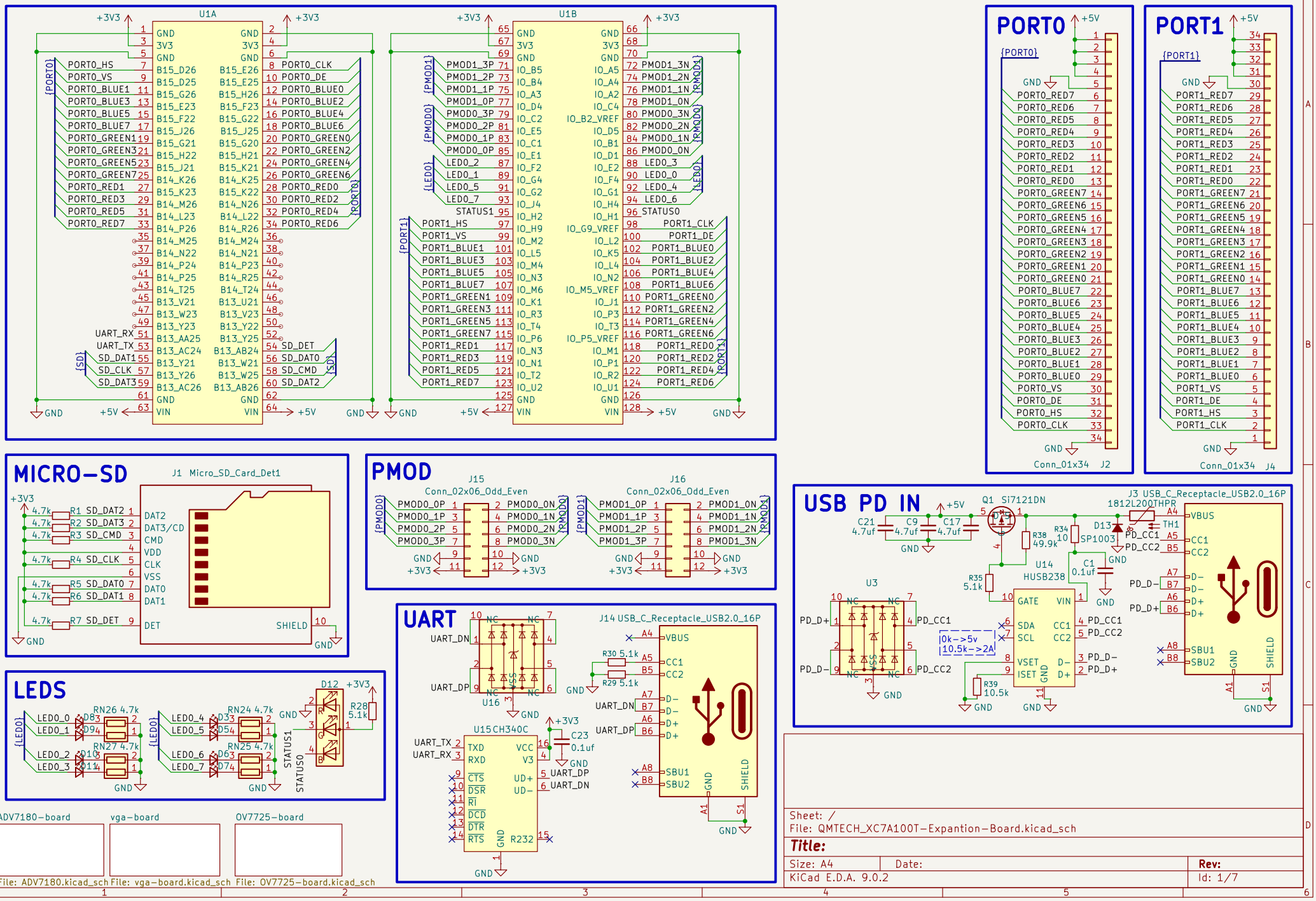
