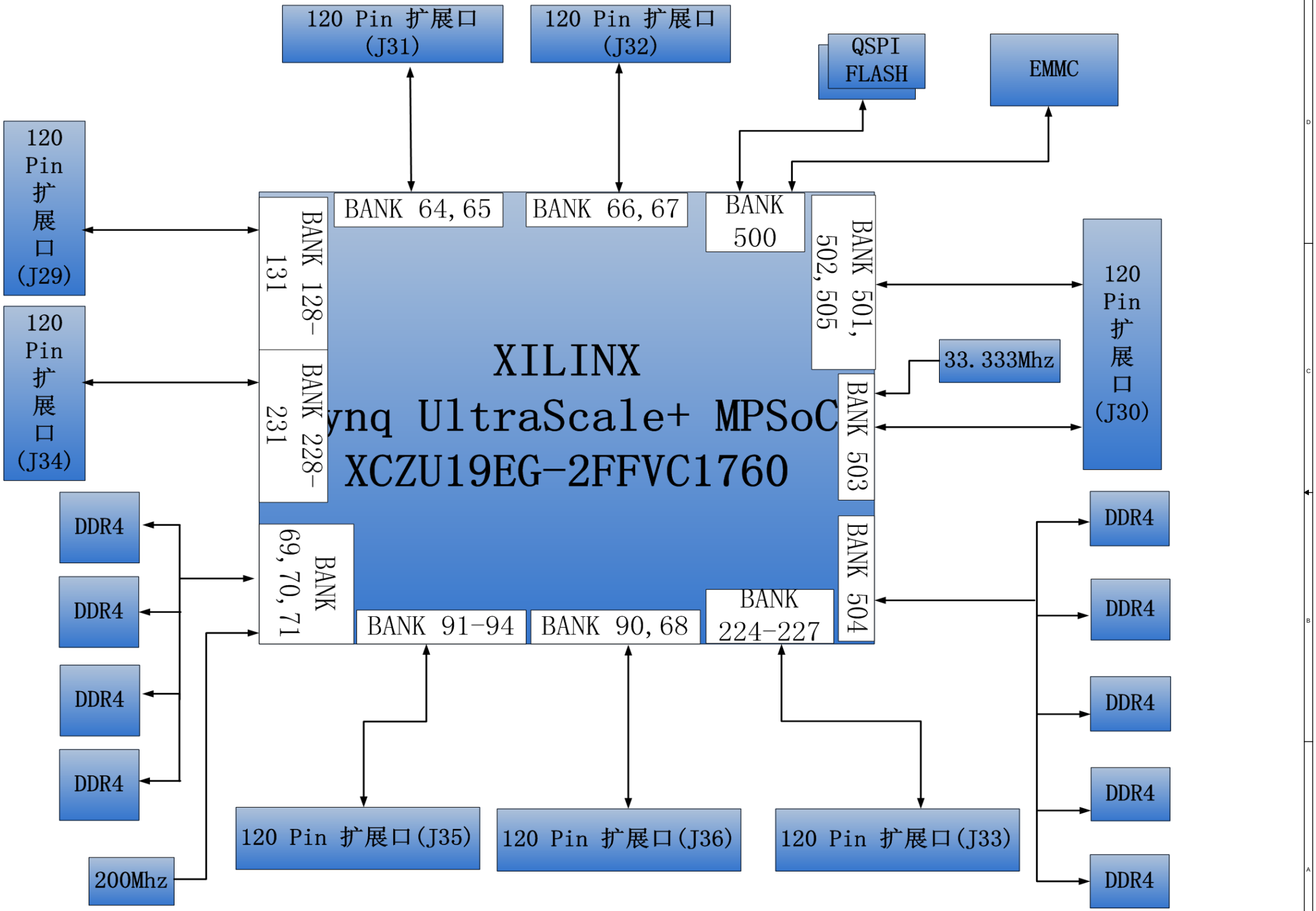

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Title	PAGE01 Block diagram	
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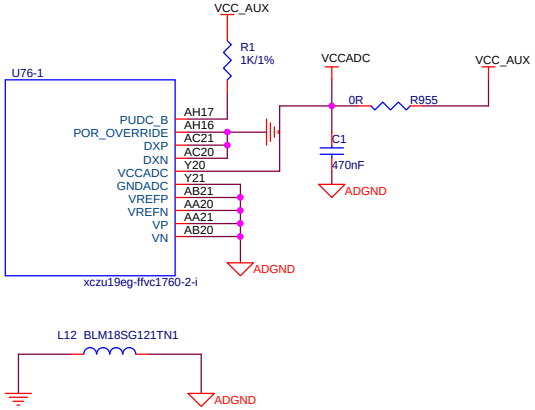
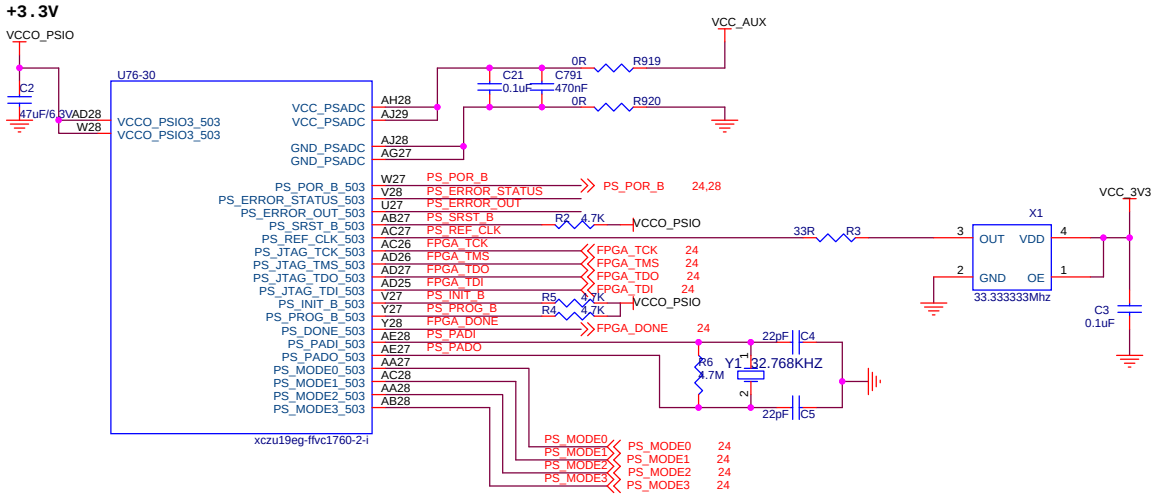


MODE[3:0]	BOOT MODE	Descritpion
0000	PS JTAG	PS JTAG Interface
0001	Quad_SPI(24b)	24-Bit addresssing(QSPI24)
0010	Quad_SPI(32b)	32-Bit addresssing(QSPI32)
0011	SD0(2.0)	SD2.0
0101	SD1(2.0)	SD2.0
0110	eMMC(1.8V)	eMMC version 4.5 at 1.8V
0111	USB0(2.0)	USB 2.0 only
1110	SD1 LS(3.0)	SD 3.0



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Title: Page02 Z7 Bank0 & BANK503

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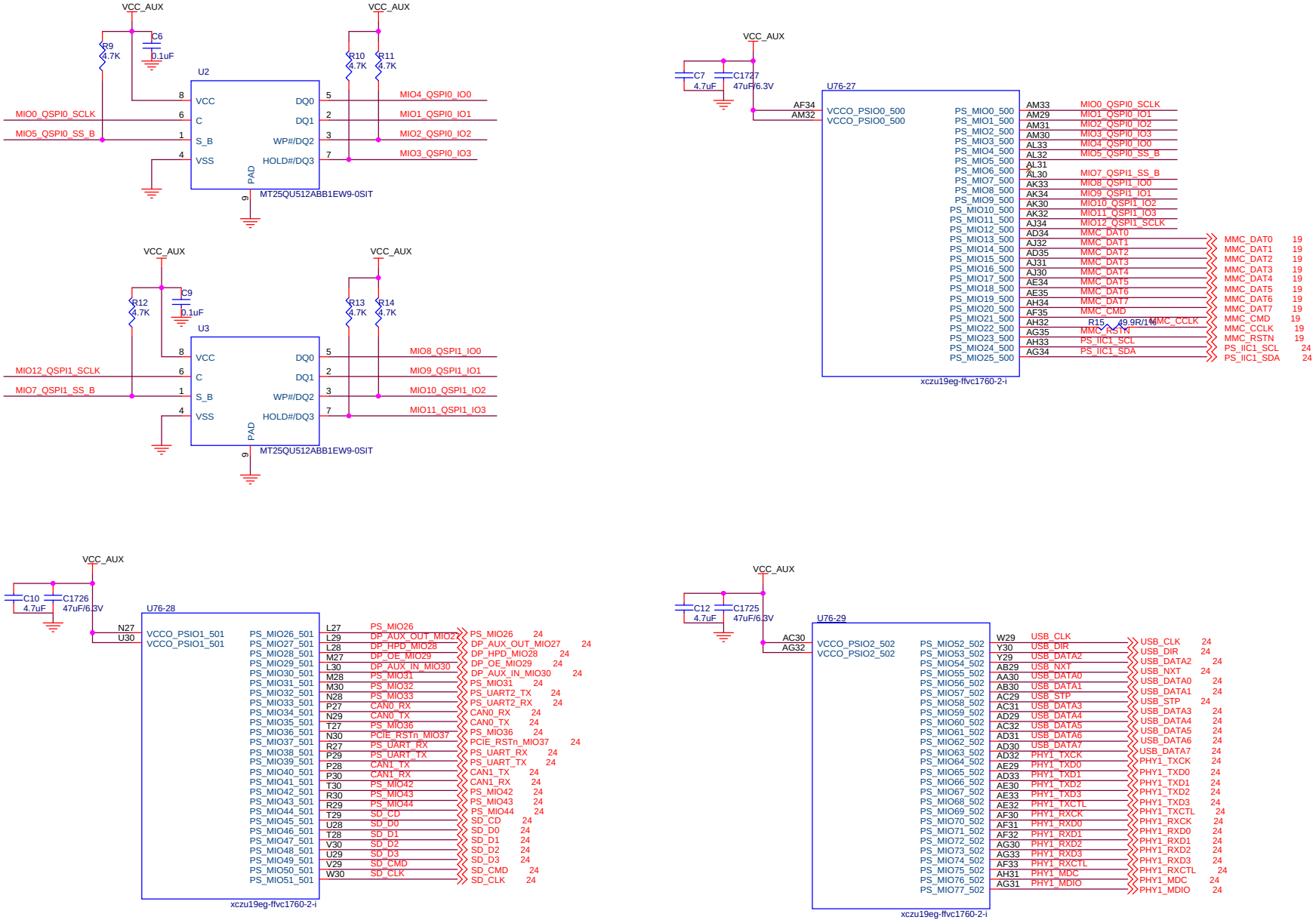

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Title: PAGE03 Z7 MIO-Config

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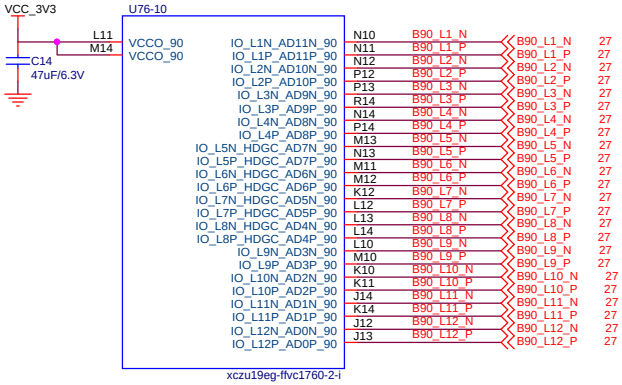

