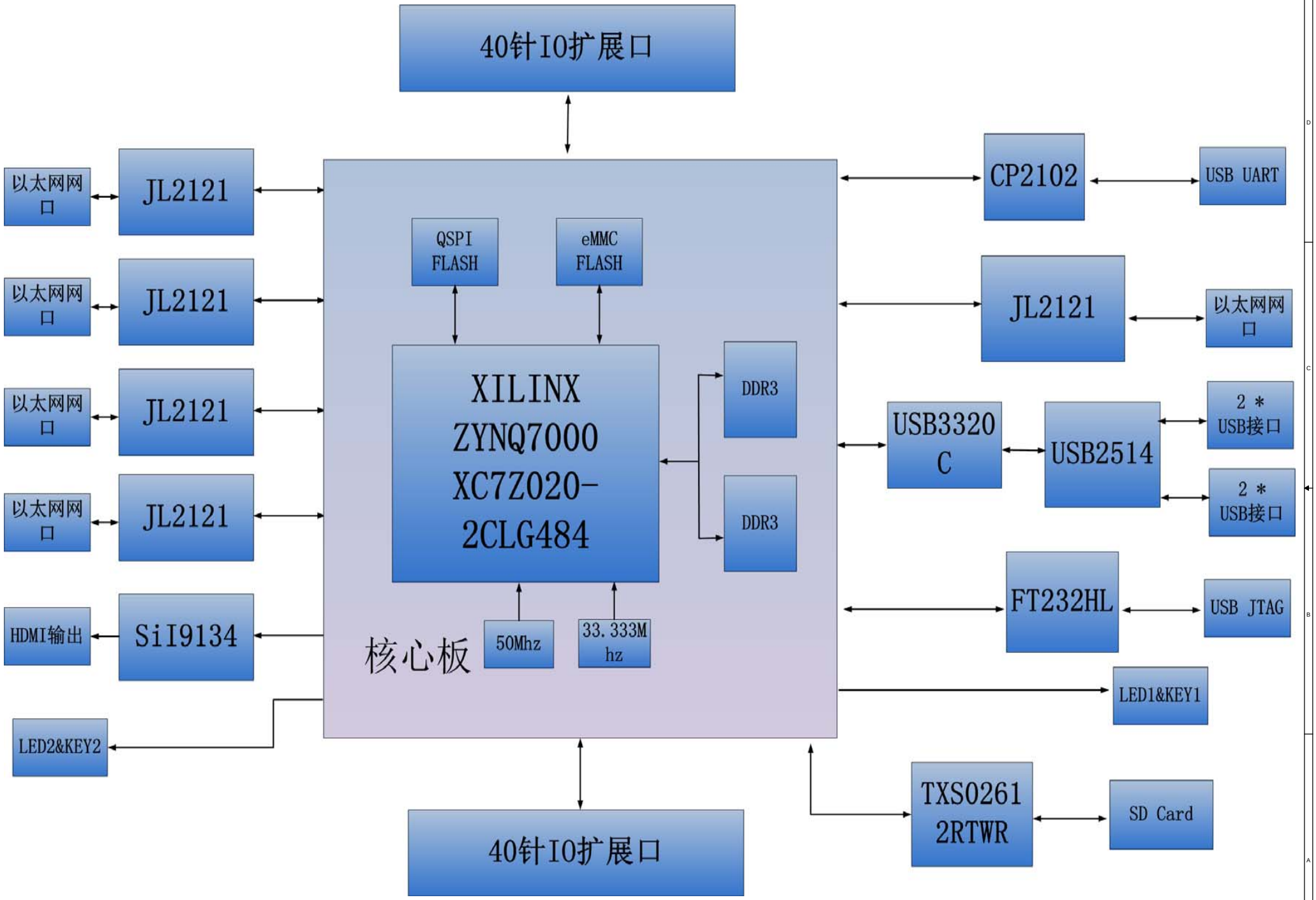

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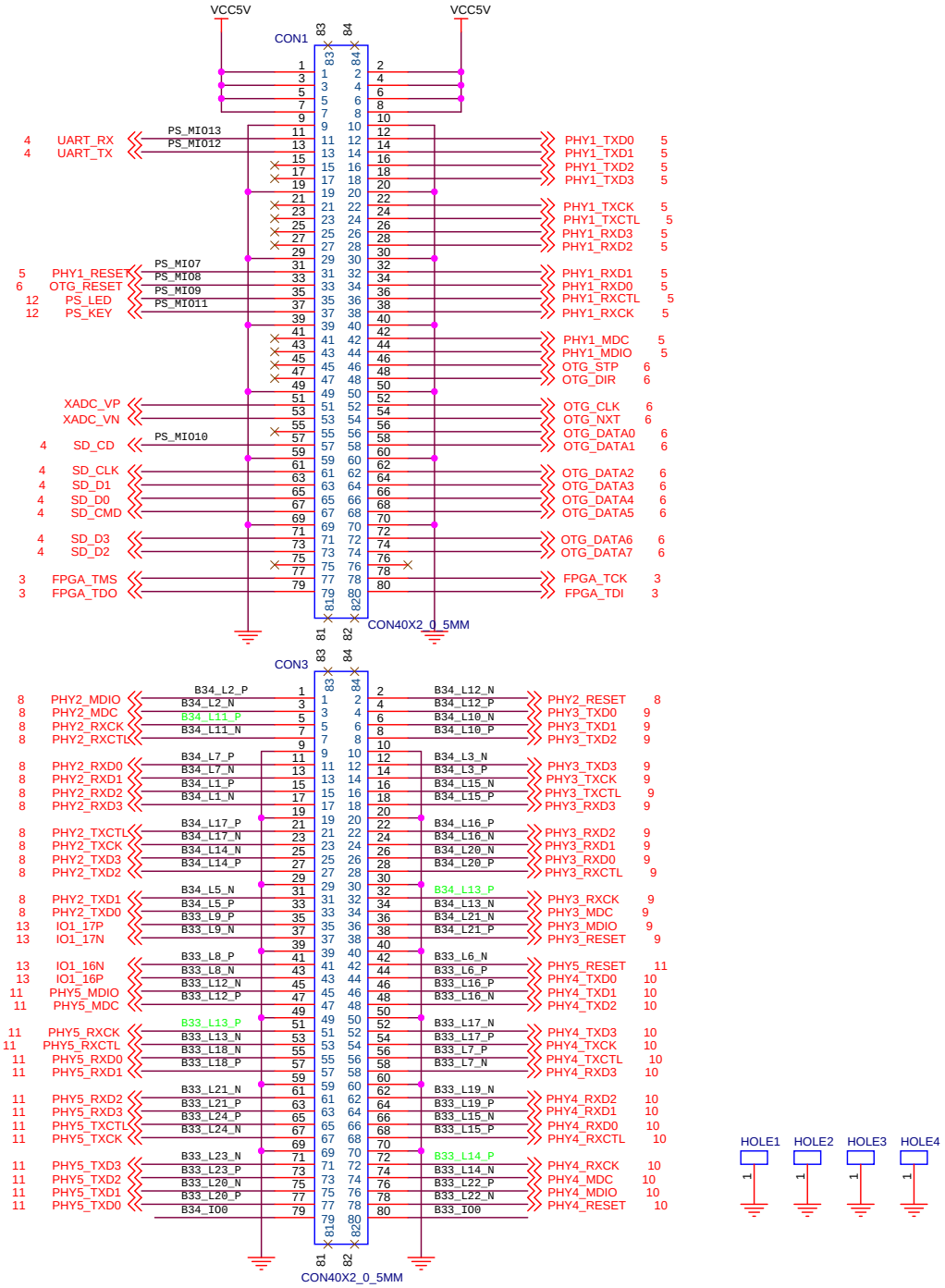
ALINX	www.alinx.com	
Title: PAGE01 Block Diagram		
Size	Document Number: AX7021B 开发板原理图	Rev: 1.0
Date: Thursday, November 17, 2022	Sheet 1 of 14	



