IO

IO

(Connector, USB, SWITCH, Debug)

File: IO.kicad_sch

STM32H743IIT6

Processor

File: STM32H743IIT6.kicad_sch

Memory

Memories

(SDRAM, FLASH)

File: Memory.kicad_sch

Power

Power

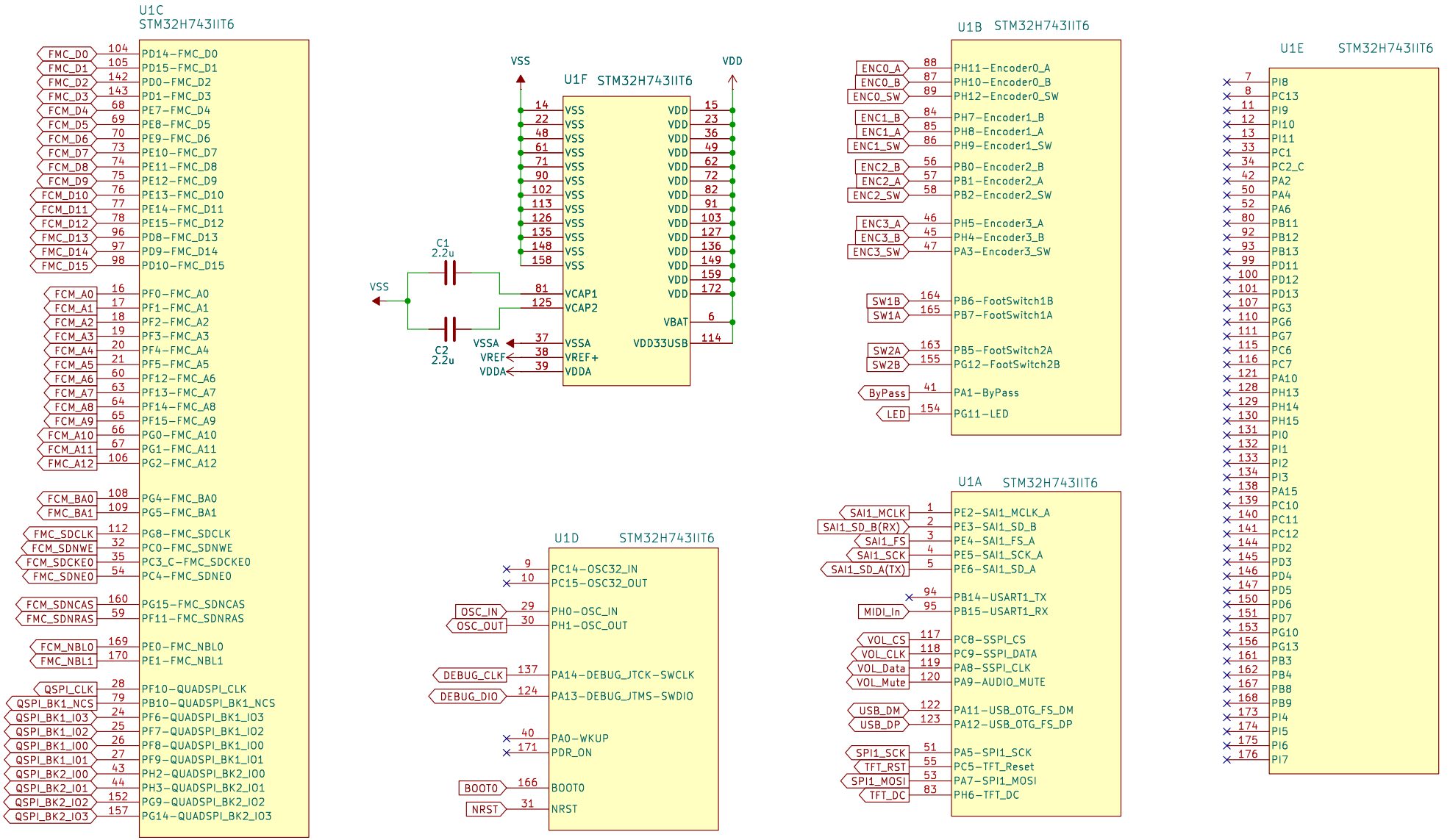
File: Power.kicad_sch

DAD Design

Sheet: /
File: OSCAR_Proc.kicad_sch

Title: OSCAR PROC

Size: A4	Date: 2025-07-08	**Rev: V1.0**
KiCad E.D.A. 9.0.5		Id: 1/5


U1C
STM32H743IIT6
FMC_D0 104 PD14-FMC_D0
FMC_D1 105 PD15-FMC_D1
FMC_D2 142 PD0-FMC_D2
FMC_D3 143 PD1-FMC_D3
FCM_D4 68 PE7-FMC_D4
FCM_D5 69 PE8-FMC_D5
FCM_D6 70 PE9-FMC_D6
FCM_D7 73 PE10-FMC_D7
FCM_D8 74 PE11-FMC_D8
FCM_D9 75 PE12-FMC_D9
FCM_D10 76 PE13-FMC_D10
FCM_D11 77 PE14-FMC_D11
FCM_D12 78 PE15-FMC_D12
FMC_D13 96 PD8-FMC_D13
FMC_D14 97 PD9-FMC_D14
FMC_D15 98 PD10-FMC_D15
FCM_A0 16 PF0-FMC_A0
FCM_A1 17 PF1-FMC_A1
FCM_A2 18 PF2-FMC_A2
FCM_A3 19 PF3-FMC_A3
FCM_A4 20 PF4-FMC_A4
FCM_A5 21 PF5-FMC_A5
FCM_A6 60 PF12-FMC_A6
FCM_A7 63 PF13-FMC_A7
FCM_A8 64 PF14-FMC_A8
FCM_A9 65 PF15-FMC_A9
FCM_A10 66 PG0-FMC_A10
FCM_A11 67 PG1-FMC_A11
FMC_A12 106 PG2-FMC_A12
FCM_BA0 108 PG4-FMC_BA0
FMC_BA1 109 PG5-FMC_BA1
FMC_SDCLK 112 PG8-FMC_SDCLK
FCM_SDNWE 32 PC0-FMC_SDNWE
FCM_SDCKE0 35 PC3_C-FMC_SDCKE0
FMC_SDNE0 54 PC4-FMC_SDNE0
FCM_SDNCAS 160 PG15-FMC_SDNCAS
FMC_SDNRAS 59 PF11-FMC_SDNRAS