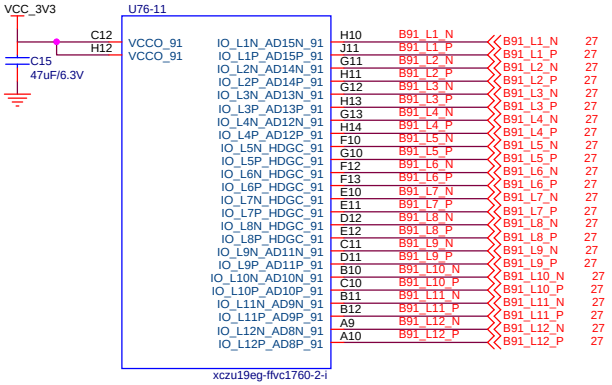

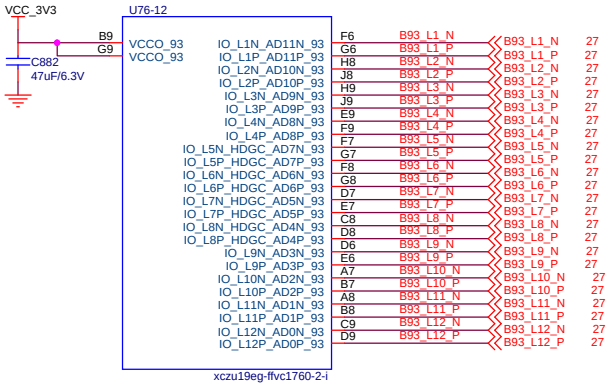

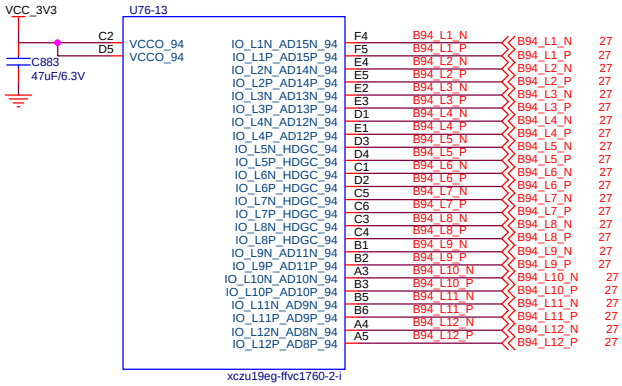

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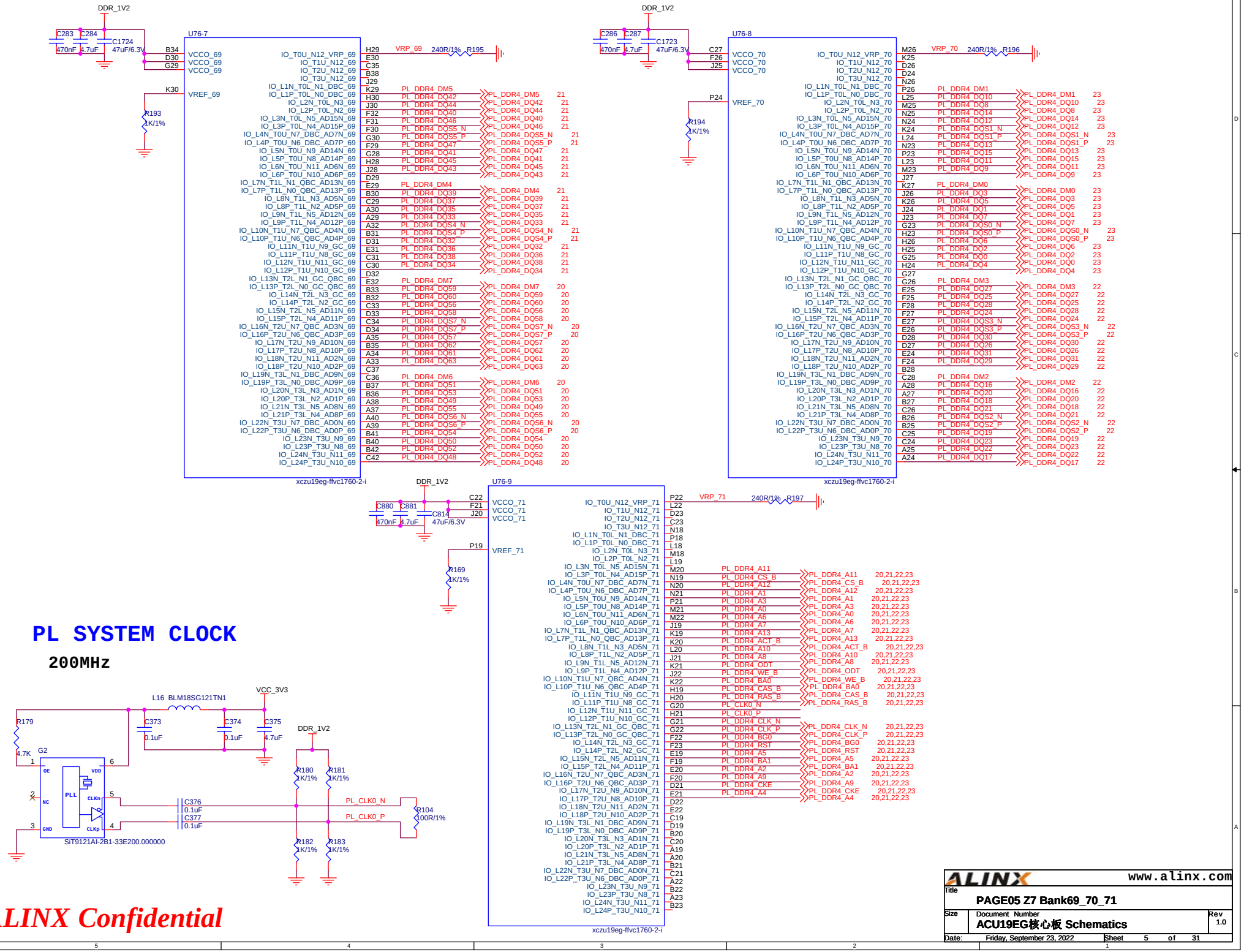
DDR_1V2
C283 C284 C1724
470nF 4.7uF 47uF/6.3V
B34 D30 G29
VCCO_69 VCCO_69 VCCO_69
K30
VREF_69
R193
1K/1%
U76-7
H29 VRP_69 240R/1% R195
xczu19eg-ffvc1760-2-i
DDR_1V2
C286 C287 C1723
470nF 4.7uF 47uF/6.3V
C27 F26 J25
VCCO_70 VCCO_70 VCCO_70
P24
VREF_70
R194
1K/1%
U76-8
M26 VRP_70 240R/1% R196
xczu19eg-ffvc1760-2-i
DDR_1V2
C880 C881 C814
470nF 4.7uF 47uF/6.3V
C22 F21 J20
VCCO_71 VCCO_71 VCCO_71
P19
VREF_71
R169
1K/1%
U76-9
P22 VRP_71 240R/1% R197
xczu19eg-ffvc1760-2-i
PL SYSTEM CLOCK
200MHz
L16 BLM18SG121TN1
VCC_3V3
R179
4.7K
C373 0.1uF
C374 0.1uF
C375 4.7uF
G2
OE VDD PLL CLKn NC CLKp GND
SiT9121AI-2B1-33E200.000000
DDR_1V2
R180 1K/1%
R181 1K/1%
C376 0.1uF
C377 0.1uF
PL_CLK0_N
PL_CLK0_P
R104 100R/1%
R182 1K/1%
R183 1K/1%
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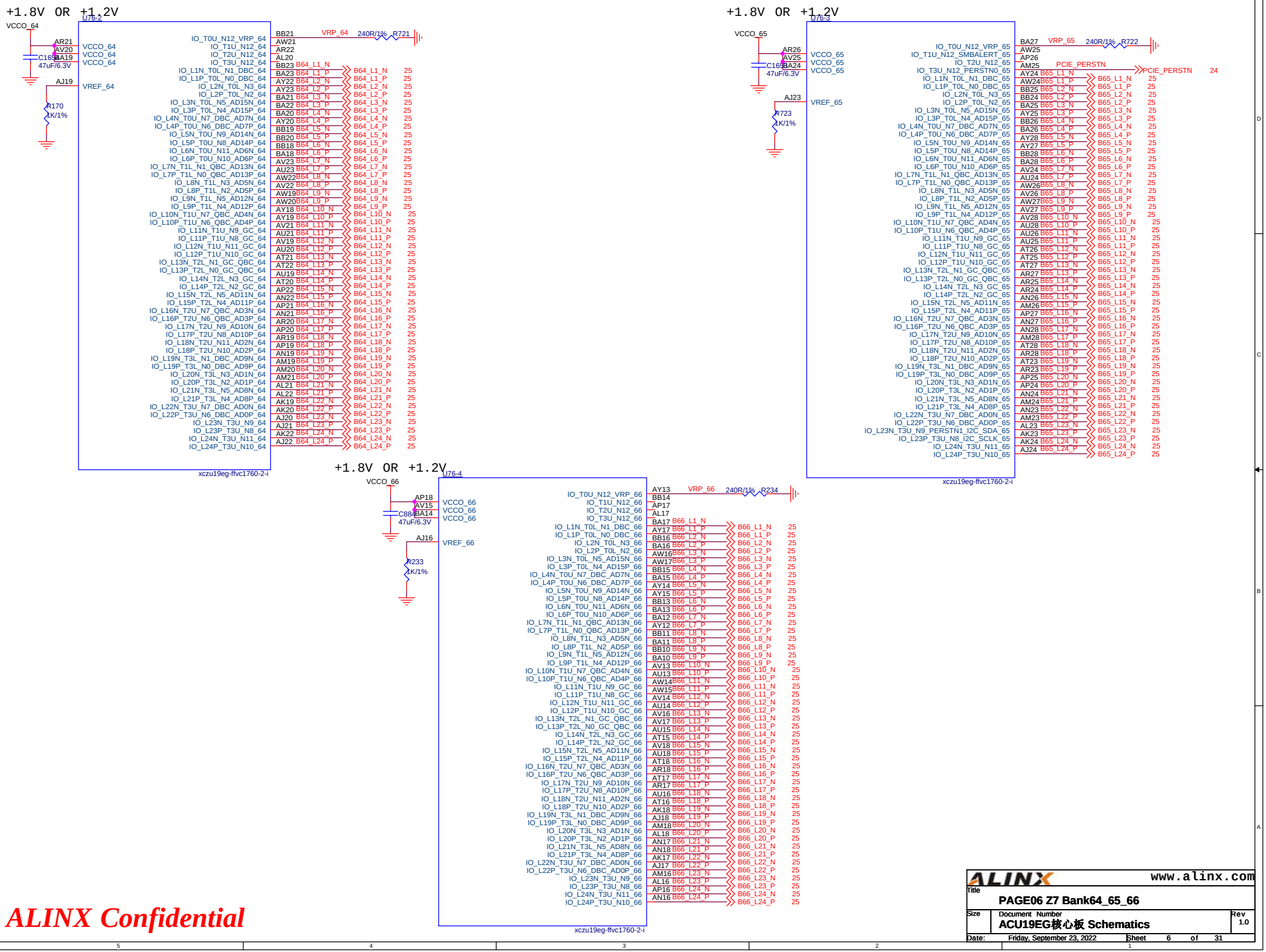
+1.8V OR +1.2V
U76-2
VCCO_64
C165
47uF/6.3V
R170
1K/1%
VREF_64
VRP_64
240R/1%
R721
xczu19eg-ffvc1760-2-i
+1.8V OR +1.2V
U76-3
VCCO_65
C166
47uF/6.3V
R723
1K/1%
VREF_65
VRP_65
240R/1%
R722
PCIE_PERSTN
xczu19eg-ffvc1760-2-i
+1.8V OR +1.2V
U76-4
VCCO_66
C884
47uF/6.3V
R233
1K/1%
VREF_66
VRP_66
240R/1%
R234
xczu19eg-ffvc1760-2-i
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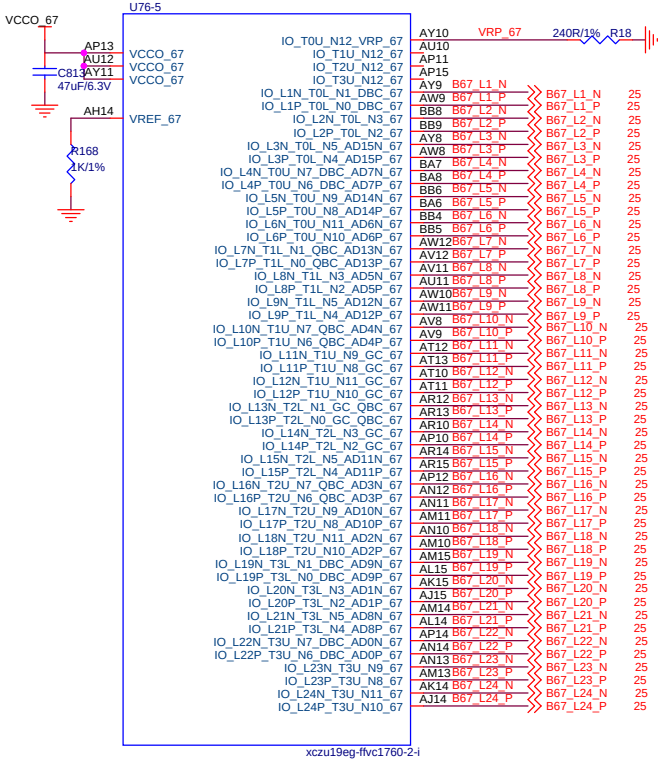
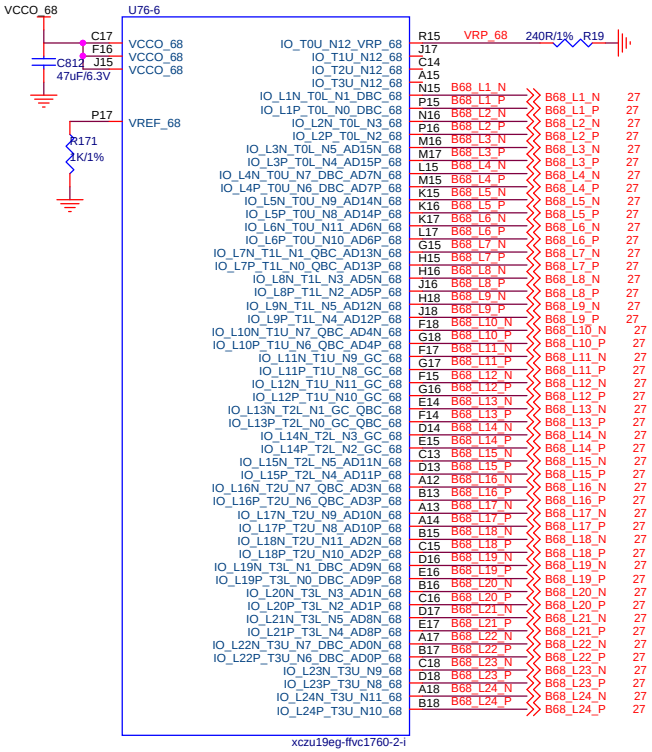
+1.8V or +1.2V



+1.8V or +1.2V



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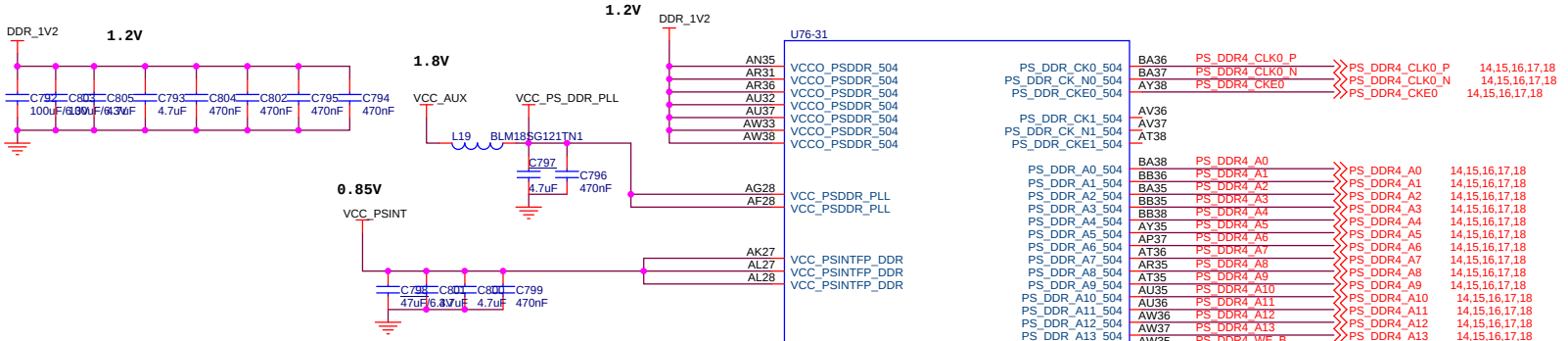

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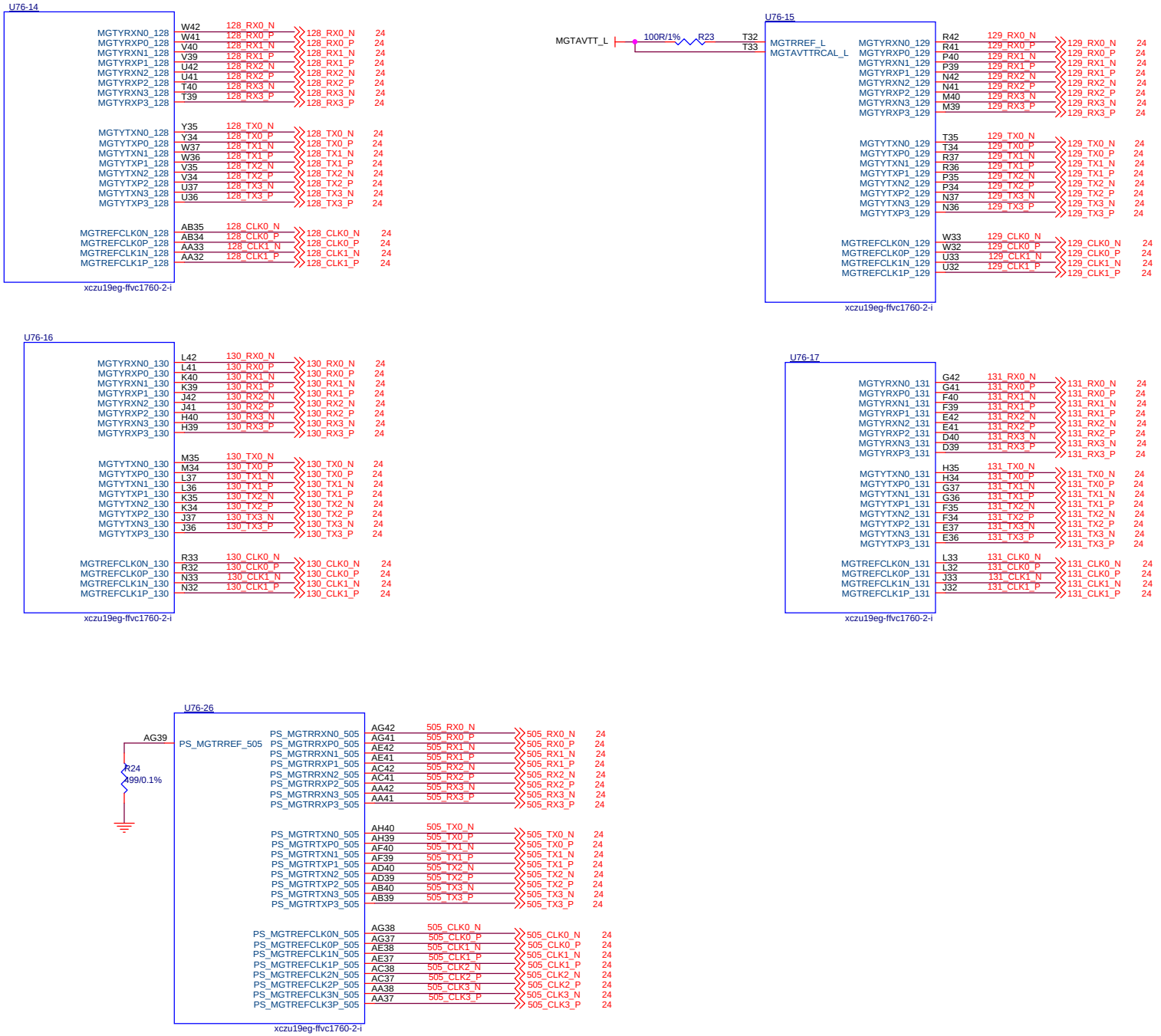