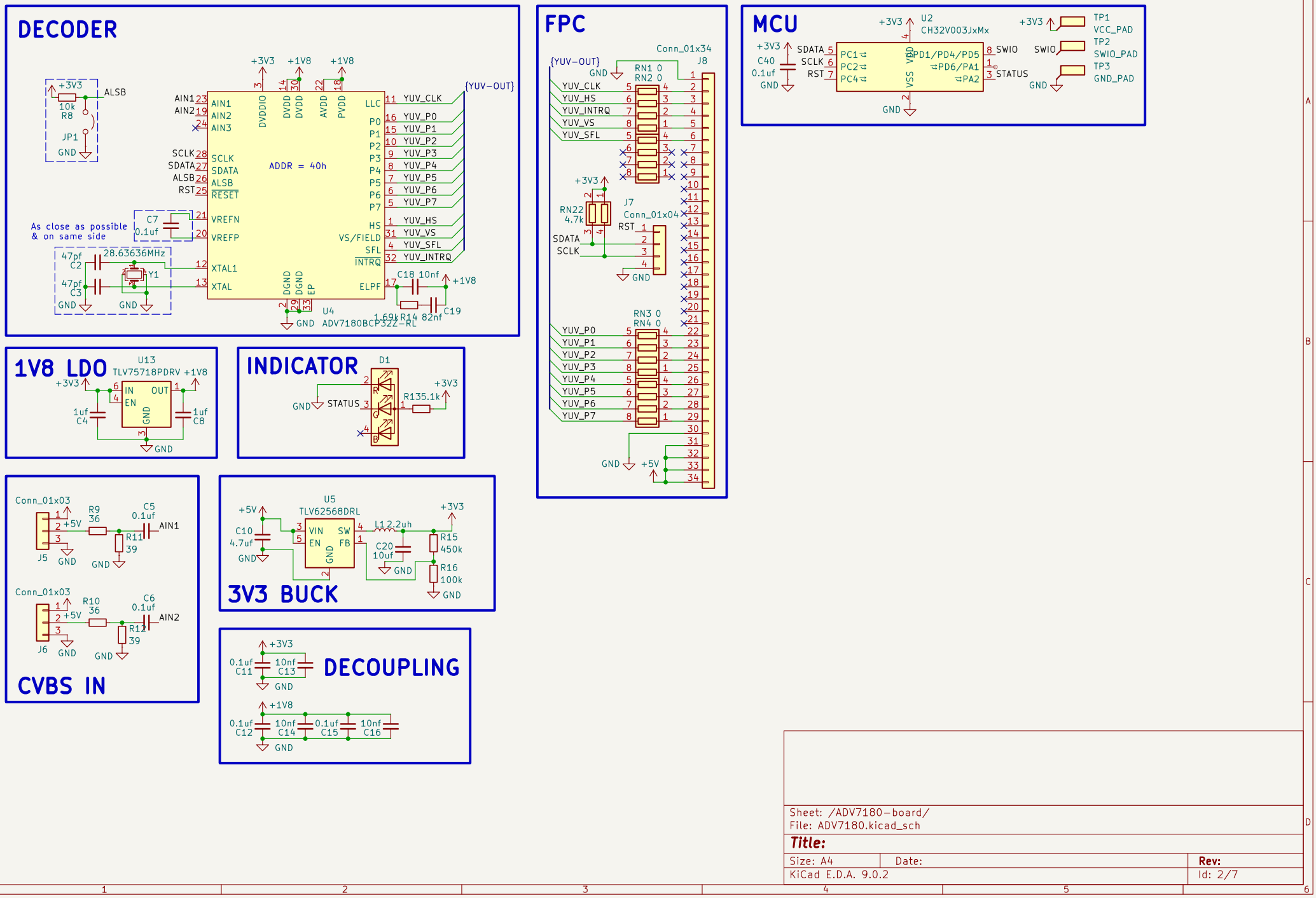

