

```

1  ## This file is a general .ucf for the Nexys4 DDR Rev C board
2  ## To use it in a project:
3  ## - uncomment the lines corresponding to used pins
4  ## - rename the used signals according to the project
5
6  ## Clock signal
7  NET "clk" LOC = "E3" | IOSTANDARD = "LVCMOS33"; #Bank = 35, Pin name =
  #IO_L12P_T1_MRCC_35, Sch name = clk100mhz
8  NET "clk" TNM_NET = sys_clk_pin;
9  TIMESPEC TS_sys_clk_pin = PERIOD sys_clk_pin 100 MHz HIGH 50%;
10
11
12  ## Switches
13  #NET "sw<1>" LOC=J15 | IOSTANDARD=LVCMOS33; #IO_L24N_T3_RS0_15
14  NET "ohel" LOC=L16 | IOSTANDARD=LVCMOS33; #IO_L3N_T0_DQS_EMCCLK_14
15  NET "pen" LOC=M13 | IOSTANDARD=LVCMOS33; #IO_L6N_T0_D08_VREF_14
16  NET "eight" LOC=R15 | IOSTANDARD=LVCMOS33; #IO_L13N_T2_MRCC_14
17  NET "baud[0]" LOC=R17 | IOSTANDARD=LVCMOS33; #IO_L12N_T1_MRCC_14
18  NET "baud[1]" LOC=T18 | IOSTANDARD=LVCMOS33; #IO_L7N_T1_D10_14
19  NET "baud[2]" LOC=U18 | IOSTANDARD=LVCMOS33; #IO_L17N_T2_A13_D29_14
20  NET "baud[3]" LOC=R13 | IOSTANDARD=LVCMOS33; #IO_L5N_T0_D07_14
21  #NET "sw<8>" LOC=T8 | IOSTANDARD=LVCMOS18; #IO_L24N_T3_34
22  #NET "sw<9>" LOC=U8 | IOSTANDARD=LVCMOS18; #IO_25_34
23  #NET "sw<10>" LOC=R16 | IOSTANDARD=LVCMOS33; #IO_L15P_T2_DQS_RDWR_B_14
24  #NET "sw<11>" LOC=T13 | IOSTANDARD=LVCMOS33; #IO_L23P_T3_A03_D19_14
25  #NET "sw<12>" LOC=H6 | IOSTANDARD=LVCMOS33; #IO_L24P_T3_35
26  #NET "sw<13>" LOC=U12 | IOSTANDARD=LVCMOS33; #IO_L20P_T3_A08_D24_14
27  #NET "sw<14>" LOC=U11 | IOSTANDARD=LVCMOS33; #IO_L19N_T3_A09_D25_VREF_14
28  #NET "sw<15>" LOC=V10 | IOSTANDARD=LVCMOS33; #IO_L21P_T3_DQS_14
29
30
31  ## Buttons
32  #NET "cpu_resetrn" LOC=C12 | IOSTANDARD=LVCMOS33; #IO_L3P_T0_DQS_AD1P_15
33
34  NET "rst" LOC=N17 | IOSTANDARD=LVCMOS33; #IO_L9P_T1_DQS_14
35  #NET "btnd" LOC=P18 | IOSTANDARD=LVCMOS33; #IO_L9N_T1_DQS_D13_14
36  #NET "btnl" LOC=P17 | IOSTANDARD=LVCMOS33; #IO_L12P_T1_MRCC_14
37  #NET "btnr" LOC=M17 | IOSTANDARD=LVCMOS33; #IO_L10N_T1_D15_14
38  #NET "btneu" LOC=M18 | IOSTANDARD=LVCMOS33; #IO_L4N_T0_D05_14
39
40
41  ## LEDs
