

Raspberry Pi Compute Module 4

I2S

RST

SYNC

SPI_FPGA

CS

SCLK

MOSI

HV_EN

SPI_POT

USB

RST

USB

USB_CAM

HDMI0

HDMI1

SPI_LED

I2C

PWR_SW

ENC_A

ENC_B

ENC_S

PWR_SW

I2C

HMI

I2C

ENC_A

ENC_B

ENC_S

PWR_SW

I2S

RST

SYNC

I2S

1

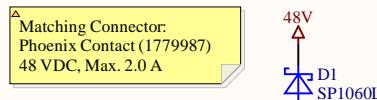
2

3

4

A

Order this new connector!



X1B

TP7

GND

48V

D1

SP1060L

TP4

GND

C4

220µF

C5

1µF

GND

GND

GND

GND

U2

NID65-5

VIN

VIN

VOUT

VOUT

VOUT

VOUT

GND

GND

GND

GND

C6

10µF

GND

GND

GND

C7

470µF

GND

DC-DC Buck-Converter
Output: 5V, 6.5ADC-DC Buck-Converter
Output: 12V, 2ADC-DC Buck-Converter
Output: 11V ... 42V, 2A

12V

TP3

GND

C1

10nF

GND

L1

47µH 5.0A

GND

C2

10µF

GND

C3

470µF

GND

R2

13k

GND

R4

1.5k

GND

R3

10k

GND

C8

220µF

GND

C9

1µF

GND

GND

GND

U1

LM2596HV

VIN

OUT

FB

GND

TP6

Vref = 1.23V

GND

D2

SP1060L

TP4

GND

C1

10nF

GND

L1

47µH 5.0A

GND

C10

10nF

GND

R5

100k

GND

C11

1µF

GND

C12

220µF

GND

B

Power Supply:

Mean Well (LSP-160-48T)

48 VDC, Max. 163 W

AC Connector:

Qualtek (703W-00/07)