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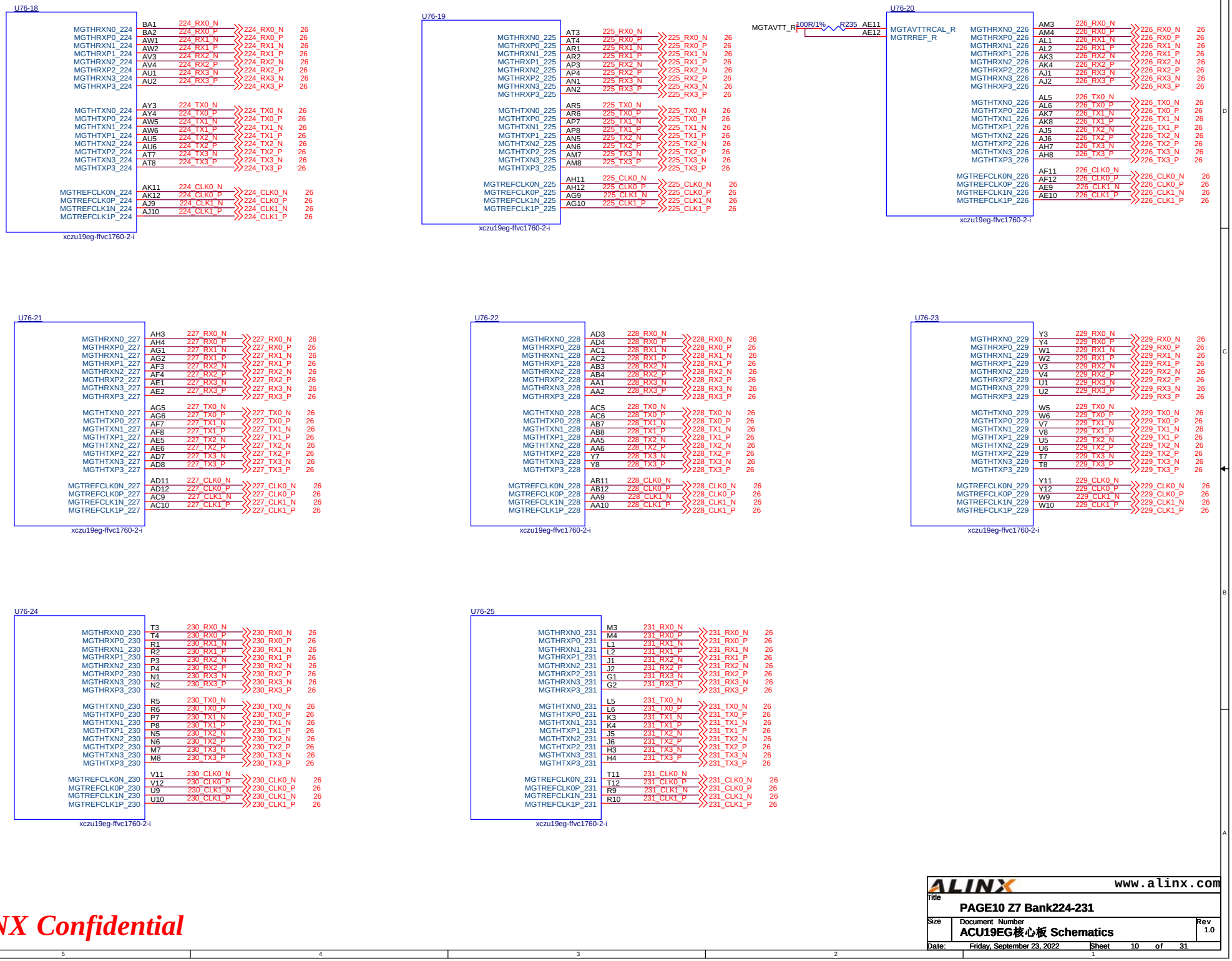
U76-18
MGTHRXN0_224
MGTHRXP0_224
MGTHRXN1_224
MGTHRXP1_224
MGTHRXN2_224
MGTHRXP2_224
MGTHRXN3_224
MGTHRXP3_224
BA1 224_RX0_N
BA2 224_RX0_P
AW1 224_RX1_N
AW2 224_RX1_P
AV3 224_RX2_N
AV4 224_RX2_P
AU1 224_RX3_N
AU2 224_RX3_P
224_RX0_N 26
224_RX0_P 26
224_RX1_N 26
224_RX1_P 26
224_RX2_N 26
224_RX2_P 26
224_RX3_N 26
224_RX3_P 26
MGTHTXN0_224
MGTHTXP0_224
MGTHTXN1_224
MGTHTXP1_224
MGTHTXN2_224
MGTHTXP2_224
MGTHTXN3_224
MGTHTXP3_224
AY3 224_TX0_N
AY4 224_TX0_P
AW5 224_TX1_N
AW6 224_TX1_P
AU5 224_TX2_N
AU6 224_TX2_P
AT7 224_TX3_N
AT8 224_TX3_P
224_TX0_N 26
224_TX0_P 26
224_TX1_N 26
224_TX1_P 26
224_TX2_N 26
224_TX2_P 26
224_TX3_N 26
224_TX3_P 26
MGTREFCLK0N_224
MGTREFCLK0P_224
MGTREFCLK1N_224
MGTREFCLK1P_224
AK11 224_CLK0_N
AK12 224_CLK0_P
AJ9 224_CLK1_N
AJ10 224_CLK1_P
224_CLK0_N 26
224_CLK0_P 26
224_CLK1_N 26
224_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-19
MGTHRXN0_225
MGTHRXP0_225
MGTHRXN1_225
MGTHRXP1_225
MGTHRXN2_225
MGTHRXP2_225
MGTHRXN3_225
MGTHRXP3_225
AT3 225_RX0_N
AT4 225_RX0_P
AR1 225_RX1_N
AR2 225_RX1_P
AP3 225_RX2_N
AP4 225_RX2_P
AN1 225_RX3_N
AN2 225_RX3_P
225_RX0_N 26
225_RX0_P 26
225_RX1_N 26
225_RX1_P 26
225_RX2_N 26
225_RX2_P 26
225_RX3_N 26
225_RX3_P 26
MGTHTXN0_225
MGTHTXP0_225
MGTHTXN1_225
MGTHTXP1_225
MGTHTXN2_225
MGTHTXP2_225
MGTHTXN3_225
MGTHTXP3_225
AR5 225_TX0_N
AR6 225_TX0_P
AP7 225_TX1_N
AP8 225_TX1_P
AN5 225_TX2_N
AN6 225_TX2_P
AM7 225_TX3_N
AM8 225_TX3_P
225_TX0_N 26
225_TX0_P 26
225_TX1_N 26
225_TX1_P 26
225_TX2_N 26
225_TX2_P 26
225_TX3_N 26
225_TX3_P 26
MGTREFCLK0N_225
MGTREFCLK0P_225
MGTREFCLK1N_225
MGTREFCLK1P_225
AH11 225_CLK0_N
AH12 225_CLK0_P
AG9 225_CLK1_N
AG10 225_CLK1_P
225_CLK0_N 26
225_CLK0_P 26
225_CLK1_N 26
225_CLK1_P 26
xczu19eg-ffvc1760-2-i
MGTAVTT_R
100R/1%
R235
AE11
AE12
U76-20
MGTAVTTRCAL_R
MGTRREF_R
MGTHRXN0_226
MGTHRXP0_226
MGTHRXN1_226
MGTHRXP1_226
MGTHRXN2_226
MGTHRXP2_226
MGTHRXN3_226
MGTHRXP3_226
AM3 226_RX0_N
AM4 226_RX0_P
AL1 226_RX1_N
AL2 226_RX1_P
AK3 226_RX2_N
AK4 226_RX2_P
AJ1 226_RX3_N
AJ2 226_RX3_P
226_RX0_N 26
226_RX0_P 26
226_RX1_N 26
226_RX1_P 26
226_RX2_N 26
226_RX2_P 26
226_RX3_N 26
226_RX3_P 26
MGTHTXN0_226
MGTHTXP0_226
MGTHTXN1_226
MGTHTXP1_226
MGTHTXN2_226
MGTHTXP2_226
MGTHTXN3_226
MGTHTXP3_226
AL5 226_TX0_N
AL6 226_TX0_P
AK7 226_TX1_N
AK8 226_TX1_P
AJ5 226_TX2_N
AJ6 226_TX2_P
AH7 226_TX3_N
AH8 226_TX3_P
226_TX0_N 26
226_TX0_P 26
226_TX1_N 26
226_TX1_P 26
226_TX2_N 26
226_TX2_P 26
226_TX3_N 26
226_TX3_P 26
MGTREFCLK0N_226
MGTREFCLK0P_226
MGTREFCLK1N_226
MGTREFCLK1P_226
AF11 226_CLK0_N
AF12 226_CLK0_P
AE9 226_CLK1_N
AE10 226_CLK1_P
226_CLK0_N 26
226_CLK0_P 26
226_CLK1_N 26
226_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-21
MGTHRXN0_227
MGTHRXP0_227
MGTHRXN1_227
MGTHRXP1_227
MGTHRXN2_227
MGTHRXP2_227
MGTHRXN3_227
MGTHRXP3_227
AH3 227_RX0_N
AH4 227_RX0_P
AG1 227_RX1_N
AG2 227_RX1_P
AF3 227_RX2_N
AF4 227_RX2_P
AE1 227_RX3_N
AE2 227_RX3_P
227_RX0_N 26
227_RX0_P 26
227_RX1_N 26
227_RX1_P 26
227_RX2_N 26
227_RX2_P 26
227_RX3_N 26
227_RX3_P 26
MGTHTXN0_227
MGTHTXP0_227
MGTHTXN1_227
MGTHTXP1_227
MGTHTXN2_227
MGTHTXP2_227
MGTHTXN3_227
MGTHTXP3_227
AG5 227_TX0_N
AG6 227_TX0_P
AF7 227_TX1_N
AF8 227_TX1_P
AE5 227_TX2_N
AE6 227_TX2_P
AD7 227_TX3_N
AD8 227_TX3_P
227_TX0_N 26
227_TX0_P 26
227_TX1_N 26
227_TX1_P 26
227_TX2_N 26
227_TX2_P 26
227_TX3_N 26
227_TX3_P 26
MGTREFCLK0N_227
MGTREFCLK0P_227
MGTREFCLK1N_227
MGTREFCLK1P_227
AD11 227_CLK0_N
AD12 227_CLK0_P
AC9 227_CLK1_N
AC10 227_CLK1_P
227_CLK0_N 26
227_CLK0_P 26
227_CLK1_N 26
227_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-22
MGTHRXN0_228
MGTHRXP0_228
MGTHRXN1_228
MGTHRXP1_228
MGTHRXN2_228
MGTHRXP2_228
MGTHRXN3_228
MGTHRXP3_228
AD3 228_RX0_N
AD4 228_RX0_P
AC1 228_RX1_N
AC2 228_RX1_P
AB3 228_RX2_N
AB4 228_RX2_P
AA1 228_RX3_N
AA2 228_RX3_P
228_RX0_N 26
228_RX0_P 26
228_RX1_N 26
228_RX1_P 26
228_RX2_N 26
228_RX2_P 26
228_RX3_N 26
228_RX3_P 26
MGTHTXN0_228
MGTHTXP0_228
MGTHTXN1_228
MGTHTXP1_228
MGTHTXN2_228
MGTHTXP2_228
MGTHTXN3_228
MGTHTXP3_228
AC5 228_TX0_N
AC6 228_TX0_P
AB7 228_TX1_N
AB8 228_TX1_P
AA5 228_TX2_N
AA6 228_TX2_P
Y7 228_TX3_N
Y8 228_TX3_P
228_TX0_N 26
228_TX0_P 26
228_TX1_N 26
228_TX1_P 26
228_TX2_N 26
228_TX2_P 26
228_TX3_N 26
228_TX3_P 26
MGTREFCLK0N_228
MGTREFCLK0P_228
MGTREFCLK1N_228
MGTREFCLK1P_228
AB11 228_CLK0_N
AB12 228_CLK0_P
AA9 228_CLK1_N
AA10 228_CLK1_P
228_CLK0_N 26
228_CLK0_P 26
228_CLK1_N 26
228_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-23
MGTHRXN0_229
MGTHRXP0_229
MGTHRXN1_229
MGTHRXP1_229
MGTHRXN2_229
MGTHRXP2_229
MGTHRXN3_229
MGTHRXP3_229
Y3 229_RX0_N
Y4 229_RX0_P
W1 229_RX1_N
W2 229_RX1_P
V3 229_RX2_N
V4 229_RX2_P
U1 229_RX3_N
U2 229_RX3_P
229_RX0_N 26
229_RX0_P 26
229_RX1_N 26
229_RX1_P 26
229_RX2_N 26
229_RX2_P 26
229_RX3_N 26
229_RX3_P 26
MGTHTXN0_229
MGTHTXP0_229
MGTHTXN1_229
MGTHTXP1_229
MGTHTXN2_229
MGTHTXP2_229
MGTHTXN3_229
MGTHTXP3_229
W5 229_TX0_N
W6 229_TX0_P
V7 229_TX1_N
V8 229_TX1_P
U5 229_TX2_N
U6 229_TX2_P
T7 229_TX3_N
T8 229_TX3_P
229_TX0_N 26
229_TX0_P 26
229_TX1_N 26
229_TX1_P 26
229_TX2_N 26
229_TX2_P 26
229_TX3_N 26
229_TX3_P 26
MGTREFCLK0N_229
MGTREFCLK0P_229
MGTREFCLK1N_229
MGTREFCLK1P_229
Y11 229_CLK0_N
Y12 229_CLK0_P
W9 229_CLK1_N
W10 229_CLK1_P
229_CLK0_N 26
229_CLK0_P 26
229_CLK1_N 26
229_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-24
MGTHRXN0_230
MGTHRXP0_230
MGTHRXN1_230
MGTHRXP1_230
MGTHRXN2_230
MGTHRXP2_230
MGTHRXN3_230
MGTHRXP3_230
T3 230_RX0_N
T4 230_RX0_P
R1 230_RX1_N
R2 230_RX1_P
P3 230_RX2_N
P4 230_RX2_P
N1 230_RX3_N
N2 230_RX3_P
230_RX0_N 26
230_RX0_P 26
230_RX1_N 26
230_RX1_P 26
230_RX2_N 26
230_RX2_P 26
230_RX3_N 26
230_RX3_P 26
MGTHTXN0_230
MGTHTXP0_230
MGTHTXN1_230
MGTHTXP1_230
MGTHTXN2_230
MGTHTXP2_230
MGTHTXN3_230
MGTHTXP3_230
R5 230_TX0_N
R6 230_TX0_P
P7 230_TX1_N
P8 230_TX1_P
N5 230_TX2_N
N6 230_TX2_P
M7 230_TX3_N
M8 230_TX3_P
230_TX0_N 26
230_TX0_P 26
230_TX1_N 26
230_TX1_P 26
230_TX2_N 26
230_TX2_P 26
230_TX3_N 26
230_TX3_P 26
MGTREFCLK0N_230
MGTREFCLK0P_230
MGTREFCLK1N_230
MGTREFCLK1P_230
V11 230_CLK0_N
V12 230_CLK0_P
U9 230_CLK1_N
U10 230_CLK1_P
230_CLK0_N 26
230_CLK0_P 26
230_CLK1_N 26
230_CLK1_P 26
xczu19eg-ffvc1760-2-i
U76-25
MGTHRXN0_231
MGTHRXP0_231
MGTHRXN1_231
MGTHRXP1_231
MGTHRXN2_231
MGTHRXP2_231
MGTHRXN3_231
MGTHRXP3_231
M3 231_RX0_N
M4 231_RX0_P
L1 231_RX1_N
L2 231_RX1_P
J1 231_RX2_N
J2 231_RX2_P
G1 231_RX3_N
G2 231_RX3_P
231_RX0_N 26
231_RX0_P 26
231_RX1_N 26
231_RX1_P 26
231_RX2_N 26
231_RX2_P 26
231_RX3_N 26
231_RX3_P 26
MGTHTXN0_231
MGTHTXP0_231
MGTHTXN1_231
MGTHTXP1_231
MGTHTXN2_231
MGTHTXP2_231
MGTHTXN3_231
MGTHTXP3_231
L5 231_TX0_N
L6 231_TX0_P
K3 231_TX1_N
K4 231_TX1_P
J5 231_TX2_N
J6 231_TX2_P
H3 231_TX3_N
H4 231_TX3_P
231_TX0_N 26
231_TX0_P 26
231_TX1_N 26
231_TX1_P 26
231_TX2_N 26
231_TX2_P 26
231_TX3_N 26
231_TX3_P 26
MGTREFCLK0N_231
MGTREFCLK0P_231
MGTREFCLK1N_231
MGTREFCLK1P_231
T11 231_CLK0_N
T12 231_CLK0_P
R9 231_CLK1_N
R10 231_CLK1_P
231_CLK0_N 26
231_CLK0_P 26
231_CLK1_N 26
231_CLK1_P 26
xczu19eg-ffvc1760-2-i
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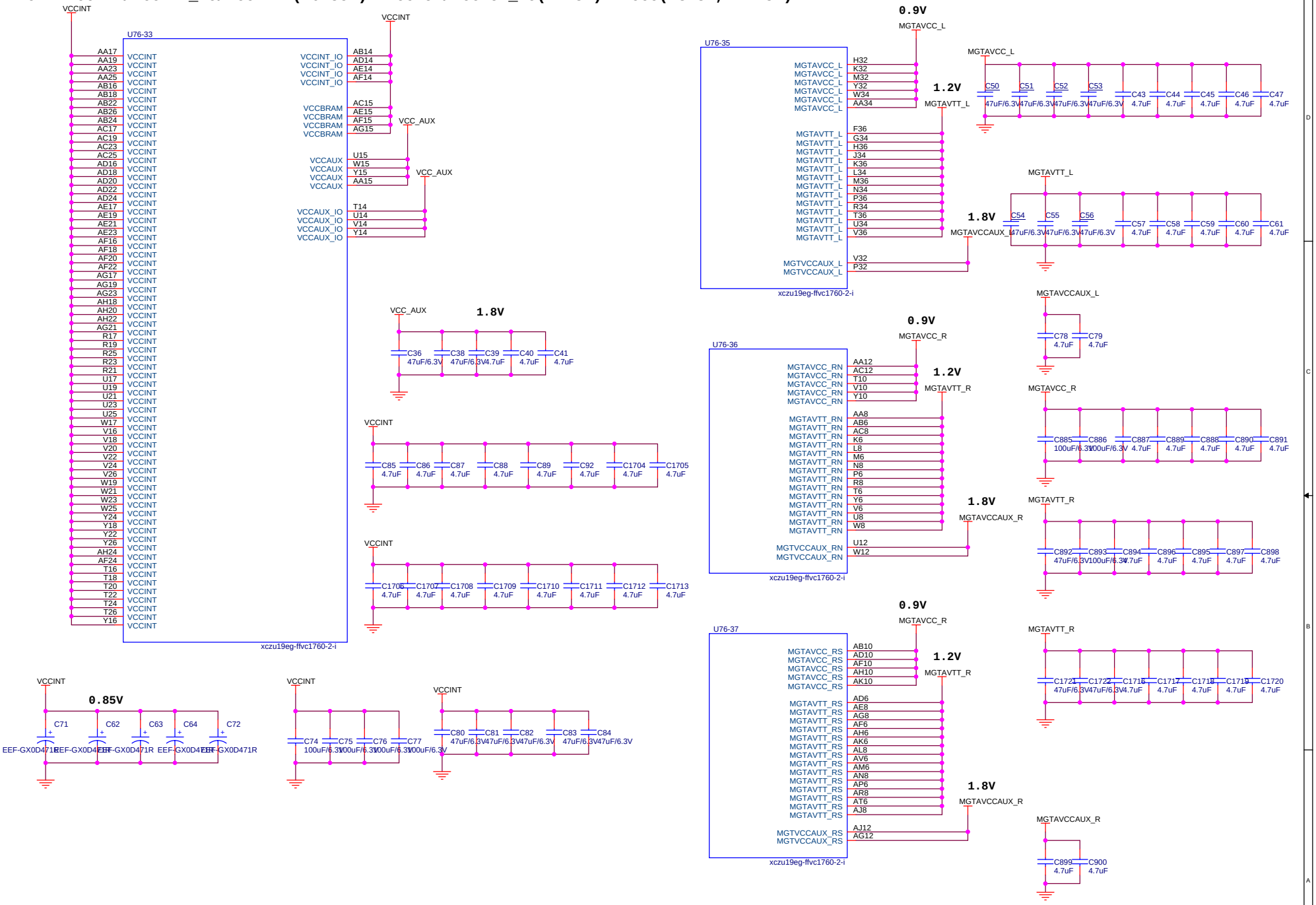
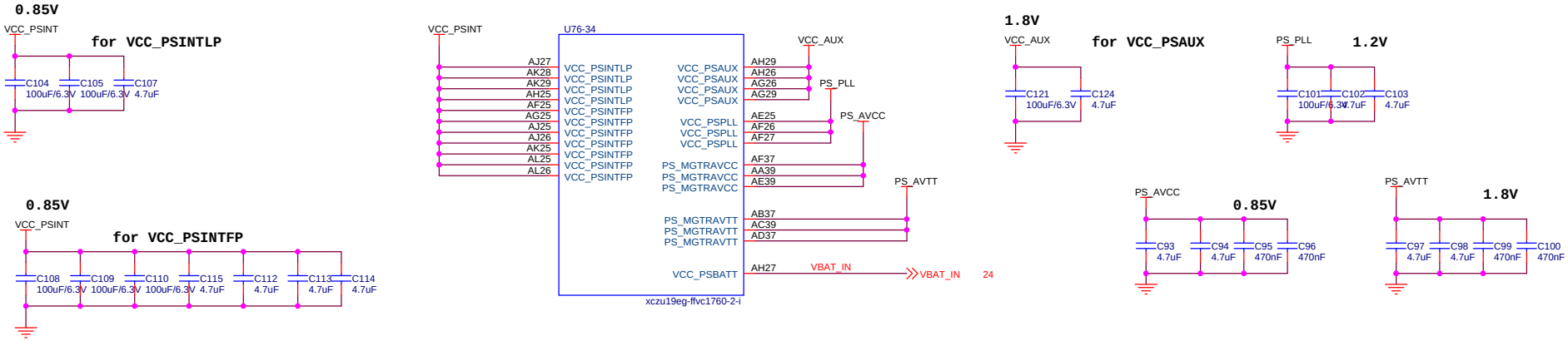
POWER ON: VCCINT/VCCINT_IO/VCCBRAM(+0.85V)->VCCAUX/VCCAUX_IO(+1.8V)->VCCO(+3.3V, +1.8V)



