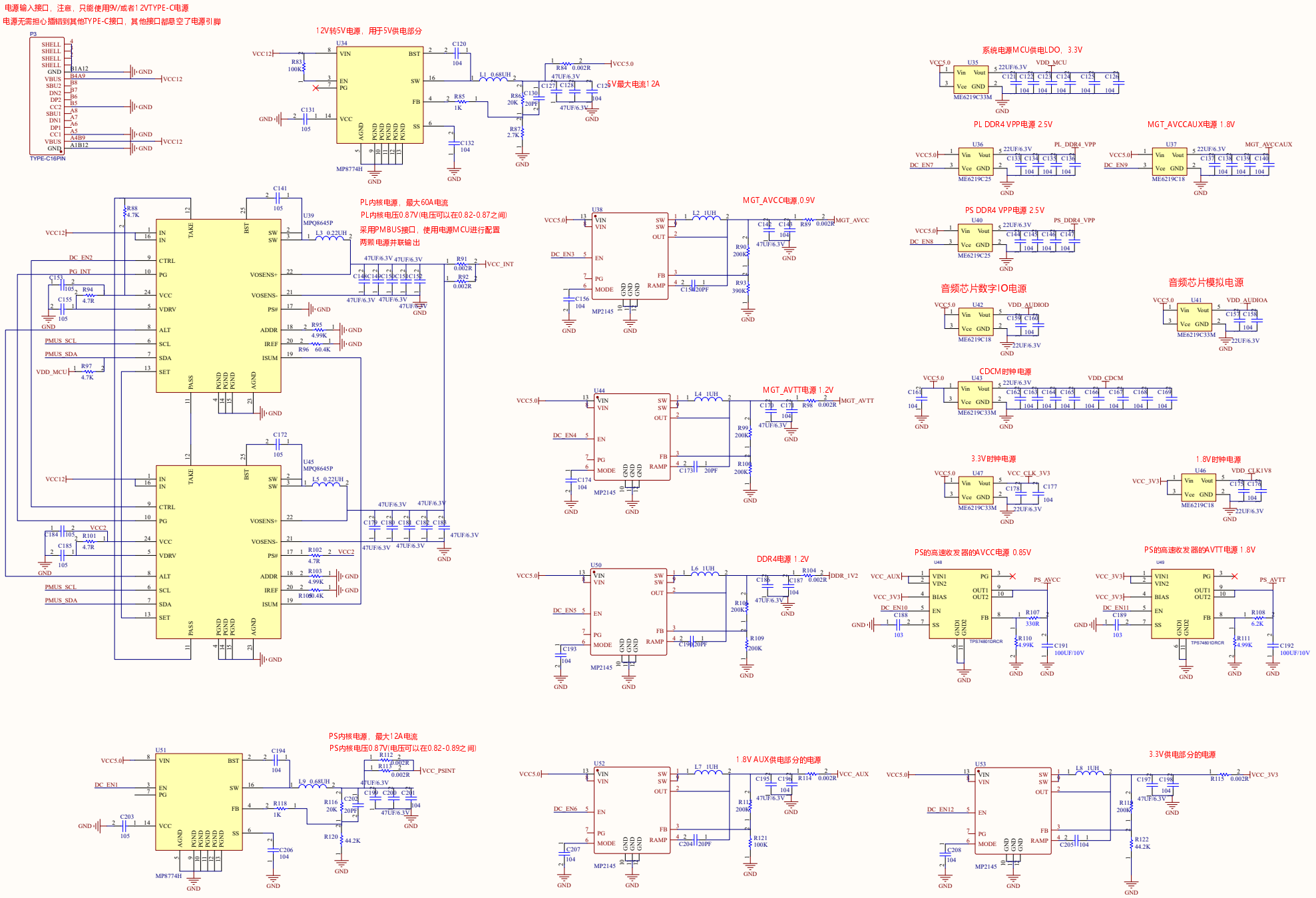
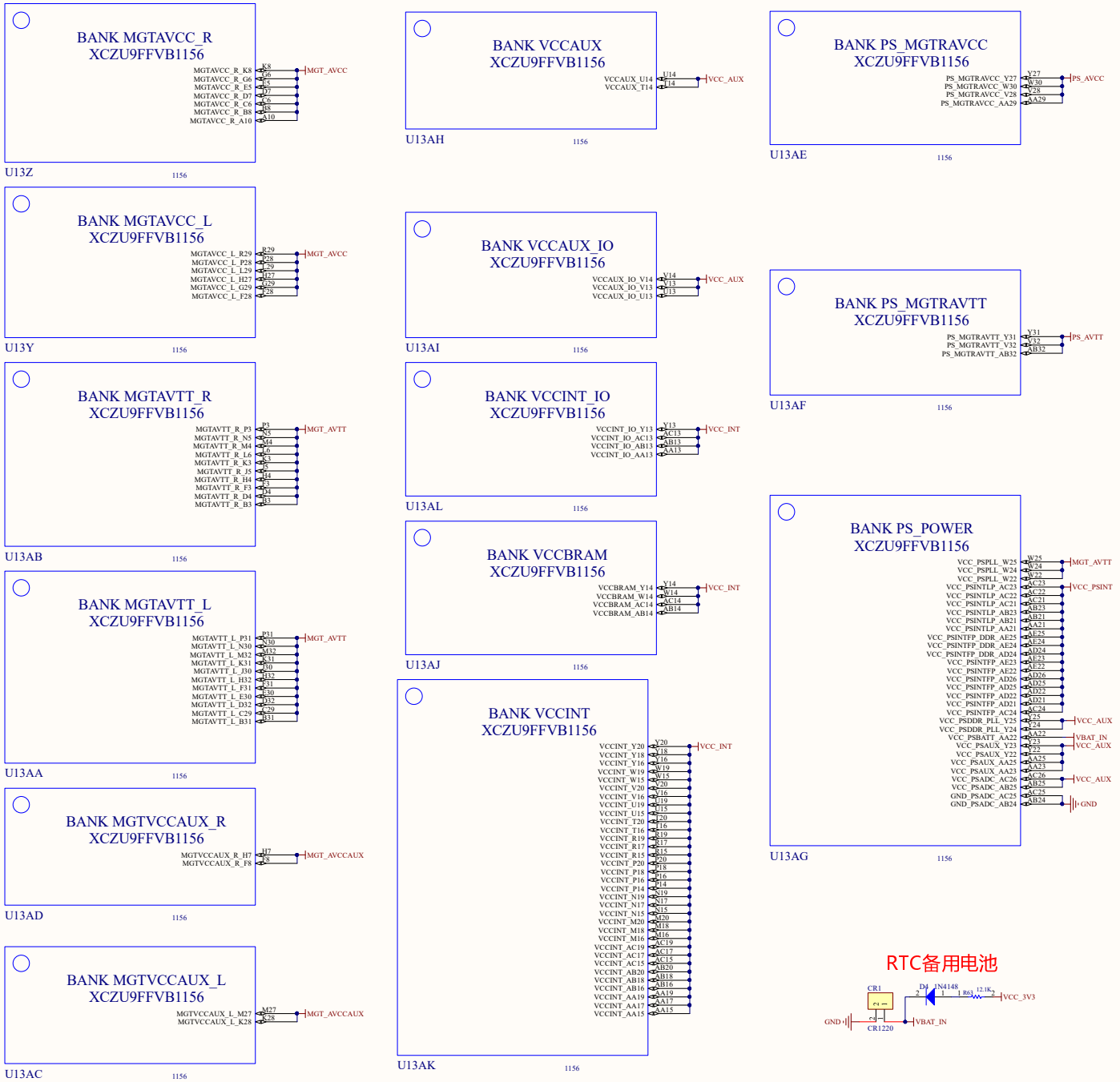
第一部分 系统电源


电源输入接口，注意，只能使用9V/或者12VTYPE-C电源
电源无需担心插错到其他TYPE-C接口，其他接口都悬空了电源引脚
P3
TYPE-C16PIN
12V转5V电源，用于5V供电部分
U34
MP8774H
5V最大电流12A
系统电源MCU供电LDO，3.3V
U35
ME6219C33M
VDD_MCU
PL DDR4 VPP电源 2.5V
U36
ME6219C25
PL_DDR4_VPP
MGT_AVCCAUX电源 1.8V
U37
ME6219C18
MGT_AVCCAUX
PL内核电源，最大60A电流
PL内核电压0.87V(电压可以在0.82-0.87之间)
采用PMBUS接口，使用电源MCU进行配置
两颗电源并联输出
U39
MPQ8645P
VCC_INT
MGT_AVCC电源 0.9V
U38
MP2145
MGT_AVCC
PS DDR4 VPP电源 2.5V
U40
PS_DDR4_VPP
音频芯片数字IO电源
U42
VDD_AUDIOD
音频芯片模拟电源
U41
VDD_AUDIOA
U45
MGT_AVTT电源 1.2V
U44
MGT_AVTT
CDCM时钟电源
U43
VDD_CDCM
3.3V时钟电源
U47
VCC_CLK_3V3
1.8V时钟电源
U46
VDD_CLK1V8
DDR4电源 1.2V
U50
DDR_1V2
PS的高速收发器的AVCC电源 0.85V
U48
PS_AVCC
TPS74801DRCR
PS的高速收发器的AVTT电源 1.8V
U49
PS_AVTT
PS内核电源，最大12A电流
PS内核电压0.87V(电压可以在0.82-0.89之间)
U51
VCC_PSINT
1.8V AUX供电部分的电源
U52
VCC_AUX
3.3V供电部分的电源
U53
VCC_3V3

