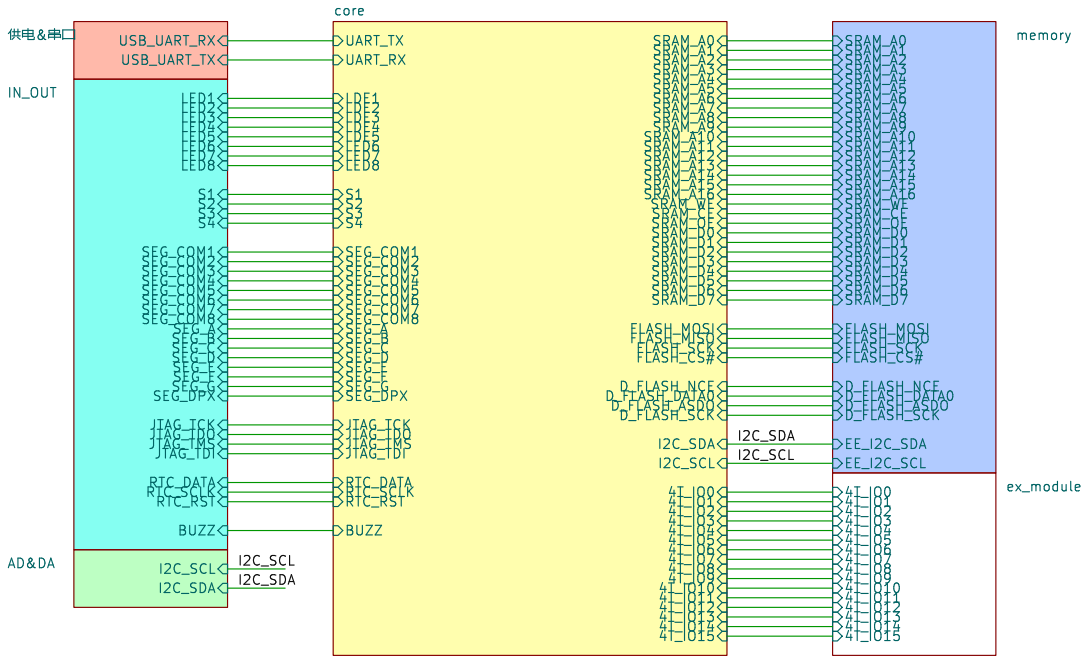

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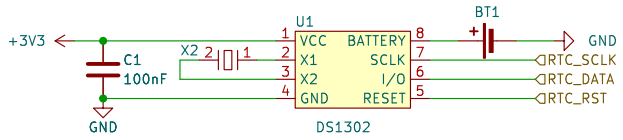
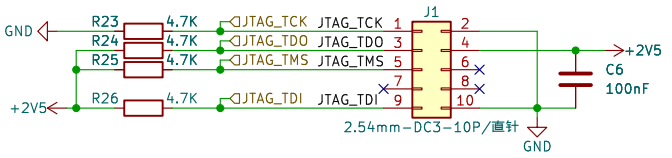
	4T Tech	
KiCad E.D.A. 8.0.4	Size: A4 Date: 2024-06-08	**Rev:** Id: 1/7