42  NET "leds<0>" LOC=H17 | IOSTANDARD=LVCMOS33; #IO_L18P_T2_A24_15
43  NET "leds<1>" LOC=K15 | IOSTANDARD=LVCMOS33; #IO_L24P_T3_RS1_15
44  NET "leds<2>" LOC=J13 | IOSTANDARD=LVCMOS33; #IO_L17N_T2_A25_15
45  NET "leds<3>" LOC=N14 | IOSTANDARD=LVCMOS33; #IO_L8P_T1_D11_14
46  NET "leds<4>" LOC=R18 | IOSTANDARD=LVCMOS33; #IO_L7P_T1_D09_14
47  NET "leds<5>" LOC=V17 | IOSTANDARD=LVCMOS33; #IO_L18N_T2_A11_D27_14
48  NET "leds<6>" LOC=U17 | IOSTANDARD=LVCMOS33; #IO_L17P_T2_A14_D30_14
49  NET "leds<7>" LOC=U16 | IOSTANDARD=LVCMOS33; #IO_L18P_T2_A12_D28_14
50  NET "leds<8>" LOC=V16 | IOSTANDARD=LVCMOS33; #IO_L16N_T2_A15_D31_14
51  NET "leds<9>" LOC=T15 | IOSTANDARD=LVCMOS33; #IO_L14N_T2_SRCC_14
52  NET "leds<10>" LOC=U14 | IOSTANDARD=LVCMOS33; #IO_L22P_T3_A05_D21_14
53  NET "leds<11>" LOC=T16 | IOSTANDARD=LVCMOS33; #IO_L15N_T2_DQS_DOUT_CSO_B_14
54  NET "leds<12>" LOC=V15 | IOSTANDARD=LVCMOS33; #IO_L16P_T2_CSI_B_14
55  NET "leds<13>" LOC=V14 | IOSTANDARD=LVCMOS33; #IO_L22N_T3_A04_D20_14
56  NET "leds<14>" LOC=V12 | IOSTANDARD=LVCMOS33; #IO_L20N_T3_A07_D23_14

```

```

57 NET "leds<15>" LOC=V11 | IOSTANDARD=LVCMOS33; #IO_L21N_T3_DQS_A06_D22_14
58
59
60 ##LEDs_RGB
61 #NET "led16_b" LOC=R12 | IOSTANDARD=LVCMOS33; #IO_L5P_T0_D06_14
62 #NET "led16_g" LOC=M16 | IOSTANDARD=LVCMOS33; #IO_L10P_T1_D14_14
63 #NET "led16_r" LOC=N15 | IOSTANDARD=LVCMOS33; #IO_L11P_T1_SRCC_14
64 #NET "led17_b" LOC=G14 | IOSTANDARD=LVCMOS33; #IO_L15N_T2_DQS_ADV_B_15
65 #NET "led17_g" LOC=R11 | IOSTANDARD=LVCMOS33; #IO_0_14
66 #NET "led17_r" LOC=N16 | IOSTANDARD=LVCMOS33; #IO_L11N_T1_SRCC_14
67
68
69 ## 7 segment display
70 #NET "ca" LOC=T10 | IOSTANDARD=LVCMOS33; #IO_L24N_T3_A00_D16_14
71 #NET "cb" LOC=R10 | IOSTANDARD=LVCMOS33; #IO_25_14
72 #NET "cc" LOC=K16 | IOSTANDARD=LVCMOS33; #IO_25_15
73 #NET "cd" LOC=K13 | IOSTANDARD=LVCMOS33; #IO_L17P_T2_A26_15
74 #NET "ce" LOC=P15 | IOSTANDARD=LVCMOS33; #IO_L13P_T2_MRCC_14
75 #NET "cf" LOC=T11 | IOSTANDARD=LVCMOS33; #IO_L19P_T3_A10_D26_14
76 #NET "cg" LOC=L18 | IOSTANDARD=LVCMOS33; #IO_L4P_T0_D04_14