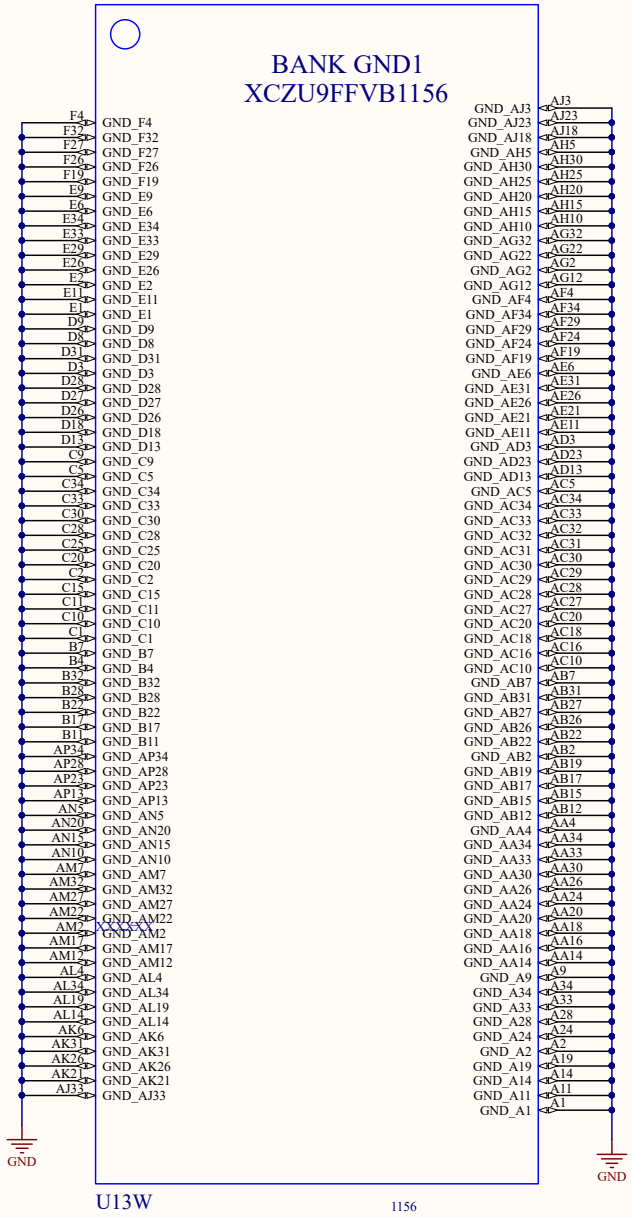
第二部分 电源滤波电容

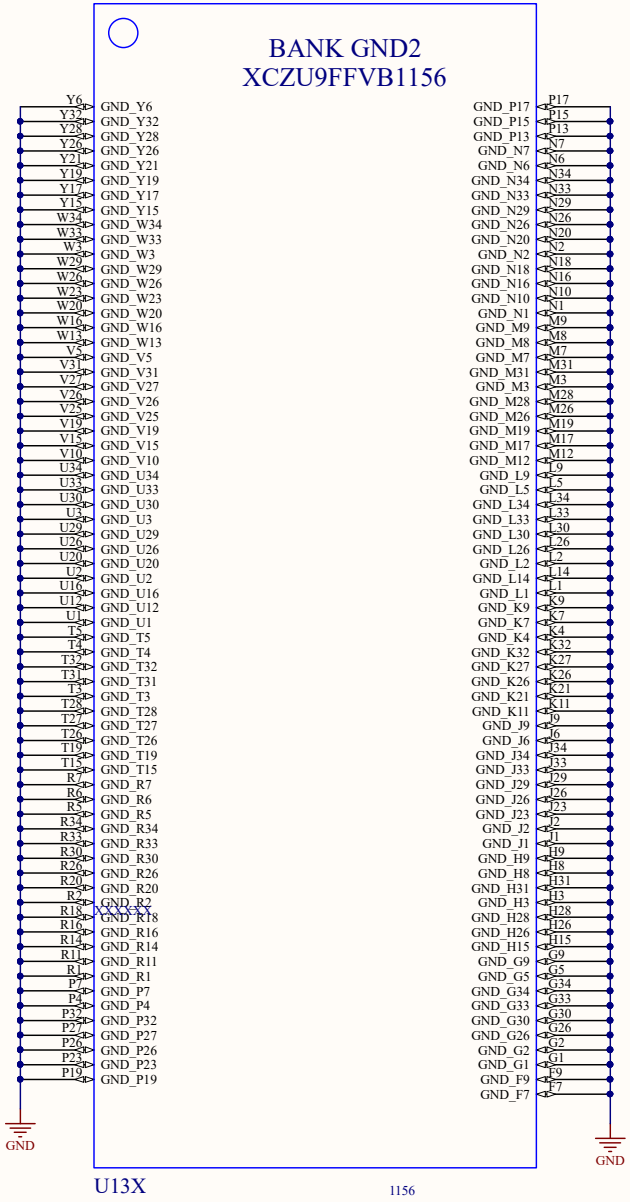

VCC12
22UF/16V
C237 C238 C239 C240 C241 C242 C243 C244 C245 C246 C247 C248 C249 C250 C251 C252 C253 C254 C255 C256 C235 C257 C236 C258 C259 C260 C261 C262 C263 C264 C265 C266 C267
104
103
GND
VCC5.0
220UF/6.3V
C286 C287 C288 C289 C290 C291 C292 C293 C294 C295 C296 C297 C298 C299 C300 C301 C268 C269 C270 C271 C272 C273 C274 C275 C276 C277 C278 C279 C280 C302 C303
47UF/6.3V
C281 C282 C283 C284 C285 C304 C305
VCC12
C306
VCC_PSINT
100UF/10V
C307 C308 C309 C311 C312 C313 C314 C315 C316 C317 C318 C319 C310 C320 C321 C322 C323 C324 C325 C326 C327 C328 C329
VCC_INT
C330
C331 C332
C333 C334 C335 C336 C337 C338 C339 C340 C341 C342 C343 C344 C345 C346 C347 C348 C349 C350 C351 C352 C353 C354 C355 C356 C357 C358 C359 C360 C361 C362 C363 C364 C365 C366 C367 C368 C369 C370 C371
DDR_1V2
C372
C373 C374 C376 C377 C378 C379 C380 C381 C382 C383 C384 C385 C386 C387 C388 C389 C390 C391 C375 C392 C393 C394 C395 C396 C397 C398 C399 C400 C401 C402 C403 C404 C405 C406
VCC_AUX
C407
C408
C409 C410 C411 C412 C413 C414 C415 C416 C417 C418 C419 C420 C421 C422 C423 C424 C425 C426 C427 C428 C429 C430 C431 C432 C433 C434 C435 C436 C437 C438 C439 C440 C441 C442
C443 C445 C446 C447 C448 C449 C450 C451 C452 C453 C454 C455 C456 C457 C458 C459 C444 C460 C461 C462 C463 C464 C465 C466 C467 C468 C469 C470 C471 C472 C473 C474 C475 C476 C477 C478 C479 C480 C481
MGT_AVTT
C500 C501 C482 C483 C484 C485 C486 C487 C488 C502 C503 C489 C490 C491 C492 C493 C494 C495 C496
PS_AVCC
C504 C505 C506 C507 C508 C509 C510 C511
VCC_CLK_3V3
C512 C513 C497 C498 C499 C514
MGT_AVCC
C519 C520 C521 C522 C523 C524 C525 C526 C527 C528 C529 C530 C531 C532 C533 C534 C535 C536 C537
PS_AVTT
C538 C539 C540 C541 C542 C543 C544 C545
VCC_CLK_3V3
C515 C516 C546 C547 C548 C517 C518
VCC_3V3
C549
C550 C552 C553 C554 C555 C556 C557 C558 C559 C560 C561 C562 C563 C564 C565 C551 C566 C567 C568 C569 C570 C571 C572 C573 C574 C575 C576 C577 C578 C579 C580 C581 C582
C583
C584 C585 C586 C587 C588 C589 C590 C591 C592 C593 C594 C595 C596 C597 C598 C599 C600 C601 C602 C603 C604 C605 C606 C607 C608 C609 C610 C611 C612
C613 C614 C615 C629 C630 C616 C617 C618 C619 C620 C621 C622 C623 C624 C625 C626 C627
MGT_AVCCAUX
C628 C631 C632