IEC-320 C-14, 250 VAC, 15

C

D

Title

Audio-Beamformer

Subtitle Power Supply

Author: Florian Baumgartner & Thierry Schwaller

File: Audio-Beamformer_Supply_V1.0.SchDoc



Date: 25.04.2022

Rev: V1.0

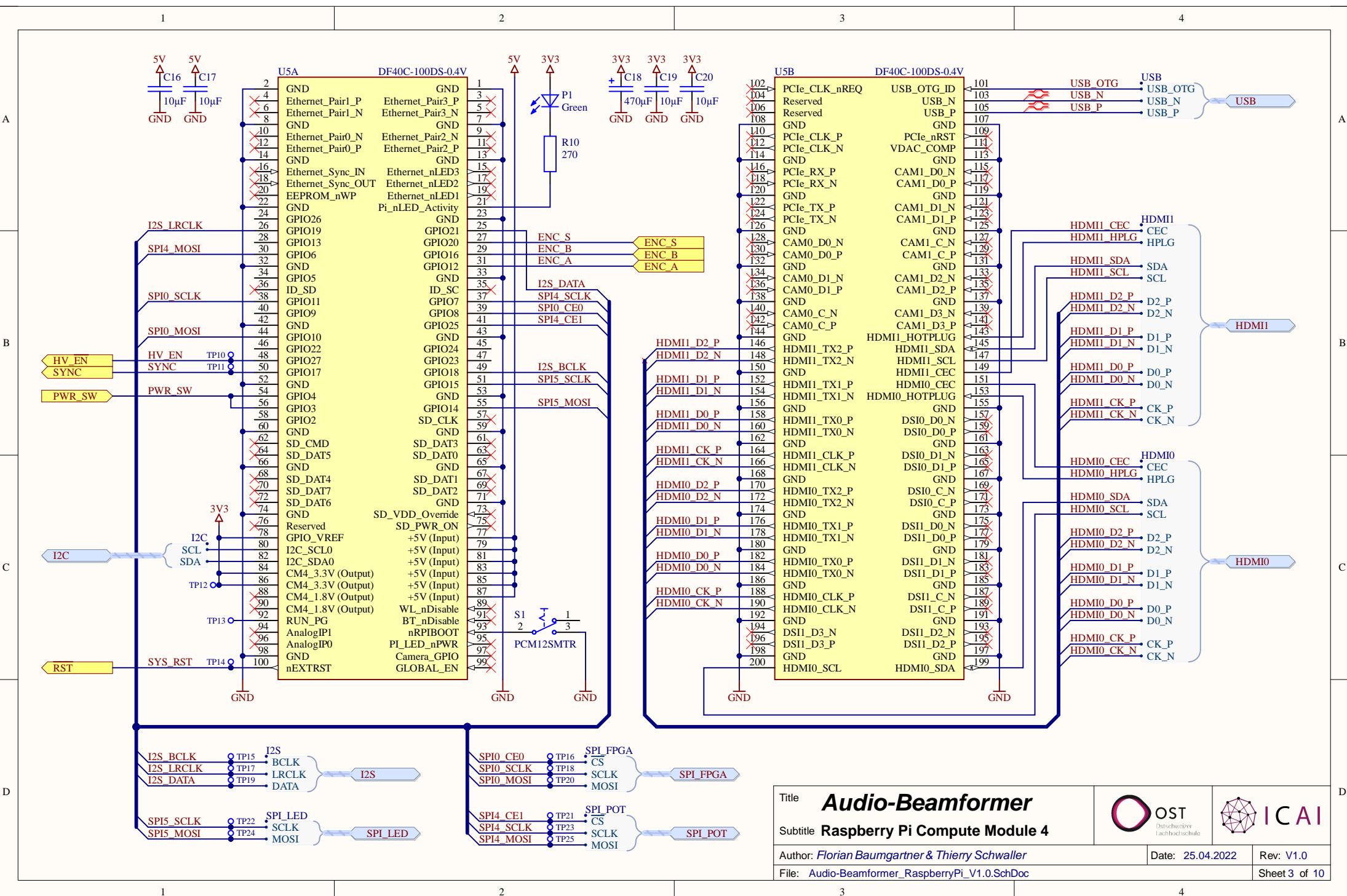
Sheet 2 of 10