U1A
U1B
PORT0
PORT1
MICRO-SD
PMOD
USB PD IN
LEDS
UART
ADV7180-board
vga-board
OV7725-board
Sheet: /
File: QMTECH_XC7A100T-Expantion-Board.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.2
Id: 1/7


DECODER
+3V3
ALSB
10k
R8
JP1
GND
+3V3
+1V8
+1V8
AIN1
AIN2
AIN3
SCLK
SDATA
ALSB
RST
ADDR = 40h
DVDDIO
DVDD
DVDD
AVDD
PVDD
LLC
P0
P1
P2
P3
P4
P5
P6
P7
HS
VS/FIELD
SFL
INTRQ
ELPF
DGND
DGND
EP
VREFN
VREFP
XTAL1
XTAL
{YUV-OUT}
YUV_CLK
YUV_P0
YUV_P1
YUV_P2
YUV_P3
YUV_P4
YUV_P5
YUV_P6
YUV_P7
YUV_HS
YUV_VS
YUV_SFL
YUV_INTRQ
As close as possible
& on same side
C7
0.1uf
47pf
C2
28.63636MHz
Y1
47pf
C3
GND
GND
C18 10nf
+1V8
1.69k R14 82nf
C19
GND
U4
ADV7180BCP32Z-RL
1V8 LDO
U13
TLV75718PDRV +1V8
+3V3
IN
OUT
EN
GND
1uf
C4
1uf
C8
GND
INDICATOR
D1
+3V3
GND
STATUS
R135.1k
FPC
Conn_01x34
J8
{YUV-OUT}
GND
RN1 0
RN2 0
YUV_CLK
YUV_HS
YUV_INTRQ
YUV_VS
YUV_SFL
+3V3
RN22