FCM_NBL0 169 PE0-FMC_NBL0
FMC_NBL1 170 PE1-FMC_NBL1
QSPI_CLK 28 PF10-QUADSPI_CLK
QSPI_BK1_NCS 79 PB10-QUADSPI_BK1_NCS
QSPI_BK1_IO3 24 PF6-QUADSPI_BK1_IO3
QSPI_BK1_IO2 25 PF7-QUADSPI_BK1_IO2
QSPI_BK1_IO0 26 PF8-QUADSPI_BK1_IO0
QSPI_BK1_IO1 27 PF9-QUADSPI_BK1_IO1
QSPI_BK2_IO0 43 PH2-QUADSPI_BK2_IO0
QSPI_BK2_IO1 44 PH3-QUADSPI_BK2_IO1
QSPI_BK2_IO2 152 PG9-QUADSPI_BK2_IO2
QSPI_BK2_IO3 157 PG14-QUADSPI_BK2_IO3
VSS
VDD
U1F STM32H743IIT6
14 VSS
22 VSS
48 VSS
61 VSS
71 VSS
90 VSS
102 VSS
113 VSS
126 VSS
135 VSS
148 VSS
158 VSS
15 VDD
23 VDD
36 VDD
49 VDD
62 VDD
72 VDD
82 VDD
91 VDD
103 VDD
127 VDD
136 VDD
149 VDD
159 VDD
172 VDD
6 VBAT
114 VDD33USB
81 VCAP1
125 VCAP2
37 VSSA
38 VREF+
39 VDDA
C1
2.2u
C2
2.2u
U1B STM32H743IIT6
ENC0_A 88 PH11-Encoder0_A
ENC0_B 87 PH10-Encoder0_B
ENC0_SW 89 PH12-Encoder0_SW
ENC1_B 84 PH7-Encoder1_B
ENC1_A 85 PH8-Encoder1_A
ENC1_SW 86 PH9-Encoder1_SW
ENC2_B 56 PB0-Encoder2_B
ENC2_A 57 PB1-Encoder2_A
ENC2_SW 58 PB2-Encoder2_SW
ENC3_A 46 PH5-Encoder3_A
ENC3_B 45 PH4-Encoder3_B
ENC3_SW 47 PA3-Encoder3_SW
SW1B 164 PB6-FootSwitch1B
SW1A 165 PB7-FootSwitch1A
SW2A 163 PB5-FootSwitch2A
SW2B 155 PG12-FootSwitch2B
ByPass 41 PA1-ByPass
LED 154 PG11-LED
U1E STM32H743IIT6
7 PI8
8 PC13
11 PI9
12 PI10
13 PI11
33 PC1
34 PC2_C
42 PA2
