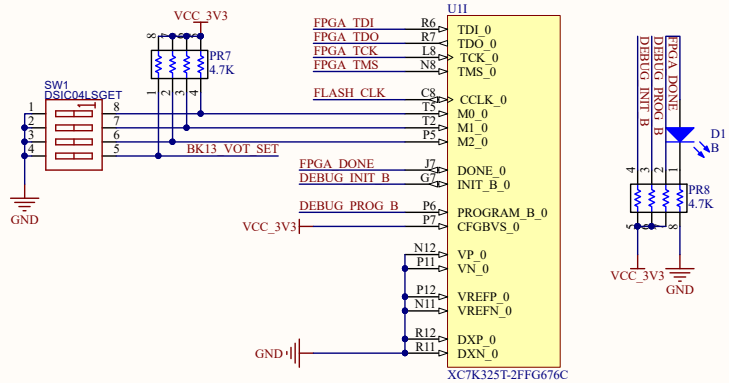
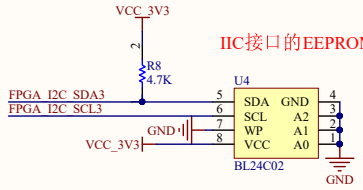
KINTEX-7芯片的调试接口部分

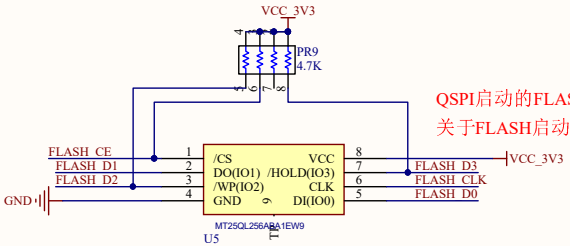


IIC接口的EEPROM,AT24C04

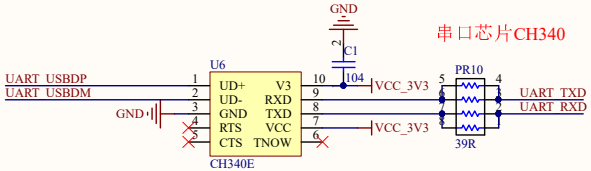


QSPI启动的FLASH存储器

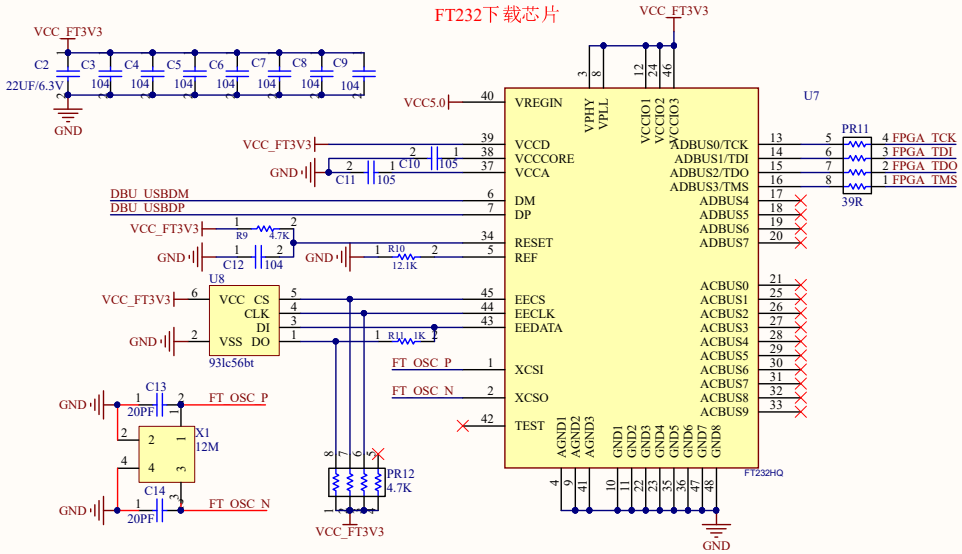
关于FLASH启动请查看板子背面丝印说明



串口芯片CH340

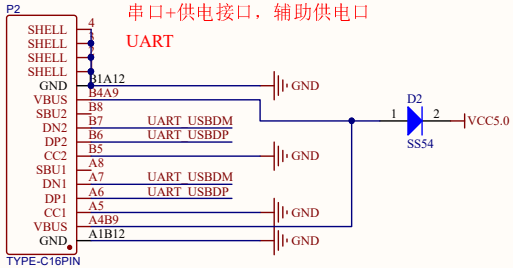


FT232下载芯片



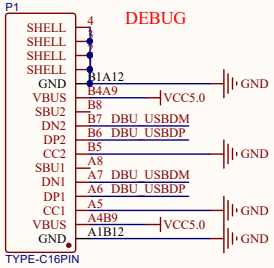
串口+供电接口，辅助供电口

UART

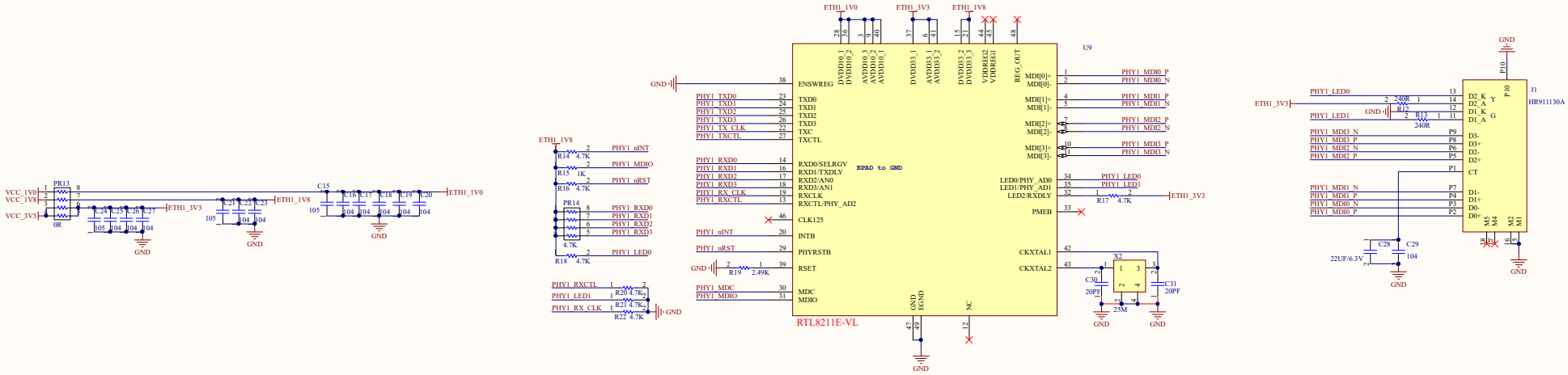


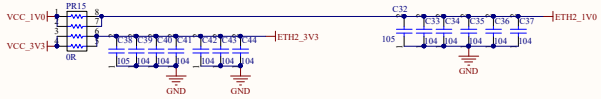
调试+供电接口，主供电口

DEBUG

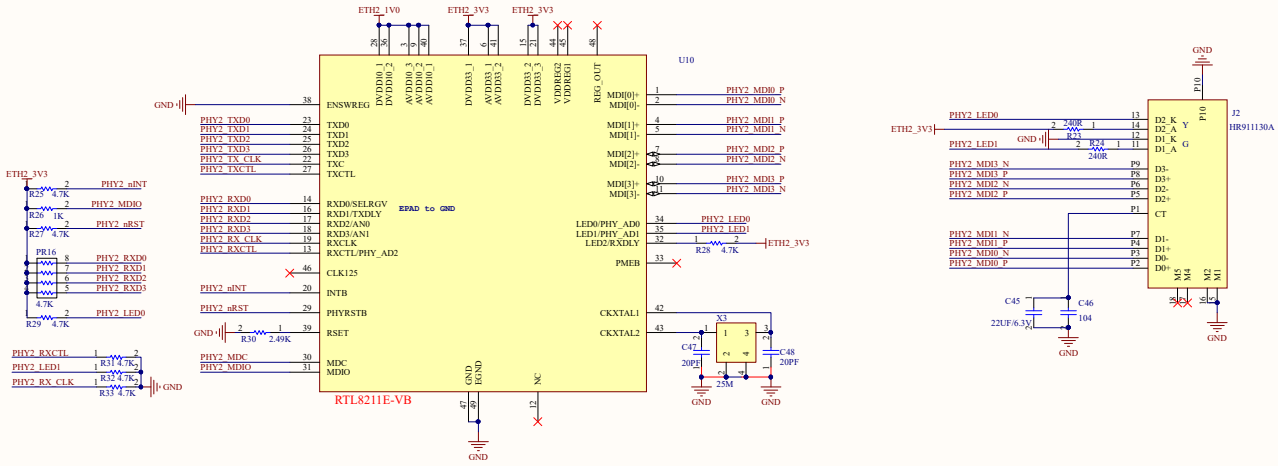


1.8V电平标准IO的千兆网PHY芯片



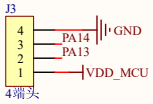


3.3V电平标准的千兆网PHY芯片