POWER ON: VCC_PSINTFP/VCC_PSINTFP_DDR(+0.85V)->VPS_MGTRAVCC(+0.9V),VCC_PSDDR_PLL(+1.8V)->VPS_MGTRAVTT(+1.8V),VCCO_PSDDR()

POWER ON: VCC_PSINTLP(+0.85V)->VCC_PSAUX(+1.8V),VCC_PSADC(+1.8V),VCC_PSPLL(+1.2V)->VCCO_PSIO(+1.8V)



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Title: PAGE12 Z7 PS Power2

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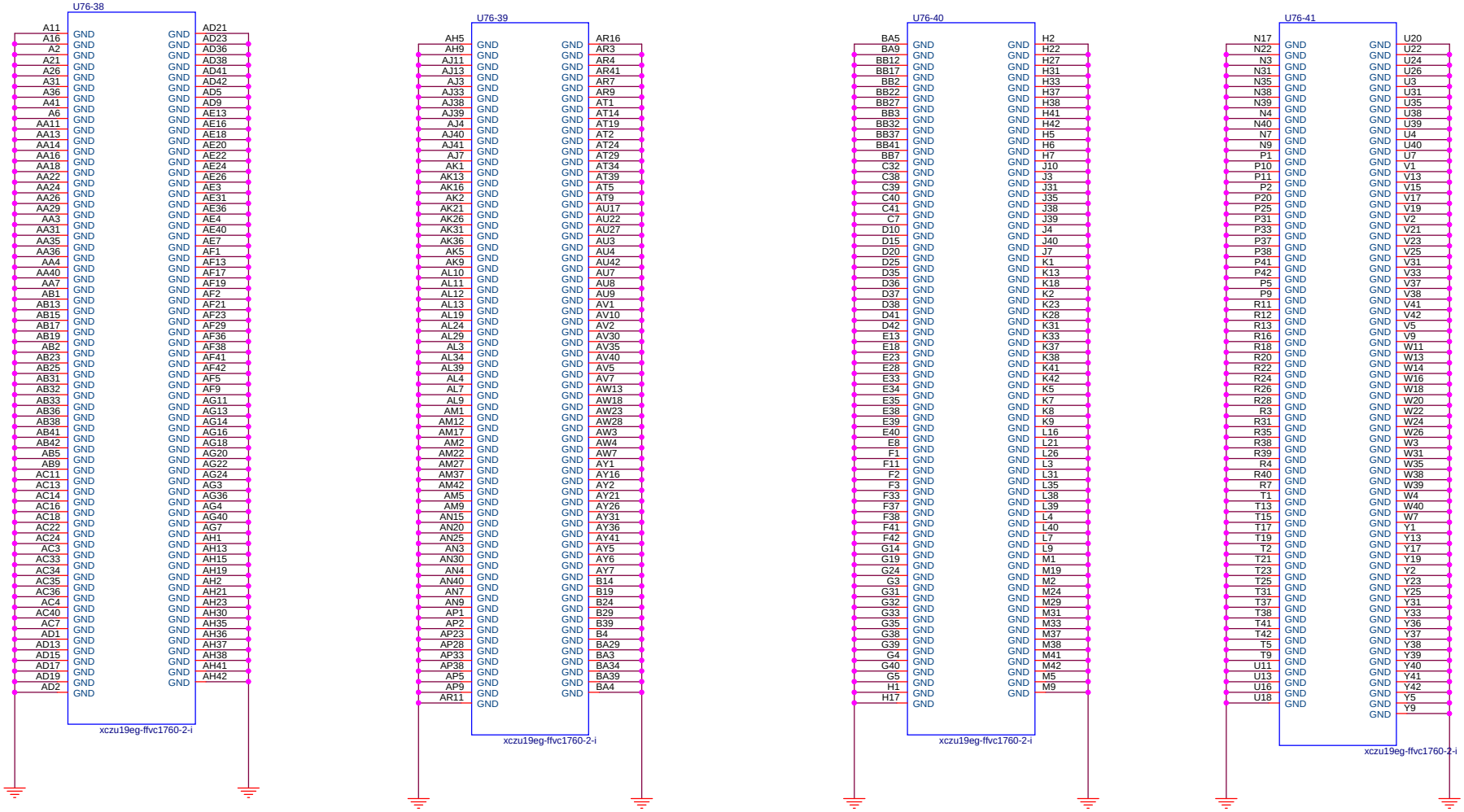

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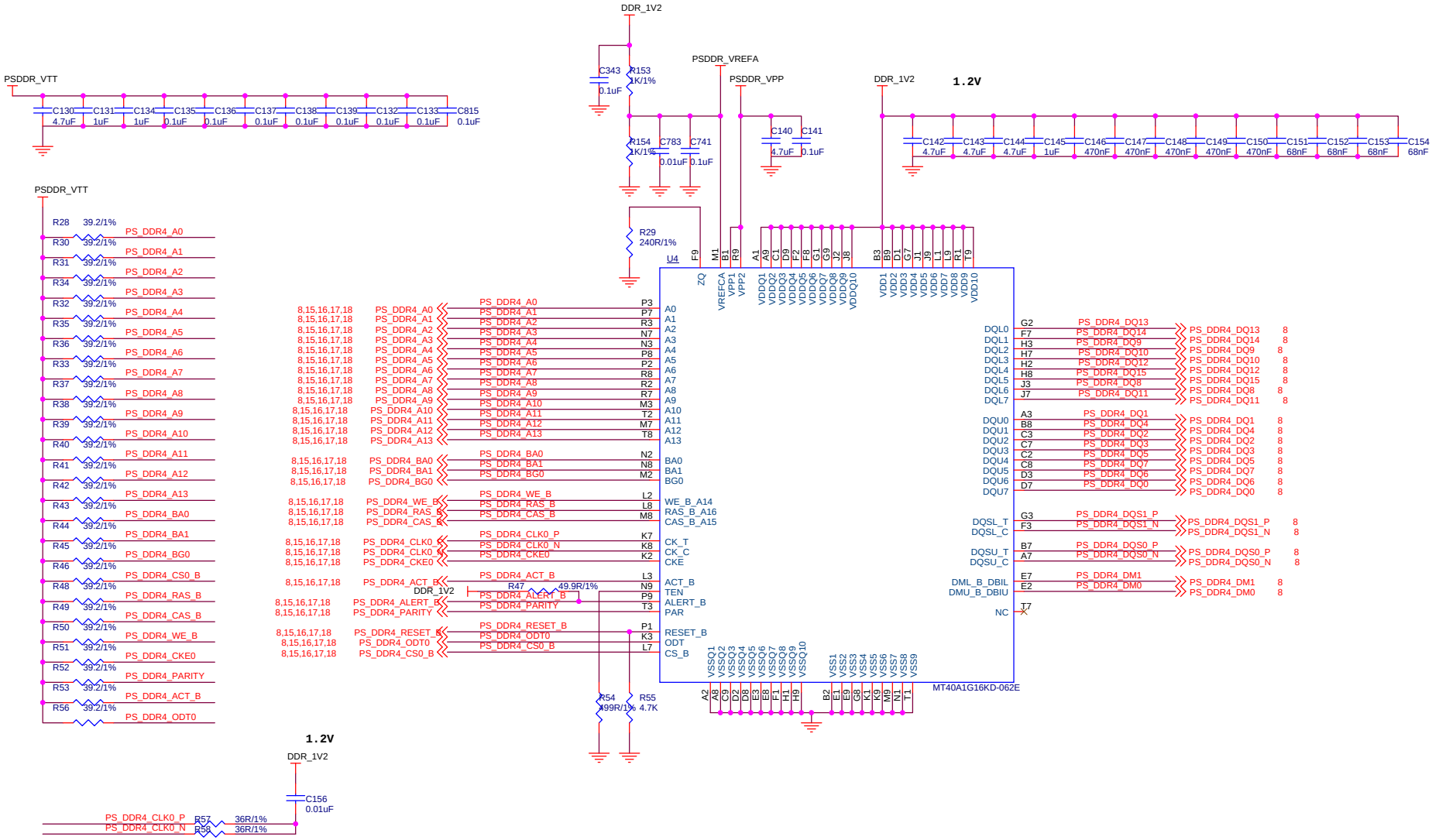