50 PA4
52 PA6
80 PB11
92 PB12
93 PB13
99 PD11
100 PD12
101 PD13
107 PG3
110 PG6
111 PG7
115 PC6
116 PC7
121 PA10
128 PH13
129 PH14
130 PH15
131 PI0
132 PI1
133 PI2
134 PI3
138 PA15
139 PC10
140 PC11
141 PC12
144 PD2
145 PD3
146 PD4
147 PD5
150 PD6
151 PD7
153 PG10
156 PG13
161 PB3
162 PB4
167 PB8
168 PB9
173 PI4
174 PI5
175 PI6
176 PI7
U1D STM32H743IIT6
9 PC14-OSC32_IN
10 PC15-OSC32_OUT
OSC_IN 29 PH0-OSC_IN
OSC_OUT 30 PH1-OSC_OUT
DEBUG_CLK 137 PA14-DEBUG_JTCK-SWCLK
DEBUG_DIO 124 PA13-DEBUG_JTMS-SWDIO
40 PA0-WKUP
171 PDR_ON
BOOT0 166 BOOT0
NRST 31 NRST
U1A STM32H743IIT6
SAI1_MCLK 1 PE2-SAI1_MCLK_A
SAI1_SD_B(RX) 2 PE3-SAI1_SD_B
SAI1_FS 3 PE4-SAI1_FS_A
SAI1_SCK 4 PE5-SAI1_SCK_A
SAI1_SD_A(TX) 5 PE6-SAI1_SD_A
94 PB14-USART1_TX
MIDI_In 95 PB15-USART1_RX
VOL_CS 117 PC8-SSPI_CS
VOL_CLK 118 PC9-SSPI_DATA
VOL_Data 119 PA8-SSPI_CLK
VOL_Mute 120 PA9-AUDIO_MUTE
USB_DM 122 PA11-USB_OTG_FS_DM
USB_DP 123 PA12-USB_OTG_FS_DP
SPI1_SCK 51 PA5-SPI1_SCK
TFT_RST 55 PC5-TFT_Reset
SPI1_MOSI 53 PA7-SPI1_MOSI
TFT_DC 83 PH6-TFT_DC
DAD Design
Sheet: /STM32H743IIT6/
File: STM32H743IIT6.kicad_sch
Title: OSCAR PROC
Size: A4
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Rev: V1.0
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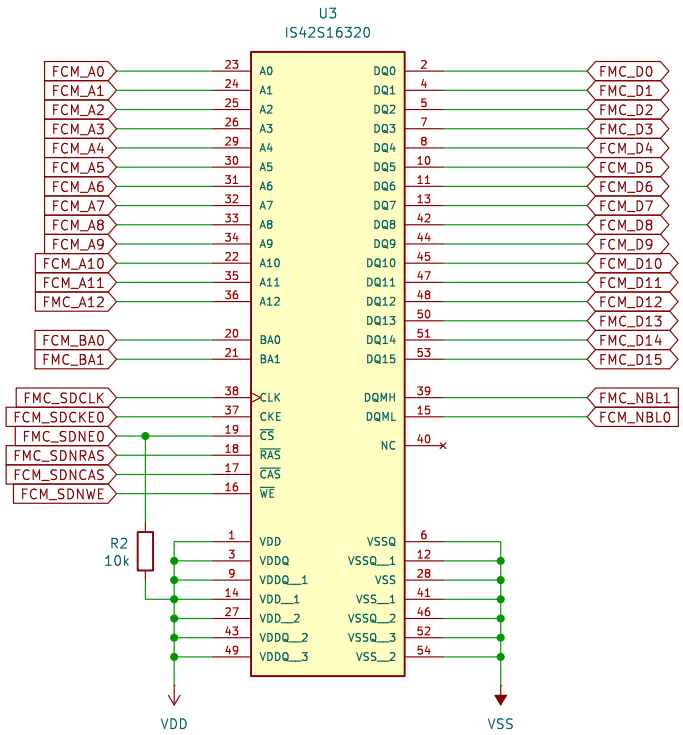