1

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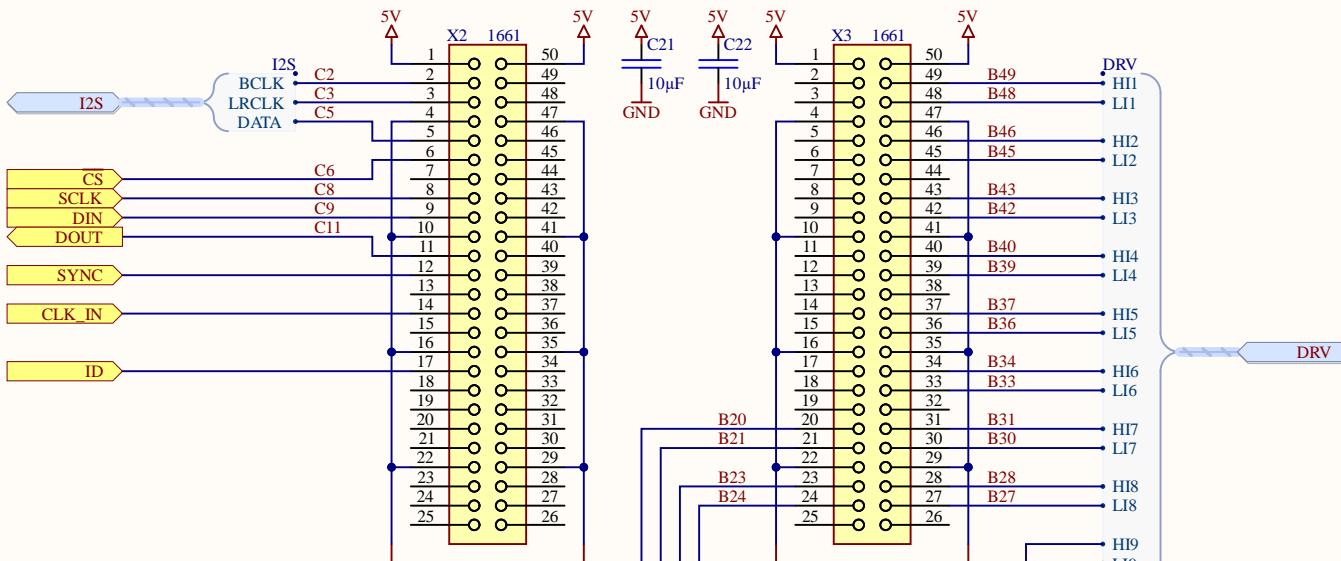
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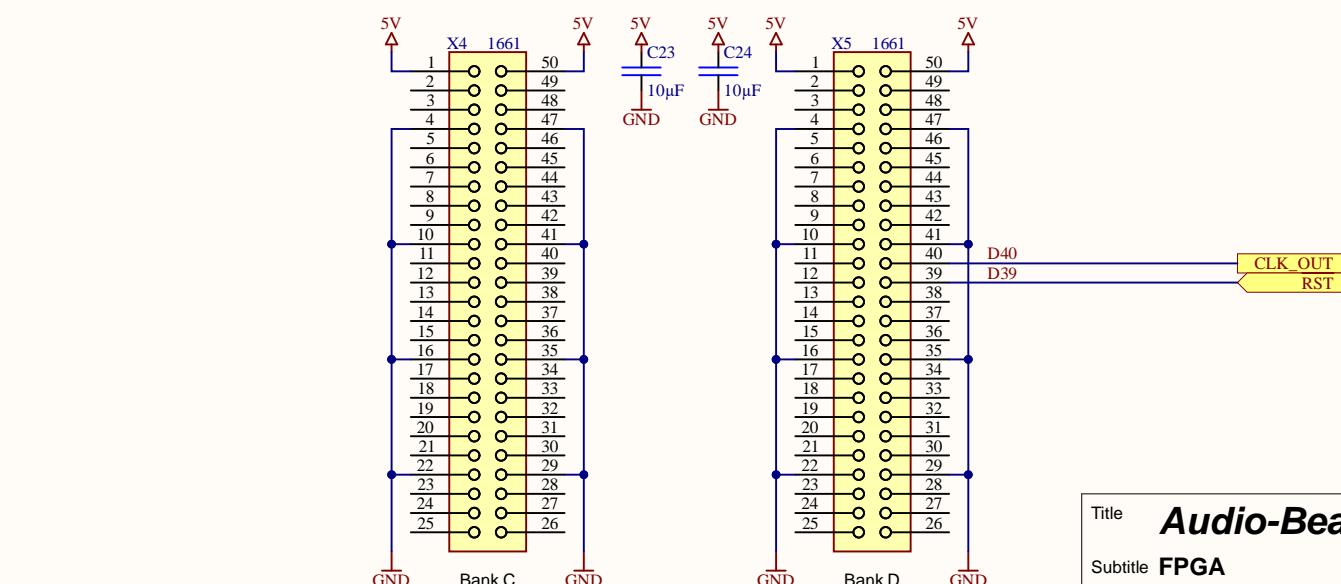
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B