4.7k
J7
Conn_01x04
RST
SDATA
SCLK
GND
RN3 0
RN4 0
YUV_P0
YUV_P1
YUV_P2
YUV_P3
YUV_P4
YUV_P5
YUV_P6
YUV_P7
GND
+5V
MCU
U2
CH32V003JxMx
+3V3
SDATA
SCLK
RST
C40
0.1uf
GND
PC1
PC2
PC4
VDD
VSS
PD1/PD4/PD5
PD6/PA1
PA2
SWIO
STATUS
GND
+3V3
SWIO
GND
TP1
VCC_PAD
TP2
SWIO_PAD
TP3
GND_PAD
Conn_01x03
J5
+5V
R9
36
C5
0.1uf
AIN1
R11
39
GND
GND
Conn_01x03
J6
+5V
R10
36
C6
0.1uf
AIN2
R12
39
GND
GND
CVBS IN
U5
TLV62568DRL
+5V
C10
4.7uf
GND
VIN
EN
SW
FB
GND
L1 2.2uh
+3V3
C20
10uf
GND
R15
450k
R16
100k
GND
3V3 BUCK
+3V3
0.1uf
C11
10nf
C13
GND
+1V8
0.1uf
C12
10nf
C14
0.1uf
C15
10nf
C16
GND
DECOUPLING
Sheet: /ADV7180-board/
File: ADV7180.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.2
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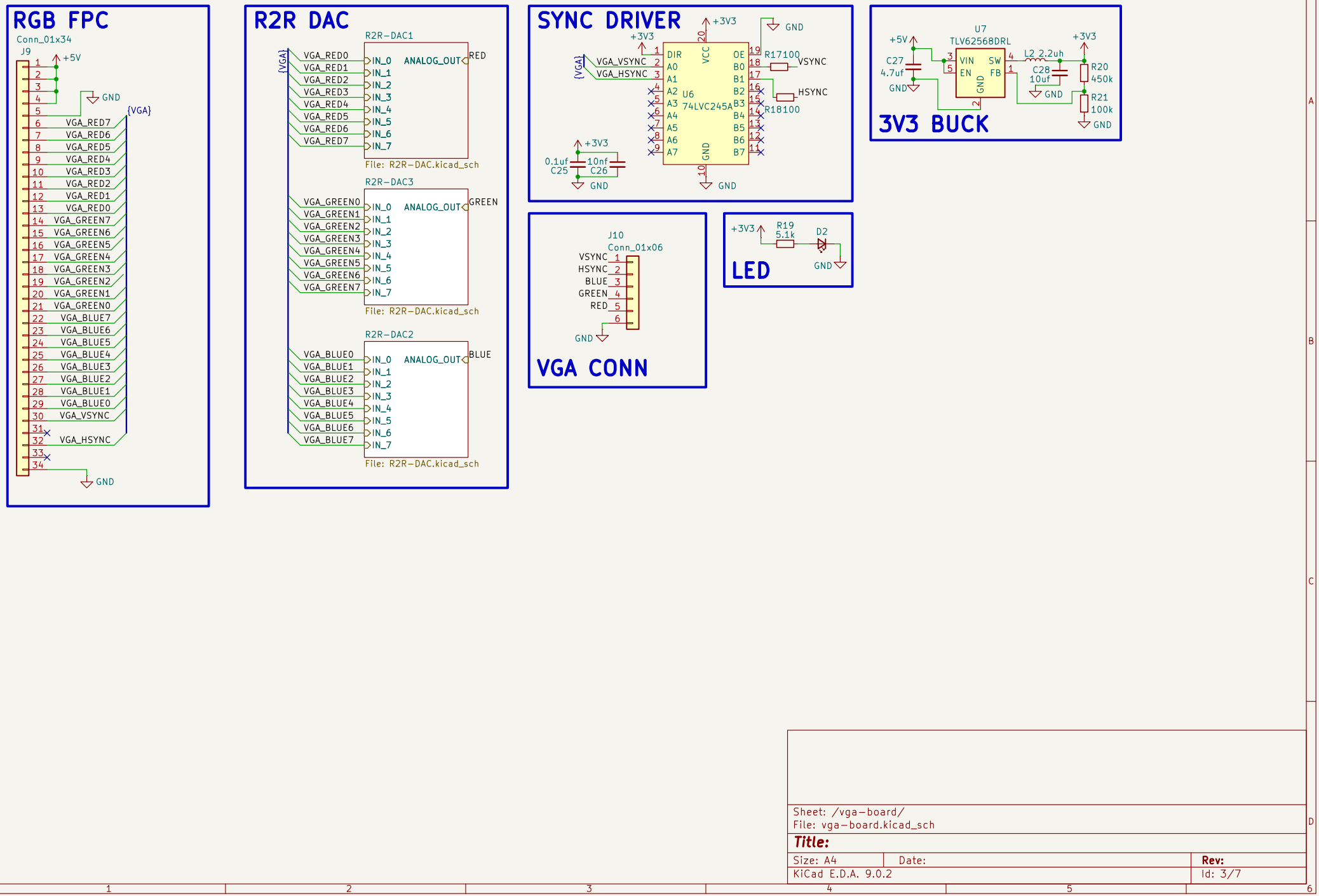
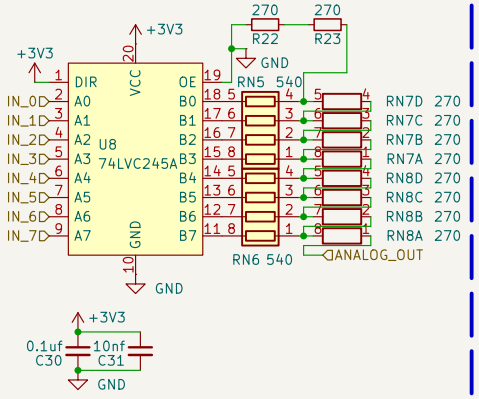
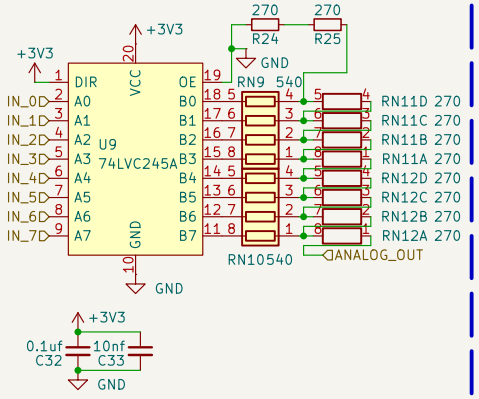