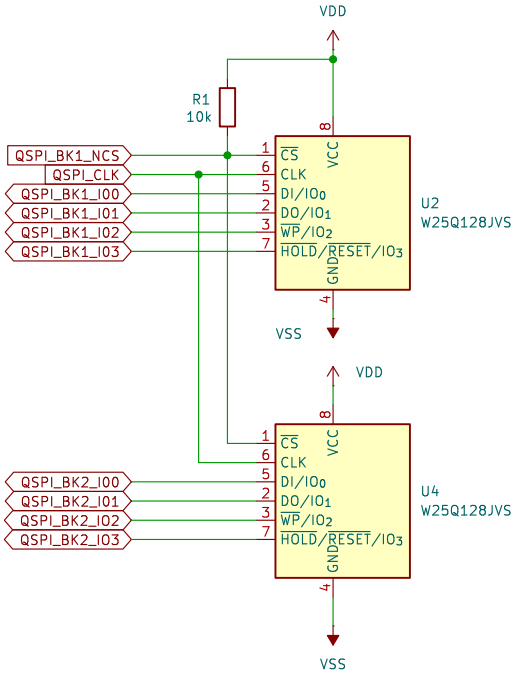

DAD Design

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Size: A4	Date: 2025-07-08	**Rev: V1.0**
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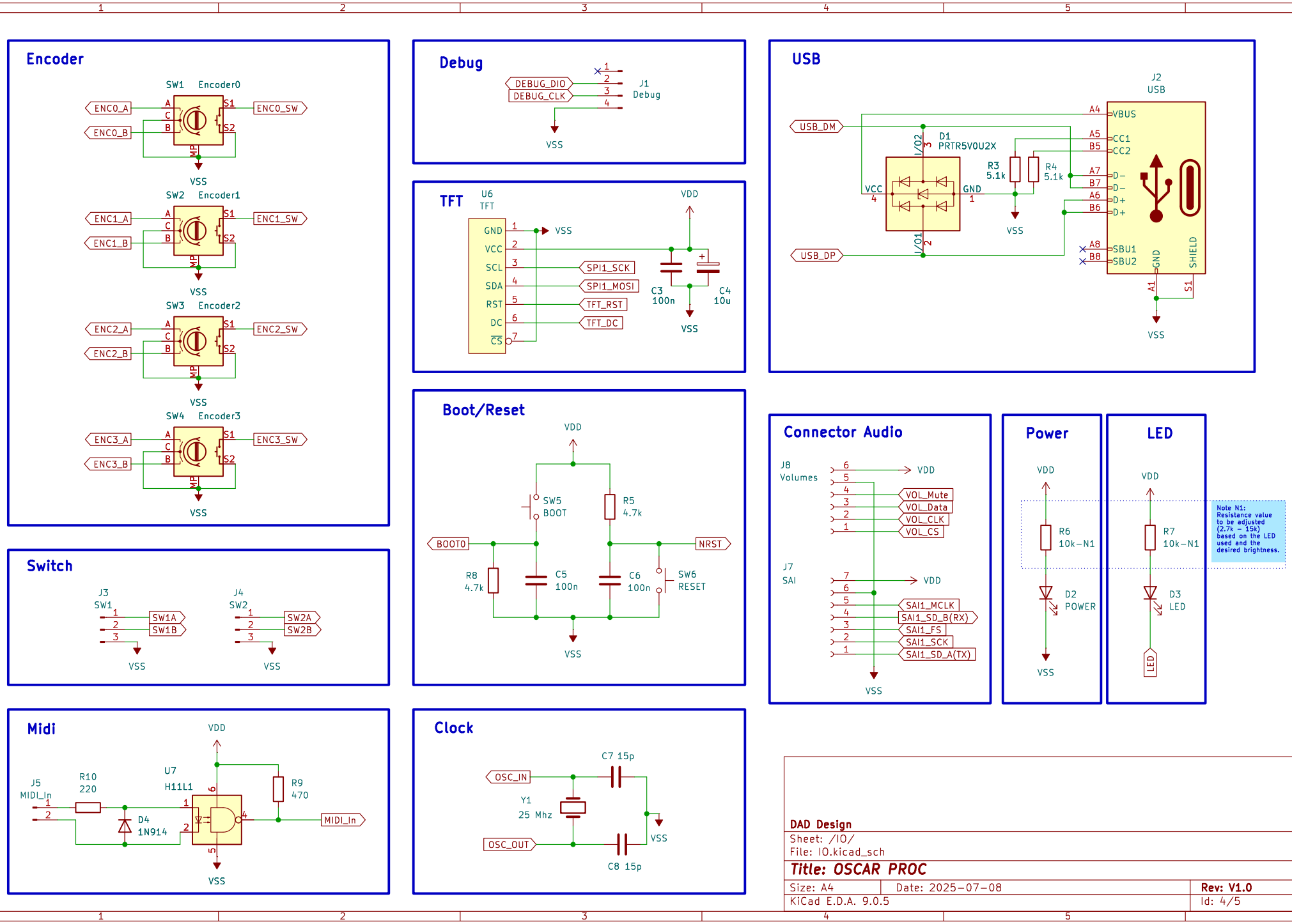
Encoder
SW1 Encoder0
ENC0_A
ENC0_B
ENC0_SW
SW2 Encoder1
ENC1_A
ENC1_B
ENC1_SW
SW3 Encoder2
ENC2_A
ENC2_B
ENC2_SW
SW4 Encoder3
ENC3_A
ENC3_B
ENC3_SW
VSS
Debug
DEBUG_DIO
DEBUG_CLK
J1
Debug
TFT
U6
TFT
GND
VCC
SCL
SDA
RST
DC
CS
SPI1_SCK
SPI1_MOSI
TFT_RST
TFT_DC
C3
100n
C4
10u
VDD
USB
J2
USB
USB_DM
USB_DP
D1
PRTR5V0U2X
R3
5.1k
R4
5.1k
VBUS
CC1
CC2
D−
D+
SBU1