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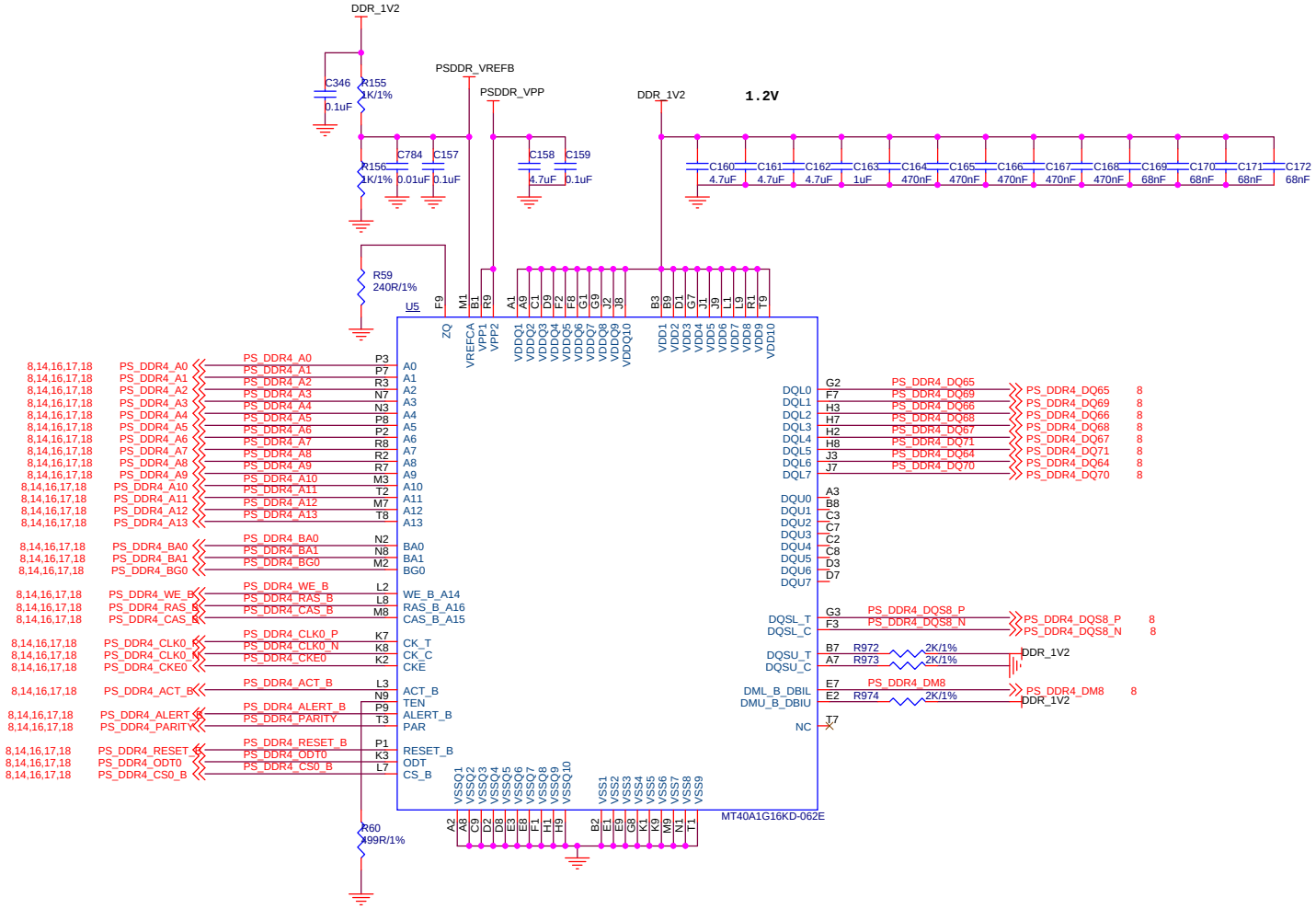

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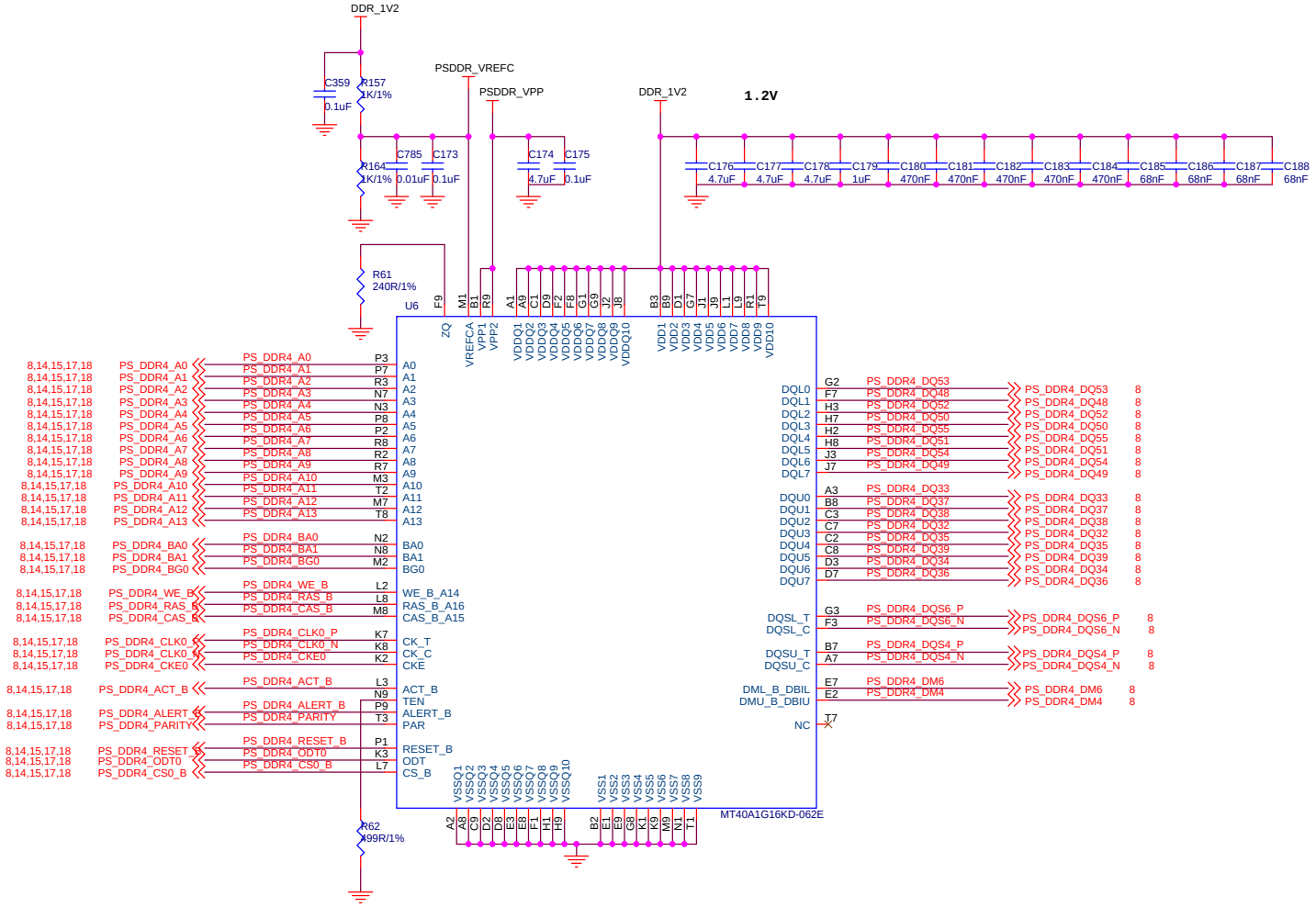

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Title: PAGE16 PS_DDR4_3

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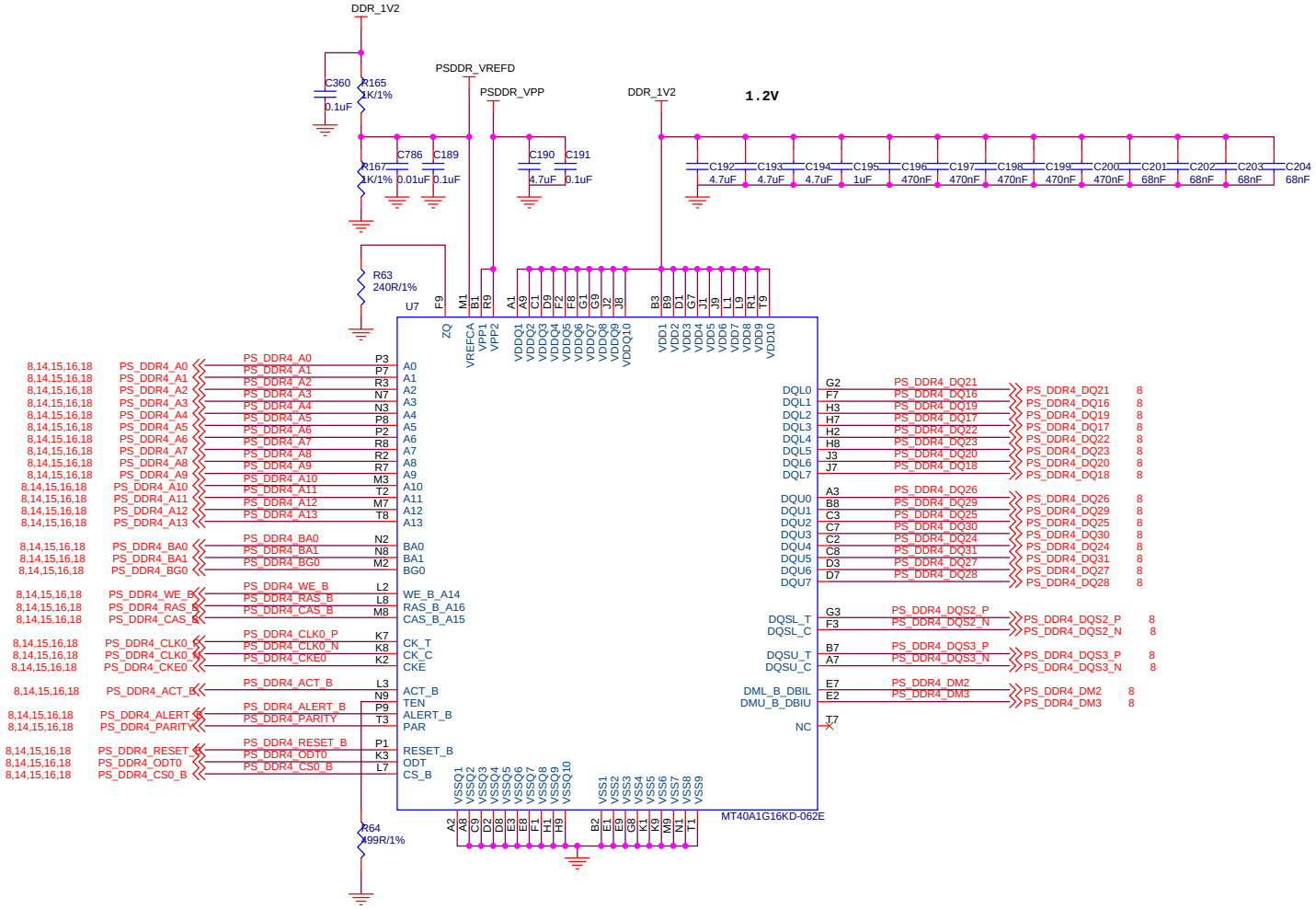

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Title	PAGE17 PS_DDR4_4
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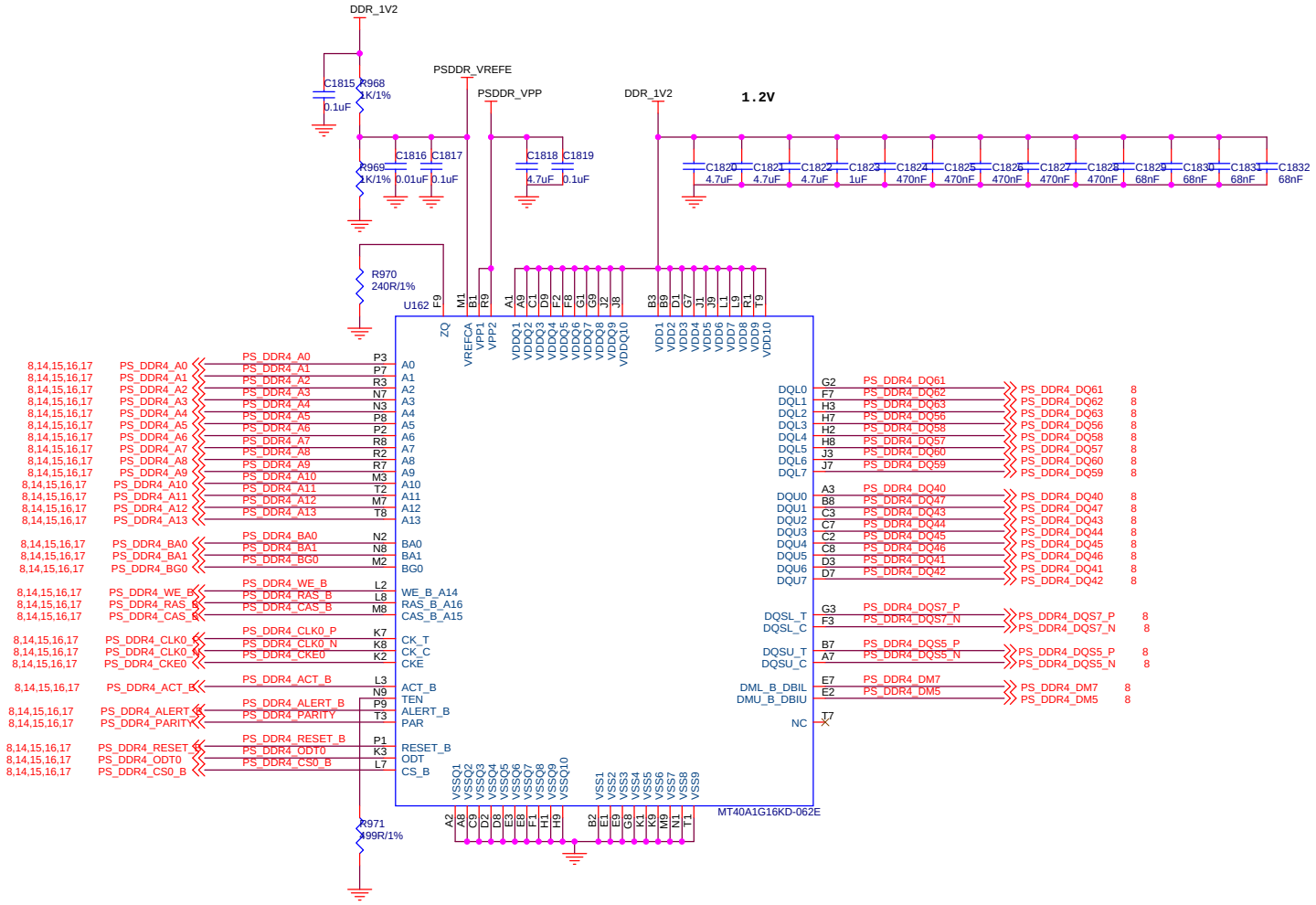

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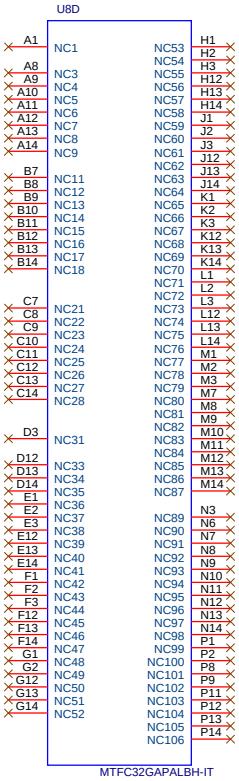