RGB FPC
Conn_01x34
J9
+5V
GND
{VGA}
VGA_RED7
VGA_RED6
VGA_RED5
VGA_RED4
VGA_RED3
VGA_RED2
VGA_RED1
VGA_RED0
VGA_GREEN7
VGA_GREEN6
VGA_GREEN5
VGA_GREEN4
VGA_GREEN3
VGA_GREEN2
VGA_GREEN1
VGA_GREEN0
VGA_BLUE7
VGA_BLUE6
VGA_BLUE5
VGA_BLUE4
VGA_BLUE3
VGA_BLUE2
VGA_BLUE1
VGA_BLUE0
VGA_VSYNC
VGA_HSYNC
GND
R2R DAC
R2R-DAC1
R2R-DAC3
R2R-DAC2
IN_0
IN_1
IN_2
IN_3
IN_4
IN_5
IN_6
IN_7
ANALOG_OUT
RED
GREEN
BLUE
File: R2R-DAC.kicad_sch
SYNC DRIVER
U6
74LVC245A
DIR
VCC
OE
GND
R17100
R18100
VSYNC
HSYNC
0.1uf
C25
10nf
C26
VGA CONN
J10
Conn_01x06
LED
R19
5.1k
D2
3V3 BUCK
U7
TLV62568DRL
VIN
SW
EN
FB
C27
4.7uf
L2 2.2uh
C28
10uf
R20
450k
R21
100k
Sheet: /vga-board/
File: vga-board.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.2
Id: 3/7