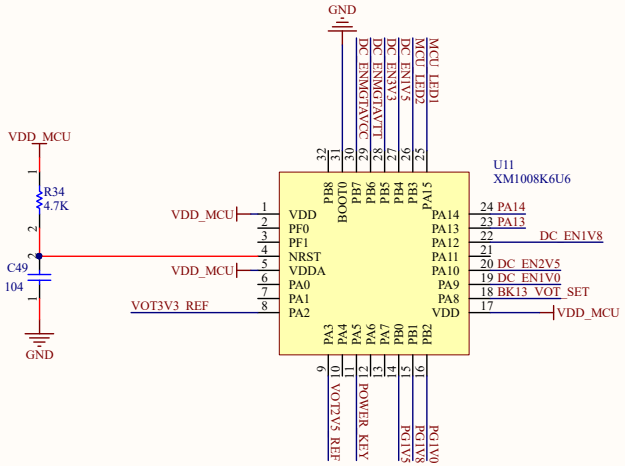


3.3V供电IO实际也可以使用VL后缀，实际需要调RGMII的IO Delay

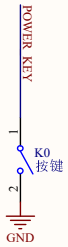
MCU的SWD调试口

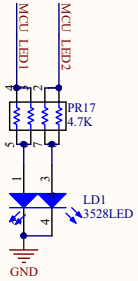


用于控制电源芯片上电顺序的ARM芯片



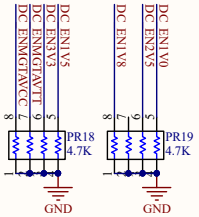
长按给FPGA各路电源上电按钮





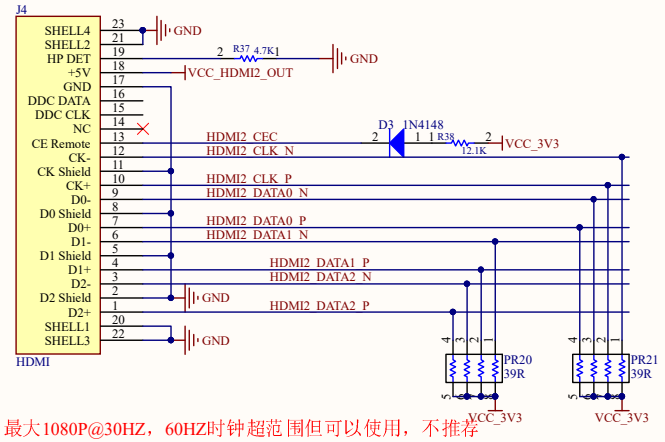
MCU状态输出指示灯

所有控制电源使能信号必须下拉保证稳定



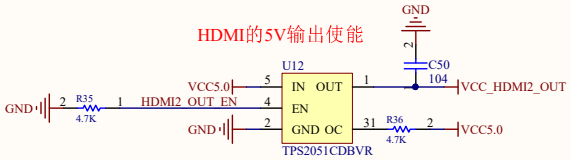
VCC5.0

HDMI接口都是3.3V的TMDS电平标准

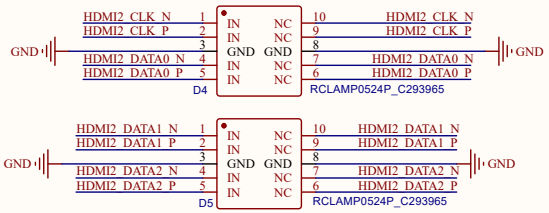


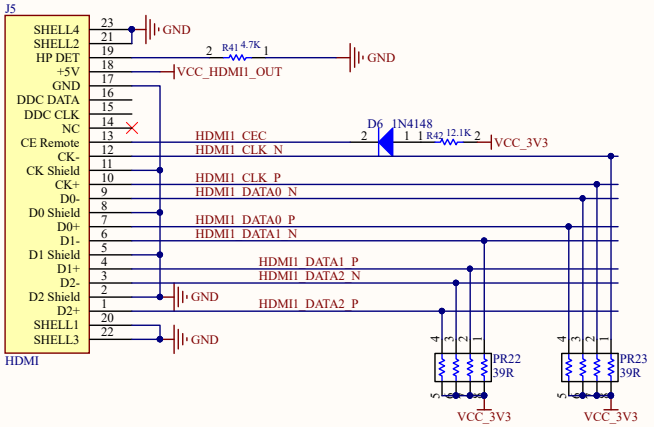
仅输出，最大1080P@30HZ，60HZ时钟超范围但可以使用，不推荐

HDMI的5V输出使能



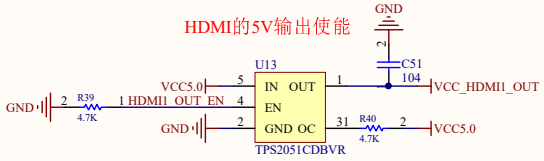
接口保护TVS，可以不焊接



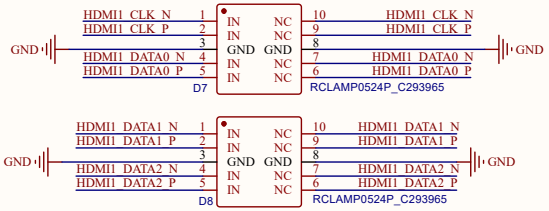


仅输出，最大1080P@30HZ，60HZ时钟超范围但可以使用，不推荐