第三部分 ZU15EG芯片电源供电引脚电路

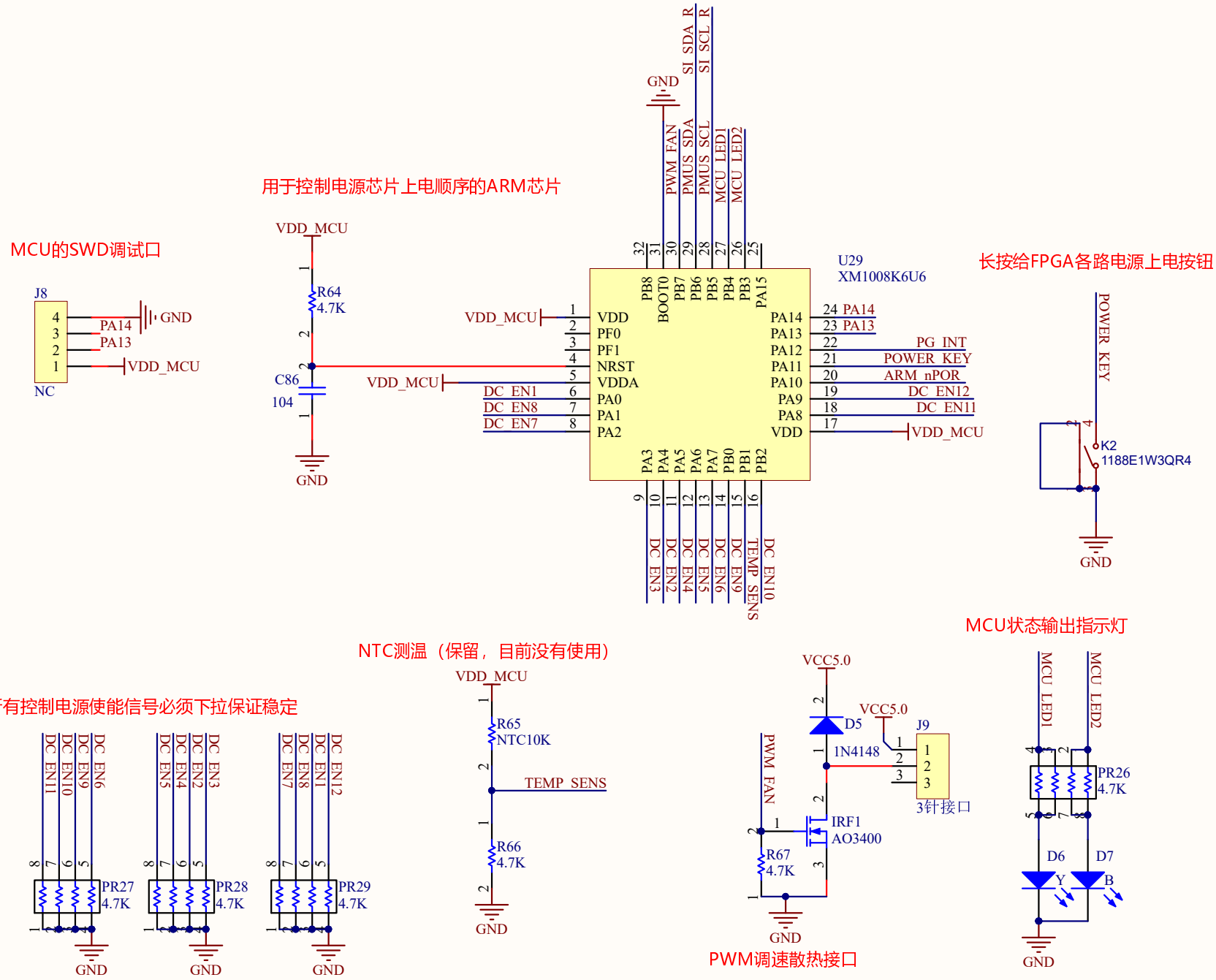


第四部分 ZU15EG芯片GND引脚

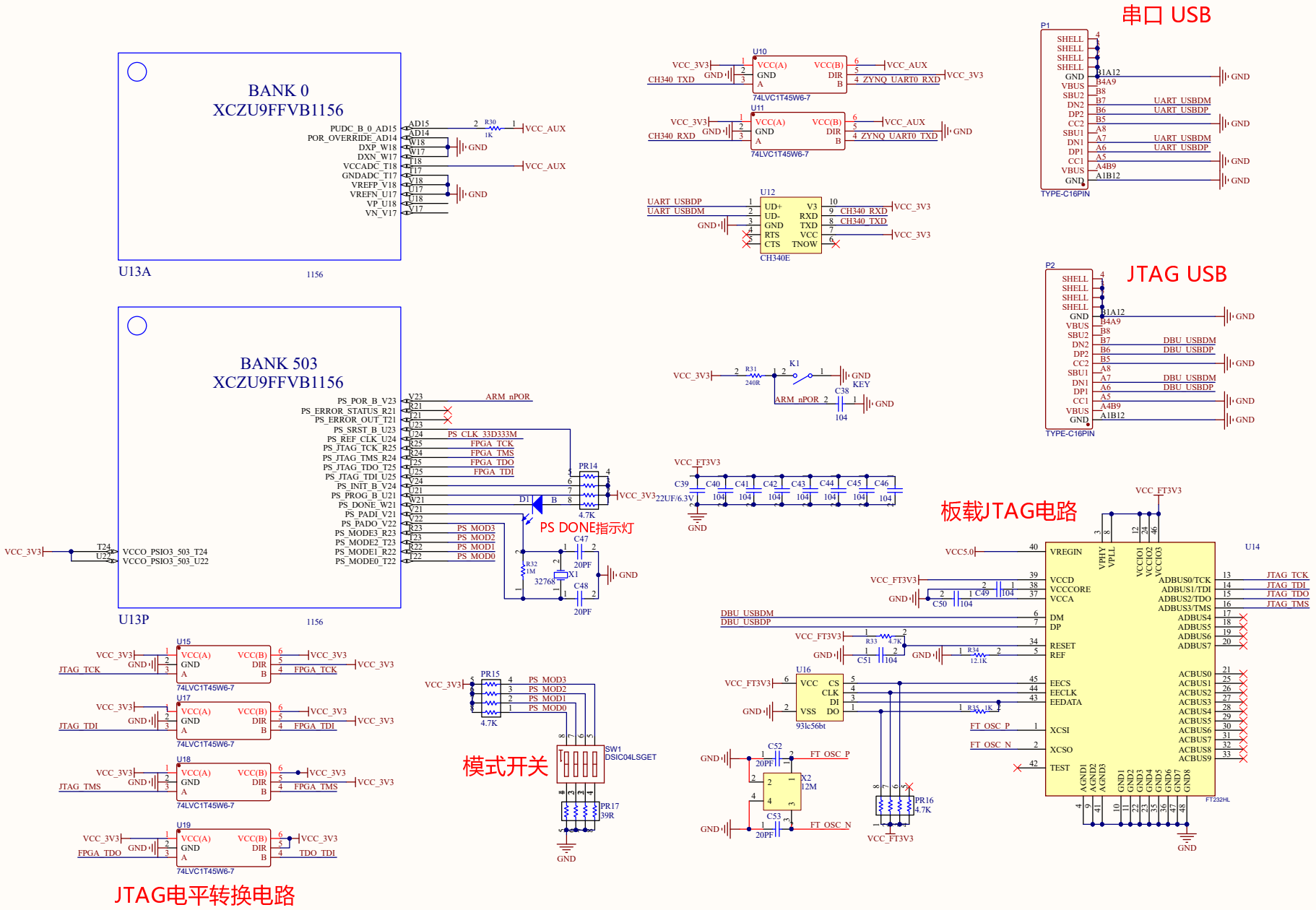




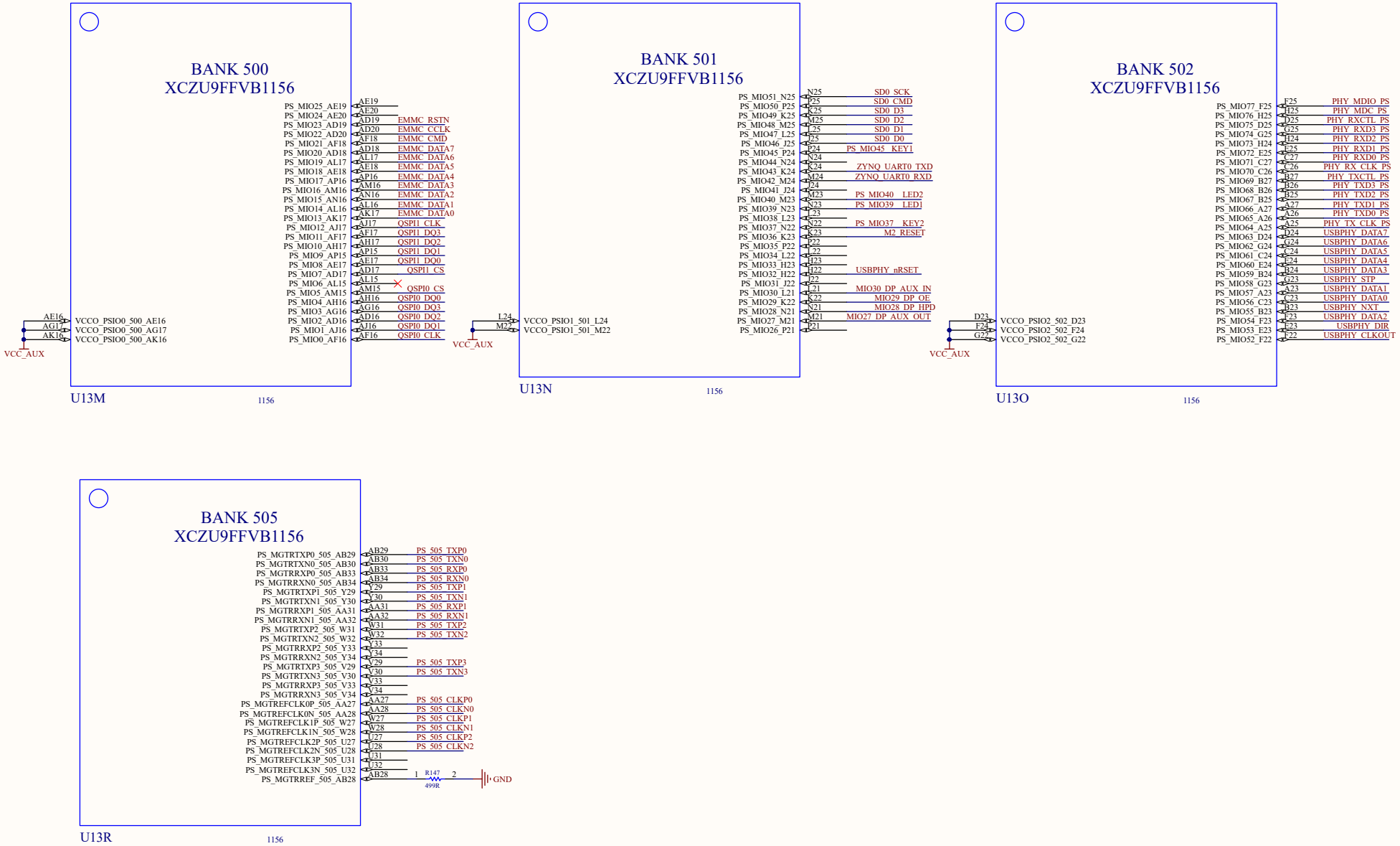
第五部分 系统的电源控制MCU部分



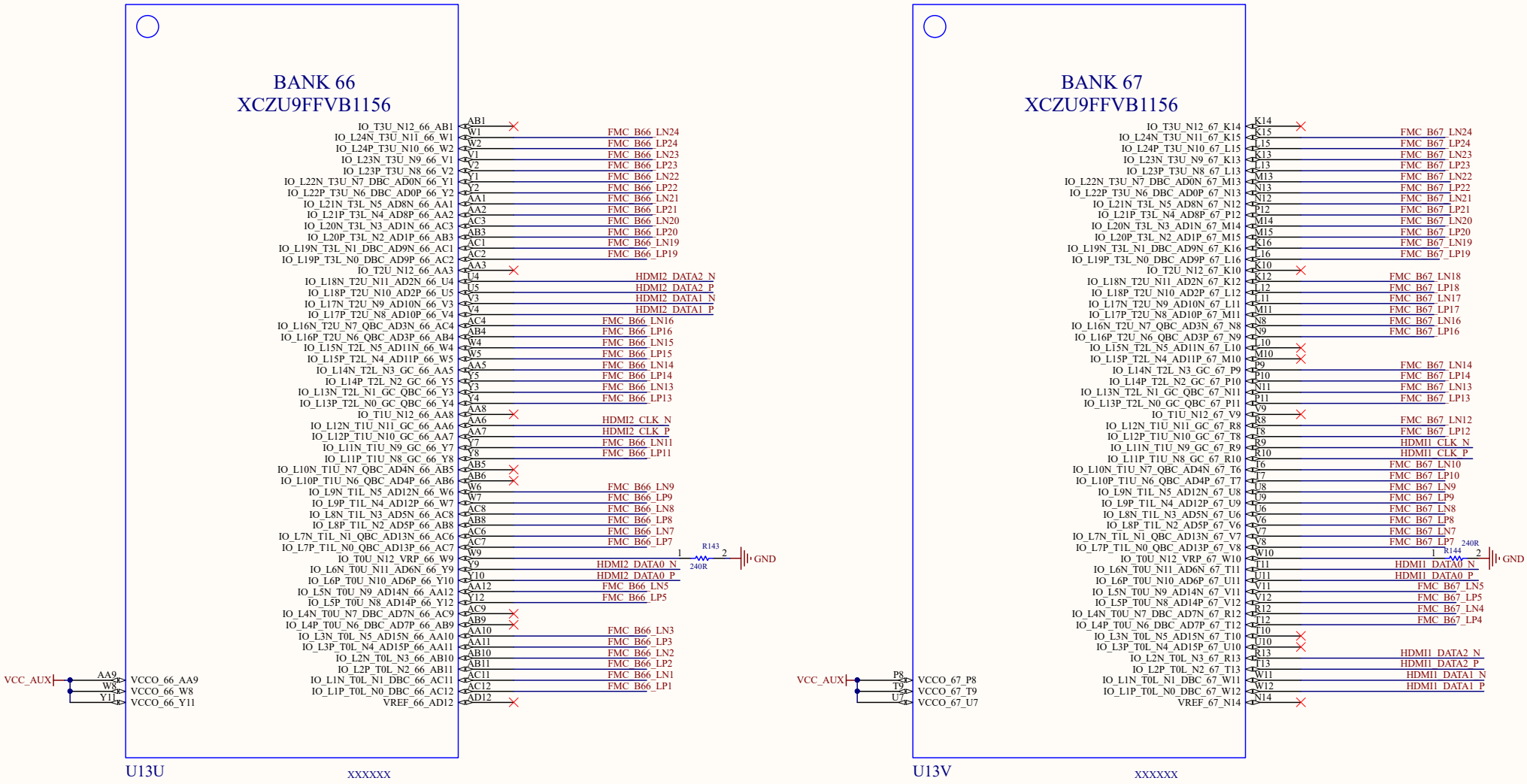
第六部分 板载下载器和串口部分



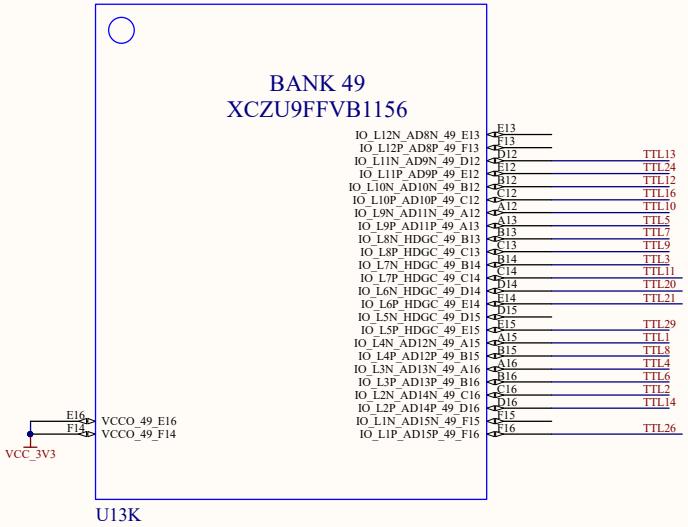
第七部分 PS部分的MIO和高速收发器

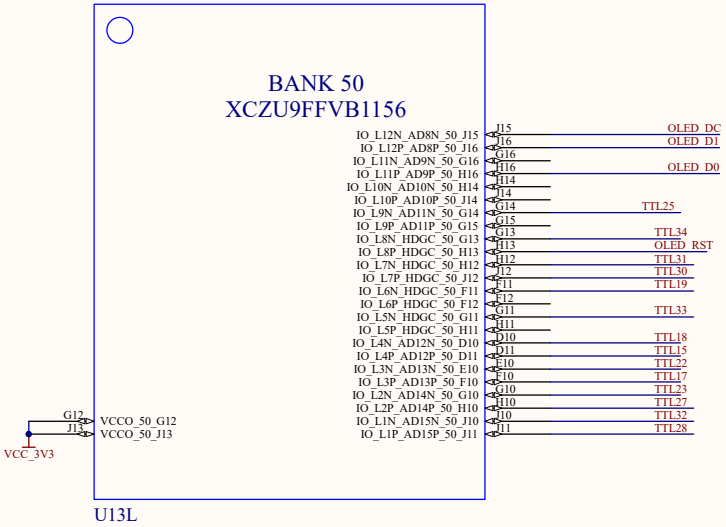


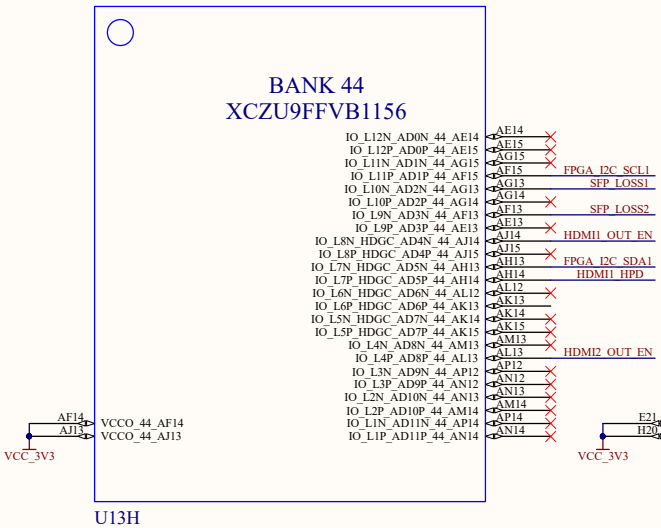
第八部分 PL的1.8V BANK66 67

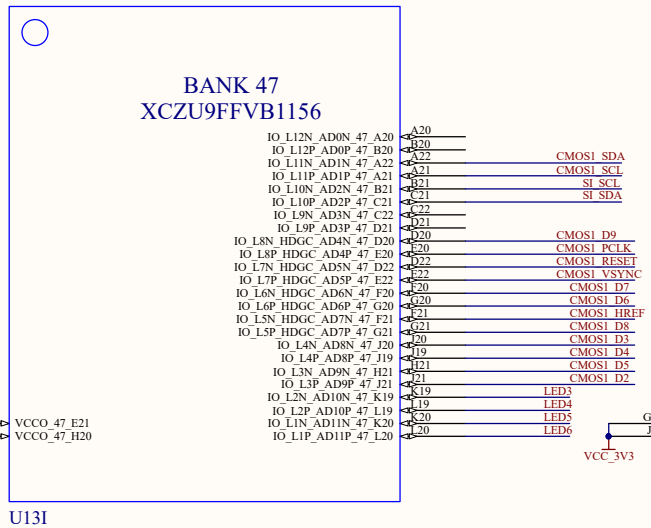


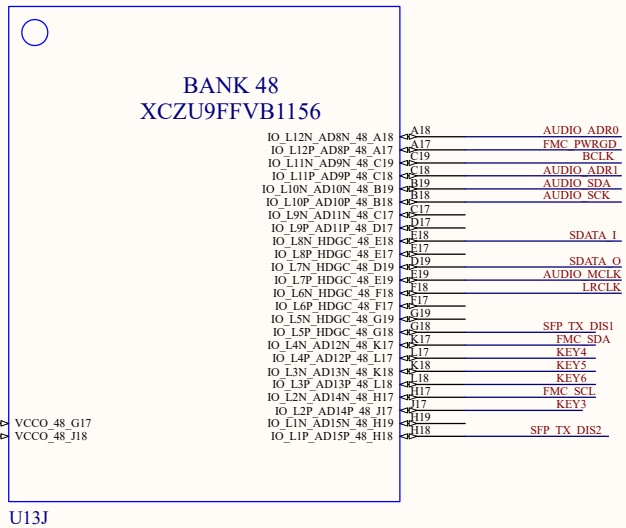
第九部分 PL的3.3V HD BANK