R2R DAC



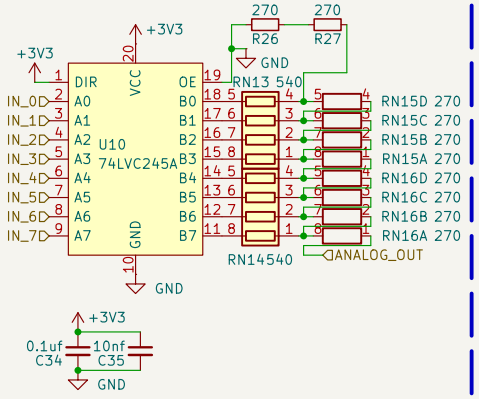
Sheet: /vga-board/R2R-DAC1/		
File: R2R-DAC.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.2		Id: 4/7

R2R DAC

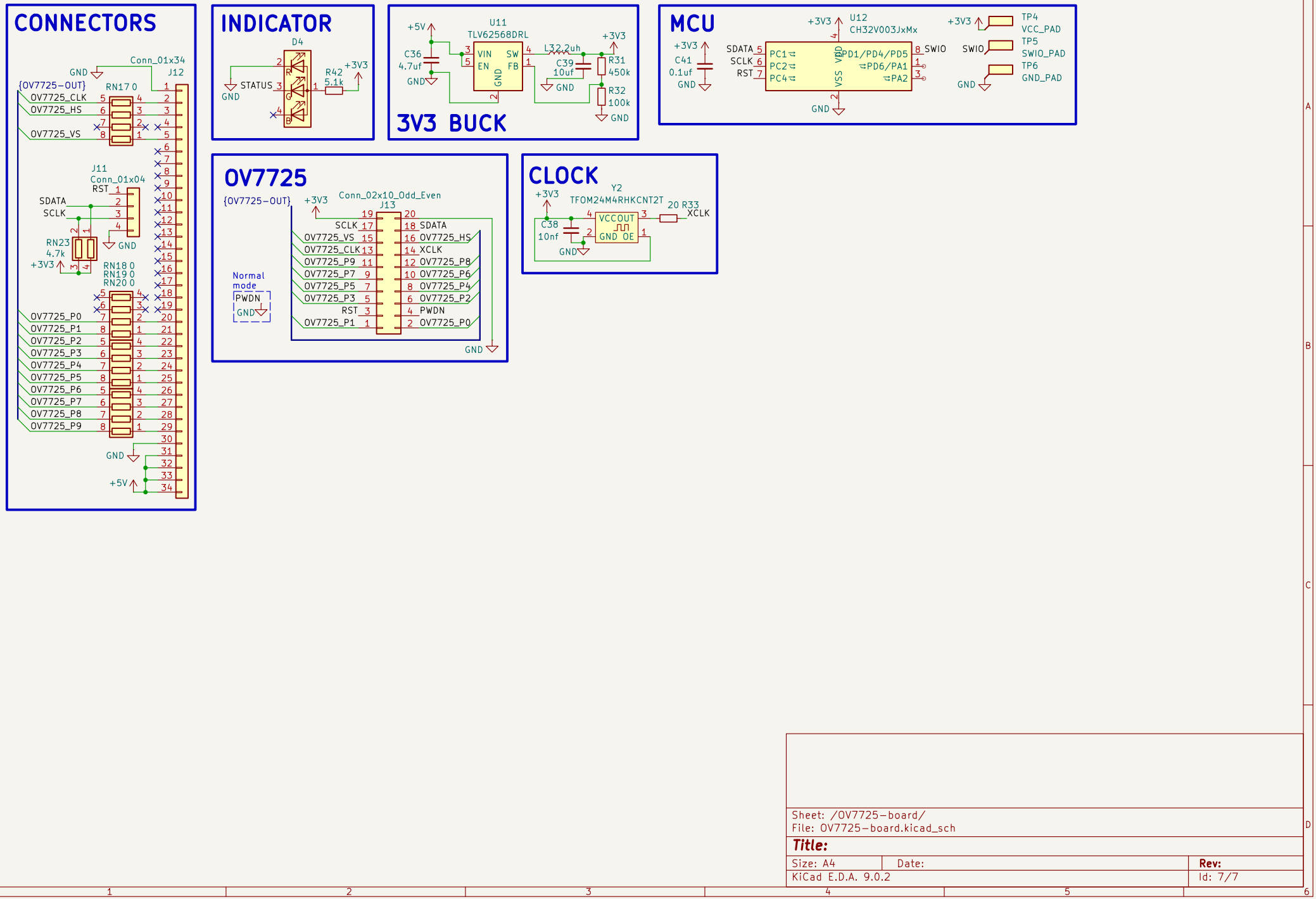


Sheet: /vga-board/R2R-DAC2/		
File: R2R-DAC.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.2		Id: 5/7

R2R DAC



Sheet: /vga-board/R2R-DAC3/		
File: R2R-DAC.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.2		Id: 6/7


CONNECTORS
Conn_01x34
J12
{OV7725-OUT}
GND
OV7725_CLK
OV7725_HS
OV7725_VS
RN17 0
J11
Conn_01x04
RST
SDATA
SCLK
RN23
4.7k
+3V3
GND
RN18 0
RN19 0
RN20 0
OV7725_P0
OV7725_P1
OV7725_P2
OV7725_P3
OV7725_P4
OV7725_P5
OV7725_P6
OV7725_P7
OV7725_P8
OV7725_P9
GND
+5V
INDICATOR
D4
STATUS
R42
5.1k
+3V3
GND
3V3 BUCK
+5V
U11
TLV62568DRL
VIN
EN
SW
FB
GND
C36
4.7uf
L32.2uh
C39
10uf
R31
450k
R32
100k
+3V3
GND
MCU
+3V3
C41
0.1uf
GND
U12
CH32V003JxMx
SDATA
SCLK
RST
PC1
PC2
PC4
VDD
VSS
PD1/PD4/PD5
PD6/PA1
PA2
SWIO
GND
TP4
VCC_PAD
TP5
SWIO_PAD
TP6
GND_PAD
OV7725
{OV7725-OUT}
+3V3
Conn_02x10_Odd_Even
J13
SCLK
SDATA
OV7725_VS
OV7725_HS
OV7725_CLK
XCLK
OV7725_P9
OV7725_P8
OV7725_P7
OV7725_P6
OV7725_P5
OV7725_P4
OV7725_P3
OV7725_P2
RST
PWDN
OV7725_P1
OV7725_P0
Normal
mode
PWDN
GND
GND
CLOCK
+3V3
Y2
TFOM24M4RHKCNT2T
VCCOUT
GND
OE
C38
10nf
20 R33
XCLK
GND
Sheet: /OV7725-board/
File: OV7725-board.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.2
Id: 7/7