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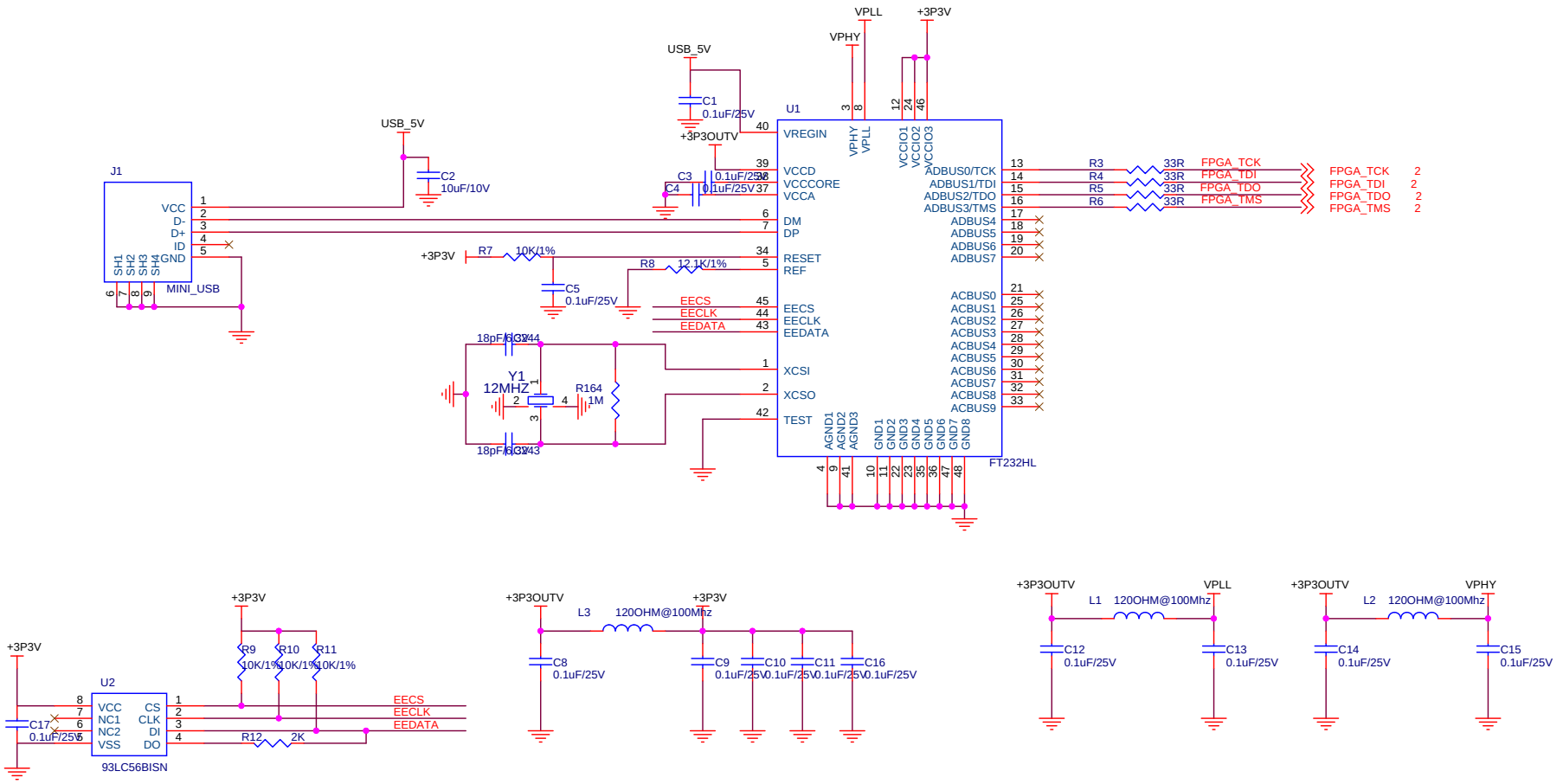
Title: PAGE02 Board Connector

Size	Document Number	Rev
	AX7021B 开发板原理图	1.0

Date: Thursday, November 17, 2022 Sheet 2 of 14



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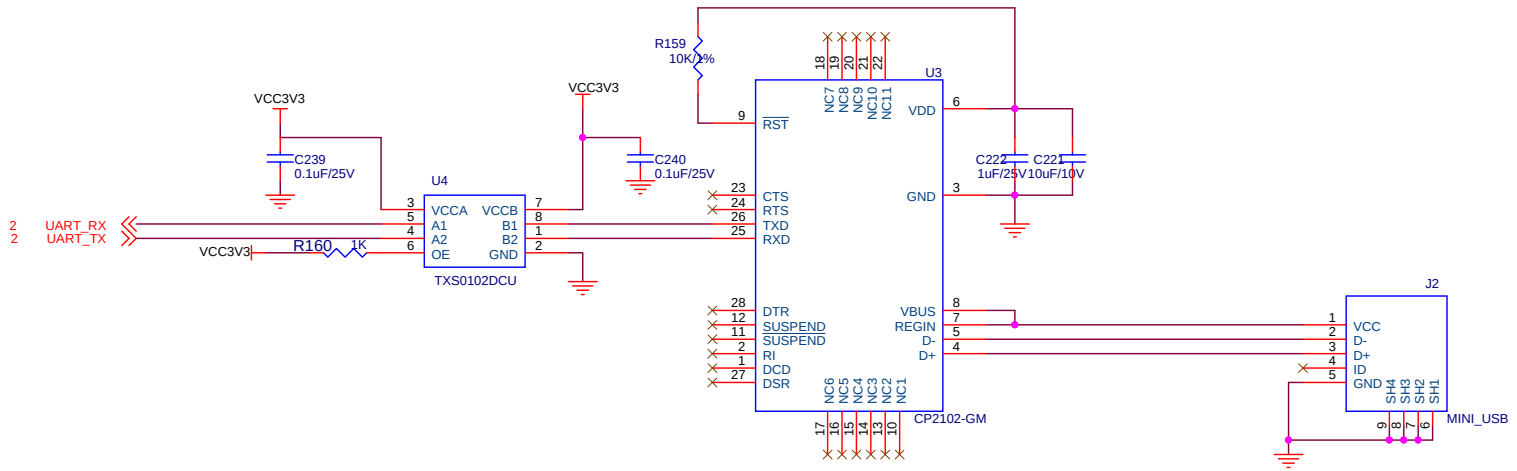
Title: PAGE03 JTAG

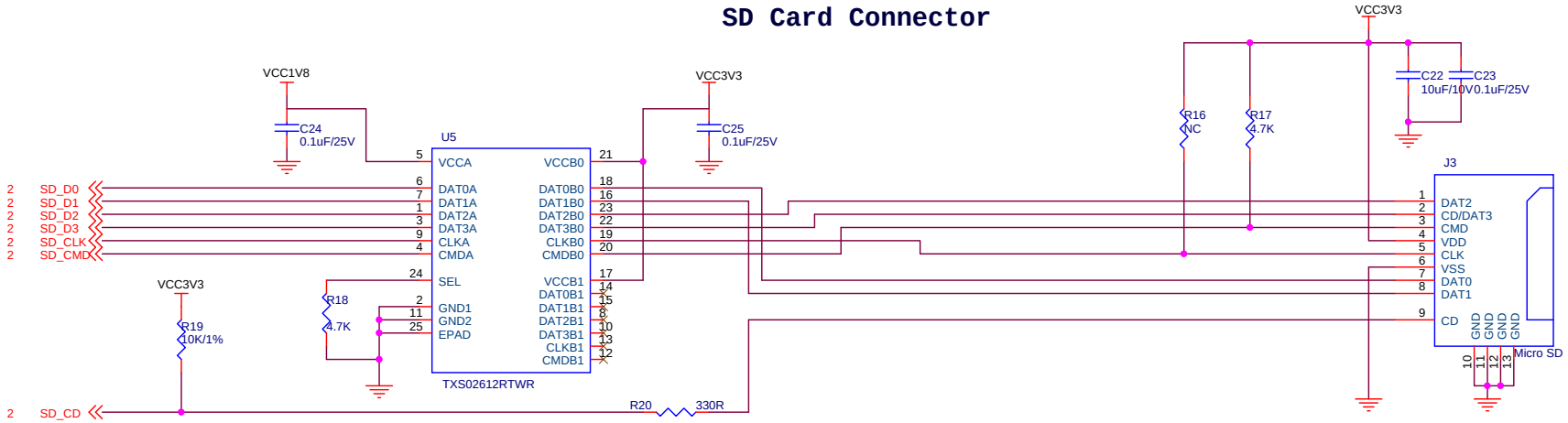
Size | Document Number: AX7021B 开发板原理图 | Rev: 1.0