77 #NET "dp" LOC=H15 | IOSTANDARD=LVCMOS33; #IO_L19N_T3_A21_VREF_15
78
79 #NET "an<0>" LOC=J17 | IOSTANDARD=LVCMOS33; #IO_L23P_T3_FOE_B_15
80 #NET "an<1>" LOC=J18 | IOSTANDARD=LVCMOS33; #IO_L23N_T3_FWE_B_15
81 #NET "an<2>" LOC=T9 | IOSTANDARD=LVCMOS33; #IO_L24P_T3_A01_D17_14
82 #NET "an<3>" LOC=J14 | IOSTANDARD=LVCMOS33; #IO_L19P_T3_A22_15
83 #NET "an<4>" LOC=P14 | IOSTANDARD=LVCMOS33; #IO_L8N_T1_D12_14
84 #NET "an<5>" LOC=T14 | IOSTANDARD=LVCMOS33; #IO_L14P_T2_SRCC_14
85 #NET "an<6>" LOC=K2 | IOSTANDARD=LVCMOS33; #IO_L23P_T3_35
86 #NET "an<7>" LOC=U13 | IOSTANDARD=LVCMOS33; #IO_L23N_T3_A02_D18_14
87
88
89 ## Pmod Header JA
90 #NET "ja<1>" LOC=C17 | IOSTANDARD=LVCMOS33; #IO_L20N_T3_A19_15
91 #NET "ja<2>" LOC=D18 | IOSTANDARD=LVCMOS33; #IO_L21N_T3_DQS_A18_15
92 #NET "ja<3>" LOC=E18 | IOSTANDARD=LVCMOS33; #IO_L21P_T3_DQS_15
93 #NET "ja<4>" LOC=G17 | IOSTANDARD=LVCMOS33; #IO_L18N_T2_A23_15
94 #NET "ja<7>" LOC=D17 | IOSTANDARD=LVCMOS33; #IO_L16N_T2_A27_15
95 #NET "ja<8>" LOC=E17 | IOSTANDARD=LVCMOS33; #IO_L16P_T2_A28_15
96 #NET "ja<9>" LOC=F18 | IOSTANDARD=LVCMOS33; #IO_L22N_T3_A16_15
97 #NET "ja<10>" LOC=G18 | IOSTANDARD=LVCMOS33; #IO_L22P_T3_A17_15
98
99 ## Pmod Header JB
100 #NET "jb<1>" LOC=D14 | IOSTANDARD=LVCMOS33; #IO_L1P_T0_AD0P_15
101 #NET "jb<2>" LOC=F16 | IOSTANDARD=LVCMOS33; #IO_L14N_T2_SRCC_15
102 #NET "jb<3>" LOC=G16 | IOSTANDARD=LVCMOS33; #IO_L13N_T2_MRCC_15
103 #NET "jb<4>" LOC=H14 | IOSTANDARD=LVCMOS33; #IO_L15P_T2_DQS_15
104 #NET "jb<7>" LOC=E16 | IOSTANDARD=LVCMOS33; #IO_L11N_T1_SRCC_15
105 #NET "jb<8>" LOC=F13 | IOSTANDARD=LVCMOS33; #IO_L5P_T0_AD9P_15
106 #NET "jb<9>" LOC=G13 | IOSTANDARD=LVCMOS33; #IO_0_15
107 #NET "jb<10>" LOC=H16 | IOSTANDARD=LVCMOS33; #IO_L13P_T2_MRCC_15
108
109 ## Pmod Header JC
110 #NET "jc<1>" LOC=K1 | IOSTANDARD=LVCMOS33; #IO_L23N_T3_35
111 #NET "jc<2>" LOC=F6 | IOSTANDARD=LVCMOS33; #IO_L19N_T3_VREF_35
112 #NET "jc<3>" LOC=J2 | IOSTANDARD=LVCMOS33; #IO_L22N_T3_35
113 #NET "jc<4>" LOC=G6 | IOSTANDARD=LVCMOS33; #IO_L19P_T3_35

```

```