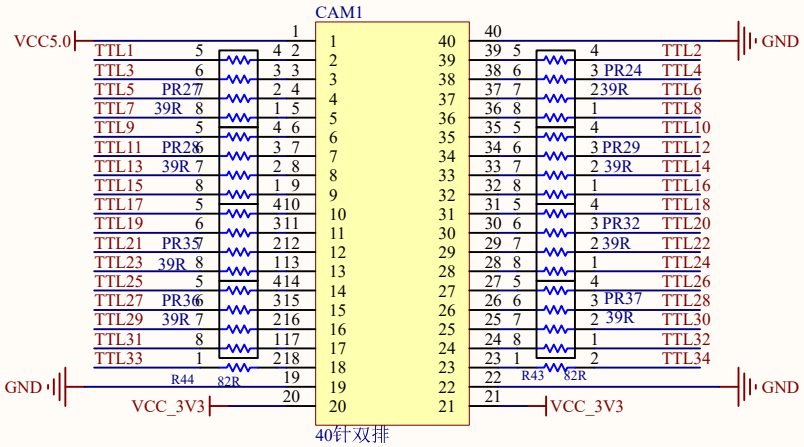
HDMI的5V输出使能



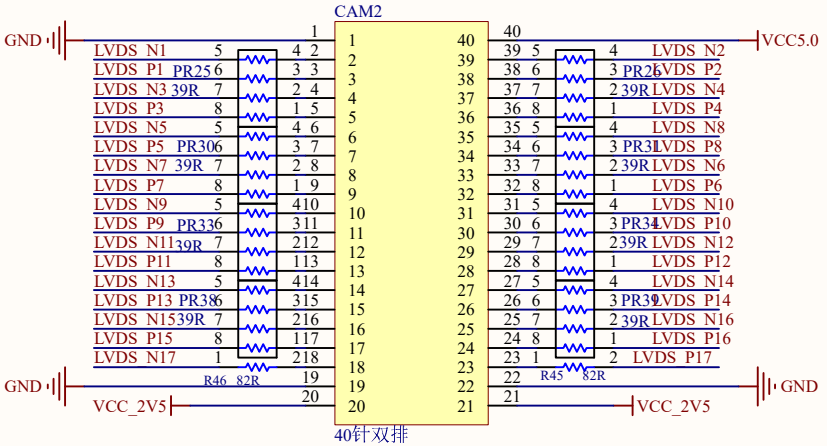
接口保护TVS，可以不焊接



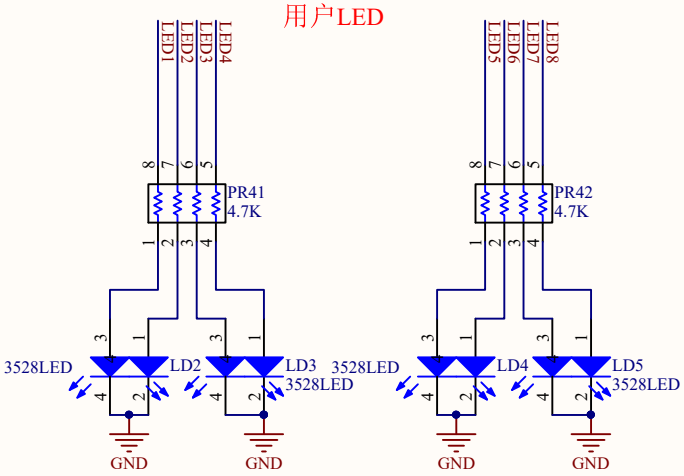
BANK16扩展出来的3.3V标准IO



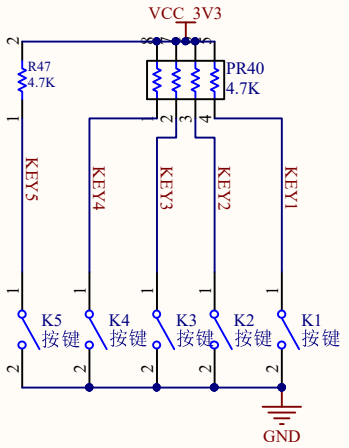
BANK13扩展出来的2.5/3.3V可调IO，支持LVDS（仅2.5V）



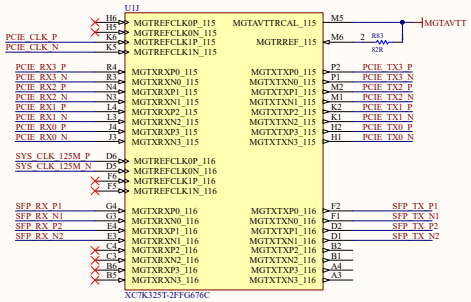
用户LED

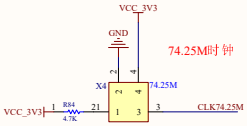


用户按钮

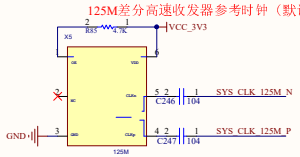


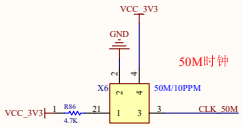
高速收发器BANK

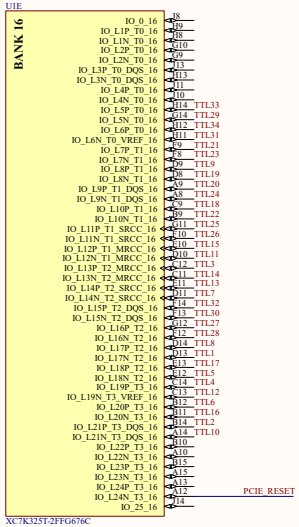


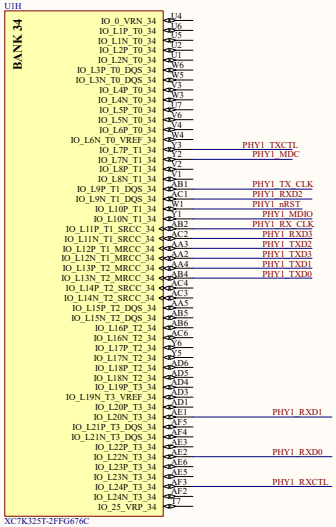


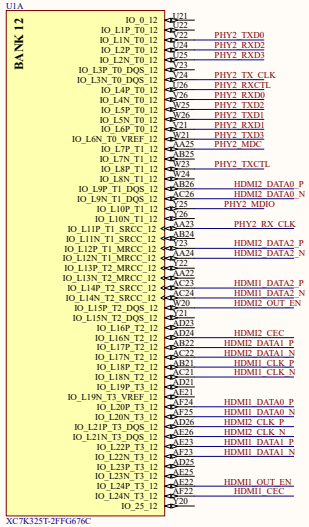
如果用户需要使用万兆以太网光通信功能，虚将这个晶振更换为156.25Mhz
125M差分高速收发器参考时钟（默认出货125M）