Date: Thursday, November 17, 2022 | Sheet 3 of 14

USB Uart



SD Card Connector



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Title: PAGE04 SD Card and UART

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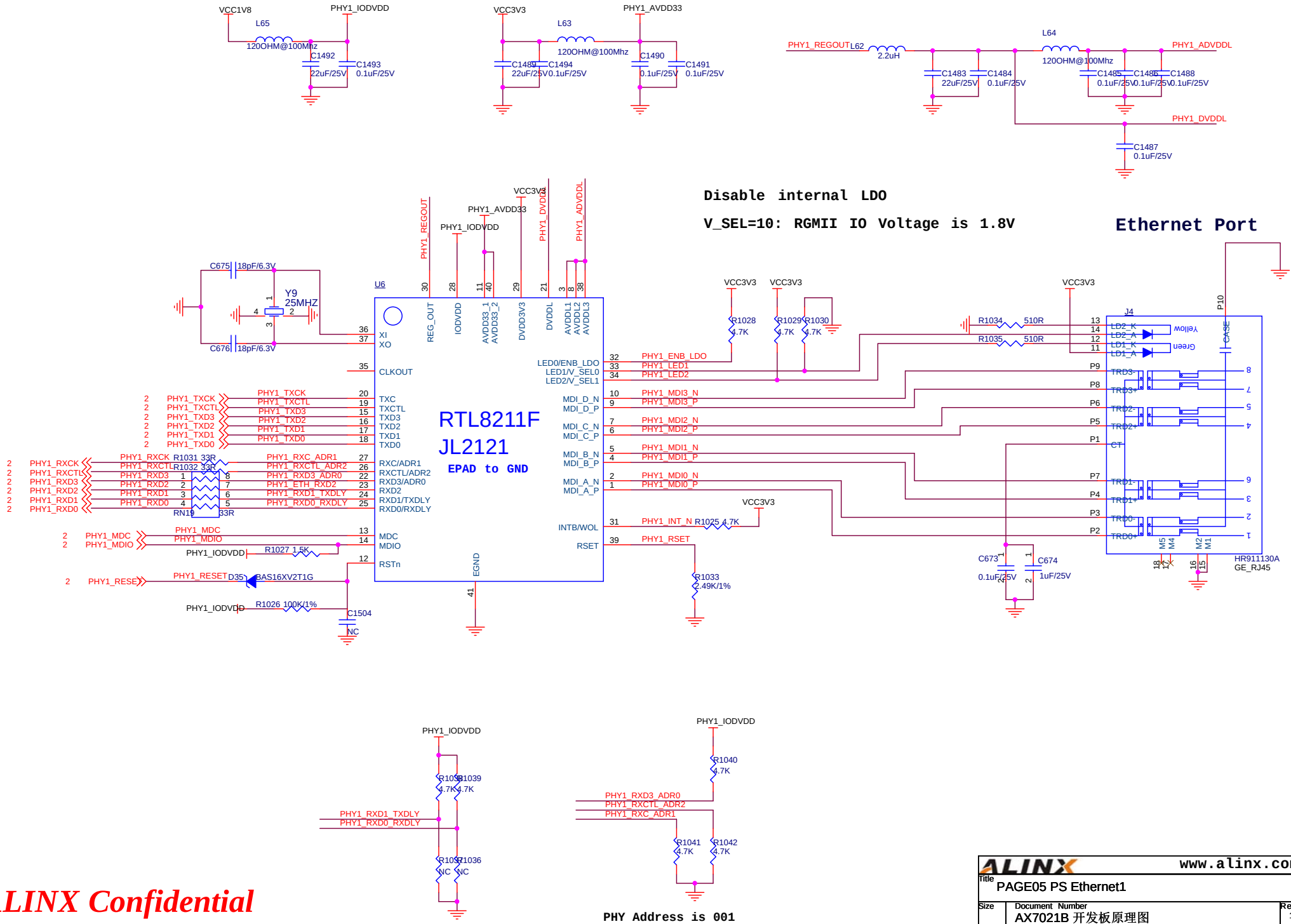
VCC1V8
PHY1_IODVDD
L65
120OHM@100Mhz
C1492
22uF/25V
C1493
0.1uF/25V
VCC3V3
PHY1_AVDD33
L63
120OHM@100Mhz
C1489
22uF/25V
C1494
0.1uF/25V
C1490
0.1uF/25V
C1491
0.1uF/25V
PHY1_REGOUT
L62
2.2uH
L64
120OHM@100Mhz
PHY1_ADVDDL
C1483
22uF/25V
C1484
0.1uF/25V
C1485
0.1uF/25V
C1486
0.1uF/25V
C1488
0.1uF/25V
PHY1_DVDDL
C1487
0.1uF/25V
Disable internal LDO
V_SEL=10: RGMII IO Voltage is 1.8V
Ethernet Port
U6
RTL8211F
JL2121
EPAD to GND
C675 18pF/6.3V
C676 18pF/6.3V
Y9
25MHZ
XI
XO
CLKOUT
REG_OUT
IODVDD
AVDD33_1
AVDD33_2
DVDD3V3
DVDDL
AVDDL1
AVDDL2
AVDDL3
TXC
TXCTL
TXD3
TXD2
TXD1
TXD0
RXC/ADR1
RXCTL/ADR2
RXD3/ADR0
RXD2
RXD1/TXDLY
RXD0/RXDLY
MDC
MDIO
RSTn
EGND
LED0/ENB_LDO
LED1/V_SEL0
LED2/V_SEL1
MDI_D_N
MDI_D_P
MDI_C_N
MDI_C_P
MDI_B_N
MDI_B_P
MDI_A_N
MDI_A_P
INTB/WOL
RSET
PHY1_TXCK
PHY1_TXCTL
PHY1_TXD3
PHY1_TXD2
PHY1_TXD1
PHY1_TXD0
PHY1_RXCK
PHY1_RXCTL
PHY1_RXD3
PHY1_RXD2
PHY1_RXD1
PHY1_RXD0
R1031 33R
R1032 33R
RN19 33R
PHY1_RXC_ADR1
PHY1_RXCTL_ADR2
PHY1_RXD3_ADR0
PHY1_ETH_RXD2
PHY1_RXD1_TXDLY
PHY1_RXD0_RXDLY
PHY1_MDC
PHY1_MDIO
R1027 1.5K
PHY1_RESET
D35 BAS16XV2T1G
R1026 100K/1%
C1504
NC
R1028 4.7K
R1029 4.7K
R1030 4.7K
PHY1_ENB_LDO
PHY1_LED1
PHY1_LED2
PHY1_MDI3_N
PHY1_MDI3_P
PHY1_MDI2_N
PHY1_MDI2_P
PHY1_MDI1_N
PHY1_MDI1_P
PHY1_MDI0_N
PHY1_MDI0_P
PHY1_INT_N
R1025 4.7K
R1033 2.49K/1%
R1034 510R
R1035 510R
J4
LD2_K
LD2_A
LD1_K
LD1_A
Yellow
Green
CASE
P10
TRD3-
TRD3+
TRD2-
TRD2+
CT
TRD1-
TRD1+
TRD0-
TRD0+
C673 0.1uF/25V
C674 1uF/25V
HR911130A
GE_RJ45
R1038 4.7K
R1039 4.7K
R1036 NC
R1037 NC
R1040 4.7K
R1041 4.7K
R1042 4.7K
PHY Address is 001
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Title
PAGE05 PS Ethernet1
Size
Document Number
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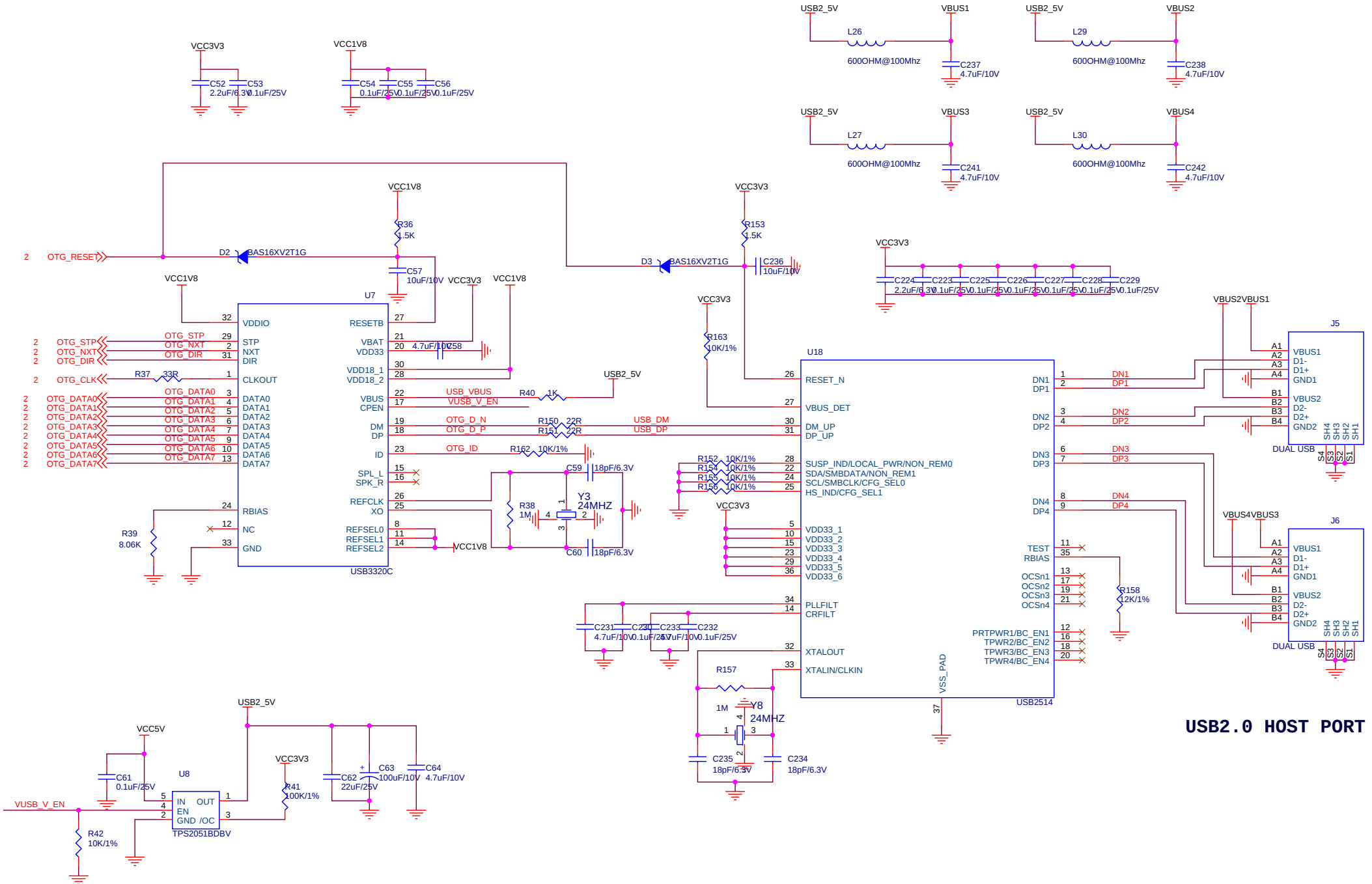