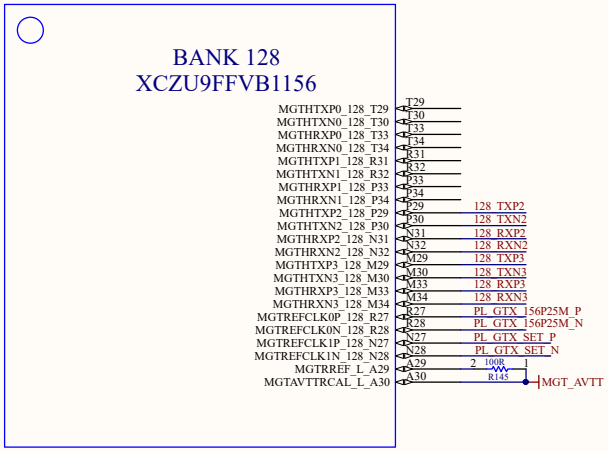




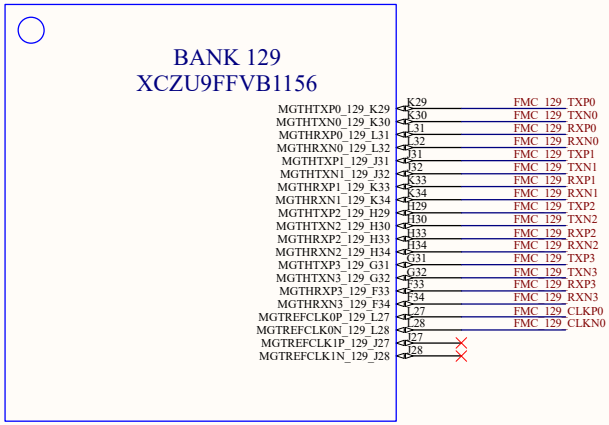




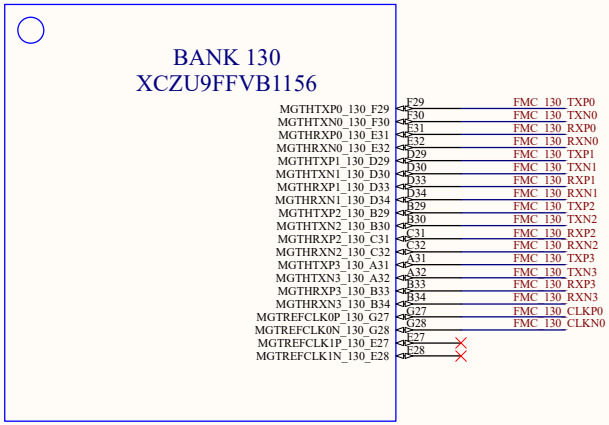
第十部分 PL的GTH 高速收发BANK部分



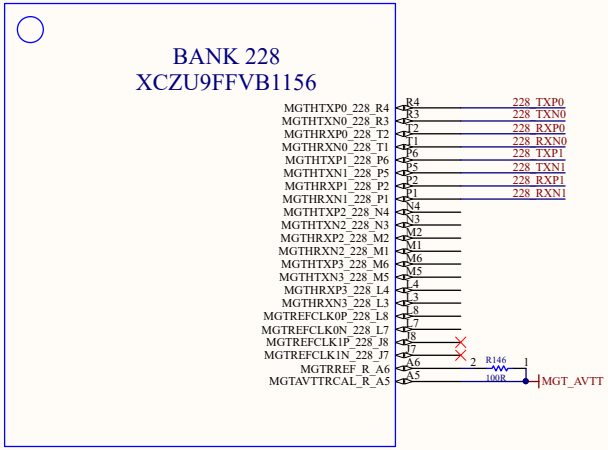
U13B



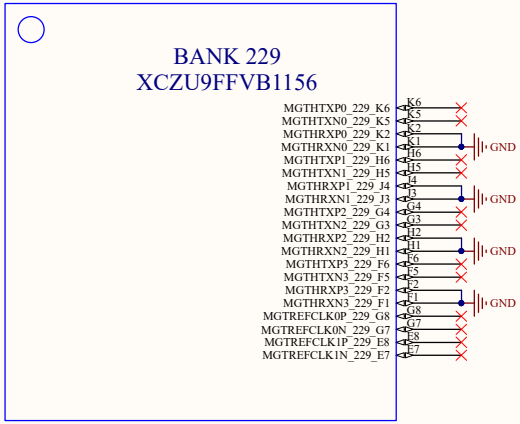
U13C



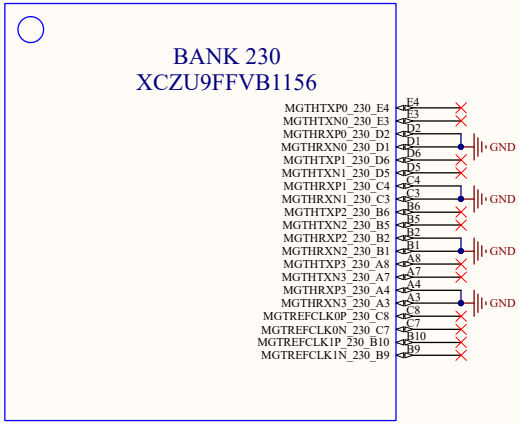
U13D



U13E

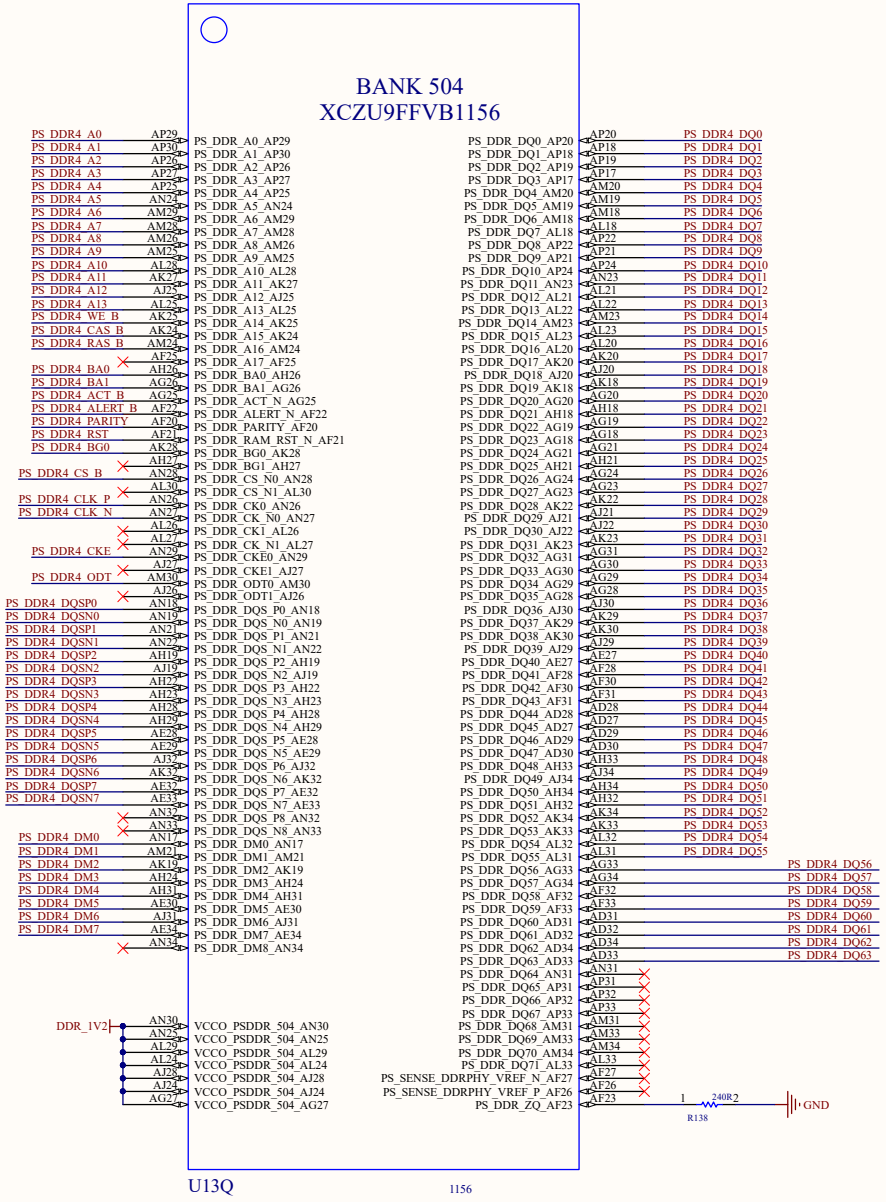


U13F

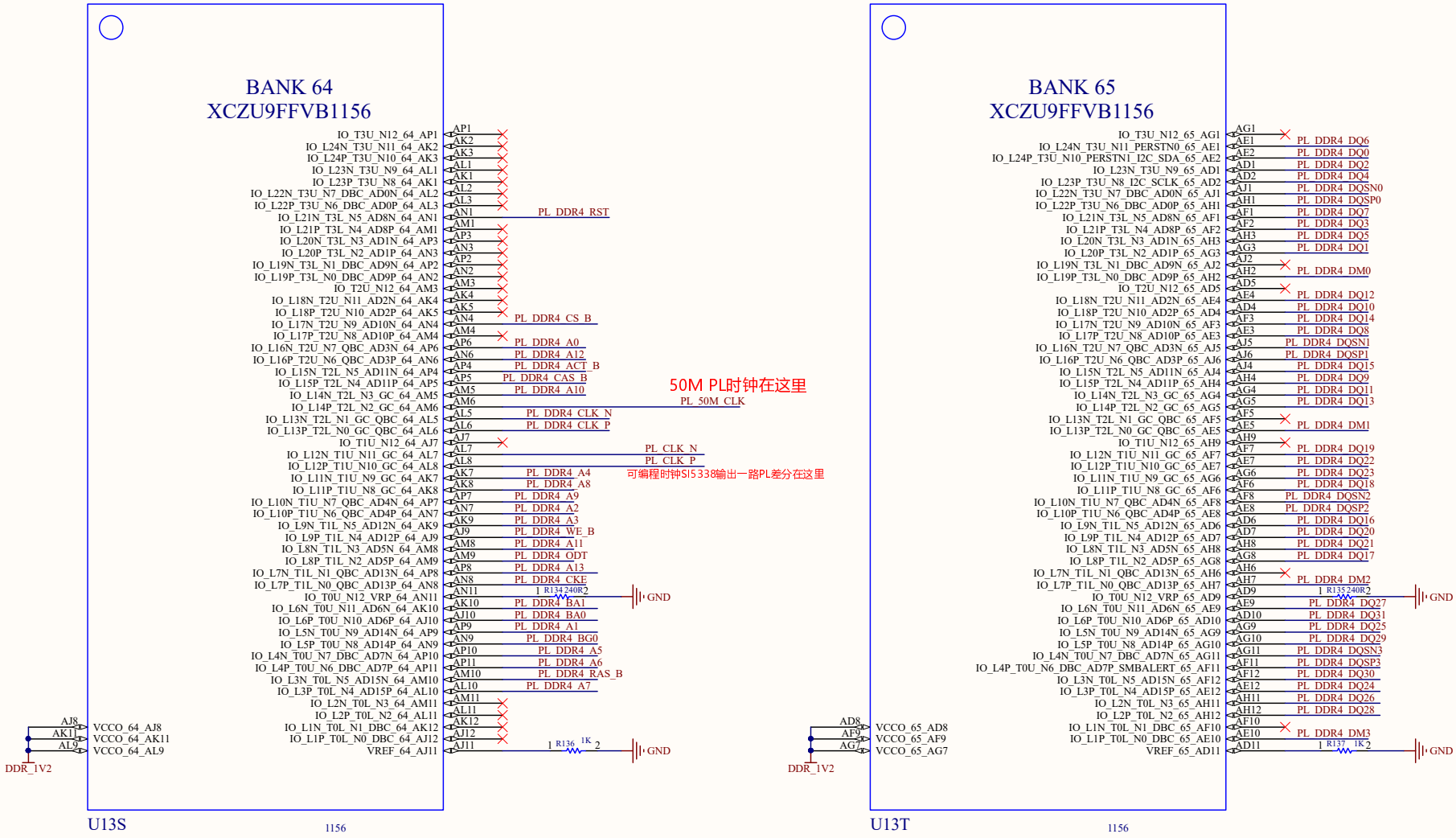


U13G

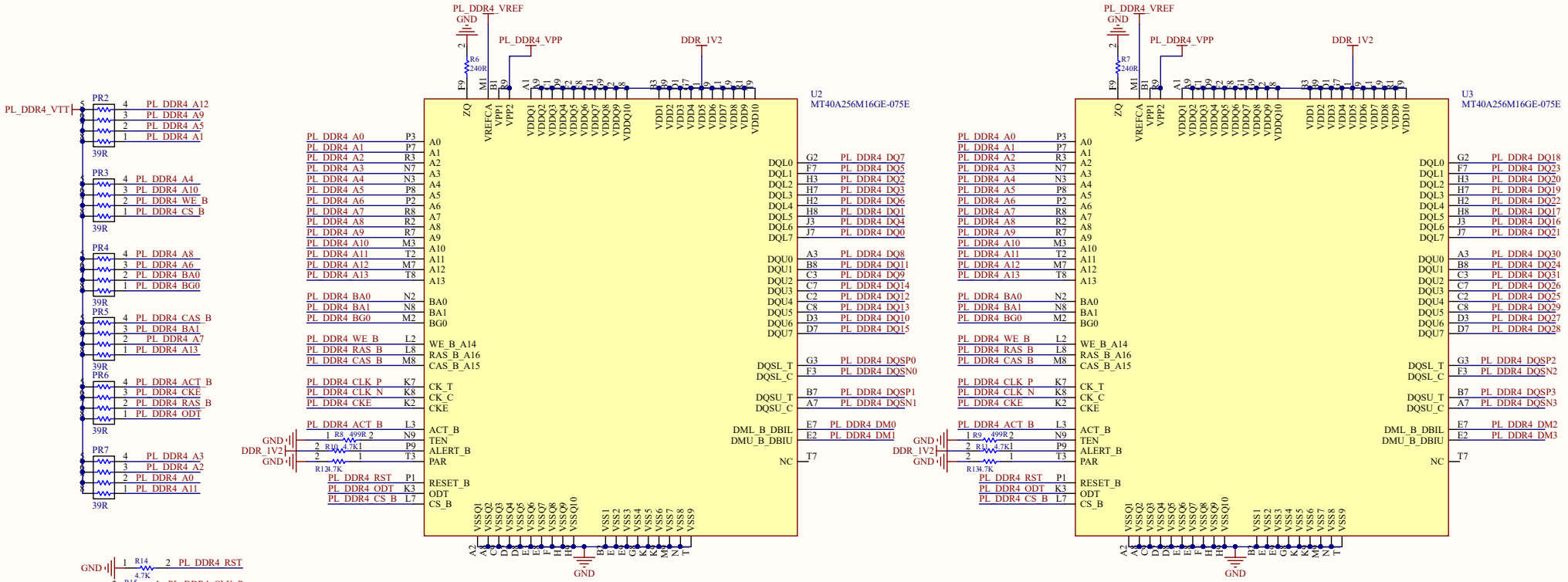
第十一部分 PS的 DDR4 BANK504



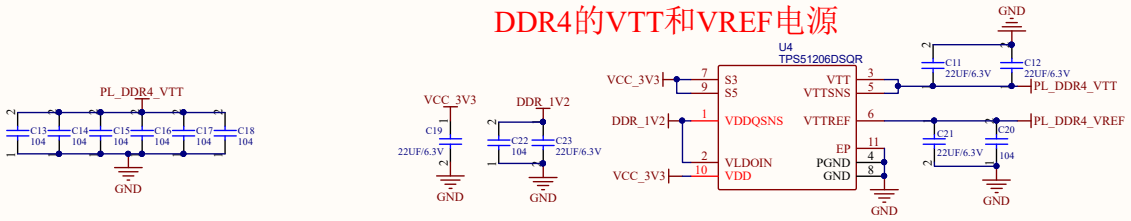
第十二部分 PL的BANK64 65 PL DDR4部分