114 #NET "jc<7>"          LOC=E7 | IOSTANDARD=LVCOS33; #IO_L6P_T0_35
115 #NET "jc<8>"          LOC=J3 | IOSTANDARD=LVCOS33; #IO_L22P_T3_35
116 #NET "jc<9>"          LOC=J4 | IOSTANDARD=LVCOS33; #IO_L21P_T3_DQS_35
117 #NET "jc<10>"         LOC=E6 | IOSTANDARD=LVCOS33; #IO_L5P_T0_AD13P_35
118
119 ## Pmod Header JD
120 #NET "jd<1>"          LOC=H4 | IOSTANDARD=LVCOS33; #IO_L21N_T3_DQS_35
121 #NET "jd<2>"          LOC=H1 | IOSTANDARD=LVCOS33; #IO_L17P_T2_35
122 #NET "jd<3>"          LOC=G1 | IOSTANDARD=LVCOS33; #IO_L17N_T2_35
123 #NET "jd<4>"          LOC=G3 | IOSTANDARD=LVCOS33; #IO_L20N_T3_35
124 #NET "jd<7>"          LOC=H2 | IOSTANDARD=LVCOS33; #IO_L15P_T2_DQS_35
125 #NET "jd<8>"          LOC=G4 | IOSTANDARD=LVCOS33; #IO_L20P_T3_35
126 #NET "jd<9>"          LOC=G2 | IOSTANDARD=LVCOS33; #IO_L15N_T2_DQS_35
127 #NET "jd<10>"         LOC=F3 | IOSTANDARD=LVCOS33; #IO_L13N_T2_MRCC_35
128
129 ##Pmod Header JXADC
130 #NET "xa_n<1>"        LOC=A14 | IOSTANDARD=LVD; #IO_L9N_T1_DQS_AD3N_15
131 #NET "xa_p<1>"        LOC=A13 | IOSTANDARD=LVD; #IO_L9P_T1_DQS_AD3P_15
132 #NET "xa_n<2>"        LOC=A16 | IOSTANDARD=LVD; #IO_L8N_T1_AD10N_15
133 #NET "xa_p<2>"        LOC=A15 | IOSTANDARD=LVD; #IO_L8P_T1_AD10P_15
134 #NET "xa_n<3>"        LOC=B17 | IOSTANDARD=LVD; #IO_L7N_T1_AD2N_15
135 #NET "xa_p<3>"        LOC=B16 | IOSTANDARD=LVD; #IO_L7P_T1_AD2P_15
136 #NET "xa_n<4>"        LOC=A18 | IOSTANDARD=LVD; #IO_L10N_T1_AD11N_15
137 #NET "xa_p<4>"        LOC=B18 | IOSTANDARD=LVD; #IO_L10P_T1_AD11P_15
138
139
140 ##VGA Connector
141 #NET "vga_r<0>"        LOC=A3 | IOSTANDARD=LVCOS33; #IO_L8N_T1_AD14N_35
142 #NET "vga_r<1>"        LOC=B4 | IOSTANDARD=LVCOS33; #IO_L7N_T1_AD6N_35
143 #NET "vga_r<2>"        LOC=C5 | IOSTANDARD=LVCOS33; #IO_L1N_T0_AD4N_35
144 #NET "vga_r<3>"        LOC=A4 | IOSTANDARD=LVCOS33; #IO_L8P_T1_AD14P_35
145
146 #NET "vga_g<0>"        LOC=C6 | IOSTANDARD=LVCOS33; #IO_L1P_T0_AD4P_35
147 #NET "vga_g<1>"        LOC=A5 | IOSTANDARD=LVCOS33; #IO_L3N_T0_DQS_AD5N_35
148 #NET "vga_g<2>"        LOC=B6 | IOSTANDARD=LVCOS33; #IO_L2N_T0_AD12N_35