USB2.0 HOST PORT

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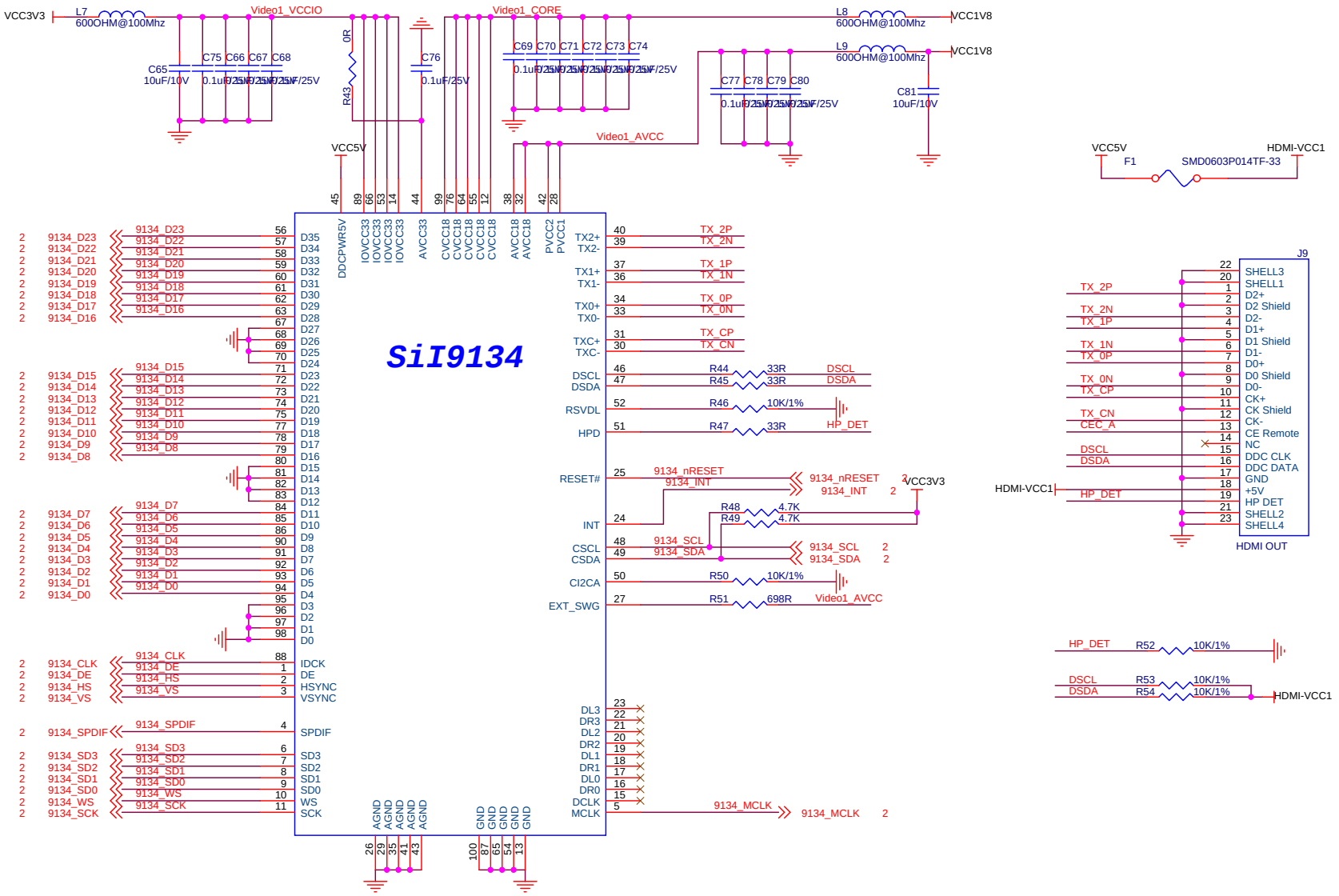
ALINX	www.alinx.com	
Title: PAGE06 HOST USBX4		
Size	Document Number: AX7021B 开发板原理图	Rev: 1.0
Date: Thursday, November 17, 2022	Sheet 6 of 14	