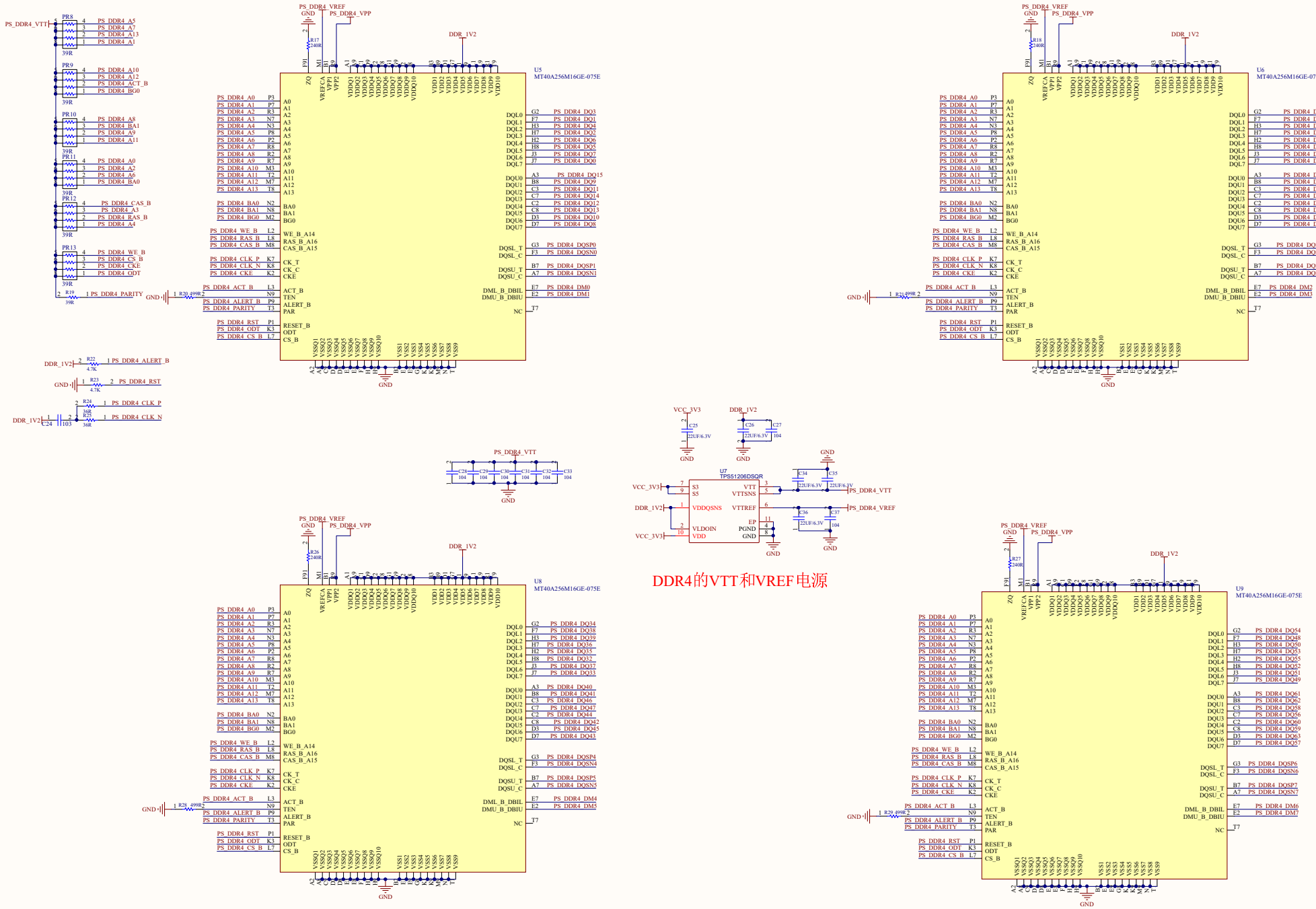
第十三部分 PL的DDR4存储部分



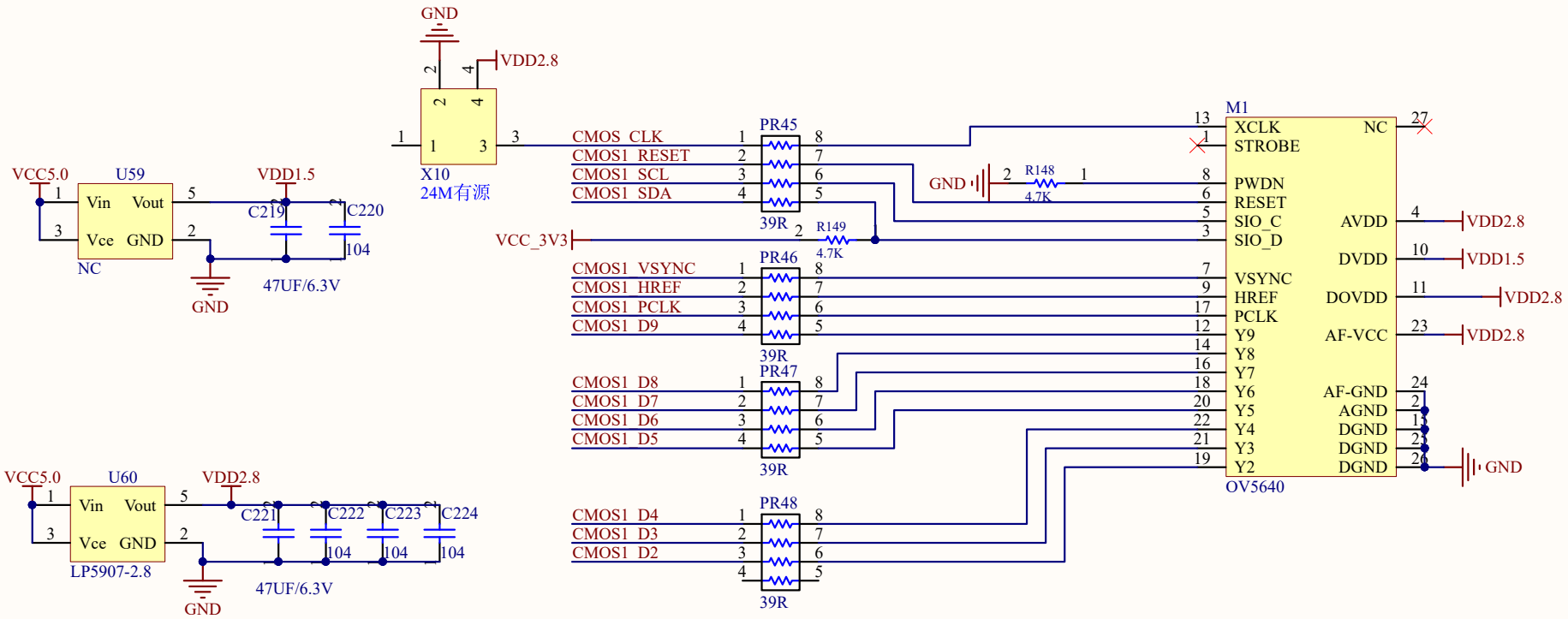
DDR4的VTT和VREF电源



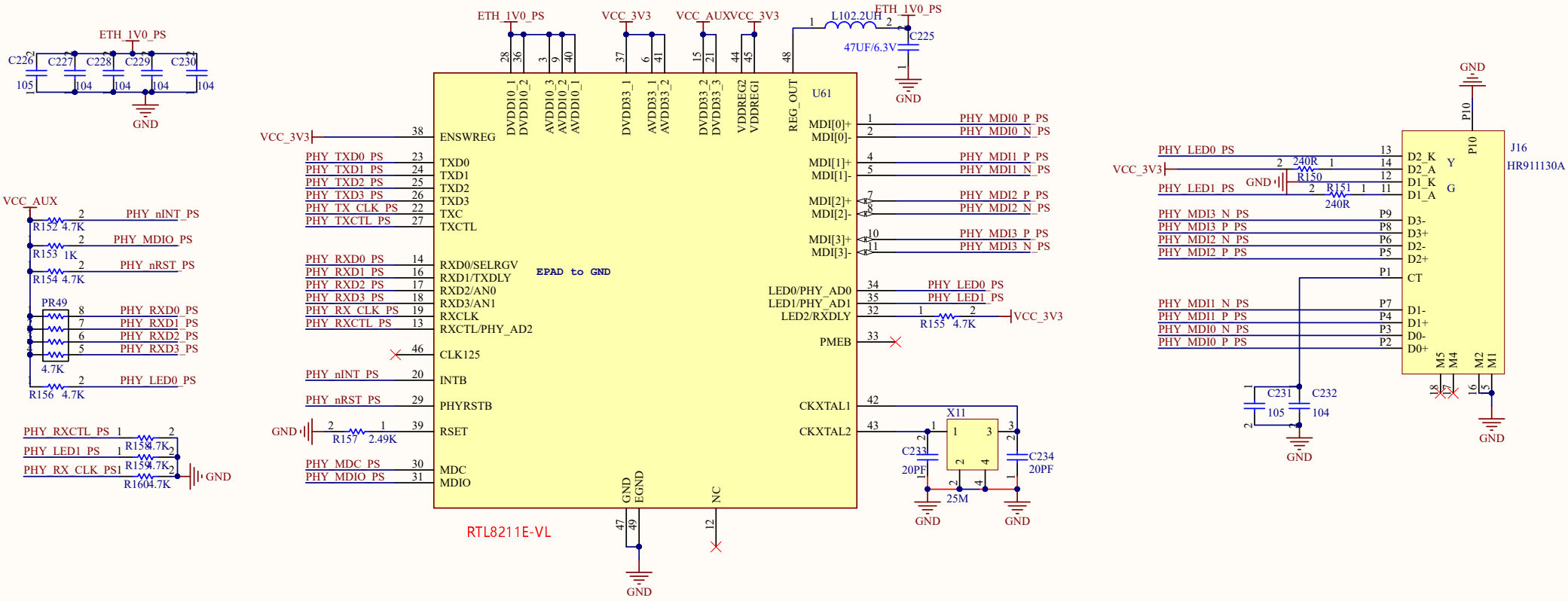
第十四部分 PS的DDR4存储部分



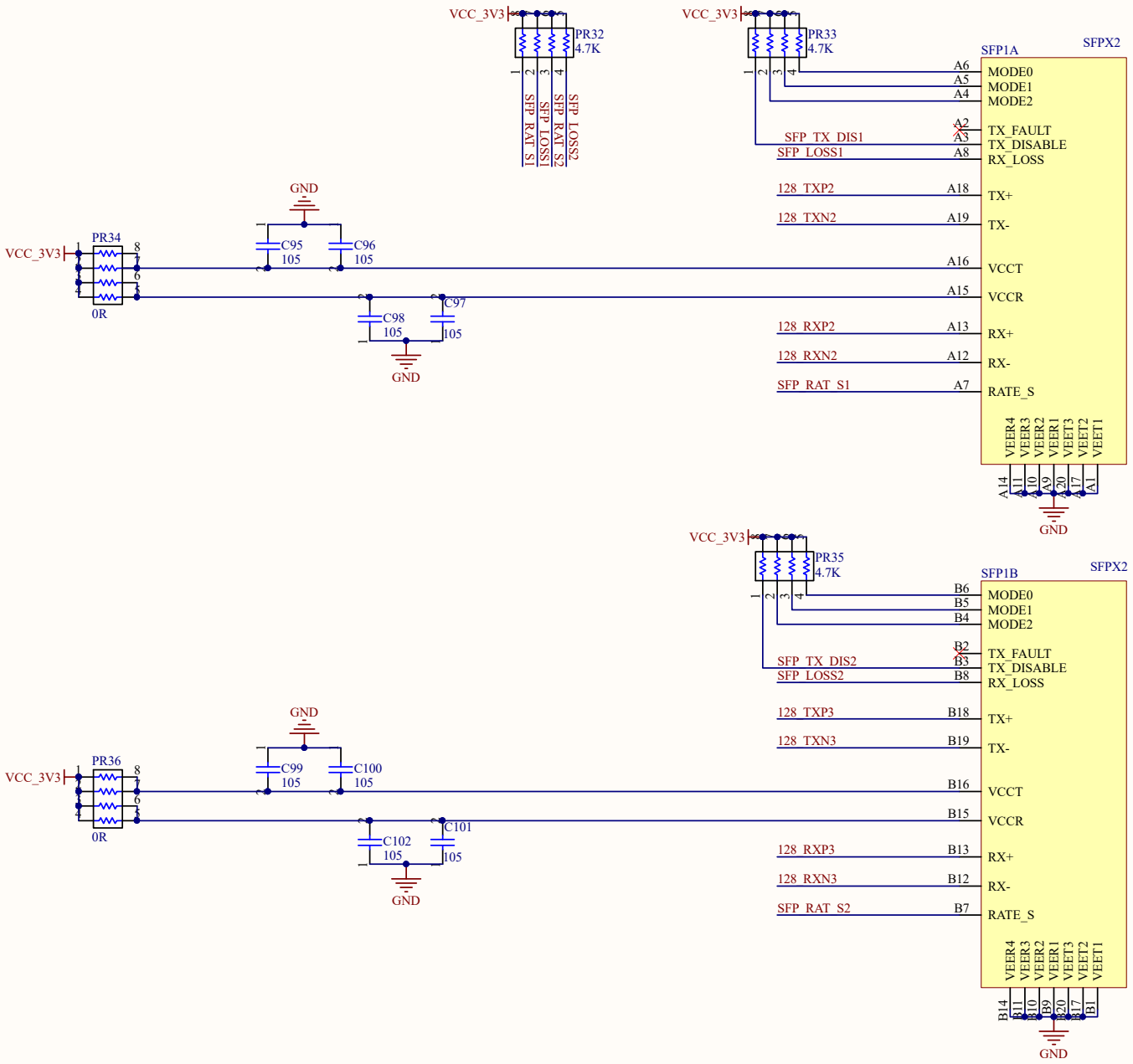
第十五部分 OV5640摄像头接口电路



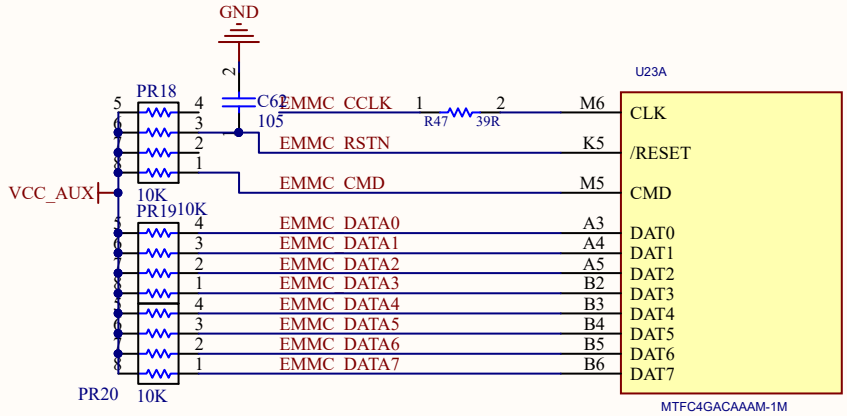
第十六部分 PS的千兆网口电路

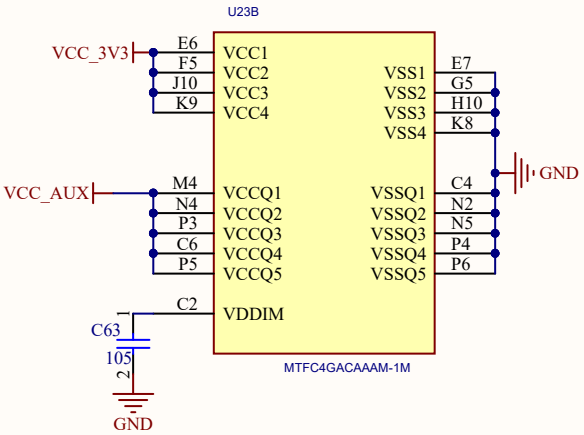


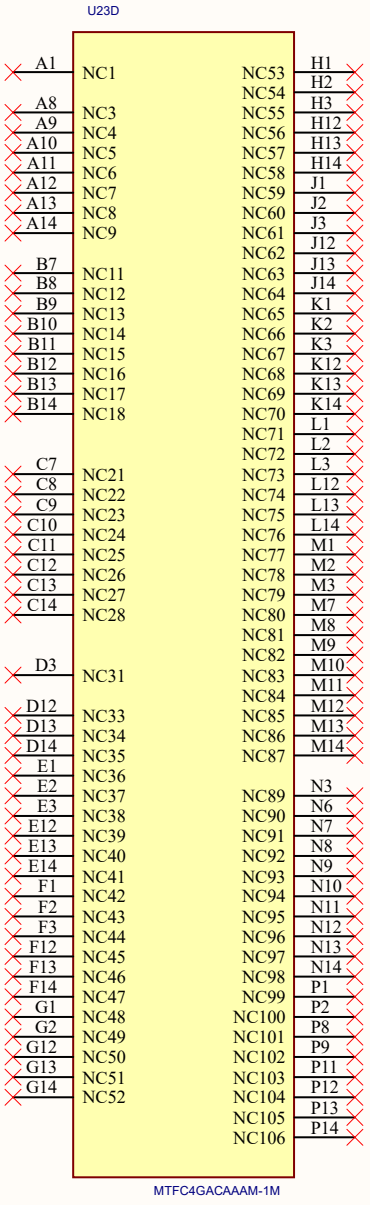
第十七部分 SFP+万兆光口部分

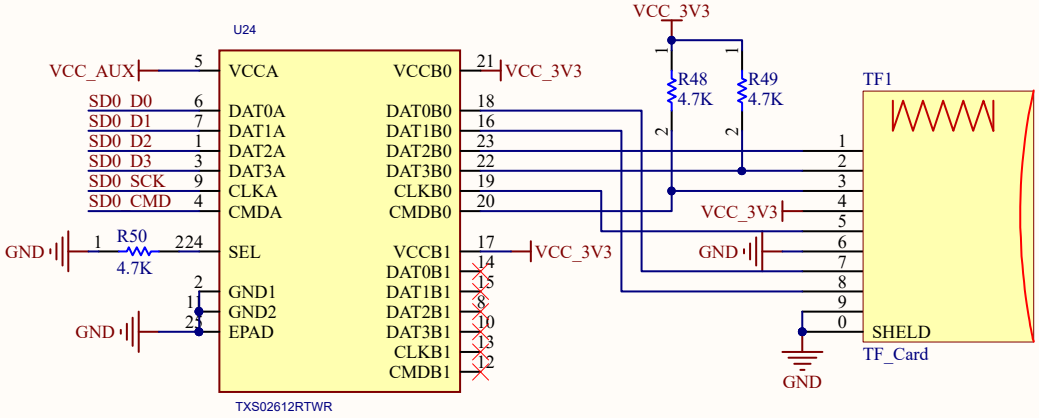


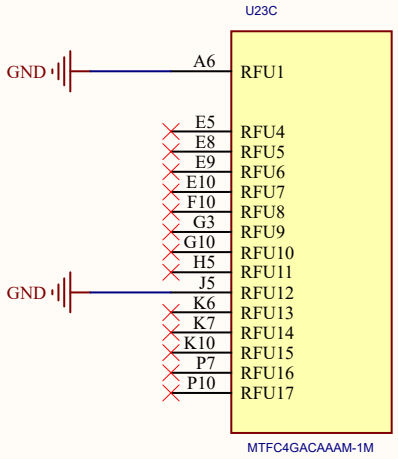
第十八部分 PS的EMMC和SD卡存储器电路



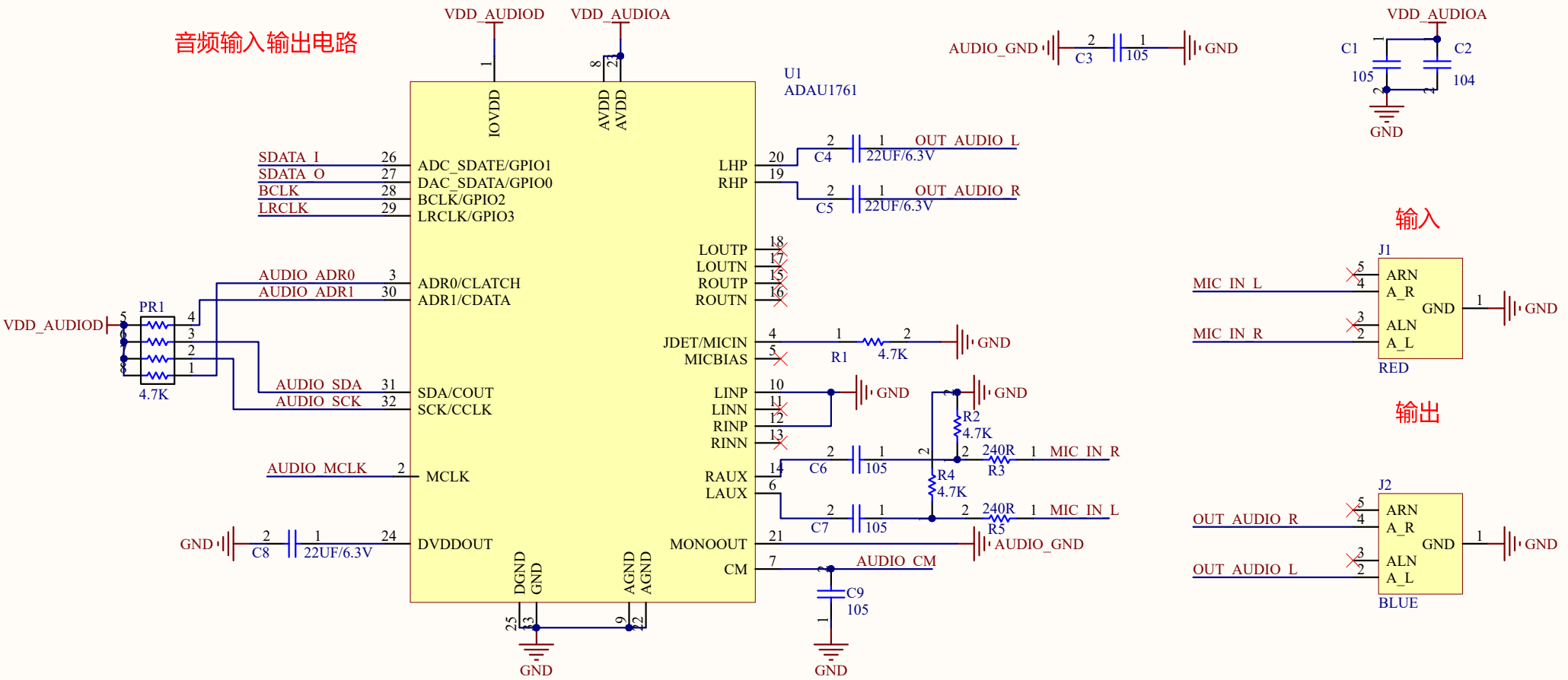