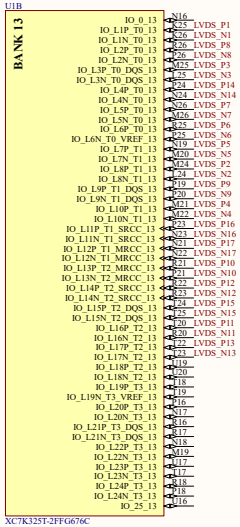


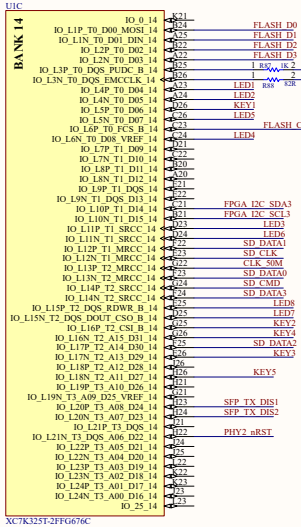


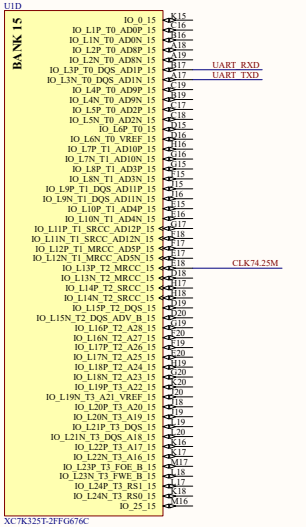


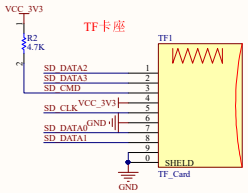


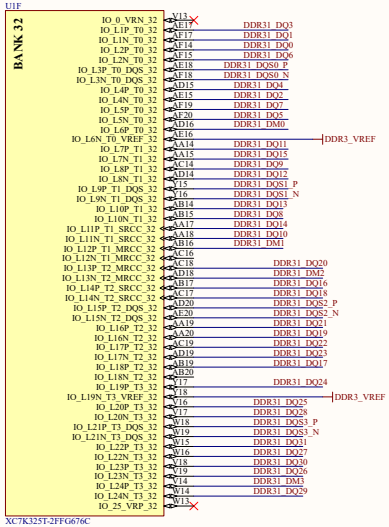









VCC_3V3
TF卡座
TF1
R2
4.7K
SD_DATA2
SD_DATA3
SD_CMD
SD_CLK
SD_DATA0
SD_DATA1
VCC_3V3
GND
SHELD
TF_Card
GND


U1F
BANK 32
IO_0_VRN_32
IO_L1P_T0_32
IO_L1N_T0_32
IO_L2P_T0_32
IO_L2N_T0_32
IO_L3P_T0_DQS_32
IO_L3N_T0_DQS_32
IO_L4P_T0_32
IO_L4N_T0_32
IO_L5P_T0_32
IO_L5N_T0_32
IO_L6P_T0_32
IO_L6N_T0_VREF_32
IO_L7P_T1_32
IO_L7N_T1_32
IO_L8P_T1_32
IO_L8N_T1_32
IO_L9P_T1_DQS_32
IO_L9N_T1_DQS_32
IO_L10P_T1_32
IO_L10N_T1_32
IO_L11P_T1_SRCC_32
IO_L11N_T1_SRCC_32
IO_L12P_T1_MRCC_32
IO_L12N_T1_MRCC_32
IO_L13P_T2_MRCC_32
IO_L13N_T2_MRCC_32
IO_L14P_T2_SRCC_32
IO_L14N_T2_SRCC_32
IO_L15P_T2_DQS_32
IO_L15N_T2_DQS_32
IO_L16P_T2_32
IO_L16N_T2_32
IO_L17P_T2_32
IO_L17N_T2_32
IO_L18P_T2_32
IO_L18N_T2_32
IO_L19P_T3_32
IO_L19N_T3_VREF_32
IO_L20P_T3_32
IO_L20N_T3_32
IO_L21P_T3_DQS_32
IO_L21N_T3_DQS_32
IO_L22P_T3_32
IO_L22N_T3_32
IO_L23P_T3_32
IO_L23N_T3_32
IO_L24P_T3_32
IO_L24N_T3_32
IO_25_VRP_32
DDR31_DQ3
DDR31_DQ1
DDR31_DQ0
DDR31_DQ6
DDR31_DQS0_P
DDR31_DQS0_N
DDR31_DQ4
DDR31_DQ2
DDR31_DQ7
DDR31_DQ5
DDR31_DM0
DDR3_VREF
DDR31_DQ11
DDR31_DQ15
DDR31_DQ9
DDR31_DQ12
DDR31_DQS1_P
DDR31_DQS1_N
DDR31_DQ13
DDR31_DQ8
DDR31_DQ14
DDR31_DM1
DDR31_DQ20
DDR31_DM2
DDR31_DQ16
DDR31_DQ18
DDR31_DQS2_P
DDR31_DQS2_N
DDR31_DQ21
DDR31_DQ19
DDR31_DQ22
DDR31_DQ23
DDR31_DQ17
DDR31_DQ24
DDR3_VREF
DDR31_DQ25
DDR31_DQ28
DDR31_DQS3_P
DDR31_DQS3_N
DDR31_DQ31
DDR31_DQ27
DDR31_DQ30
DDR31_DQ26
DDR31_DM3
DDR31_DQ29
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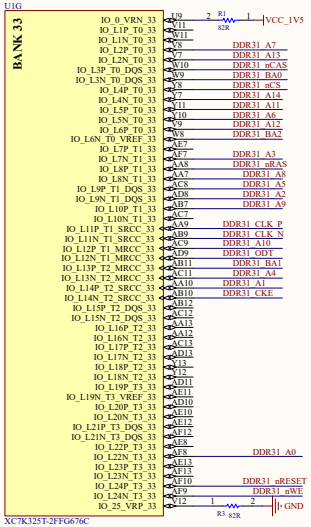
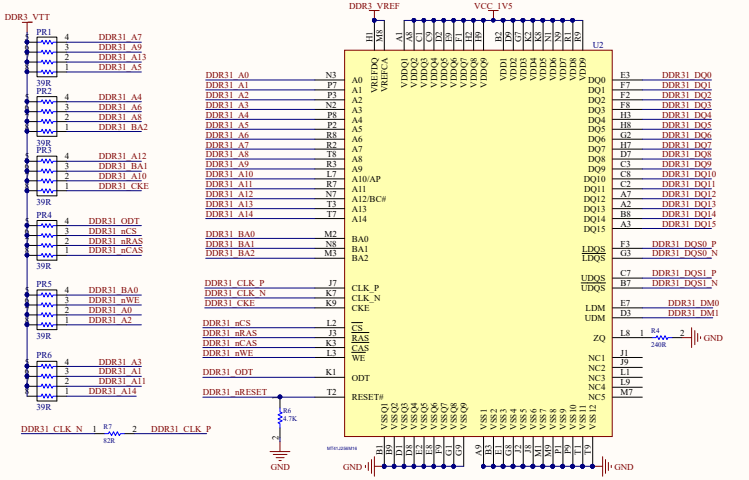
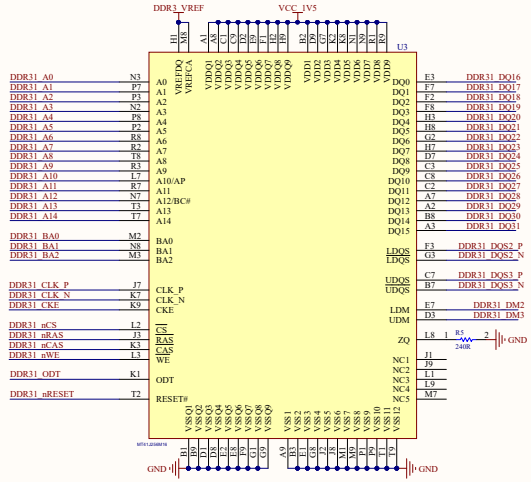