149 #NET "vga_g<3>"        LOC=A6 | IOSTANDARD=LVCOS33; #IO_L3P_T0_DQS_AD5P_35
150
151 #NET "vga_b<0>"        LOC=B7 | IOSTANDARD=LVCOS33; #IO_L2P_T0_AD12P_35
152 #NET "vga_b<1>"        LOC=C7 | IOSTANDARD=LVCOS33; #IO_L4N_T0_35
153 #NET "vga_b<2>"        LOC=D7 | IOSTANDARD=LVCOS33; #IO_L6N_T0_VREF_35
154 #NET "vga_b<3>"        LOC=D8 | IOSTANDARD=LVCOS33; #IO_L4P_T0_35
155
156 #NET "vga_hs"          LOC=B11 | IOSTANDARD=LVCOS33; #IO_L4P_T0_15
157 #NET "vga_vs"          LOC=B12 | IOSTANDARD=LVCOS33; #IO_L3N_T0_DQS_AD1N_15
158
159
160 ##Micro SD Connector
161 #NET "sd_sck"          LOC=B1 | IOSTANDARD=LVCOS33; #IO_L9P_T1_DQS_AD7P_35
162 #NET "sd_reset"        LOC=E2 | IOSTANDARD=LVCOS33; #IO_L14P_T2_SRCC_35
163 #NET "sd_cd"           LOC=A1 | IOSTANDARD=LVCOS33; #IO_L9N_T1_DQS_AD7N_35
164 #NET "sd_cmd"          LOC=C1 | IOSTANDARD=LVCOS33; #IO_L16N_T2_35
165 #NET "sd_dat<0>"       LOC=C2 | IOSTANDARD=LVCOS33; #IO_L16P_T2_35
166 #NET "sd_dat<1>"       LOC=E1 | IOSTANDARD=LVCOS33; #IO_L18N_T2_35
167 #NET "sd_dat<2>"       LOC=F1 | IOSTANDARD=LVCOS33; #IO_L18P_T2_35
168 #NET "sd_dat<3>"       LOC=D2 | IOSTANDARD=LVCOS33; #IO_L14N_T2_SRCC_35
169
170

```

```
171 ##PWM Audio Amplifier
172 #NET "aud_pwm" LOC=A11 | IOSTANDARD=LVCOS33; #IO_L4N_T0_15
173 #NET "aud_sd" LOC=D12 | IOSTANDARD=LVCOS33; #IO_L6P_T0_15
174
175
176 ##Accelerometer
177 #NET "acl_miso" LOC=E15 | IOSTANDARD=LVCOS33; #IO_L11P_T1_SRCC_15
178 #NET "acl_mosi" LOC=F14 | IOSTANDARD=LVCOS33; #IO_L5N_T0_AD9N_15
179 #NET "acl_sclk" LOC=F15 | IOSTANDARD=LVCOS33; #IO_L14P_T2_SRCC_15
180 #NET "acl_csn" LOC=D15 | IOSTANDARD=LVCOS33; #IO_L12P_T1_MRCC_15
181 #NET "acl_int<1>" LOC=B13 | IOSTANDARD=LVCOS33; #IO_L2P_T0_AD8P_15
182 #NET "acl_int<2>" LOC=C16 | IOSTANDARD=LVCOS33; #IO_L20P_T3_A20_15
183
184
185 ##Temperature Sensor
186 #NET "tmp_ct" LOC=B14 | IOSTANDARD=LVCOS33; #IO_L2N_T0_AD8N_15
187 #NET "tmp_int" LOC=D13 | IOSTANDARD=LVCOS33; #IO_L6N_T0_VREF_15
188 #NET "tmp_scl" LOC=C14 | IOSTANDARD=LVCOS33; #IO_L1N_T0_AD0N_15