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Title: PAGE07 HDMI OUT

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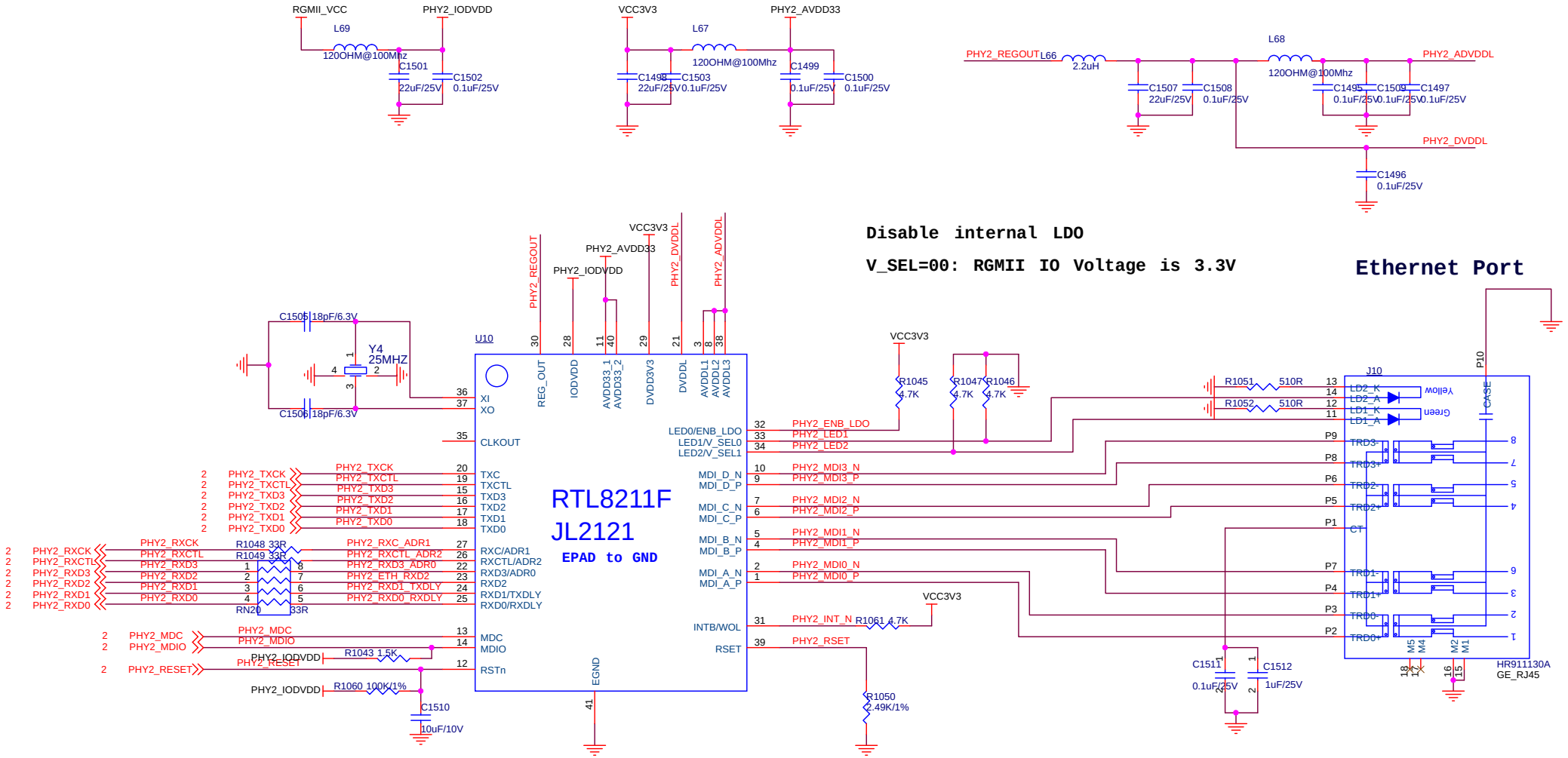
RGMII_VCC
PHY2_IODVDD
L69
120OHM@100Mhz
C1501
22uF/25V
C1502
0.1uF/25V
VCC3V3
PHY2_AVDD33
L67
120OHM@100Mhz
C1498
22uF/25V
C1503
0.1uF/25V
C1499
0.1uF/25V
C1500
0.1uF/25V
PHY2_REGOUT
L66
2.2uH
L68
120OHM@100Mhz
PHY2_ADVDDL
PHY2_DVDDL
C1507
22uF/25V
C1508
0.1uF/25V
C1495
0.1uF/25V
C1509
0.1uF/25V
C1497
0.1uF/25V
C1496
0.1uF/25V
Disable internal LDO
V_SEL=00: RGMII IO Voltage is 3.3V
Ethernet Port
U10
RTL8211F
JL2121
EPAD to GND
C1505 18pF/6.3V
C1506 18pF/6.3V
Y4
25MHZ
XI
XO
CLKOUT
REG_OUT
IODVDD
AVDD33_1
AVDD33_2
DVDD3V3
DVDDL
AVDDL1
AVDDL2
AVDDL3
LED0/ENB_LDO
LED1/V_SEL0
LED2/V_SEL1
MDI_D_N
MDI_D_P
MDI_C_N
MDI_C_P
MDI_B_N
MDI_B_P
MDI_A_N
MDI_A_P
INTB/WOL
RSET
EGND
TXC
TXCTL
TXD3
TXD2
TXD1
TXD0
RXC/ADR1
RXCTL/ADR2
RXD3/ADR0
RXD2
RXD1/TXDLY
RXD0/RXDLY
MDC
MDIO
RSTn
PHY2_TXCK
PHY2_TXCTL
PHY2_TXD3
PHY2_TXD2
PHY2_TXD1
PHY2_TXD0
PHY2_RXCK
PHY2_RXCTL
PHY2_RXD3
PHY2_RXD2
PHY2_RXD1
PHY2_RXD0
PHY2_RXC_ADR1
PHY2_RXCTL_ADR2
PHY2_RXD3_ADR0
PHY2_ETH_RXD2
PHY2_RXD1_TXDLY
PHY2_RXD0_RXDLY
R1048 33R
R1049 33R
RN20
33R
PHY2_MDC
PHY2_MDIO
PHY2_RESET
R1043 1.5K
R1060 100K/1%
C1510
10uF/10V
R1045
4.7K
R1047
4.7K
R1046
4.7K
PHY2_ENB_LDO
PHY2_LED1
PHY2_LED2
PHY2_MDI3_N
PHY2_MDI3_P
PHY2_MDI2_N
PHY2_MDI2_P
PHY2_MDI1_N
PHY2_MDI1_P
PHY2_MDI0_N
PHY2_MDI0_P
PHY2_INT_N
R1061 4.7K
PHY2_RSET
R1050
2.49K/1%
R1051
510R
R1052
510R
J10
LD2_K
LD2_A
LD1_K
LD1_A
Yellow
Green
P10
CASE
TRD3-
TRD3+
TRD2-
TRD2+
CT
TRD1-
TRD1+
TRD0-
TRD0+
C1511
0.1uF/25V
C1512
1uF/25V
HR911130A
GE_RJ45
R1056
4.7K
R1055
4.7K
R1053
NC
R1054
NC
R1057
4.7K
R1058
4.7K
R1059
4.7K
PHY Address is 001