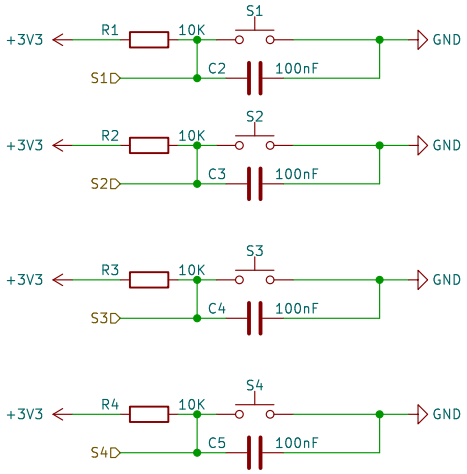
RTC



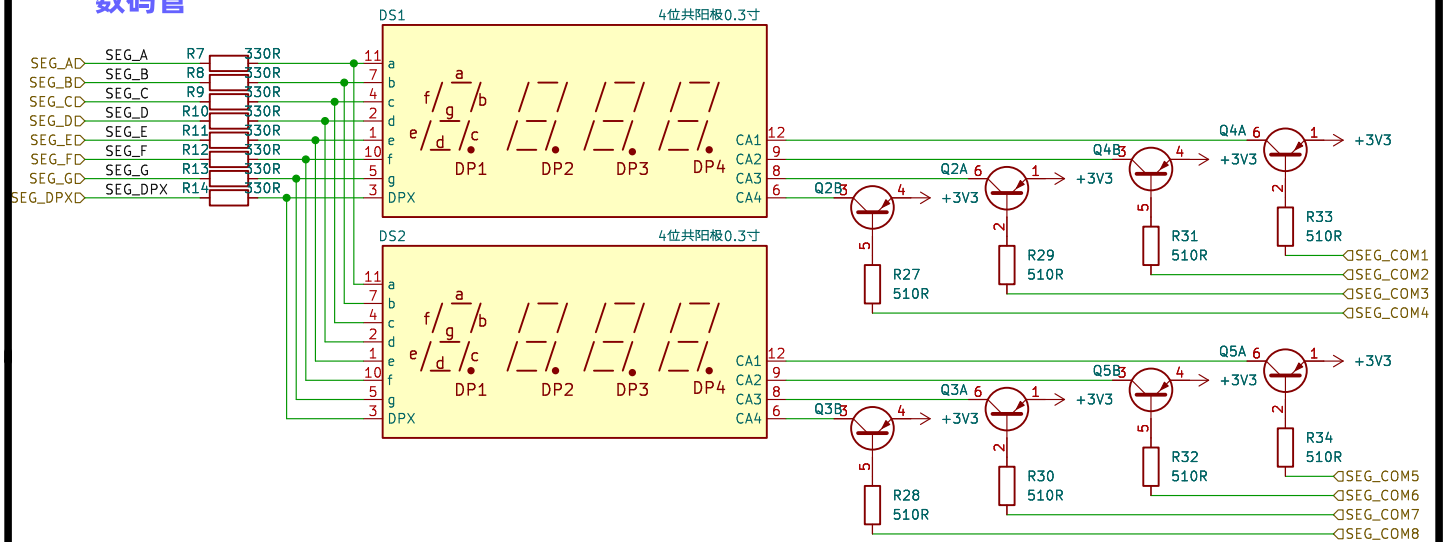
JTAG



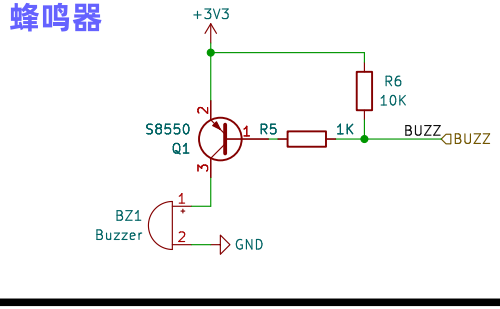
按键



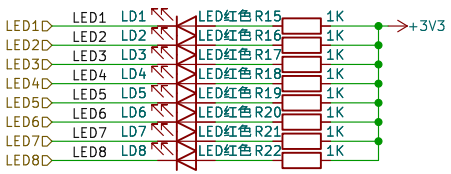
数码管



蜂鸣器



LED



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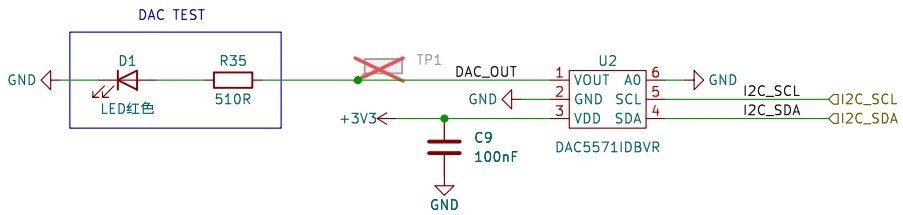