U1G
BANK 33
IO_0_VRN_33
IO_L1P_T0_33
IO_L1N_T0_33
IO_L2P_T0_33
IO_L2N_T0_33
IO_L3P_T0_DQS_33
IO_L3N_T0_DQS_33
IO_L4P_T0_33
IO_L4N_T0_33
IO_L5P_T0_33
IO_L5N_T0_33
IO_L6P_T0_33
IO_L6N_T0_VREF_33
IO_L7P_T1_33
IO_L7N_T1_33
IO_L8P_T1_33
IO_L8N_T1_33
IO_L9P_T1_DQS_33
IO_L9N_T1_DQS_33
IO_L10P_T1_33
IO_L10N_T1_33
IO_L11P_T1_SRCC_33
IO_L11N_T1_SRCC_33
IO_L12P_T1_MRCC_33
IO_L12N_T1_MRCC_33
IO_L13P_T2_MRCC_33
IO_L13N_T2_MRCC_33
IO_L14P_T2_SRCC_33
IO_L14N_T2_SRCC_33
IO_L15P_T2_DQS_33
IO_L15N_T2_DQS_33
IO_L16P_T2_33
IO_L16N_T2_33
IO_L17P_T2_33
IO_L17N_T2_33
IO_L18P_T2_33
IO_L18N_T2_33
IO_L19P_T3_33
IO_L19N_T3_VREF_33
IO_L20P_T3_33
IO_L20N_T3_33
IO_L21P_T3_DQS_33
IO_L21N_T3_DQS_33
IO_L22P_T3_33
IO_L22N_T3_33
IO_L23P_T3_33
IO_L23N_T3_33
IO_L24P_T3_33
IO_L24N_T3_33
IO_25_VRP_33
VCC_1V5
R1
82R
DDR31_A7
DDR31_A13
DDR31_nCAS
DDR31_BA0
DDR31_nCS
DDR31_A14
DDR31_A11
DDR31_A6
DDR31_A12
DDR31_BA2
DDR31_A3
DDR31_nRAS
DDR31_A8
DDR31_A5
DDR31_A2
DDR31_A9
DDR31_CLK_N
DDR31_CLK_P
DDR31_A10
DDR31_ODT
DDR31_A4
DDR31_A1
DDR31_CKE
DDR31_A0
DDR31_nRESET
DDR31_nWE
DDR31_BA1
GND
R3
82R
XC7K325T-2FFG676C