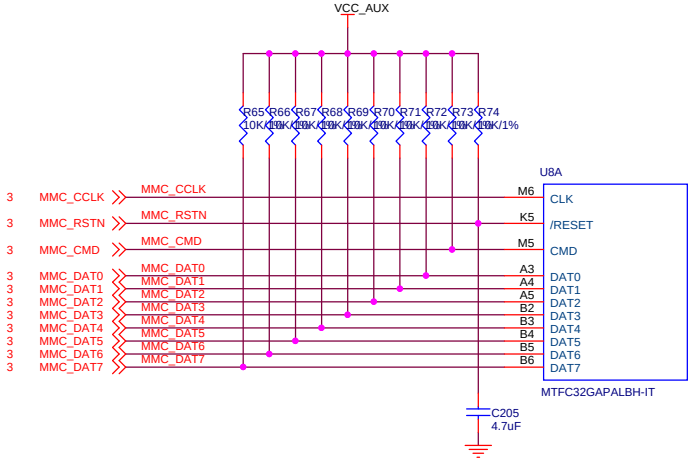

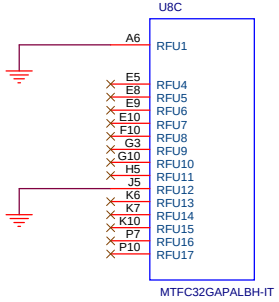

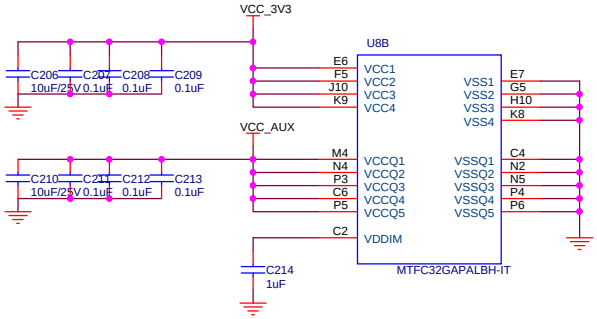

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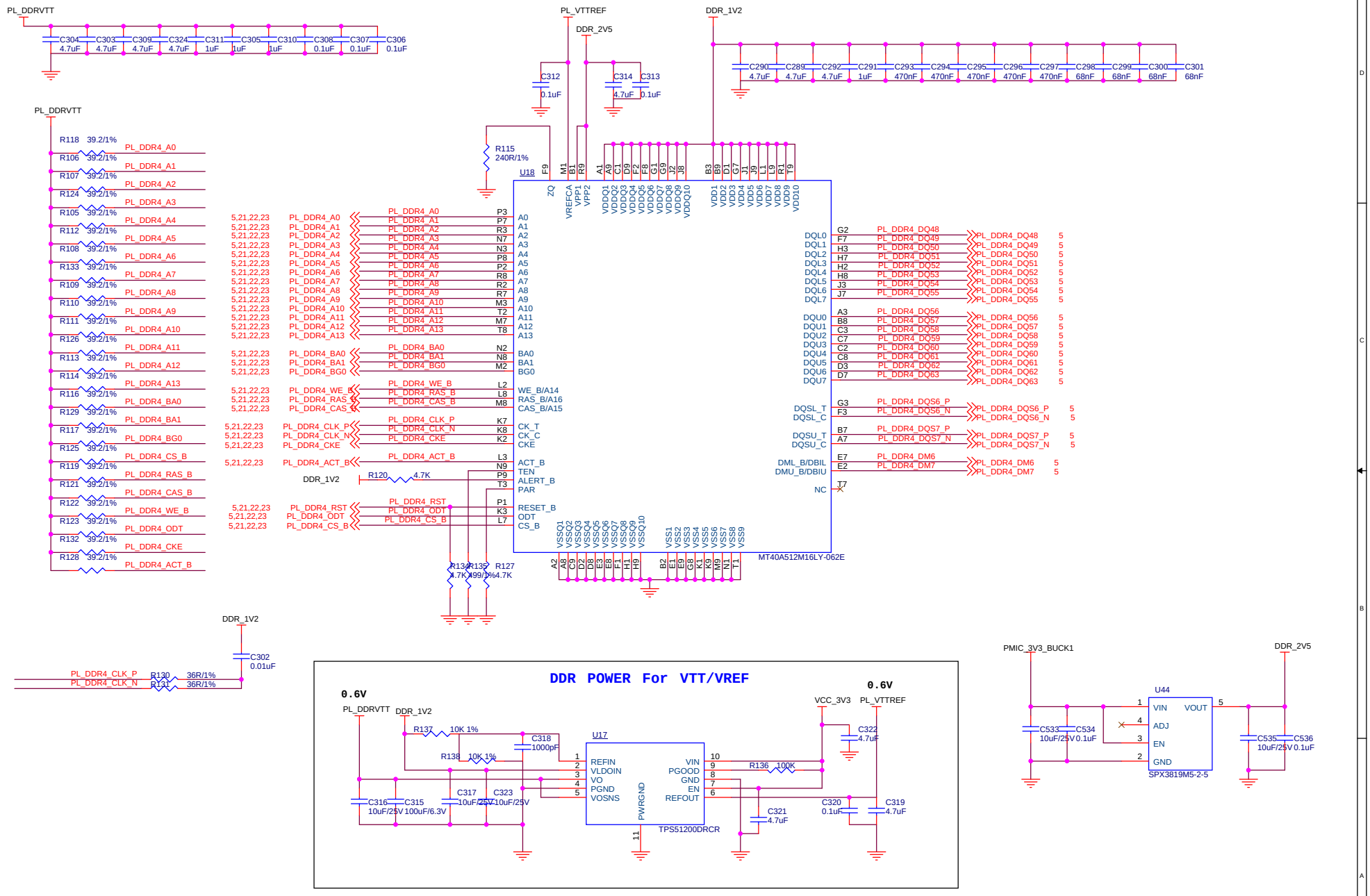
PL_DDRVTT
C304 4.7uF
C303 4.7uF
C309 4.7uF
C324 4.7uF
C311 1uF
C305 1uF
C310 1uF
C308 0.1uF
C307 0.1uF
C306 0.1uF
PL_VTTREF
DDR_2V5
C312 0.1uF
C314 4.7uF
C313 0.1uF
DDR_1V2
C290 4.7uF
C289 4.7uF
C292 4.7uF
C291 1uF
C293 470nF
C294 470nF
C295 470nF
C296 470nF
C297 470nF
C298 68nF
C299 68nF
C300 68nF
C301 68nF
R115 240R/1%
U18
ZQ
VREFCA
VPP1
VPP2
VDDQ1
VDDQ2
VDDQ3
VDDQ4
VDDQ5
VDDQ6
VDDQ7
VDDQ8
VDDQ9
VDDQ10
VDD1
VDD2
VDD3
VDD4
VDD5
VDD6
VDD7
VDD8
VDD9
VDD10
R118 39.2/1% PL_DDR4_A0
R106 39.2/1% PL_DDR4_A1
R107 39.2/1% PL_DDR4_A2
R124 39.2/1% PL_DDR4_A3
R105 39.2/1% PL_DDR4_A4
R112 39.2/1% PL_DDR4_A5
R108 39.2/1% PL_DDR4_A6
R133 39.2/1% PL_DDR4_A7
R109 39.2/1% PL_DDR4_A8
R110 39.2/1% PL_DDR4_A9
R111 39.2/1% PL_DDR4_A10
R126 39.2/1% PL_DDR4_A11
R113 39.2/1% PL_DDR4_A12
R114 39.2/1% PL_DDR4_A13
R116 39.2/1% PL_DDR4_BA0
R129 39.2/1% PL_DDR4_BA1
R117 39.2/1% PL_DDR4_BG0
R125 39.2/1% PL_DDR4_CS_B
R119 39.2/1% PL_DDR4_RAS_B
R121 39.2/1% PL_DDR4_CAS_B
R122 39.2/1% PL_DDR4_WE_B
R123 39.2/1% PL_DDR4_ODT
R132 39.2/1% PL_DDR4_CKE
R128 39.2/1% PL_DDR4_ACT_B
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13
BA0 BA1 BG0
WE_B/A14 RAS_B/A16 CAS_B/A15
CK_T CK_C CKE
ACT_B TEN ALERT_B PAR
RESET_B ODT CS_B
R120 4.7K
R134 4.7K
R135 99/1%
R127 4.7K
DQL0 DQL1 DQL2 DQL3 DQL4 DQL5 DQL6 DQL7
DQU0 DQU1 DQU2 DQU3 DQU4 DQU5 DQU6 DQU7
DQSL_T DQSL_C
DQSU_T DQSU_C
DML_B/DBIL DMU_B/DBIU
NC
MT40A512M16LY-062E
VSSQ1 VSSQ2 VSSQ3 VSSQ4 VSSQ5 VSSQ6 VSSQ7 VSSQ8 VSSQ9 VSSQ10
VSS1 VSS2 VSS3 VSS4 VSS5 VSS6 VSS7 VSS8 VSS9
C302 0.01uF
R130 36R/1%
R131 36R/1%
DDR POWER For VTT/VREF
0.6V
0.6V
R137 10K 1%
R138 10K 1%
C318 1000pF
U17
REFIN VLDOIN VO PGND VOSNS
VIN PGOOD GND EN REFOUT
PWRGND
TPS51200DRCR
R136 100K
C316 10uF/25V
C315 100uF/6.3V
C317 10uF/25V
C323 10uF/25V
C321 4.7uF
C322 4.7uF
C320 0.1uF
C319 4.7uF
PMIC_3V3_BUCK1
U44
VIN VOUT
ADJ
EN
GND
SPX3819M5-2-5
C533 10uF/25V
C534 0.1uF
C535 10uF/25V
C536 0.1uF
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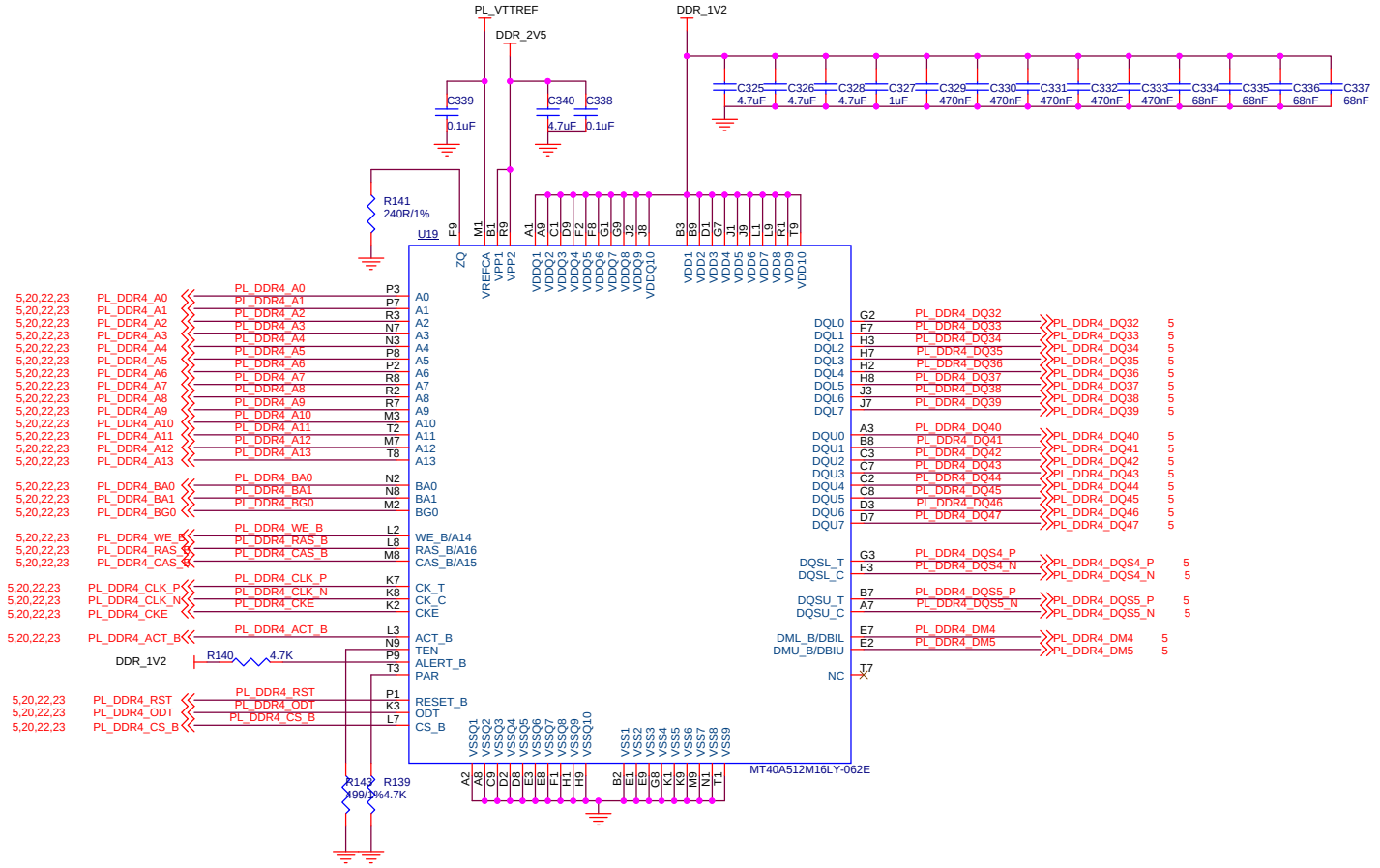

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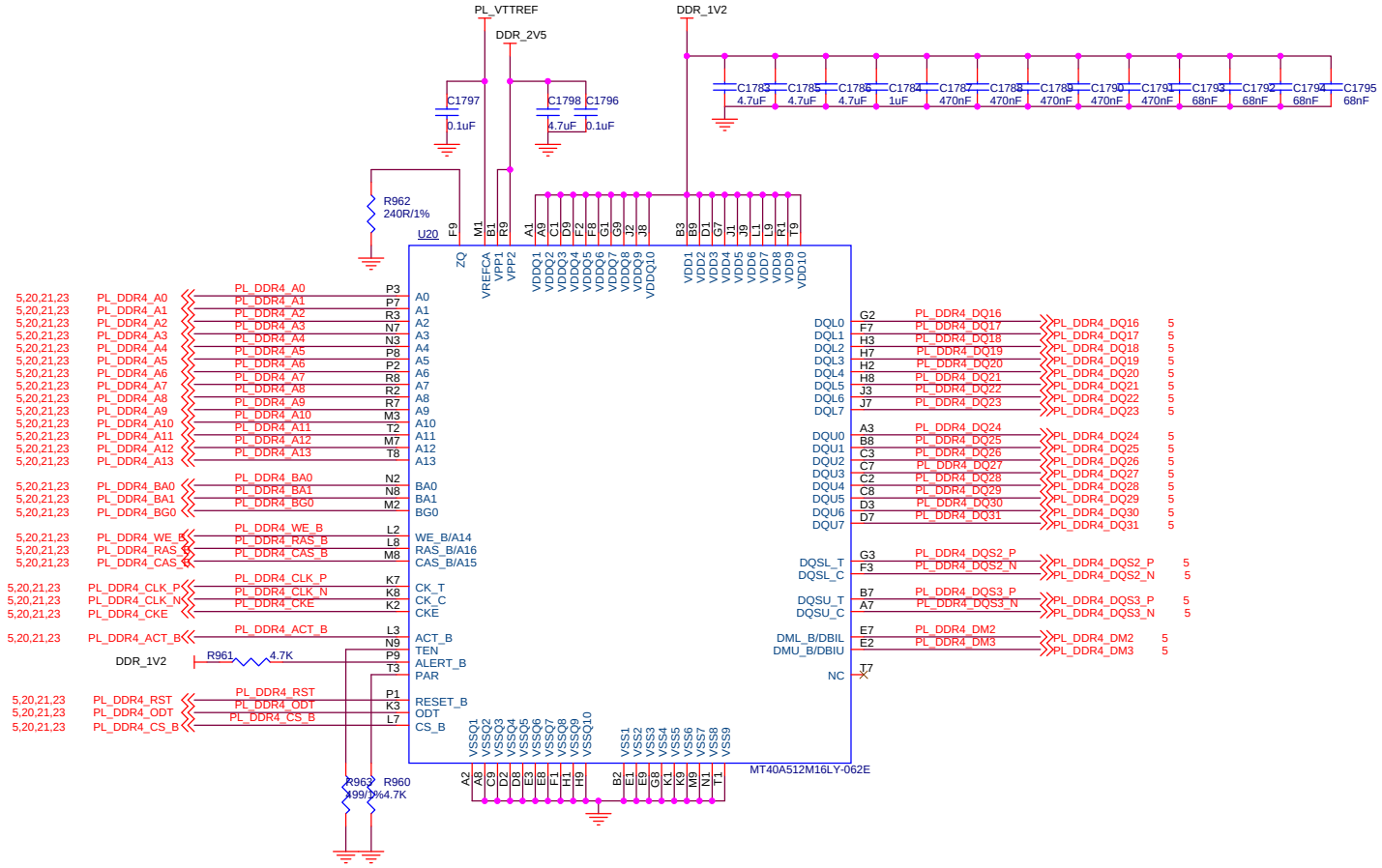