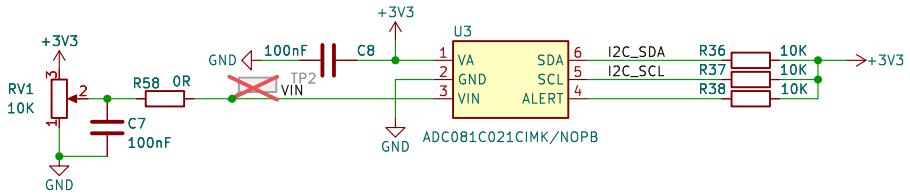
DAC I2C



address = 1001_100+RD/WR#
READ = 0X99
WRITE = 0X98

ADC I2C



address = 1010_101+RD/WR#
READ = 0XAA
WRITE = 0XAB

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Size: A4	Date:
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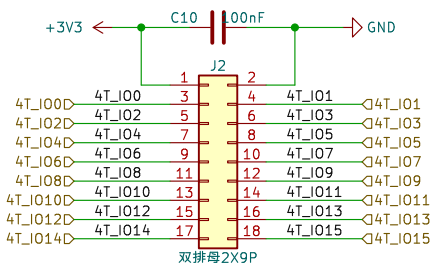
4T_MODULE



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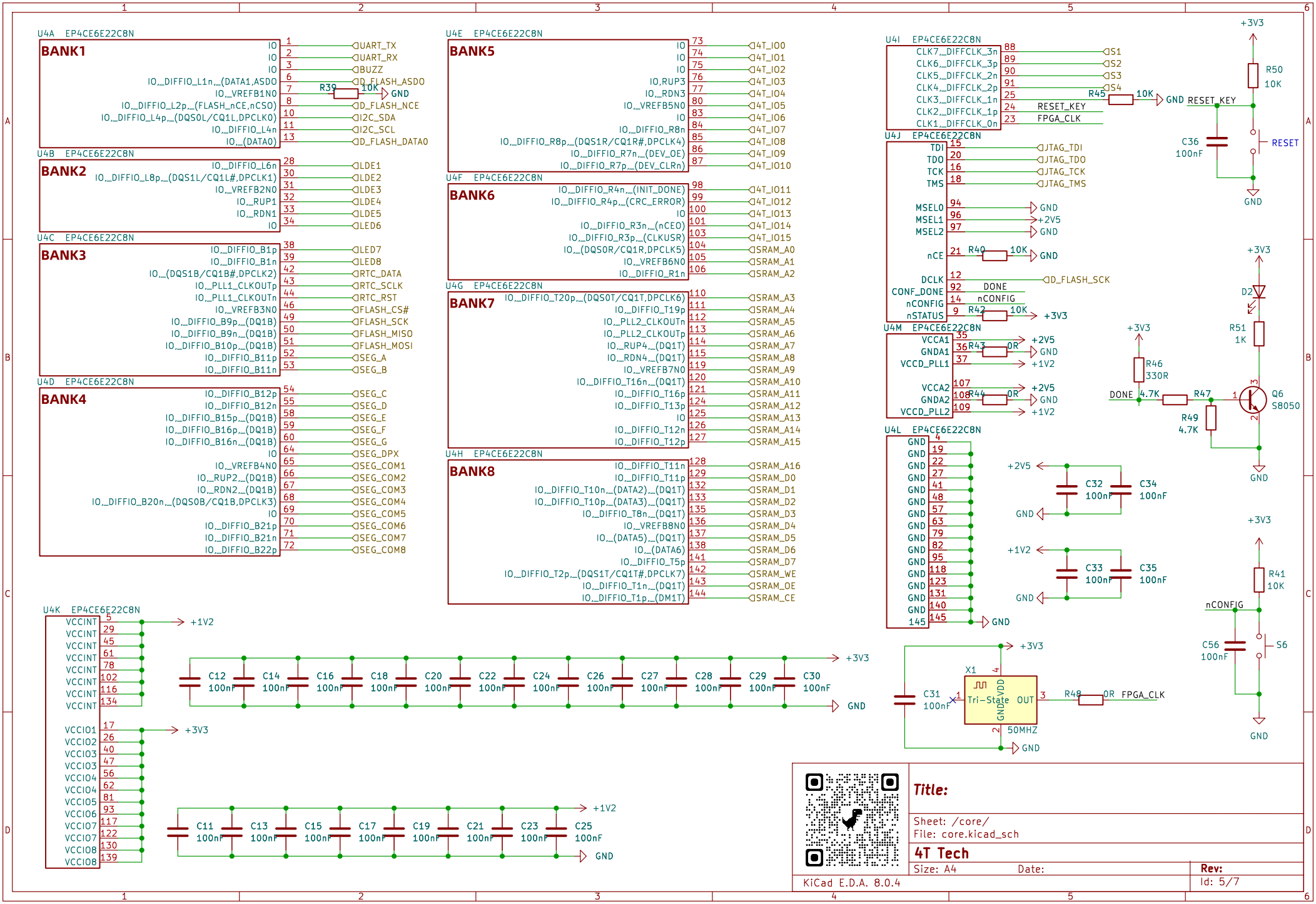
Size: A4	Date:
KiCad E.D.A. 8.0.4	Rev: Id: 4/7