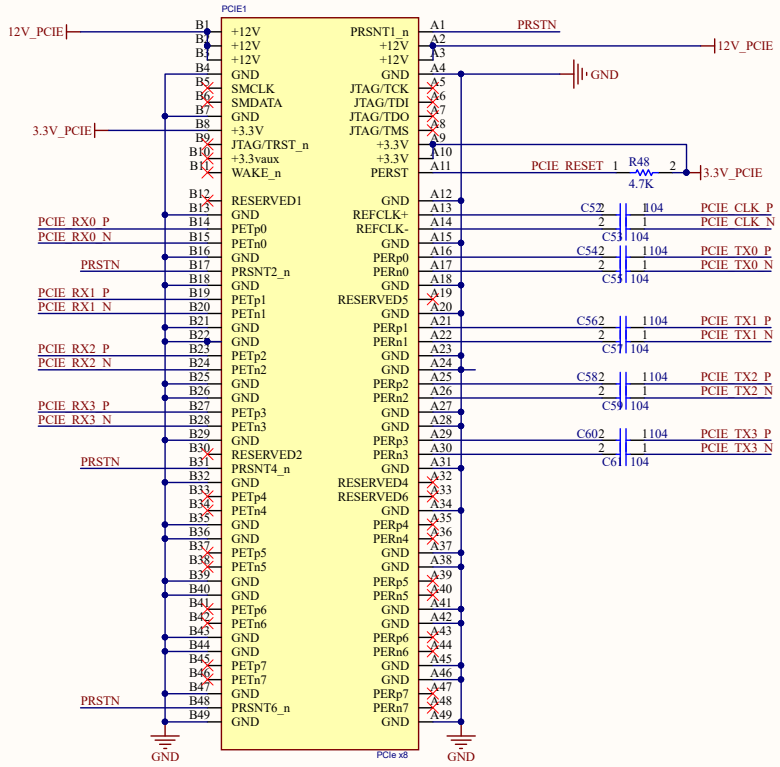
DDR3

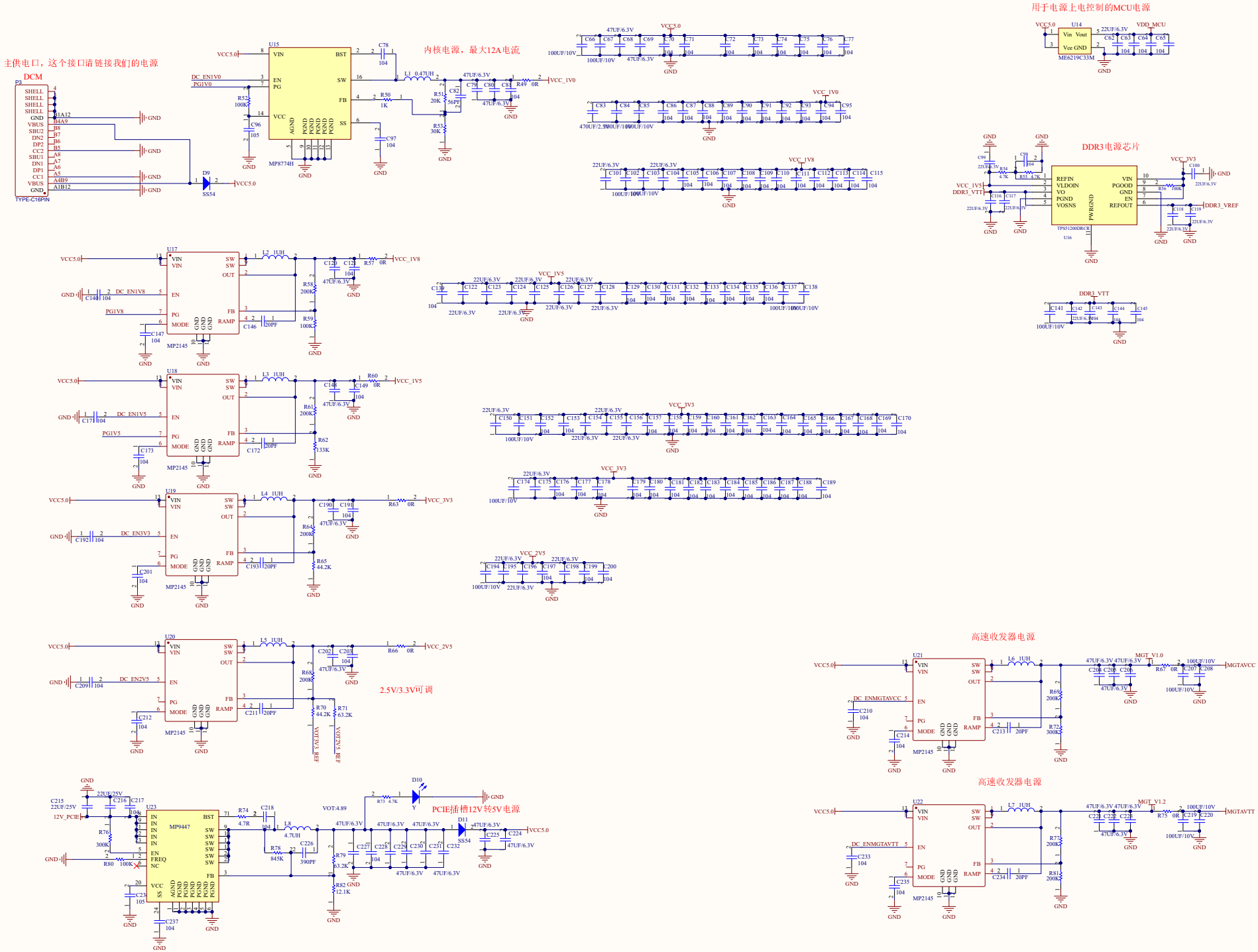

DDR3_VTT
PR1
PR2
PR3
PR4
PR5
PR6
39R
DDR31_A7
DDR31_A9
DDR31_A13
DDR31_A5
DDR31_A4
DDR31_A6
DDR31_A8
DDR31_BA2
DDR31_A12
DDR31_BA1
DDR31_A10
DDR31_CKE
DDR31_ODT
DDR31_nCS
DDR31_nRAS
DDR31_nCAS
DDR31_nWE
DDR31_BA0
DDR31_A0
DDR31_A3
DDR31_A1
DDR31_A11
DDR31_A14
DDR31_A2
DDR31_CLK_N
R7
82R
DDR31_CLK_P
DDR3_VREF
VCC_1V5
U2
VREFDQ
VREFCA
VDDQ1
VDDQ2
VDDQ3
VDDQ4
VDDQ5
VDDQ6
VDDQ7
VDDQ8
VDDQ9
VDD1
VDD2
VDD3
VDD4
VDD5
VDD6
VDD7
VDD8
VDD9
DDR31_A0
DDR31_A1
DDR31_A2
DDR31_A3
DDR31_A4
DDR31_A5
DDR31_A6
DDR31_A7
DDR31_A8
DDR31_A9
DDR31_A10
DDR31_A11
DDR31_A12
DDR31_A13
DDR31_A14
DDR31_BA0
DDR31_BA1
DDR31_BA2
DDR31_CLK_P
DDR31_CLK_N
DDR31_CKE
DDR31_nCS
DDR31_nRAS
DDR31_nCAS
DDR31_nWE
DDR31_ODT
DDR31_nRESET
CLK_P
CLK_N
CKE
CS
RAS
CAS
WE
ODT
RESET#
BA0
BA1
BA2
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12/BC#
A13
A14
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
LDQS
LDQS
UDQS
UDQS
LDM
UDM
ZQ
NC1
NC2
NC3
NC4
NC5
VSS1
VSS2
VSS3
VSS4
VSS5
VSS6
VSS7
VSS8
VSS9
VSS10
VSS11
VSS12
VSSQ1
VSSQ2
VSSQ3
VSSQ4
VSSQ5
VSSQ6
VSSQ7
VSSQ8
VSSQ9
DDR31_DQ0
DDR31_DQ1
DDR31_DQ2
DDR31_DQ3
DDR31_DQ4
DDR31_DQ5
DDR31_DQ6
DDR31_DQ7
DDR31_DQ8
DDR31_DQ9
DDR31_DQ10
DDR31_DQ11
DDR31_DQ12
DDR31_DQ13
DDR31_DQ14
DDR31_DQ15
DDR31_DQS0_P
DDR31_DQS0_N
DDR31_DQS1_P
DDR31_DQS1_N
DDR31_DM0
DDR31_DM1
R4
240R
R6
4.7K
GND