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Title
PAGE08 PL Ethernet2
Size
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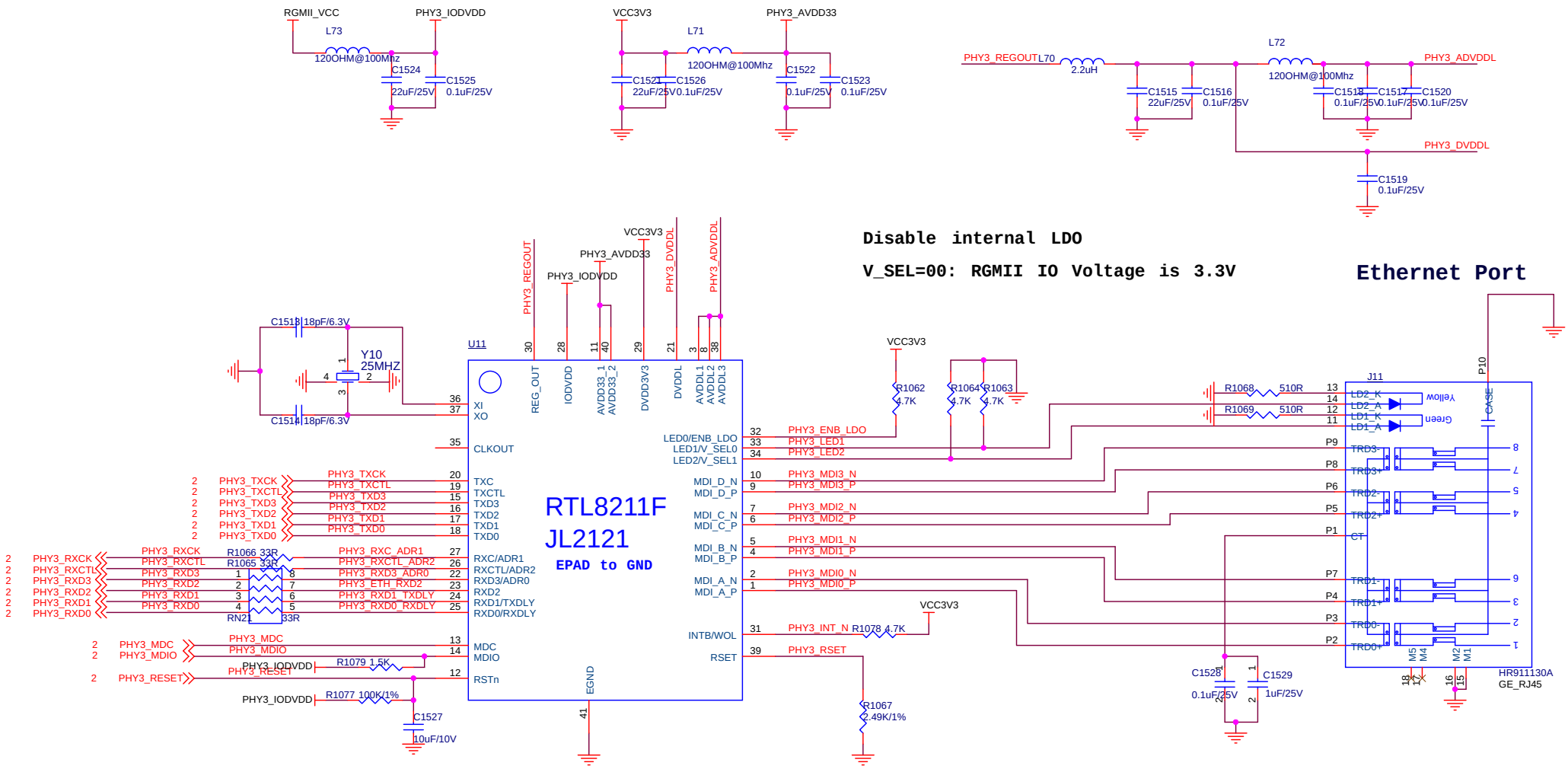
RGMII_VCC
PHY3_IODVDD
L73
120OHM@100Mhz
C1524
22uF/25V
C1525
0.1uF/25V
VCC3V3
PHY3_AVDD33
L71
120OHM@100Mhz
C1521
22uF/25V
C1526
0.1uF/25V
C1522
0.1uF/25V
C1523
0.1uF/25V
PHY3_REGOUT
L70
2.2uH
L72
120OHM@100Mhz
PHY3_ADVDDL
C1515
22uF/25V
C1516
0.1uF/25V
C1518
0.1uF/25V
C1517
0.1uF/25V
C1520
0.1uF/25V
PHY3_DVDDL
C1519
0.1uF/25V
Disable internal LDO
V_SEL=00: RGMII IO Voltage is 3.3V
Ethernet Port
U11
RTL8211F
JL2121
EPAD to GND
C1513 18pF/6.3V
C1514 18pF/6.3V
Y10
25MHZ
XI
XO
CLKOUT
TXC
TXCTL
TXD3
TXD2
TXD1
TXD0
RXC/ADR1
RXCTL/ADR2
RXD3/ADR0
RXD2
RXD1/TXDLY
RXD0/RXDLY
MDC
MDIO
RSTn
LED0/ENB_LDO
LED1/V_SEL0
LED2/V_SEL1
MDI_D_N
MDI_D_P
MDI_C_N
MDI_C_P
MDI_B_N
MDI_B_P
MDI_A_N
MDI_A_P
INTB/WOL
RSET
EGND
PHY3_TXCK
PHY3_TXCTL
PHY3_TXD3
PHY3_TXD2
PHY3_TXD1
PHY3_TXD0
PHY3_RXCK
PHY3_RXCTL
PHY3_RXD3
PHY3_RXD2
PHY3_RXD1
PHY3_RXD0
R1066 33R
R1065 33R
RN21 33R
PHY3_RXC_ADR1
PHY3_RXCTL_ADR2
PHY3_RXD3_ADR0
PHY3_ETH_RXD2
PHY3_RXD1_TXDLY
PHY3_RXD0_RXDLY
PHY3_MDC
PHY3_MDIO
PHY3_RESET
R1079 1.5K
R1077 100K/1%
C1527
10uF/10V
R1062 4.7K
R1064 4.7K
R1063 4.7K
PHY3_ENB_LDO
PHY3_LED1
PHY3_LED2
PHY3_MDI3_N
PHY3_MDI3_P
PHY3_MDI2_N
PHY3_MDI2_P
PHY3_MDI1_N
PHY3_MDI1_P
PHY3_MDI0_N
PHY3_MDI0_P
PHY3_INT_N
R1078 4.7K
PHY3_RSET
R1067 2.49K/1%
J11
R1068 510R
R1069 510R
LD2_K
LD2_A
LD1_K
LD1_A
Yellow
Green
CASE
P10
TRD3-
TRD3+
TRD2-
TRD2+
CT
TRD1-
TRD1+
TRD0-
TRD0+
C1528 0.1uF/25V
C1529 1uF/25V
HR911130A
GE_RJ45
R1073 4.7K
R1072 4.7K
R1070 NC
R1071 NC
R1074 4.7K
R1075 4.7K
R1076 4.7K
PHY Address is 001
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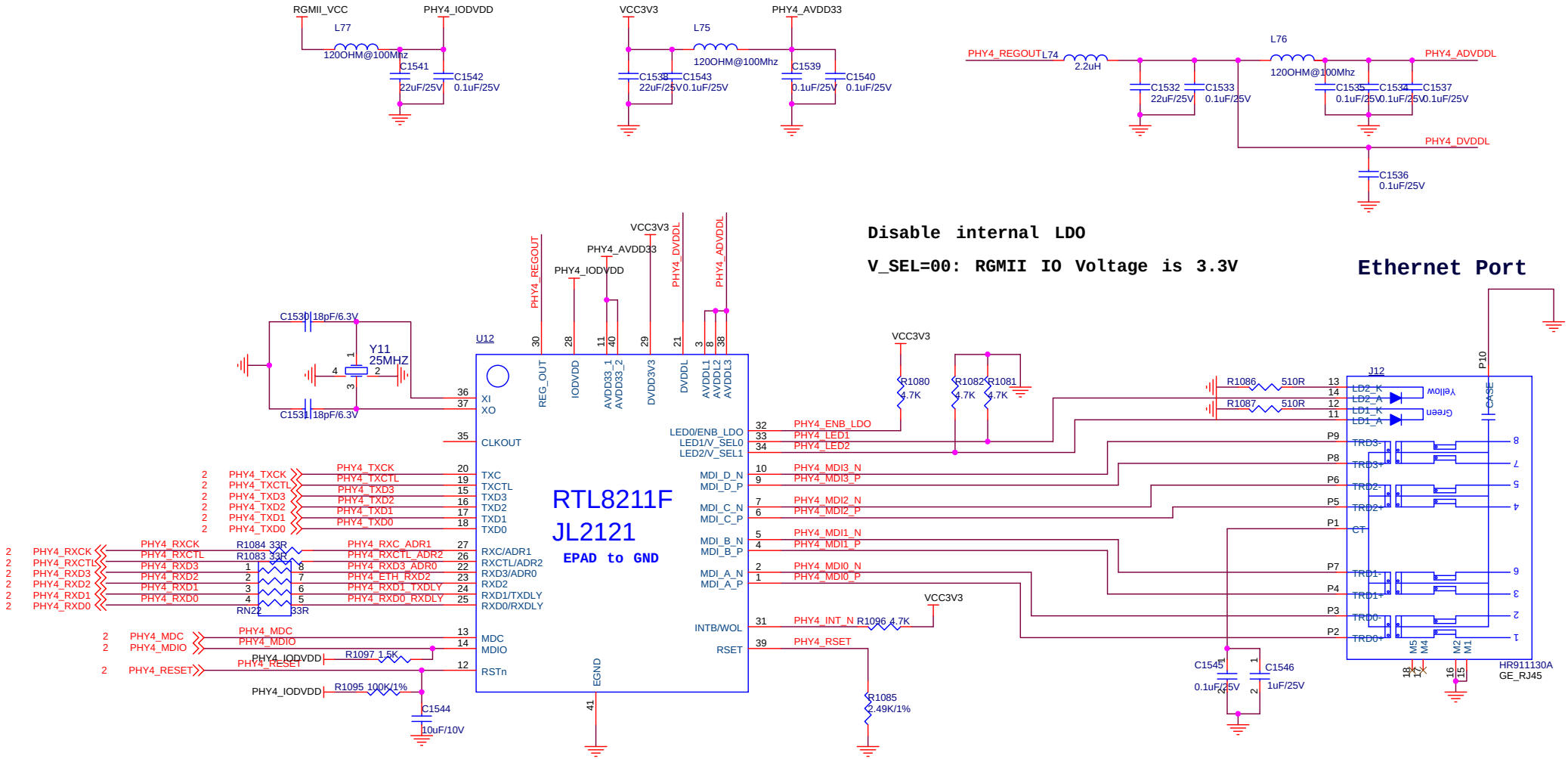