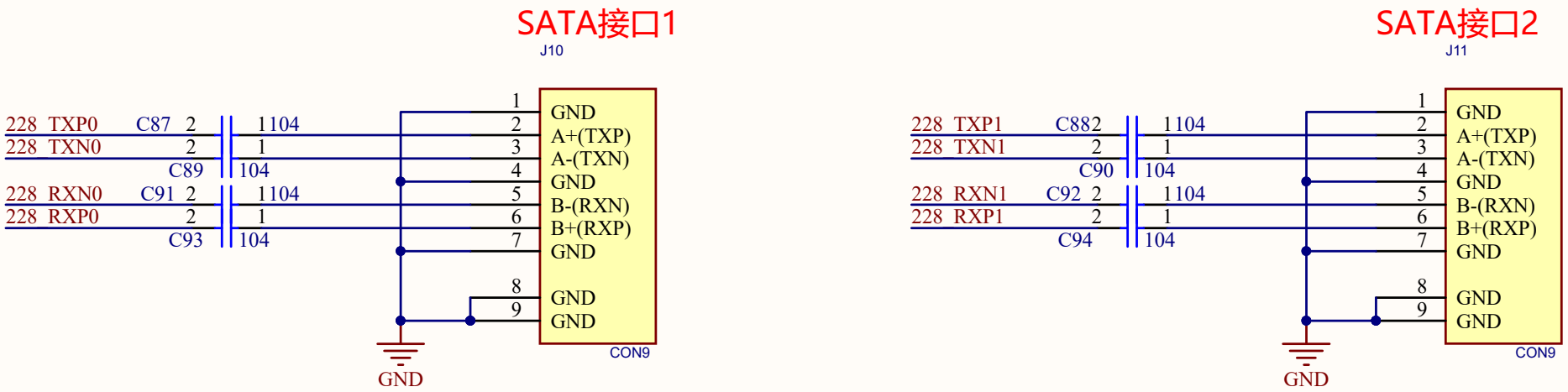


第十九部分 PL的音频输入输出电路

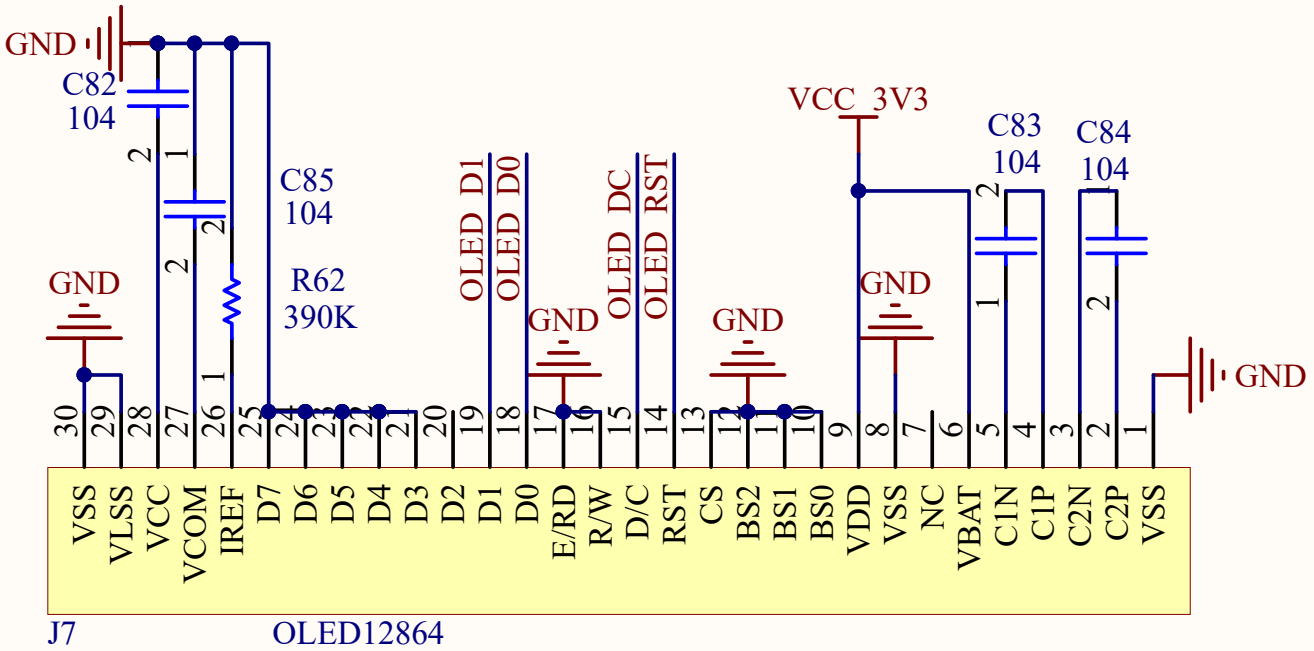


注意：输入信号一般是麦克风，如果用音频线，音量不能超过百分之五十！！芯片会进入保护！！

第二十部分 PL的SATA接口部分

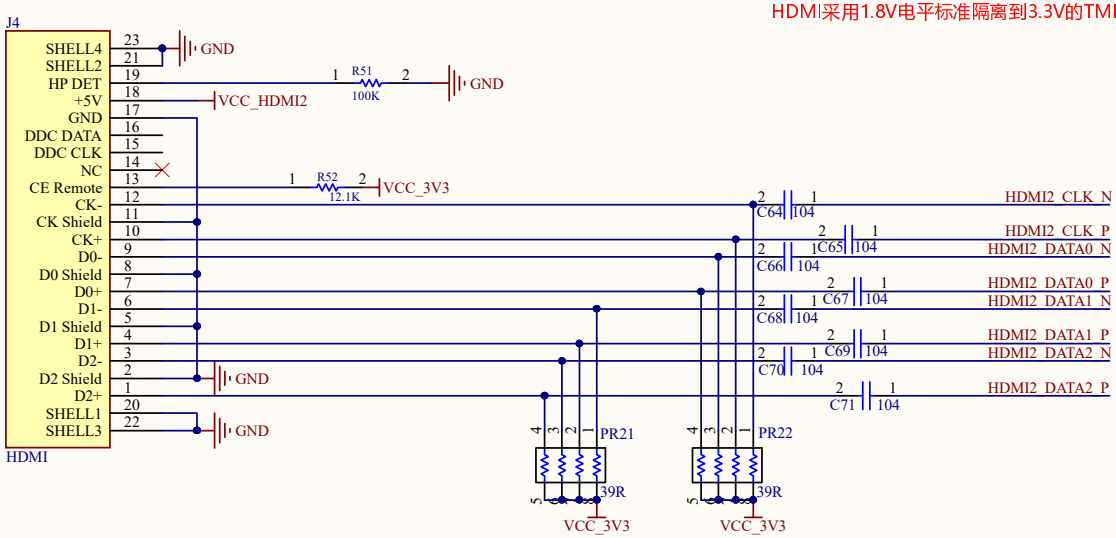


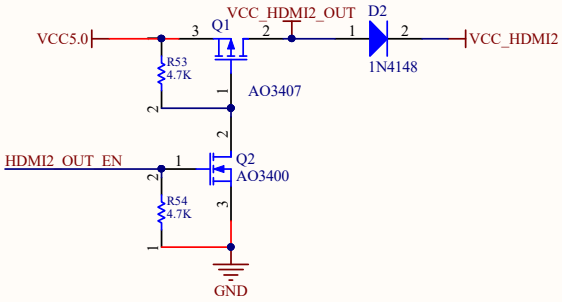
第二十一部分 PL的OLED电路

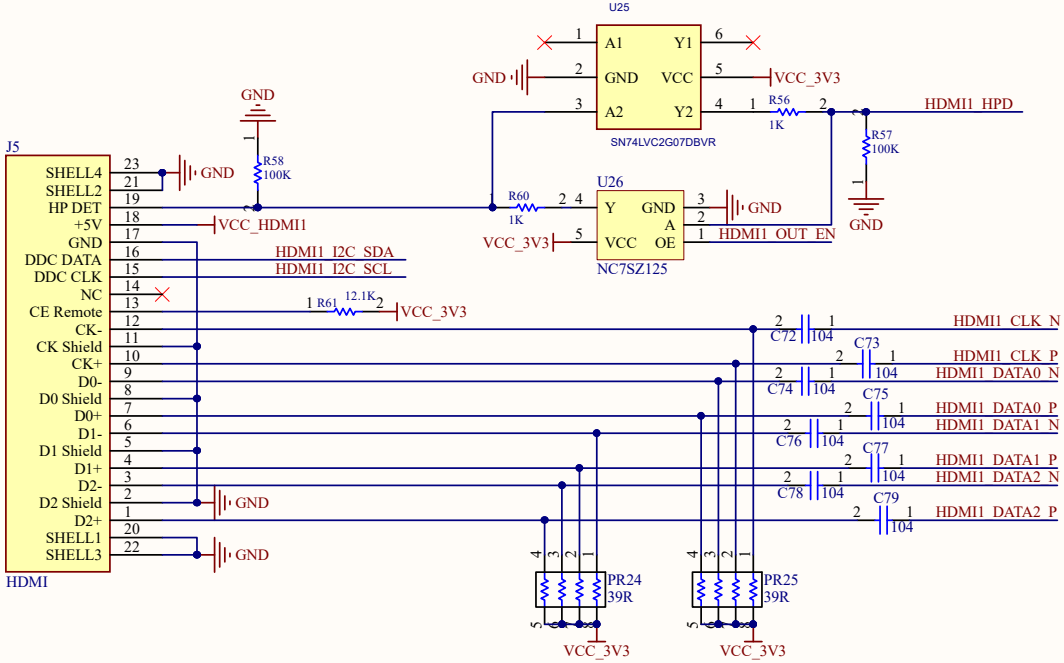


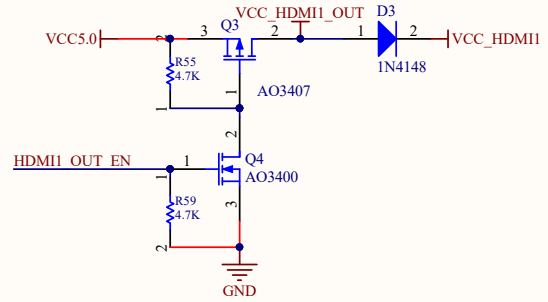
第二十二部分 PL的HDMI接口电路

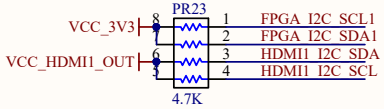
HDMI采用1.8V电平标准隔离到3.3V的TMDS标准



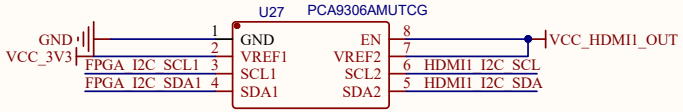




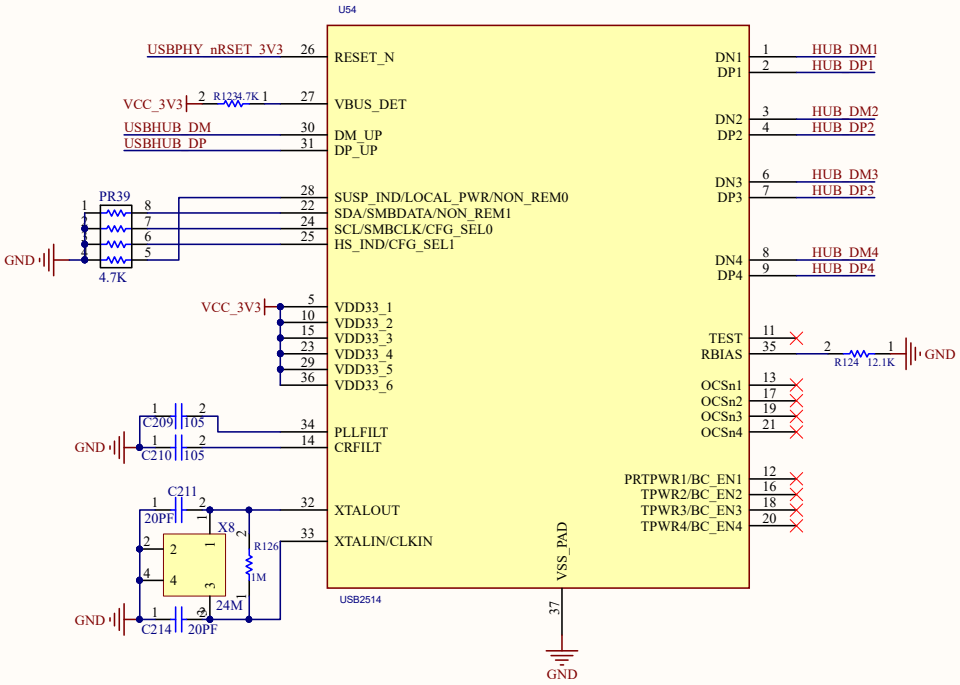