U4A EP4CE6E22C8N
BANK1
IO
IO
IO
IO,_DIFFIO_L1n,_(DATA1,ASDO
IO,_VREFB1N0
IO,_DIFFIO_L2p,_(FLASH_nCE,nCSO)
IO,_DIFFIO_L4p,_(DQS0L/CQ1L,DPCLK0)
IO,_DIFFIO_L4n
IO,_(DATA0)
1 UART_TX
2 UART_RX
3 BUZZ
6 D_FLASH_ASDO
7 R39 10K GND
8 D_FLASH_NCE
10 I2C_SDA
11 I2C_SCL
13 D_FLASH_DATA0
U4B EP4CE6E22C8N
BANK2
IO,_DIFFIO_L6n
IO,_DIFFIO_L8p,_(DQS1L/CQ1L#,DPCLK1)
IO,_VREFB2N0
IO,_RUP1
IO,_RDN1
IO
28 LDE1
30 LDE2
31 LDE3
32 LDE4
33 LDE5
34 LED6
U4C EP4CE6E22C8N
BANK3
IO,_DIFFIO_B1p
IO,_DIFFIO_B1n
IO,_(DQS1B/CQ1B#,DPCLK2)
IO,_PLL1_CLKOUTp
IO,_PLL1_CLKOUTn
IO,_VREFB3N0
IO,_DIFFIO_B9p,_(DQ1B)
IO,_DIFFIO_B9n,_(DQ1B)
IO,_DIFFIO_B10p,_(DQ1B)
IO,_DIFFIO_B11p
IO,_DIFFIO_B11n
38 LED7
39 LED8
42 RTC_DATA
43 RTC_SCLK
44 RTC_RST
46 FLASH_CS#
49 FLASH_SCK
50 FLASH_MISO
51 FLASH_MOSI
52 SEG_A
53 SEG_B
U4D EP4CE6E22C8N
BANK4
IO,_DIFFIO_B12p
IO,_DIFFIO_B12n
IO,_DIFFIO_B15p,_(DQ1B)
IO,_DIFFIO_B16p,_(DQ1B)
IO,_DIFFIO_B16n,_(DQ1B)
IO
IO,_VREFB4N0
IO,_RUP2,_(DQ1B)
IO,_RDN2,_(DQ1B)
IO,_DIFFIO_B20n,_(DQS0B/CQ1B,DPCLK3)
IO
IO,_DIFFIO_B21p
IO,_DIFFIO_B21n
IO,_DIFFIO_B22p
54 SEG_C
55 SEG_D
58 SEG_E
59 SEG_F
60 SEG_G
64 SEG_DPX
65 SEG_COM1
66 SEG_COM2
67 SEG_COM3
68 SEG_COM4
69 SEG_COM5
70 SEG_COM6
71 SEG_COM7
72 SEG_COM8
U4E EP4CE6E22C8N
BANK5
IO
IO
IO
IO,RUP3
IO,_RDN3
IO,_VREFB5N0
IO
IO,_DIFFIO_R8n
IO,_DIFFIO_R8p,_(DQS1R/CQ1R#,DPCLK4)
IO,_DIFFIO_R7n,_(DEV_OE)
IO,_DIFFIO_R7p,_(DEV_CLRn)
73 4T_IO0
74 4T_IO1
75 4T_IO2
76 4T_IO3
77 4T_IO4
80 4T_IO5
83 4T_IO6
84 4T_IO7
85 4T_IO8
86 4T_IO9
87 4T_IO10
U4F EP4CE6E22C8N
BANK6
IO,_DIFFIO_R4n,_(INIT_DONE)
IO,_DIFFIO_R4p,_(CRC_ERROR)
IO
IO,_DIFFIO_R3n,_(nCEO)
IO,_DIFFIO_R3p,_(CLKUSR)
IO,_(DQS0R/CQ1R,DPCLK5)
IO,_VREFB6N0
IO,_DIFFIO_R1n
98 4T_IO11
99 4T_IO12
100 4T_IO13
101 4T_IO14
103 4T_IO15
104 SRAM_A0
105 SRAM_A1
106 SRAM_A2
U4G EP4CE6E22C8N
BANK7
IO,_DIFFIO_T20p,_(DQS0T/CQ1T,DPCLK6)
IO,_DIFFIO_T19p
IO,_PLL2_CLKOUTn
IO,_PLL2_CLKOUTp
IO,_RUP4,_(DQ1T)
IO,_RDN4,_(DQ1T)
IO,_VREFB7N0
IO,_DIFFIO_T16n,_(DQ1T)
IO,_DIFFIO_T16p
IO,_DIFFIO_T13p