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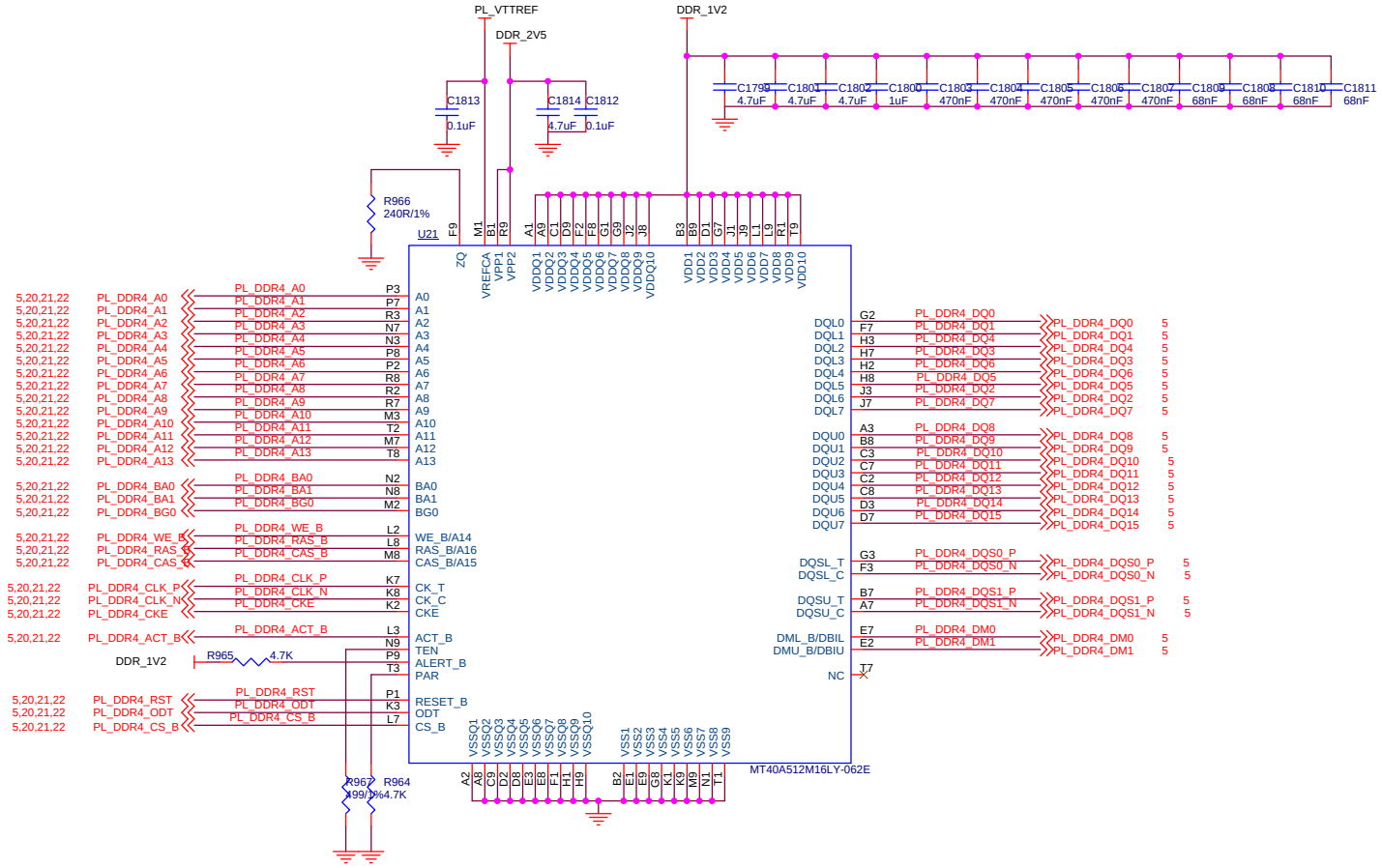

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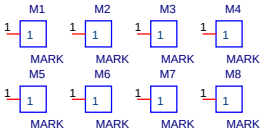
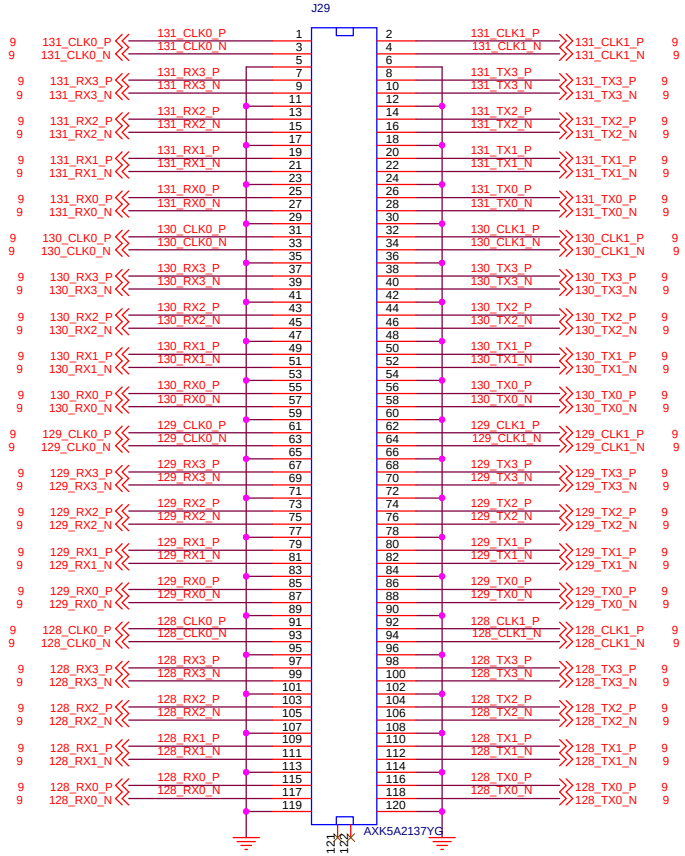
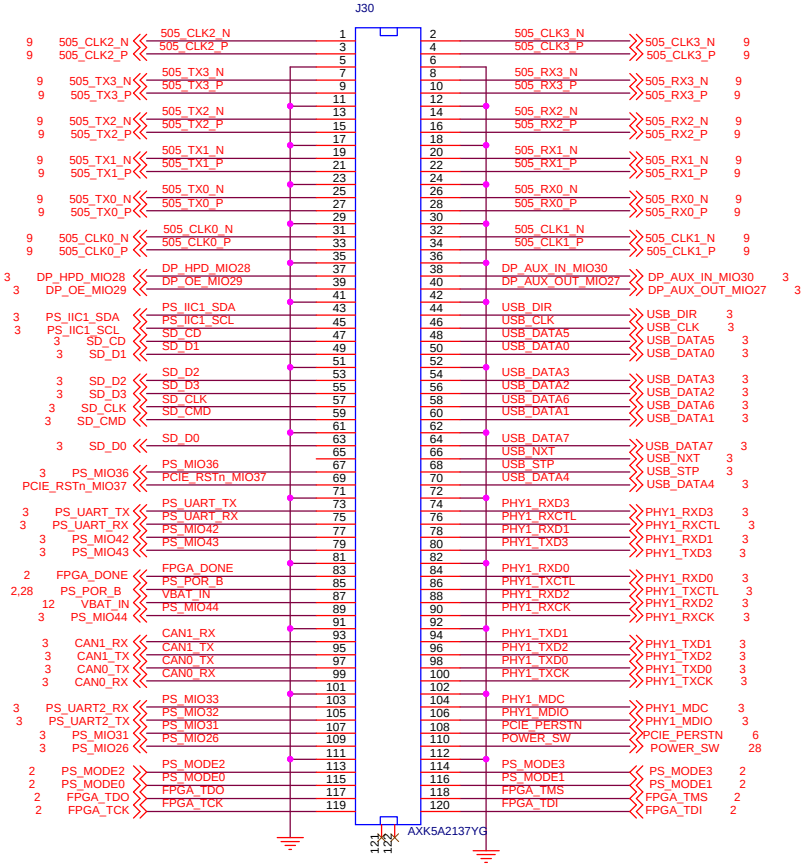


MIO/SD/USB/ETH IO Voltage is 1.8V Stardard





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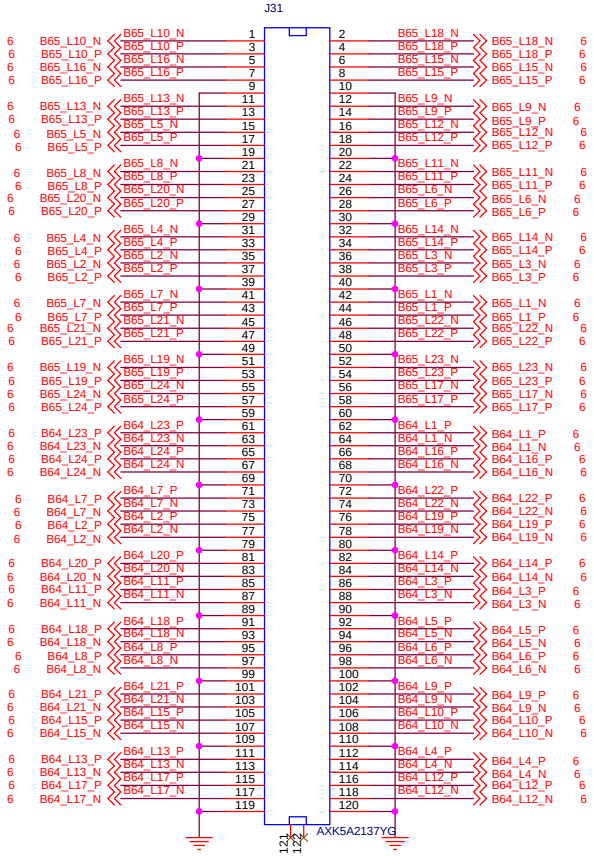
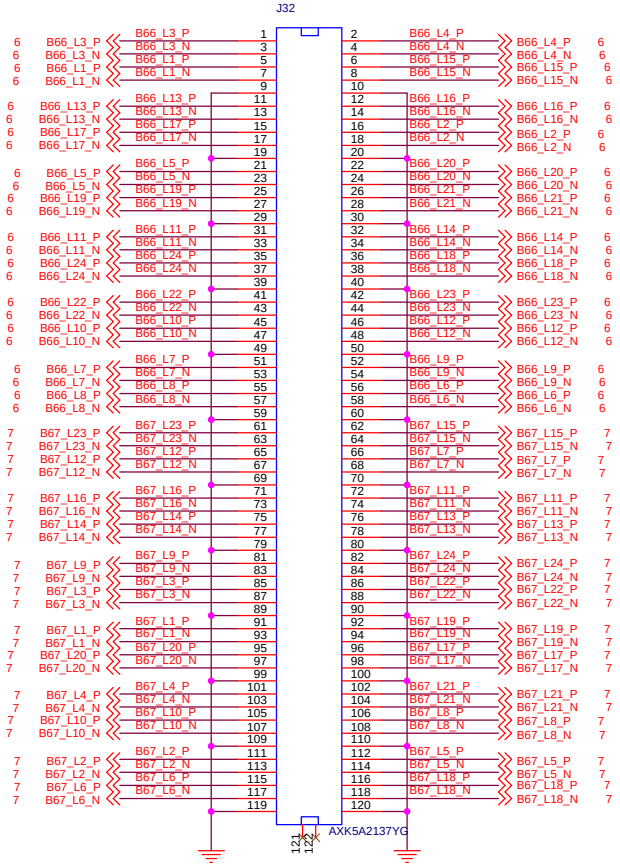
BANK64,65 is HP BANK, IO Voltage is under 1.8V



BANK66 67 is HP BANK, IO Voltage is under 1.8V



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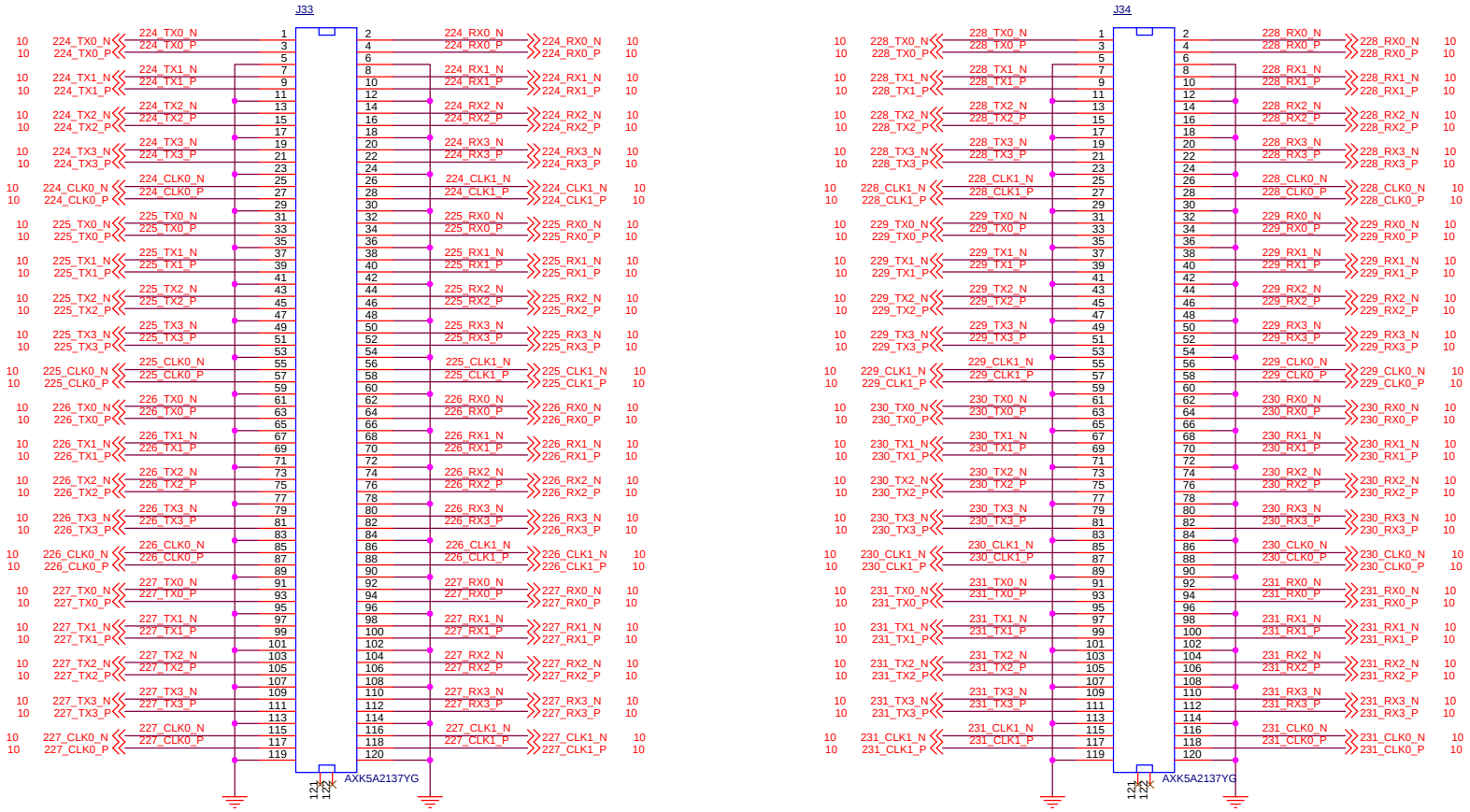