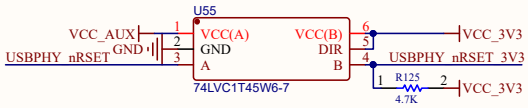


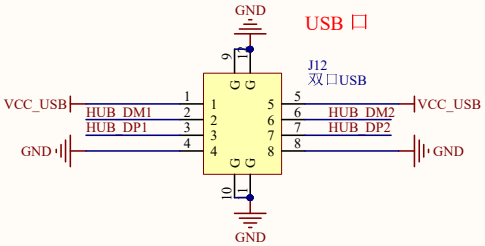
IIC电平转换

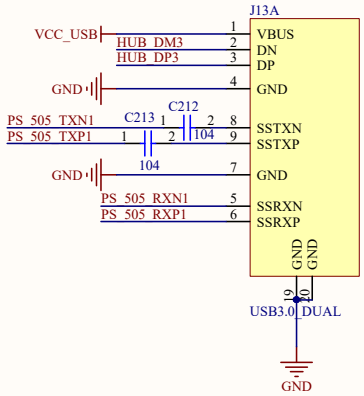


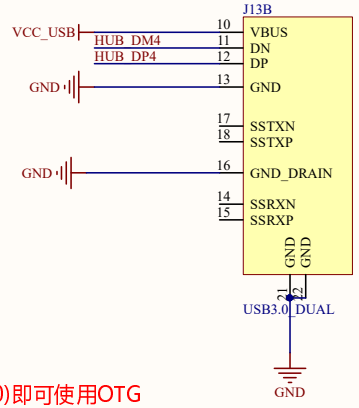
第二十三部分 PS的USB2.0、3.0部分

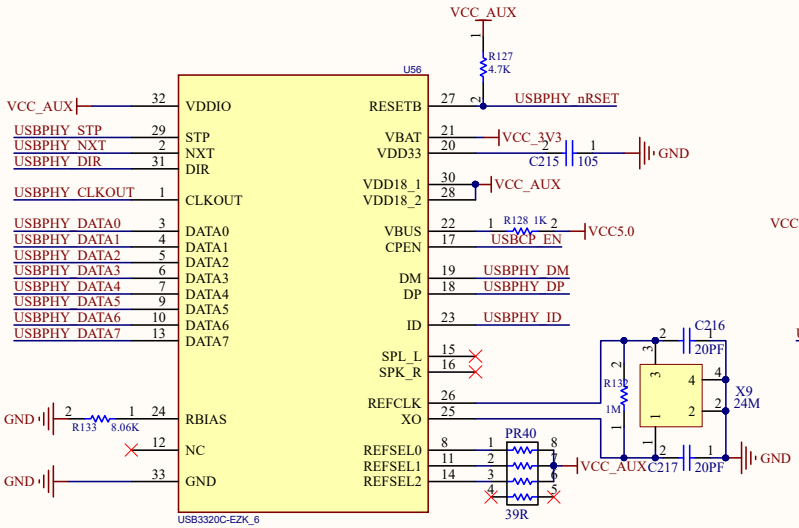


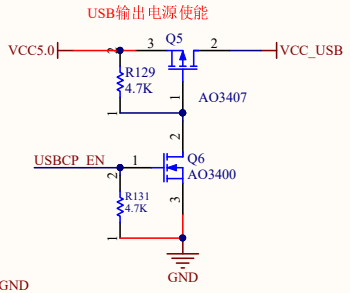


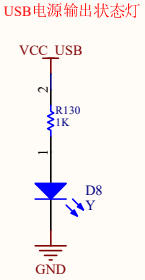




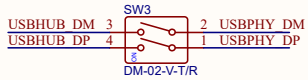




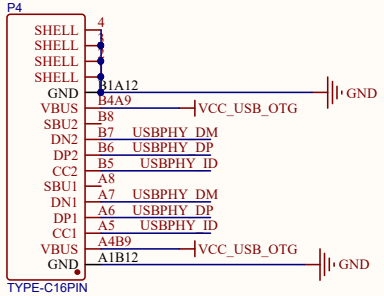




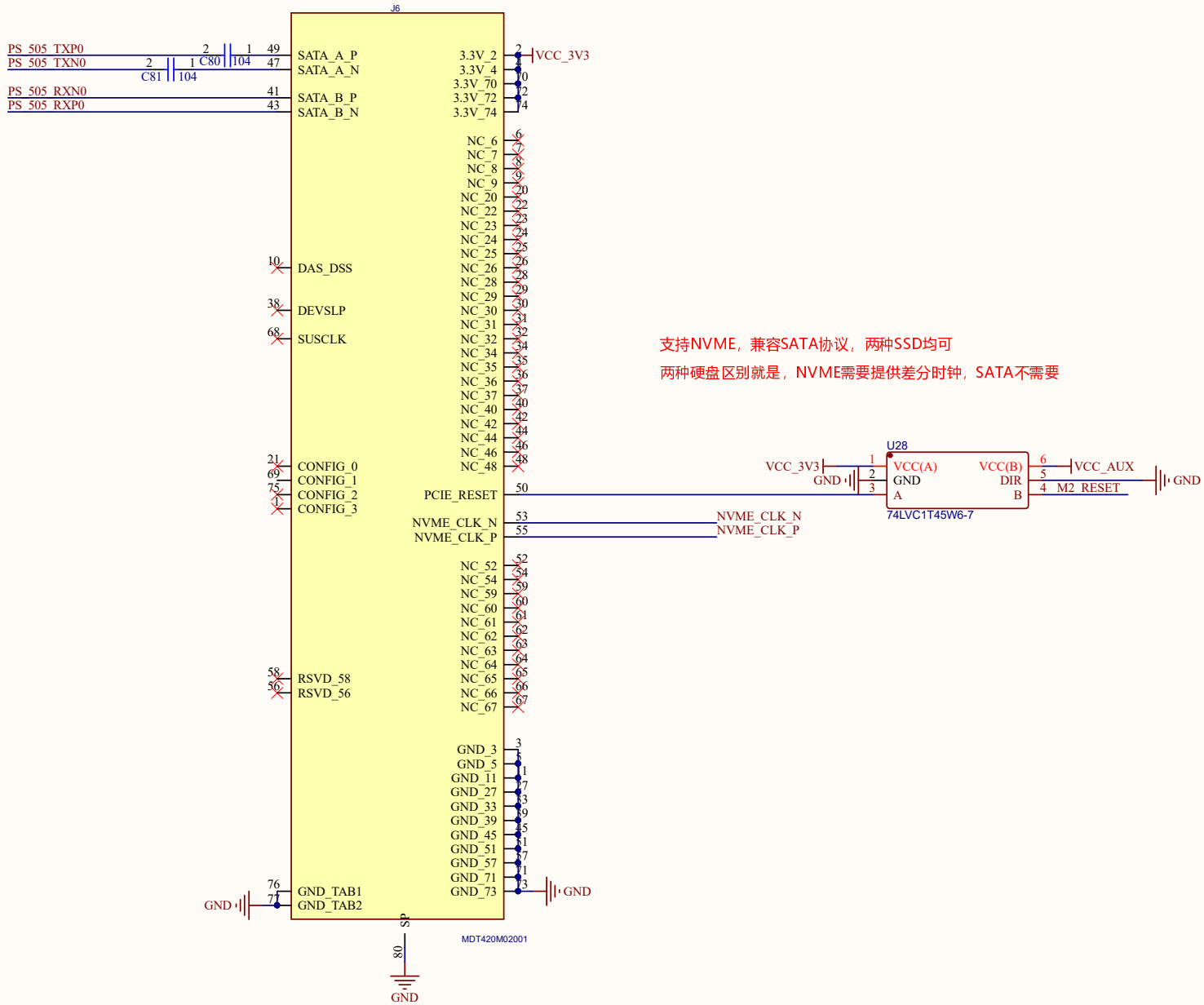
拨码开关全部设置为ON(0)即可使用OTG



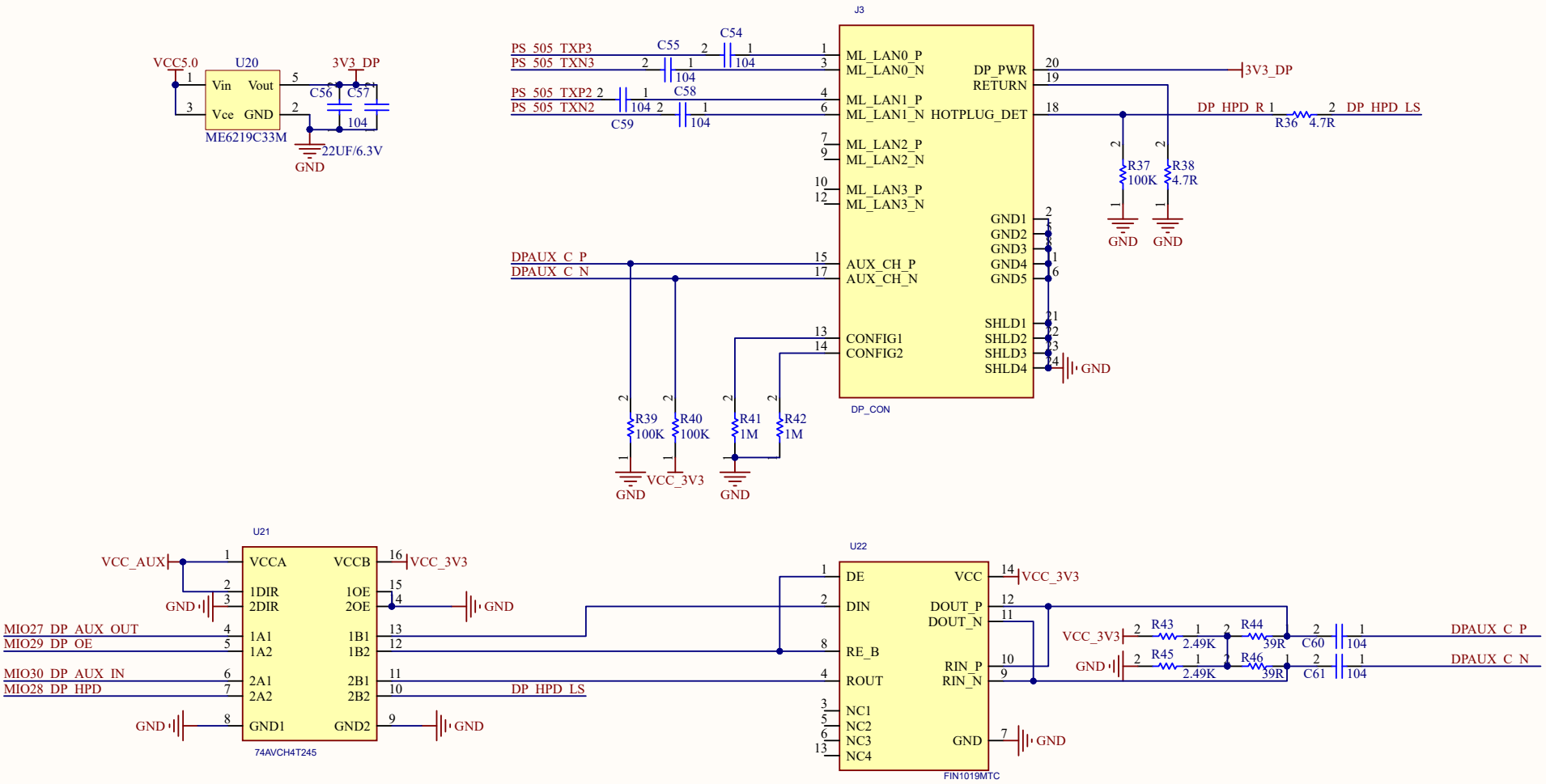
USB OTG(严禁用于供电)