SBU2
GND
SHIELD
Boot/Reset
SW5
BOOT
R5
4.7k
BOOT0
NRST
R8
4.7k
C5
100n
C6
100n
SW6
RESET
Connector Audio
J8
Volumes
VOL_Mute
VOL_Data
VOL_CLK
VOL_CS
J7
SAI
SAI1_MCLK
SAI1_SD_B(RX)
SAI1_FS
SAI1_SCK
SAI1_SD_A(TX)
Power
R6
10k−N1
D2
POWER
LED
R7
10k−N1
D3
LED
Note N1:
Resistance value to be adjusted (2.7k – 15k) based on the LED used and the desired brightness.
Switch
J3
SW1
SW1A
SW1B
J4
SW2
SW2A
SW2B
Midi
J5
MIDI_In
R10
220
U7
H11L1
D4
1N914
R9
470
MIDI_In
Clock
OSC_IN
OSC_OUT
Y1
25 Mhz
C7 15p
C8 15p
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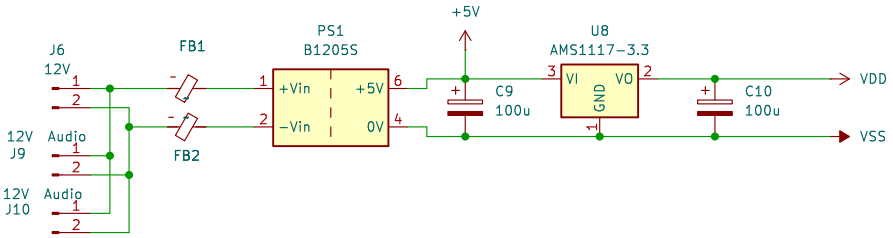