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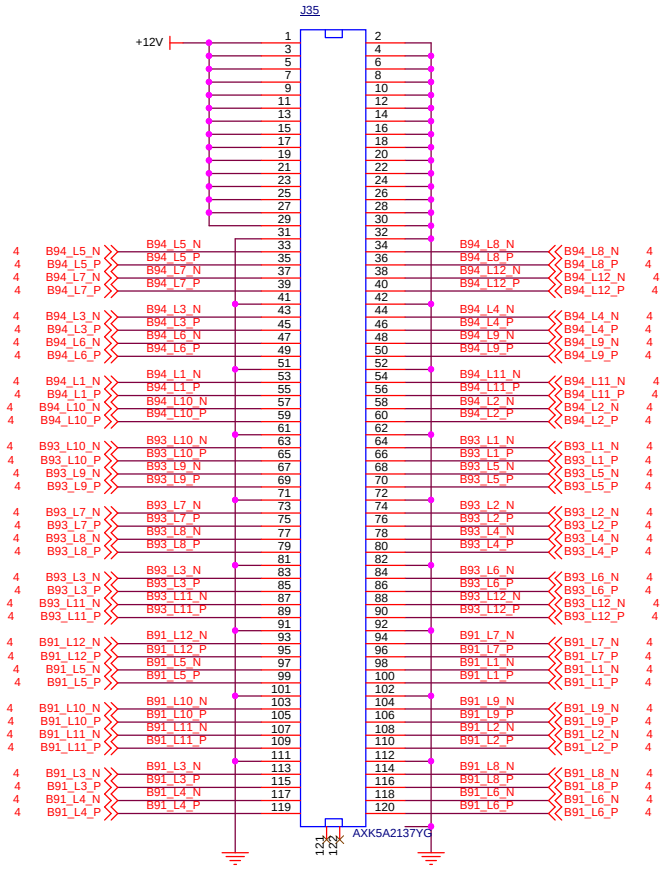
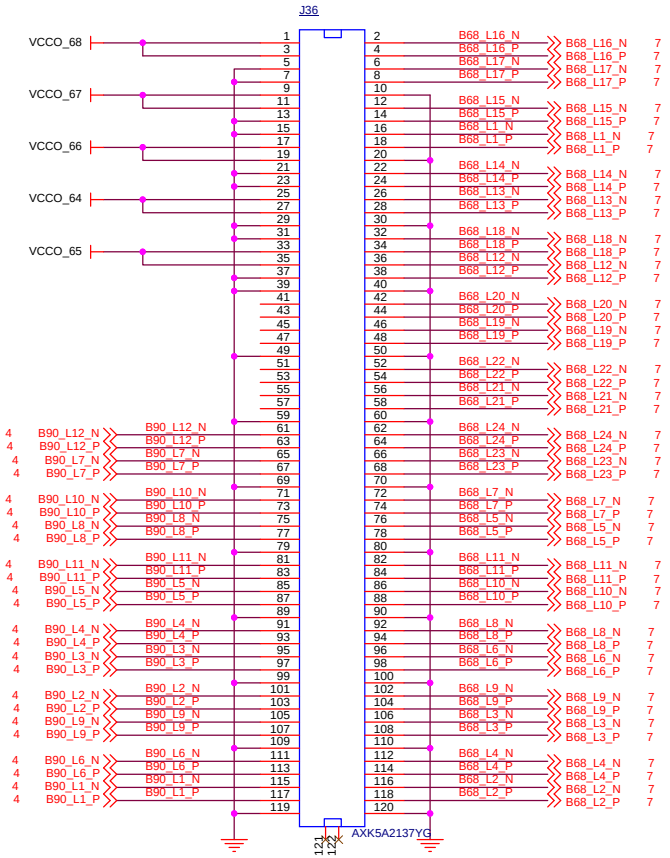
BANK90,91,93,94 is HD BANK, IO Voltage is under 3.3V

BANK68 is HP BANK, IO Voltage is under 1.8V





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CTL3=1

VCC_PSINT (BUCK2:0.85V) → VCCINT (U42:0.85V) → PMIC1_3V3_BUCK1 (BUCK1:3.3V) → MGTAVCC (BUCK4:0.9V) → MGTAVTT/PS_PLL (BUCK3:1.2V) → VCC_AUX/MGTAVTT (BUCK5:1.8V) → VCCO_PSIO (SWA1:3.3V) → PMIC1_BUCK6_1V2 (BUCK6:1.2V) → DIMM_VTT/DIMM_VPP (VTT_LDO:0.6V) (LDOA1:2.5V) → Power GOOD (GPO3)

GPO1=1 (PMIC1_BUCK2_PG)

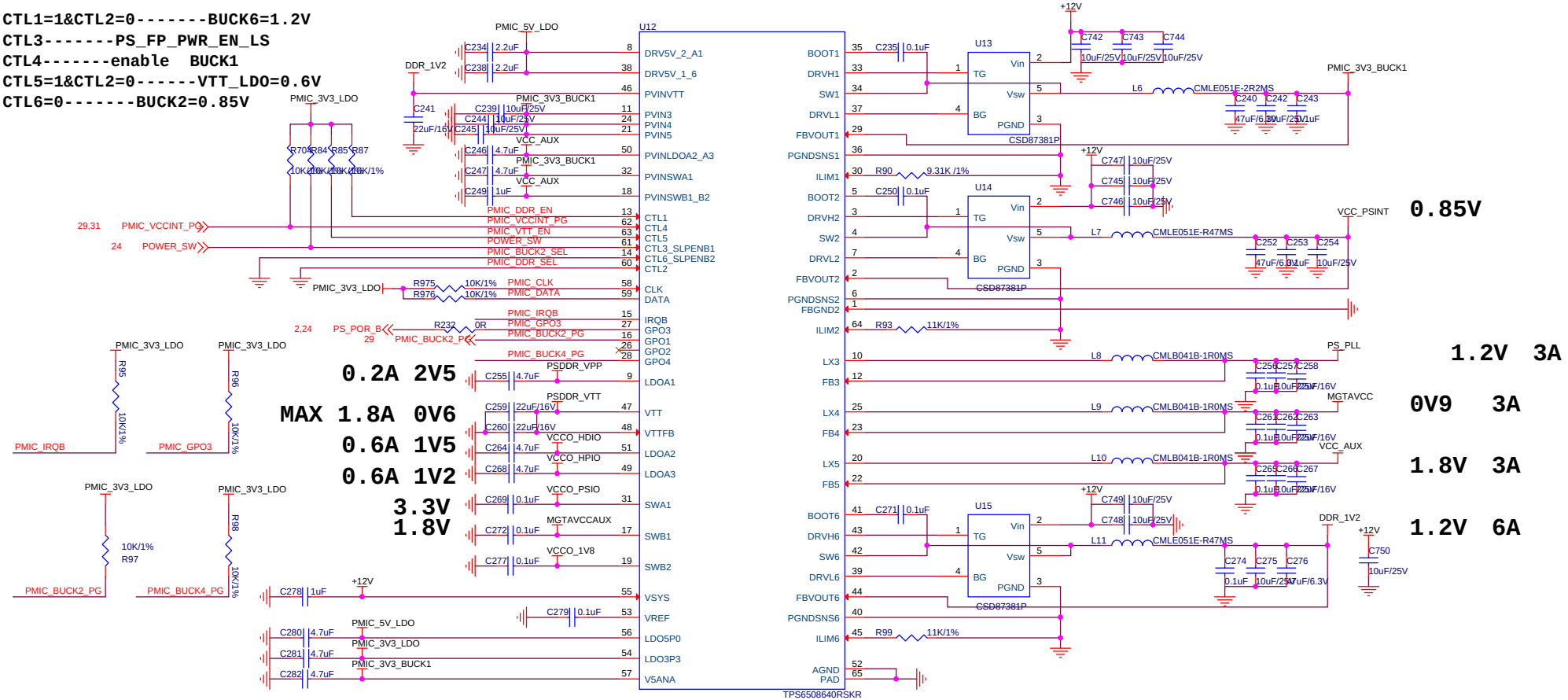
CTL4=1 (PMIC1_VCCINT_PG)

GPO4=1 (PMIC1_BUCK4_PG)

not use

GPO1-----BUCK2_PG
GPO4-----BUCK4_PG
GPO3-----Power_PG

CTL1=1&CTL2=0-------BUCK6=1.2V
CTL3-------PS_FP_PWR_EN_LS
CTL4-------enable BUCK1
CTL5=1&CTL2=0------VTT_LDO=0.6V
CTL6=0-------BUCK2=0.85V



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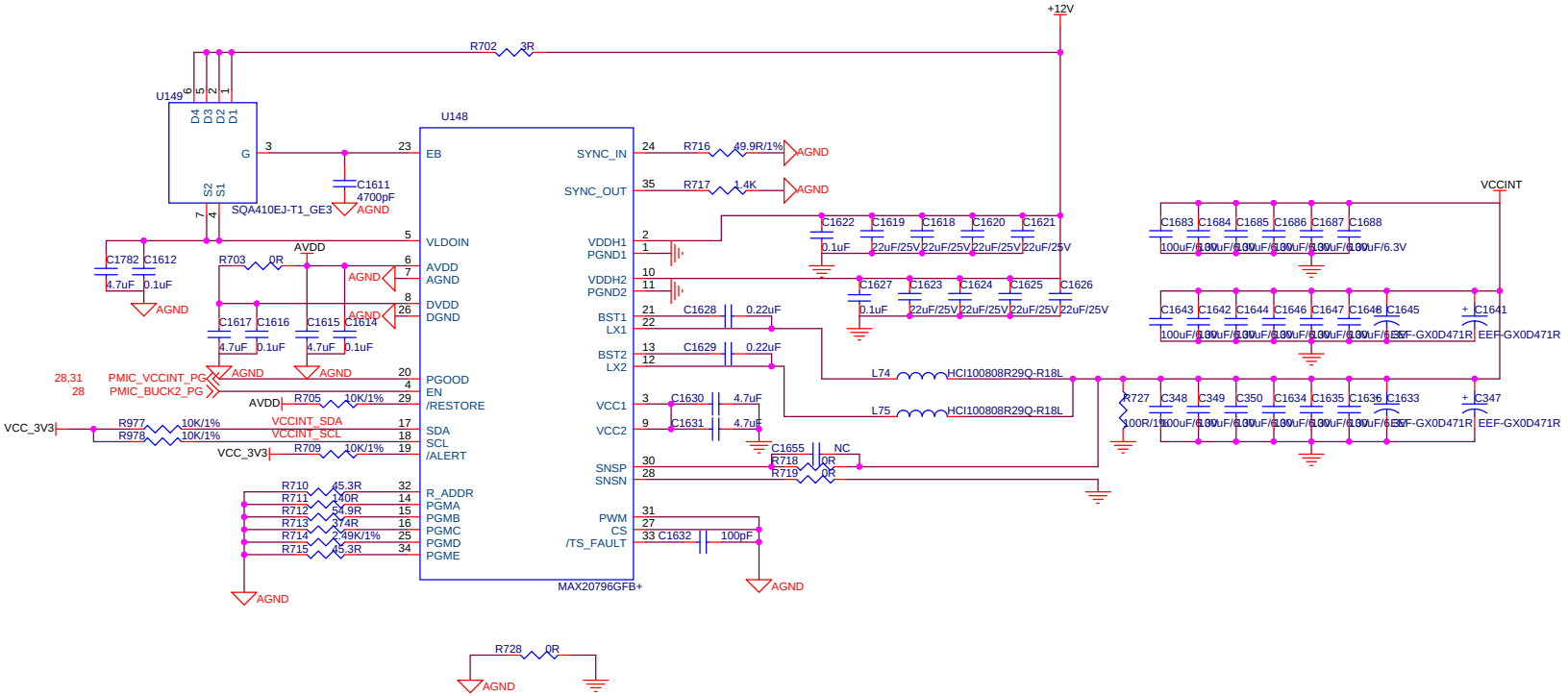
+0.85V 60A



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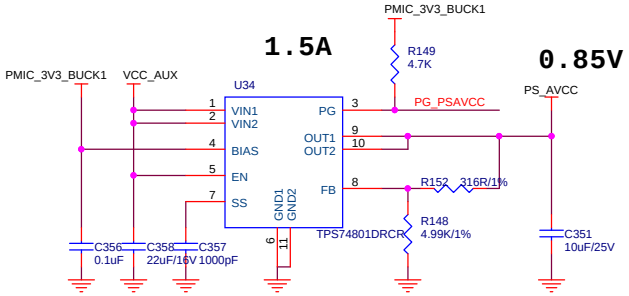

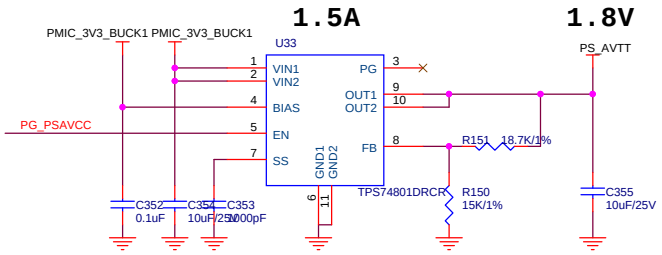

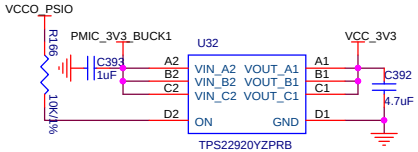

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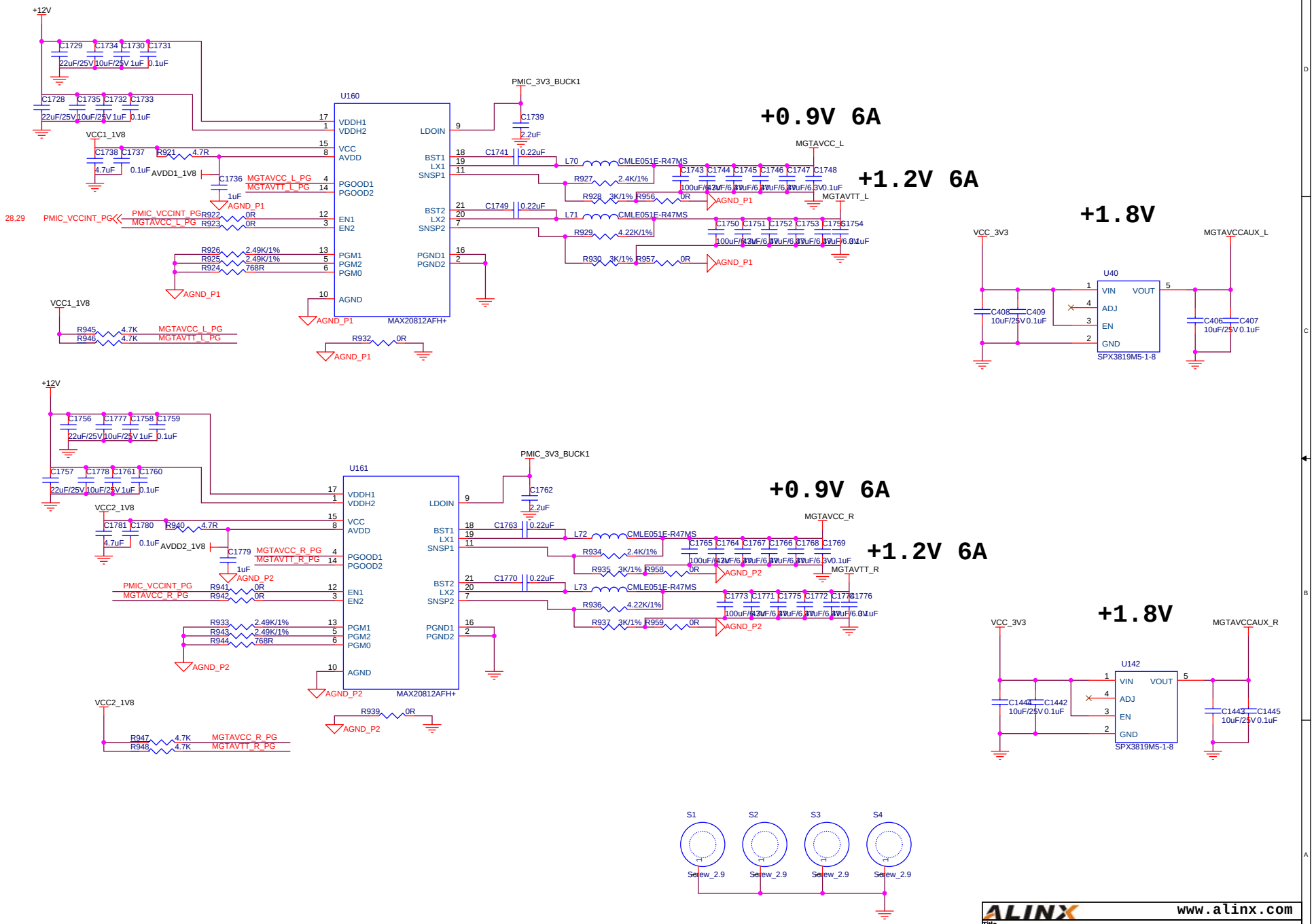

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