IO
IO,_DIFFIO_T12n
IO,_DIFFIO_T12p
110 SRAM_A3
111 SRAM_A4
112 SRAM_A5
113 SRAM_A6
114 SRAM_A7
115 SRAM_A8
119 SRAM_A9
120 SRAM_A10
121 SRAM_A11
124 SRAM_A12
125 SRAM_A13
126 SRAM_A14
127 SRAM_A15
U4H EP4CE6E22C8N
BANK8
IO,_DIFFIO_T11n
IO,_DIFFIO_T11p
IO,_DIFFIO_T10n,_(DATA2),_(DQ1T)
IO,_DIFFIO_T10p,_(DATA3),_(DQ1T)
IO,_DIFFIO_T8n,_(DQ1T)
IO,_VREFB8N0
IO,_(DATA5),_(DQ1T)
IO,_(DATA6)
IO,_DIFFIO_T5p
IO,_DIFFIO_T2p,_(DQS1T/CQ1T#,DPCLK7)
IO,_DIFFIO_T1n,_(DQ1T)
IO,_DIFFIO_T1p,_(DM1T)
128 SRAM_A16
129 SRAM_D0
132 SRAM_D1
133 SRAM_D2
135 SRAM_D3
136 SRAM_D4
137 SRAM_D5
138 SRAM_D6
141 SRAM_D7
142 SRAM_WE
143 SRAM_OE
144 SRAM_CE
U4I EP4CE6E22C8N
CLK7,_DIFFCLK_3n
CLK6,_DIFFCLK_3p
CLK5,_DIFFCLK_2n
CLK4,_DIFFCLK_2p
CLK3,_DIFFCLK_1n
CLK2,_DIFFCLK_1p
CLK1,_DIFFCLK_0n
88 S1
89 S2
90 S3
91 S4
25 R45 10K GND RESET_KEY
24 RESET_KEY
23 FPGA_CLK
U4J EP4CE6E22C8N
TDI
TDO
TCK
TMS
MSEL0
MSEL1
MSEL2
nCE
DCLK
CONF_DONE
nCONFIG
nSTATUS
15 JTAG_TDI
20 JTAG_TDO
16 JTAG_TCK
18 JTAG_TMS
94 GND
96 +2V5
97 GND
21 R40 10K GND
12 D_FLASH_SCK
92 DONE
14 nCONFIG
9 R42 10K +3V3
U4M EP4CE6E22C8N
VCCA1
GNDA1
VCCD_PLL1
VCCA2
GNDA2
VCCD_PLL2
35
36 R43 0R +2V5 GND
37 +1V2
107
108 R44 0R +2V5 GND
109 +1V2
U4L EP4CE6E22C8N
GND
4 19 22 27 41 48 57 63 79 82 95 118 123 131 140 145 GND
U4K EP4CE6E22C8N
VCCINT
5 29 45 61 78 102 116 134 +1V2
VCCIO1
VCCIO2
VCCIO3
VCCIO3
VCCIO4
VCCIO4
VCCIO5
VCCIO6
VCCIO7
VCCIO7
VCCIO8
VCCIO8
17 26 40 47 56 62 81 93 117 122 130 139 +3V3
C12 C14 C16 C18 C20 C22 C24 C26 C27 C28 C29 C30 100nF +3V3 GND
C11 C13 C15 C17 C19 C21 C23 C25 100nF +1V2 GND
C32 C34 100nF +2V5 GND
C33 C35 100nF +1V2 GND
C36 100nF +3V3 GND
R50 10K
RESET
R46 330R
R51 1K
D2
DONE 4.7K R47
R49 4.7K
Q6 S8050
C31 100nF
X1 Tri-State VDD GND OUT 50MHZ
R48 0R FPGA_CLK
R41 10K
nCONFIG
C56 100nF S6
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Sheet: /core/
File: core.kicad_sch
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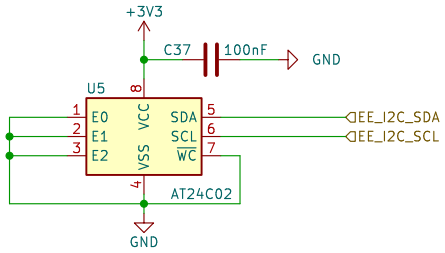
EEPROM