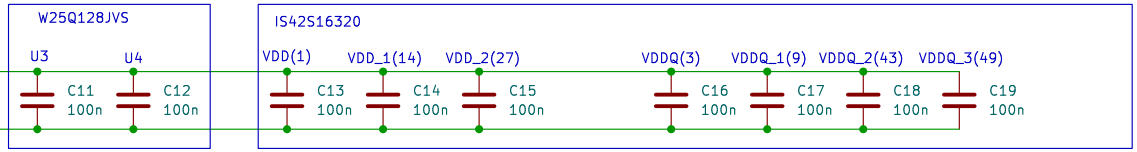

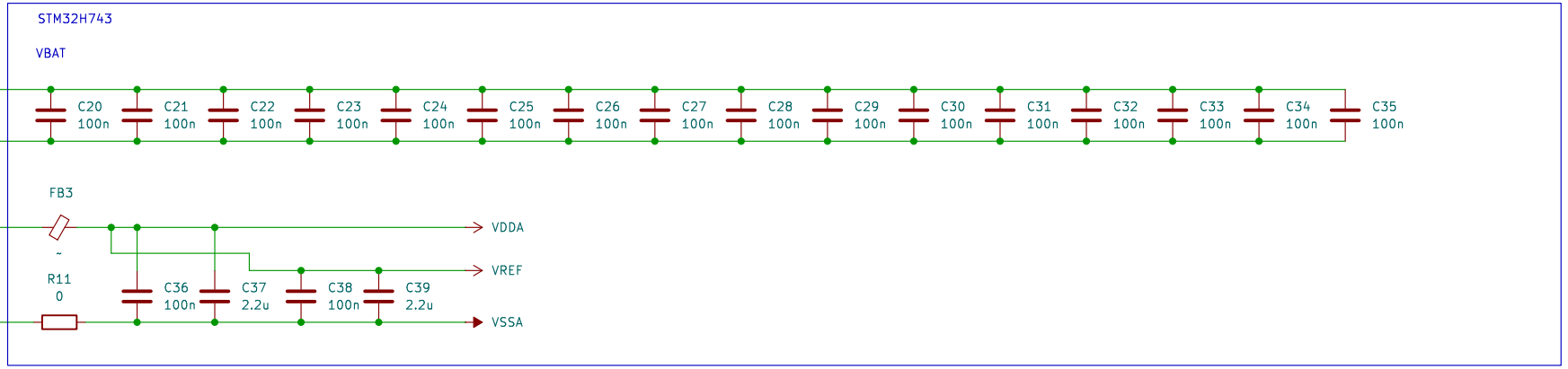

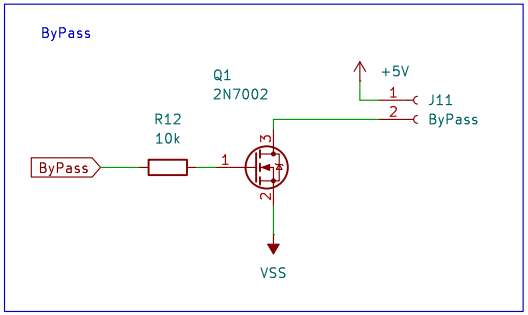

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