189 #NET "tmp_sda" LOC=C15 | IOSTANDARD=LVCOS33; #IO_L12N_T1_MRCC_15
190
191
192 ##USB-RS232 Interface
193 #NET "uart_cts" LOC=D3 | IOSTANDARD=LVCOS33; #IO_L12N_T1_MRCC_35
194 #NET "uart_rts" LOC=E5 | IOSTANDARD=LVCOS33; #IO_L5N_T0_AD13N_35
195 NET "Tx" LOC=D4 | IOSTANDARD=LVCOS33; #IO_L11N_T1_SRCC_35
196 #NET "uart_txd_in" LOC=C4 | IOSTANDARD=LVCOS33; #IO_L7P_T1_AD6P_35
197
198
199 ##Omnidirectional Microphone
200 #NET "m_clk" LOC=J5 | IOSTANDARD=LVCOS33; #IO_25_35
201 #NET "m_data" LOC=H5 | IOSTANDARD=LVCOS33; #IO_L24N_T3_35
202 #NET "m_lrsl" LOC=F5 | IOSTANDARD=LVCOS33; #IO_0_35
203
204
205 ##USB HID (PS/2)
206 #NET "ps2_clk" LOC=F4 | IOSTANDARD=LVCOS33; #IO_L13P_T2_MRCC_35
207 #NET "ps2_data" LOC=B2 | IOSTANDARD=LVCOS33; #IO_L10N_T1_AD15N_35
208
209
210 ##Quad SPI Flash
211 #NET "qspi_csn" LOC=L13 | IOSTANDARD=LVCOS33; #IO_L6P_T0_FCS_B_14
212 #NET "qspi_dq<0>" LOC=K17 | IOSTANDARD=LVCOS33; #IO_L1P_T0_D00_MOSI_14
213 #NET "qspi_dq<1>" LOC=K18 | IOSTANDARD=LVCOS33; #IO_L1N_T0_D01_DIN_14
214 #NET "qspi_dq<2>" LOC=L14 | IOSTANDARD=LVCOS33; #IO_L2P_T0_D02_14
215 #NET "qspi_dq<3>" LOC=M14 | IOSTANDARD=LVCOS33; #IO_L2N_T0_D03_14
216
217
218 ##SMSC Ethernet PHY
219 #NET "eth_rxd<0>" LOC=C11 | IOSTANDARD=LVCOS33; #IO_L13P_T2_MRCC_16
220 #NET "eth_rxd<1>" LOC=D10 | IOSTANDARD=LVCOS33; #IO_L19N_T3_VREF_16
221 #NET "eth_txd<0>" LOC=A10 | IOSTANDARD=LVCOS33; #IO_L14P_T2_SRCC_16
222 #NET "eth_txd<1>" LOC=A8 | IOSTANDARD=LVCOS33; #IO_L12N_T1_MRCC_16
223 #NET "eth_crsv" LOC=D9 | IOSTANDARD=LVCOS33; #IO_L6N_T0_VREF_16
224 #NET "eth_intn" LOC=B8 | IOSTANDARD=LVCOS33; #IO_L12P_T1_MRCC_16
225 #NET "eth_mdc" LOC=C9 | IOSTANDARD=LVCOS33; #IO_L11P_T1_SRCC_16
226 #NET "eth_mdio" LOC=A9 | IOSTANDARD=LVCOS33; #IO_L14N_T2_SRCC_16
227 #NET "eth_refclk" LOC=D5 | IOSTANDARD=LVCOS33; #IO_L11P_T1_SRCC_35
```

---

228	#NET "eth_rstn"	LOC=B3   IOSTANDARD=LVCMOS33; #IO_L10P_T1_AD15P_35
229	#NET "eth_txen"	LOC=B9   IOSTANDARD=LVCMOS33; #IO_L11N_T1_SRCC_16
230	#NET "eth_rxerr"	LOC=C10   IOSTANDARD=LVCMOS33; #IO_L13N_T2_MRCC_16
231		