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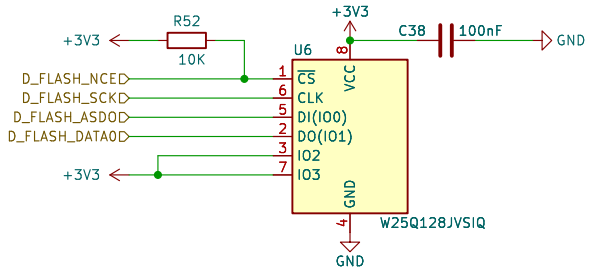
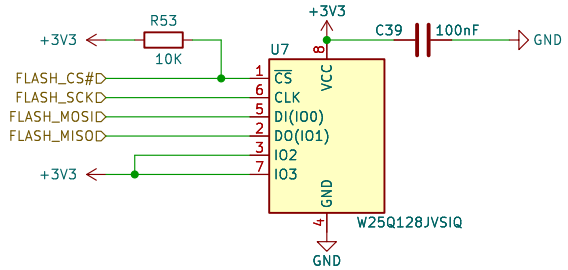


FLASH



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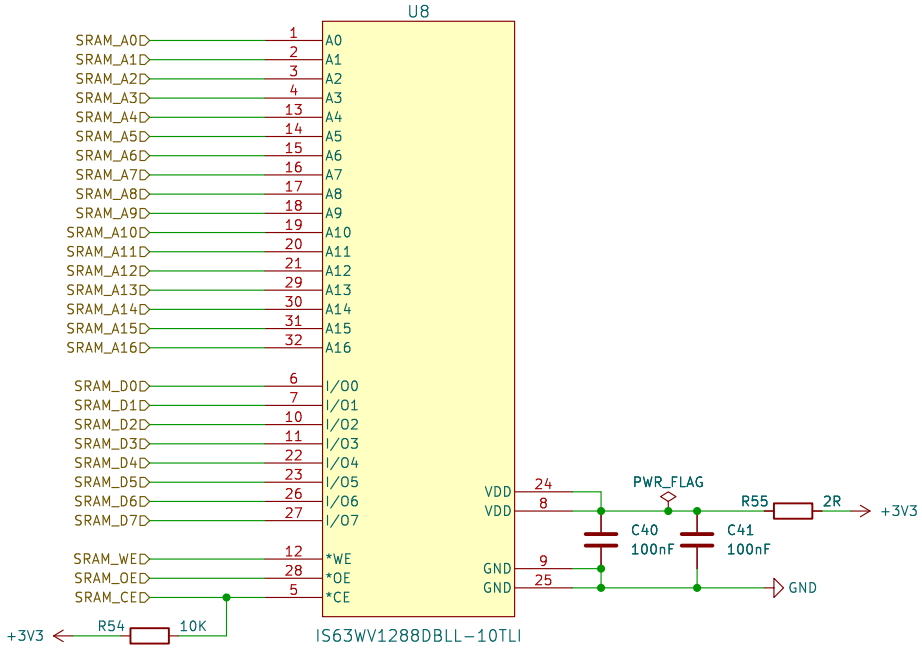

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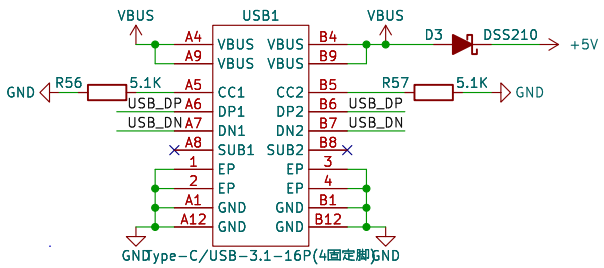
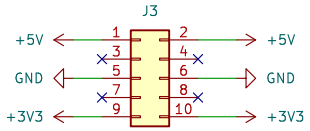
	4T Tech	
KiCad E.D.A. 8.0.4	Size: A4 Date:	**Rev:** Id: 6/7

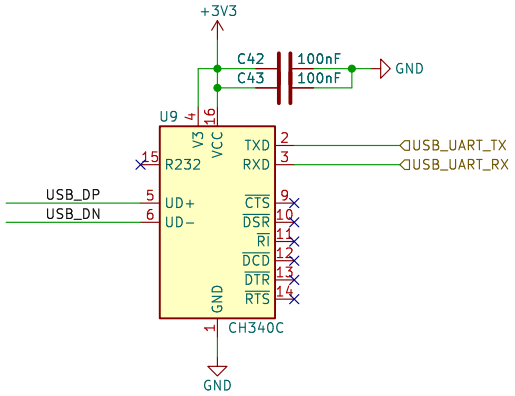
USB接口



电源扩展接口



USB--TTL



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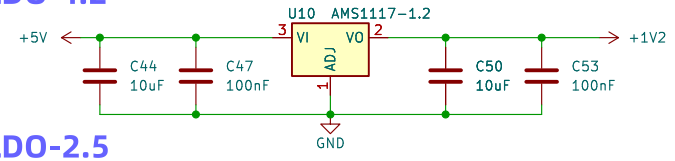

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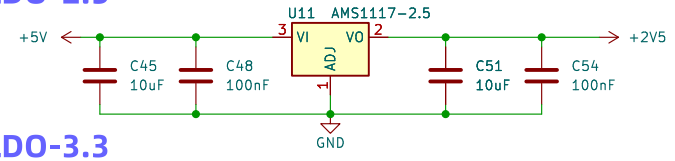
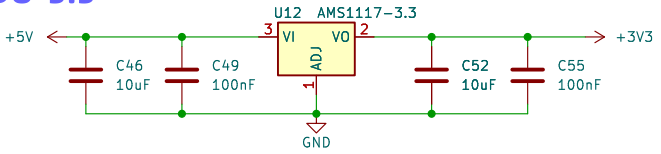


LDO-3.3



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