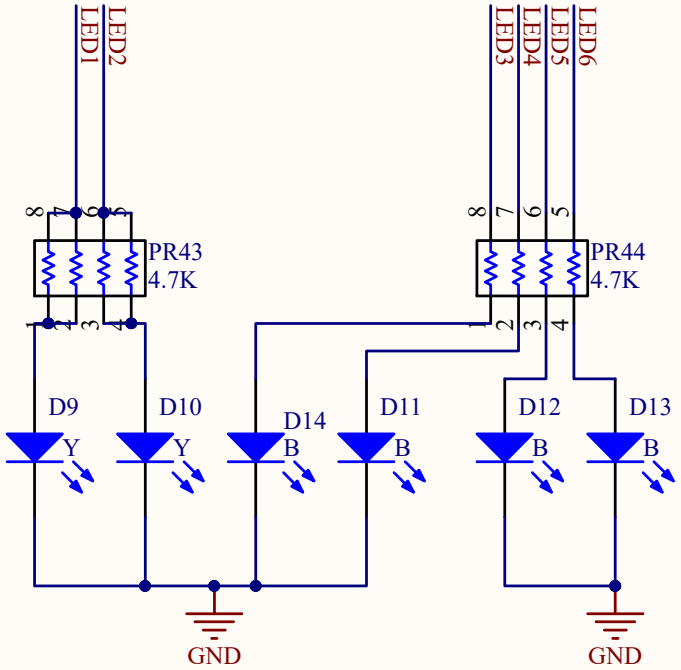
第二十四部分 PS的M.2接口

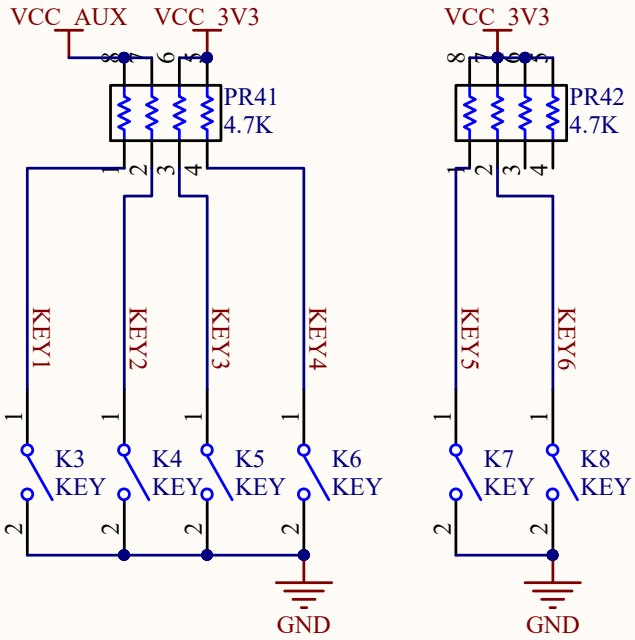


第二十五部分 PS的Display接口电路

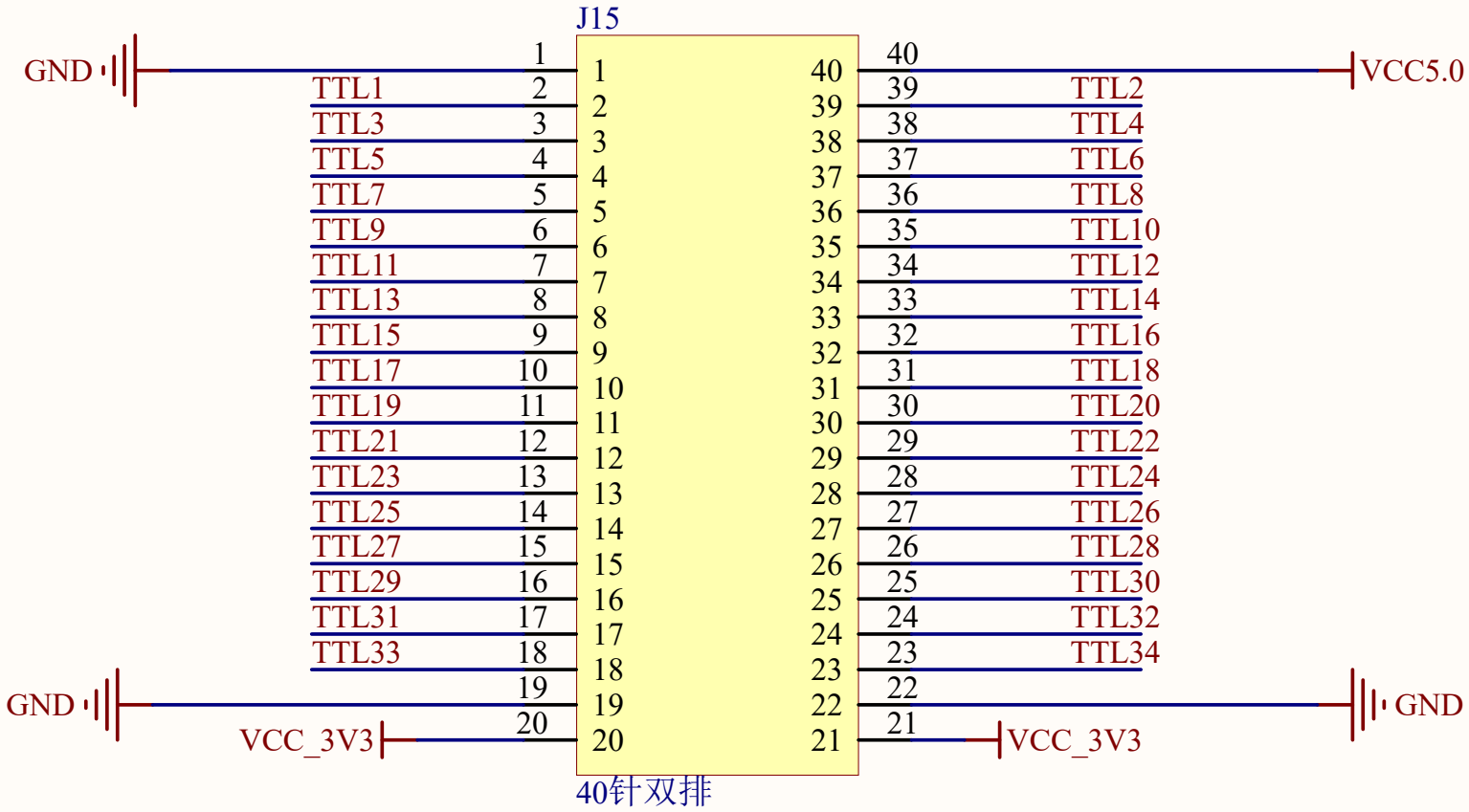


第二十六部分 PL和PS的按钮和LED部分

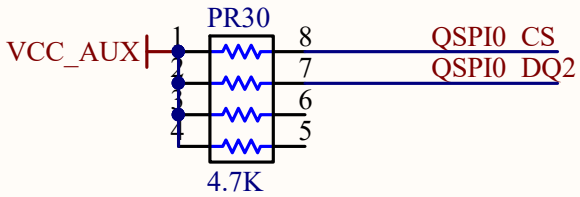


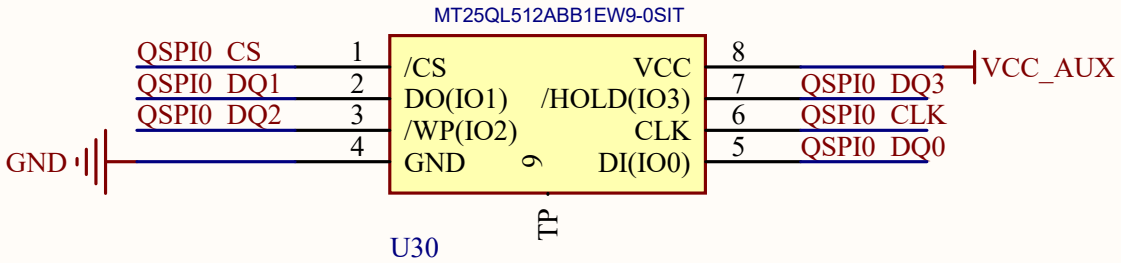


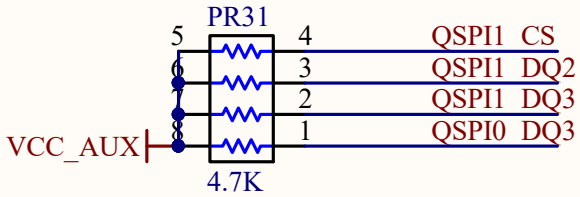
第二十七部分 PL的3.3V BANK49扩展口

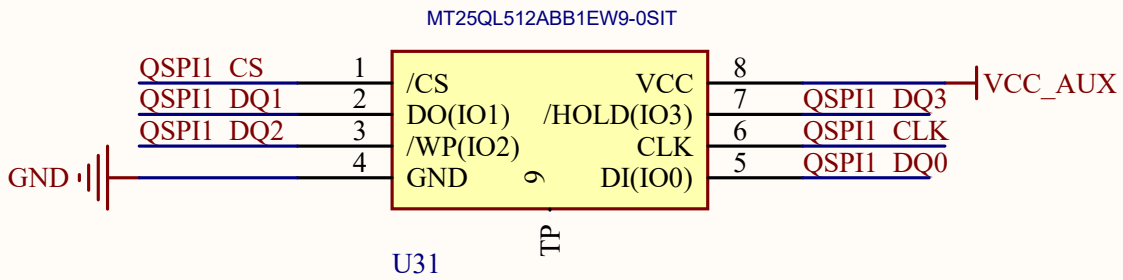


第二十八部分 PS的FLASH存储

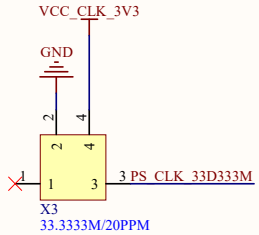




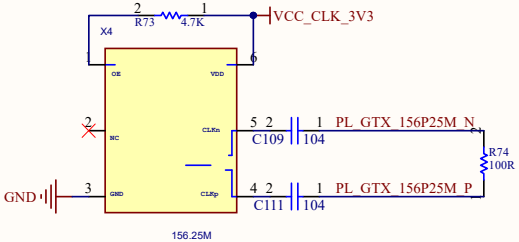




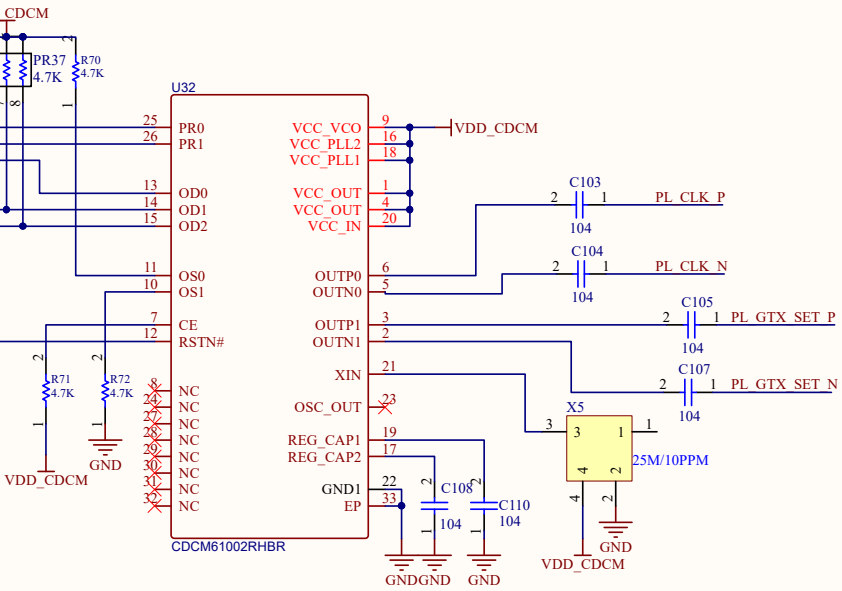
第二十九部分 ZYNQ系统时钟

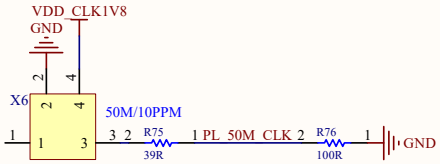


ARM处理器（PS）的系统时钟

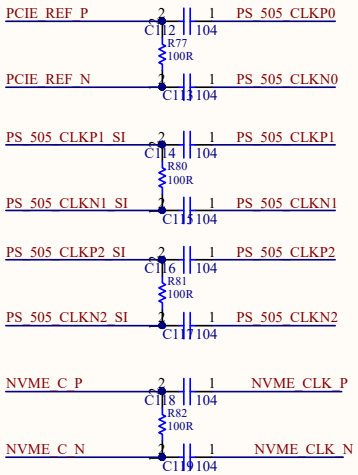


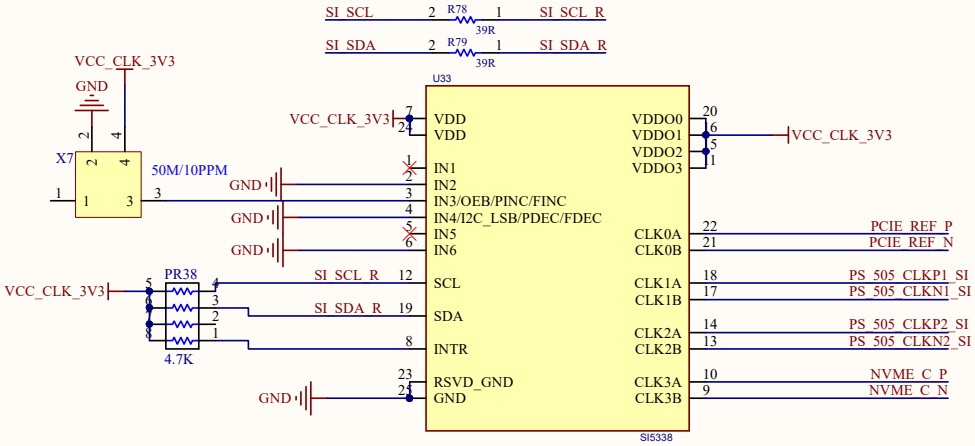
156.25M差分时钟 用于PL的高速收发器GTH





PS 505的CLK0做PCIE的参考时钟输入，同时给M.2插槽的PCIE参考时钟





第三十部分 PL的FMC接口

带CC字样的引脚需要连接到时钟转用引脚，也就是主芯片的带GC的管脚