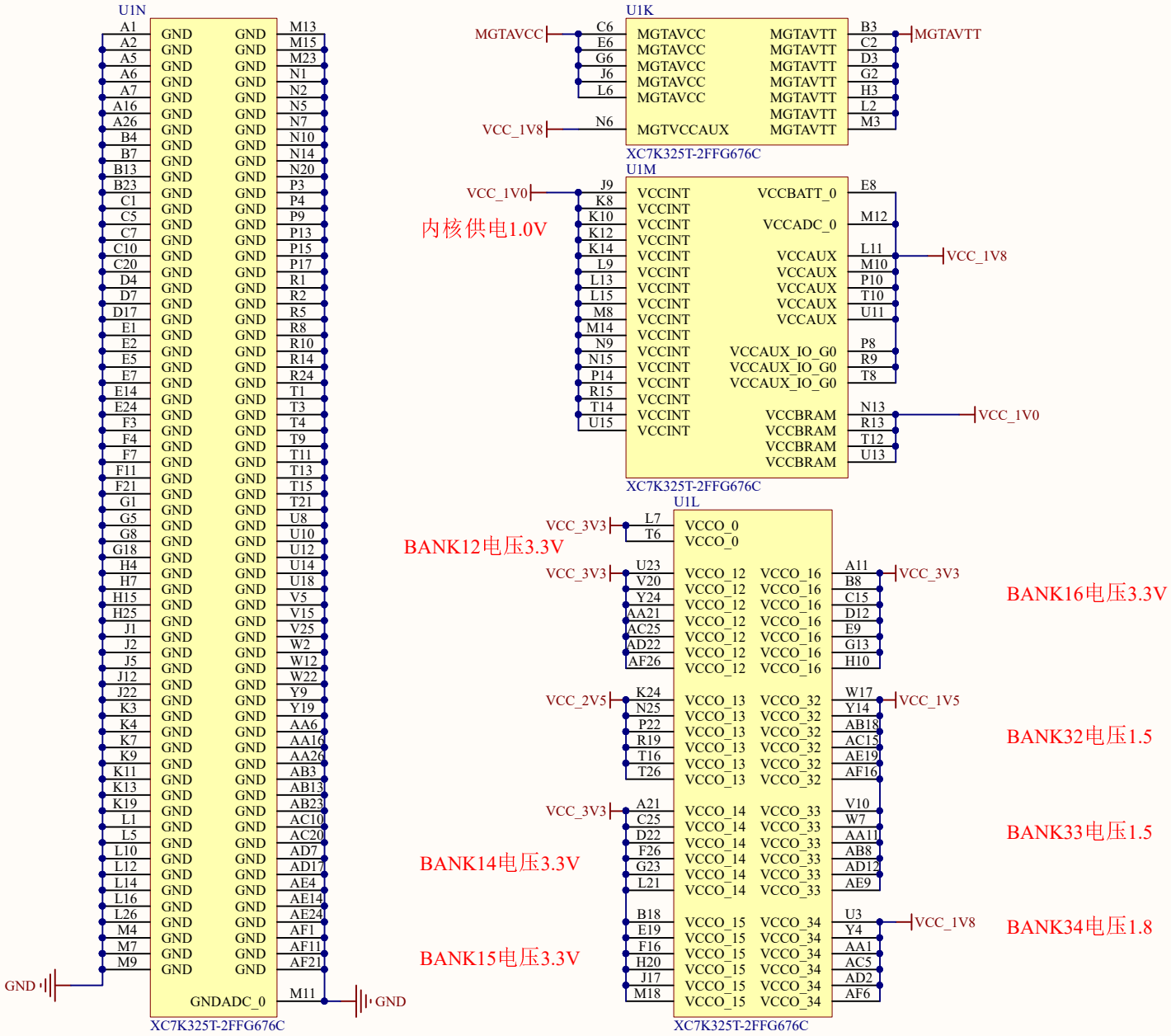
DDR3

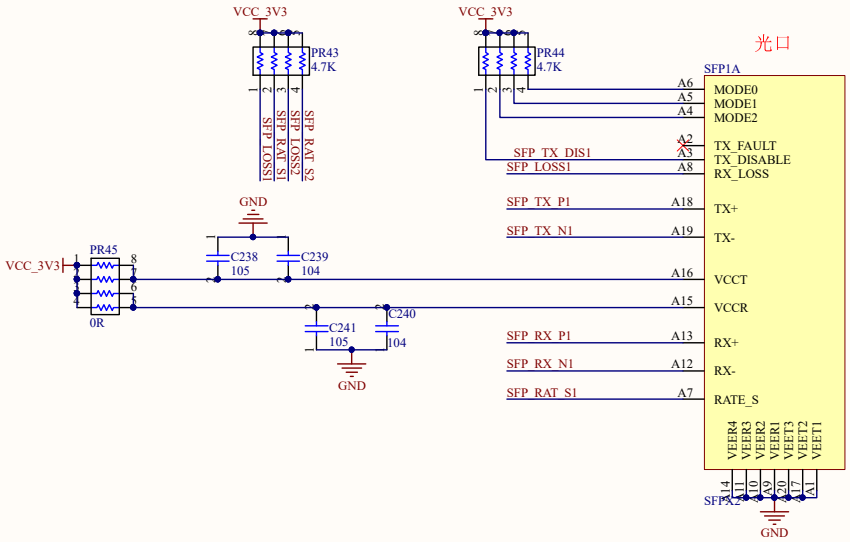

DDR3_VREF
VCC_1V5
U3
DDR31_A0
DDR31_A1
DDR31_A2
DDR31_A3
DDR31_A4
DDR31_A5
DDR31_A6
DDR31_A7
DDR31_A8
DDR31_A9
DDR31_A10
DDR31_A11
DDR31_A12
DDR31_A13
DDR31_A14
DDR31_BA0
DDR31_BA1
DDR31_BA2
DDR31_CLK_P
DDR31_CLK_N
DDR31_CKE
DDR31_nCS
DDR31_nRAS
DDR31_nCAS
DDR31_nWE
DDR31_ODT
DDR31_nRESET
DDR31_DQ16
DDR31_DQ17
DDR31_DQ18
DDR31_DQ19
DDR31_DQ20
DDR31_DQ21
DDR31_DQ22
DDR31_DQ23
DDR31_DQ24
DDR31_DQ25
DDR31_DQ26
DDR31_DQ27
DDR31_DQ28
DDR31_DQ29
DDR31_DQ30
DDR31_DQ31
DDR31_DQS2_P
DDR31_DQS2_N
DDR31_DQS3_P
DDR31_DQS3_N
DDR31_DM2
DDR31_DM3
R5
240R
GND

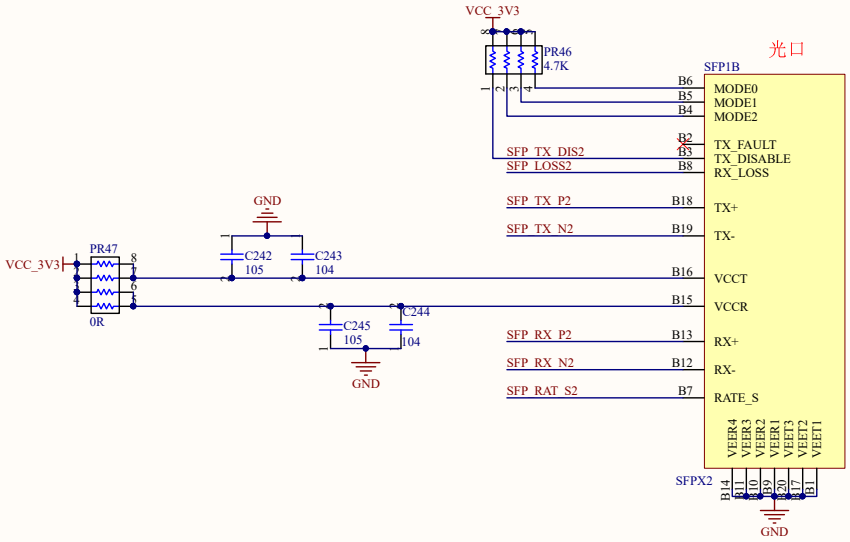
PCIE金手指，使用X8宽度，实际是X4位宽




主供电口，这个接口请链接我们的电源
DCM
TYPE-C16PIN
SS54
内核电源，最大12A电流
MP8774H
用于电源上电控制的MCU电源
ME6219C33M
DDR3电源芯片
TPS51200DRCR
DDR3_VTT
2.5V/3.3V可调
MP2145
MP9447
PCIE插槽12V转5V电源
高速收发器电源
高速收发器电源