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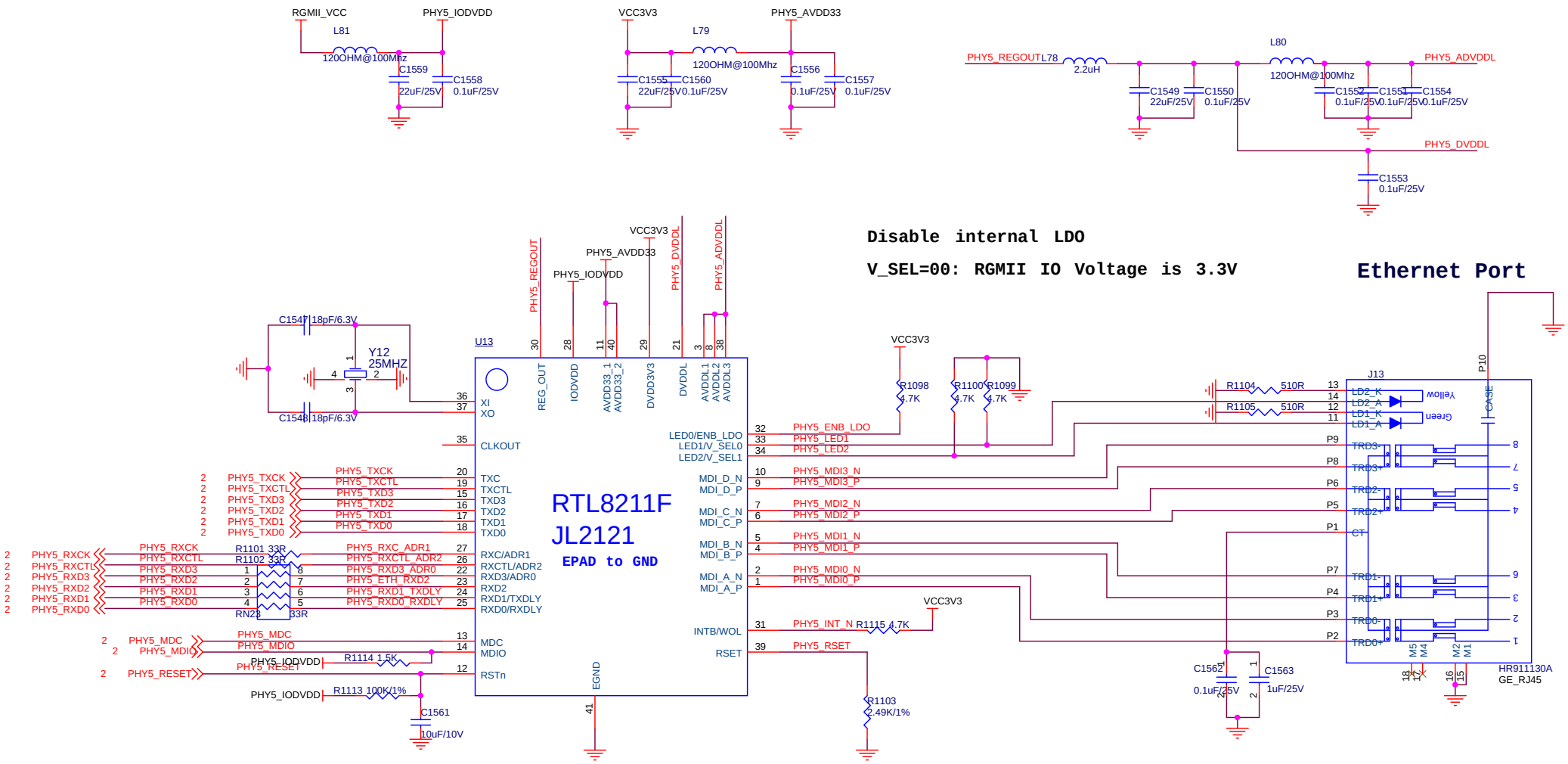

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Title	PAGE11 PL Ethernet5
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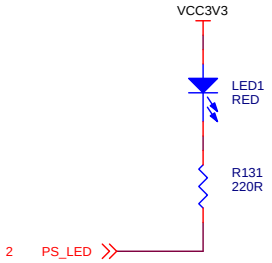