U1N
A1 GND GND M13
A2 GND GND M15
A5 GND GND M23
A6 GND GND N1
A7 GND GND N2
A16 GND GND N5
A26 GND GND N7
B4 GND GND N10
B7 GND GND N14
B13 GND GND N20
B23 GND GND P3
C1 GND GND P4
C5 GND GND P9
C7 GND GND P13
C10 GND GND P15
C20 GND GND P17
D4 GND GND R1
D7 GND GND R2
D17 GND GND R5
E1 GND GND R8
E2 GND GND R10
E5 GND GND R14
E7 GND GND R24
E14 GND GND T1
E24 GND GND T3
F3 GND GND T4
F4 GND GND T9
F7 GND GND T11
F11 GND GND T13
F21 GND GND T15
G1 GND GND T21
G5 GND GND U8
G8 GND GND U10
G18 GND GND U12
H4 GND GND U14
H7 GND GND U18
H15 GND GND V5
H25 GND GND V15
J1 GND GND V25
J2 GND GND W2
J5 GND GND W12
J12 GND GND W22
J22 GND GND Y9
K3 GND GND Y19
K4 GND GND AA6
K7 GND GND AA16
K9 GND GND AA26
K11 GND GND AB3
K13 GND GND AB13
K19 GND GND AB23
L1 GND GND AC10
L5 GND GND AC20
L10 GND GND AD7
L12 GND GND AD17
L14 GND GND AE4
L16 GND GND AE14
L26 GND GND AE24
M4 GND GND AF1
M7 GND GND AF11
M9 GND GND AF21
GNDADC_0 M11
GND
GND
XC7K325T-2FFG676C
U1K
MGTAVCC C6 MGTAVCC MGTAVTT B3 MGTAVTT
E6 MGTAVCC MGTAVTT C2
G6 MGTAVCC MGTAVTT D3
J6 MGTAVCC MGTAVTT G2
L6 MGTAVCC MGTAVTT H3
MGTAVTT L2
MGTAVTT M3
VCC_1V8 N6 MGTVCCAUX MGTAVTT
XC7K325T-2FFG676C
U1M
VCC_1V0 J9 VCCINT VCCBATT_0 E8
K8 VCCINT
K10 VCCINT VCCADC_0 M12
K12 VCCINT
K14 VCCINT VCCAUX L11 VCC_1V8
L9 VCCINT VCCAUX M10
L13 VCCINT VCCAUX P10
L15 VCCINT VCCAUX T10
M8 VCCINT VCCAUX U11
M14 VCCINT
N9 VCCINT VCCAUX_IO_G0 P8
N15 VCCINT VCCAUX_IO_G0 R9
P14 VCCINT VCCAUX_IO_G0 T8
R15 VCCINT
T14 VCCINT VCCBRAM N13 VCC_1V0
U15 VCCINT VCCBRAM R13
VCCBRAM T12
VCCBRAM U13
XC7K325T-2FFG676C
内核供电1.0V
U1L
VCC_3V3 L7 VCCO_0
T6 VCCO_0
BANK12电压3.3V
VCC_3V3 U23 VCCO_12 VCCO_16 A11 VCC_3V3
V20 VCCO_12 VCCO_16 B8
Y24 VCCO_12 VCCO_16 C15
AA21 VCCO_12 VCCO_16 D12
AC25 VCCO_12 VCCO_16 E9
AD22 VCCO_12 VCCO_16 G13
AF26 VCCO_12 VCCO_16 H10
BANK16电压3.3V
VCC_2V5 K24 VCCO_13 VCCO_32 W17 VCC_1V5
N25 VCCO_13 VCCO_32 Y14
P22 VCCO_13 VCCO_32 AB18
R19 VCCO_13 VCCO_32 AC15
T16 VCCO_13 VCCO_32 AE19
T26 VCCO_13 VCCO_32 AF16
BANK32电压1.5
VCC_3V3 A21 VCCO_14 VCCO_33 V10
C25 VCCO_14 VCCO_33 W7
D22 VCCO_14 VCCO_33 AA11
F26 VCCO_14 VCCO_33 AB8
G23 VCCO_14 VCCO_33 AD12
L21 VCCO_14 VCCO_33 AE9
BANK33电压1.5
BANK14电压3.3V
B18 VCCO_15 VCCO_34 U3 VCC_1V8
E19 VCCO_15 VCCO_34 Y4
F16 VCCO_15 VCCO_34 AA1
H20 VCCO_15 VCCO_34 AC5
J17 VCCO_15 VCCO_34 AD2
M18 VCCO_15 VCCO_34 AF6
BANK34电压1.8
BANK15电压3.3V
XC7K325T-2FFG676C


VCC_3V3
PR43
4.7K
SFP_LOS1
SFP_RAT_S1
SFP_LOS2
SFP_RAT_S2
VCC_3V3
PR44
4.7K
光口
SFP1A
MODE0
MODE1
MODE2
TX_FAULT
TX_DISABLE
RX_LOSS
TX+
TX-
VCCT
VCCR
RX+
RX-
RATE_S
VEER4
VEER3
VEER2
VEER1
VEET3
VEET2
VEET1
SFP_TX_DIS1
SFP_LOSS1
SFP_TX_P1
SFP_TX_N1
SFP_RX_P1
SFP_RX_N1
SFP_RAT_S1
A6
A5
A4
A2
A3
A8
A18
A19
A16
A15
A13
A12
A7
A14
A11
A10
A9
A20
A17
A1
SFPX2
GND
VCC_3V3
PR45
0R
C238
105
C239
104
C240
C241
105
104
GND


VCC_3V3
PR46
4.7K
光口
SFP1B
MODE0
MODE1
MODE2
TX_FAULT
TX_DISABLE
RX_LOSS
TX+
TX-
VCCT
VCCR
RX+
RX-
RATE_S
VEER4
VEER3
VEER2
VEER1
VEET3
VEET2
VEET1
SFP_TX_DIS2
SFP_LOSS2
SFP_TX_P2
SFP_TX_N2
SFP_RX_P2
SFP_RX_N2
SFP_RAT_S2
B6
B5
B4
B2
B3
B8
B18
B19
B16
B15
B13
B12
B7
B14
B11
B10
B9
B20
B17
B1
SFPX2
GND
VCC_3V3
PR47
0R
C242
105
C243
104
C244
C245
105
104
GND