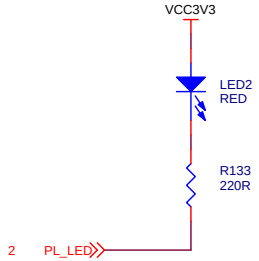

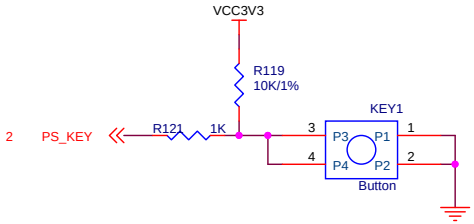

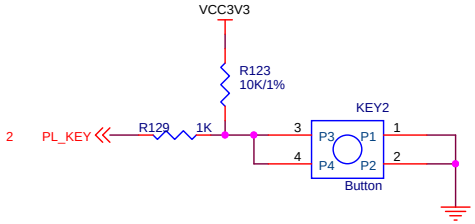

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Title: PAGE12 KEY and LED

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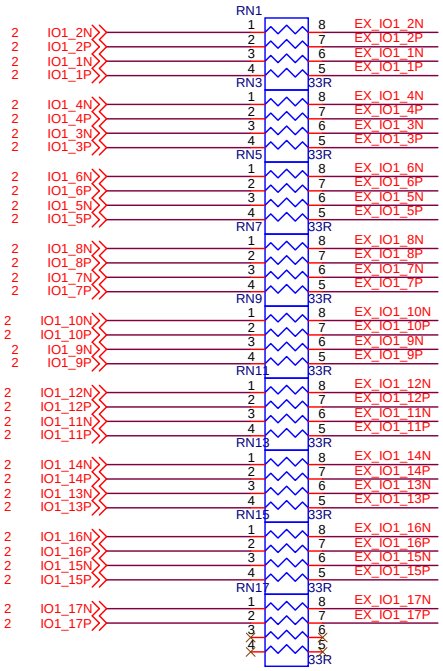
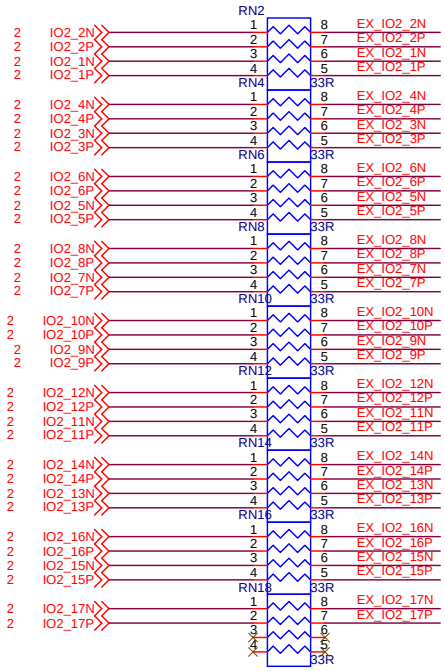
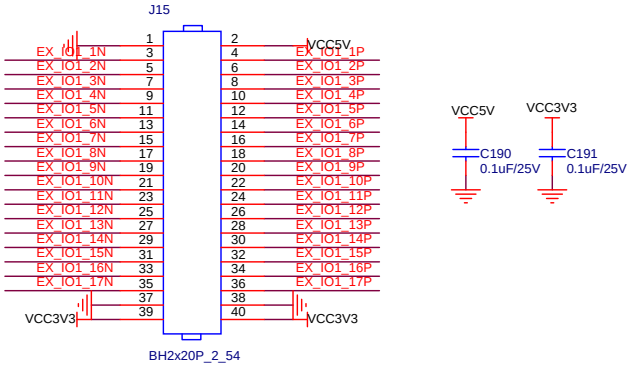
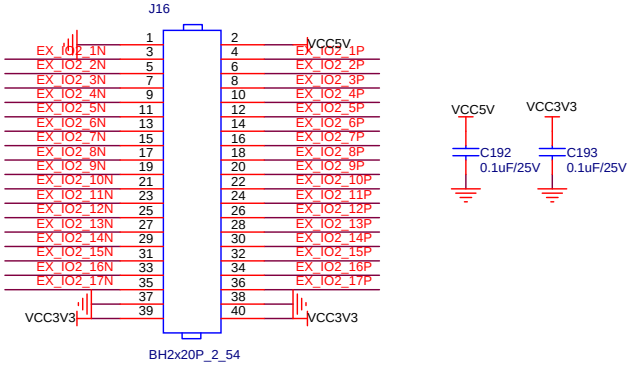




FPGA 40 PIN External IO



FPGA 40 PIN External IO



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Title: PAGE13 EX Connector

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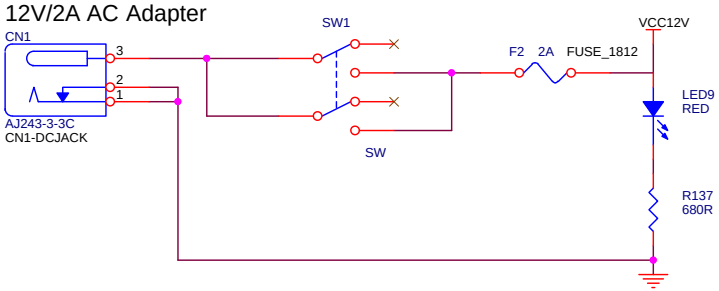
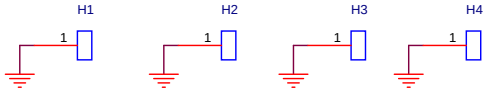
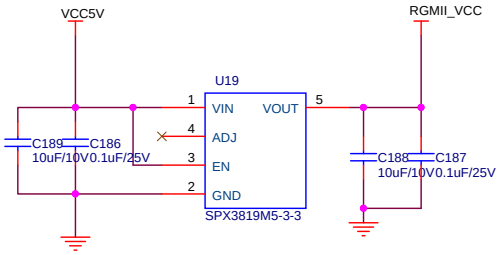
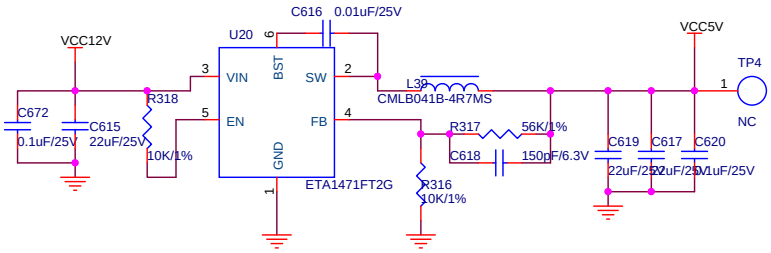




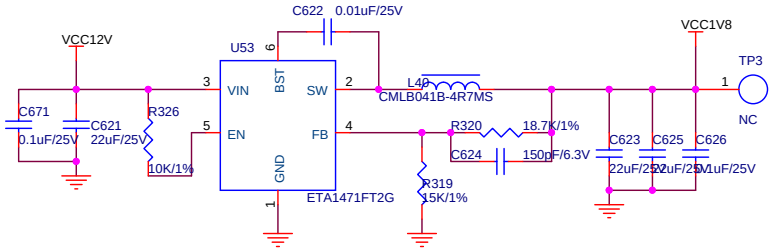


+1.8V POWER

+5V POWER

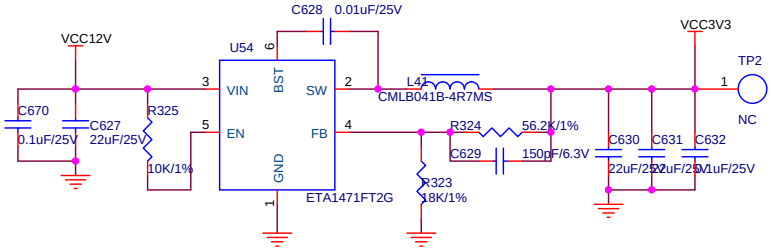


Vout=0.8 x (1 + R1/R2)



Vout=0.8 x (1 + R1/R2)

+3.3V POWER



Vout=0.8 x (1 + R1/R2)

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