C

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Title

Audio-Beamformer

Subtitle

FPGA

Author: Florian Baumgartner & Thierry Schwaller



Date: 25.04.2022

Rev: V1.0

File: Audio-Beamformer_FPGA_V1.0.SchDoc

Sheet 4 of 10

1

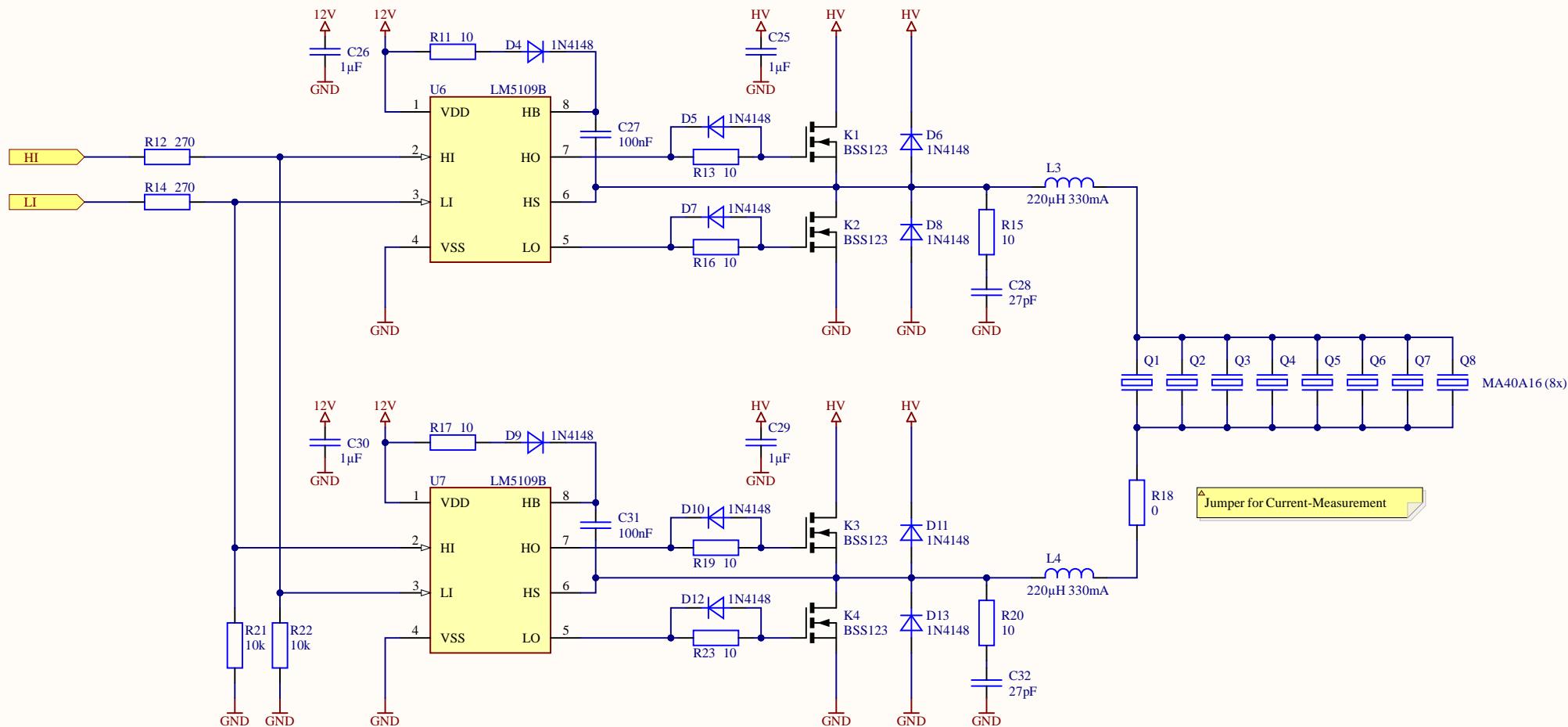
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A

A



B

B

C

C

D

D

Title **Audio-Beamformer**

Subtitle **H-Bridge Driver**

Author: *Florian Baumgartner & Thierry Schwaller*

File: *Audio-Beamformer_Driver_V1.0.SchDoc*



Date: *25.04.2022*

Rev: *V1.0*

Sheet *5 of 10*

A

A

B

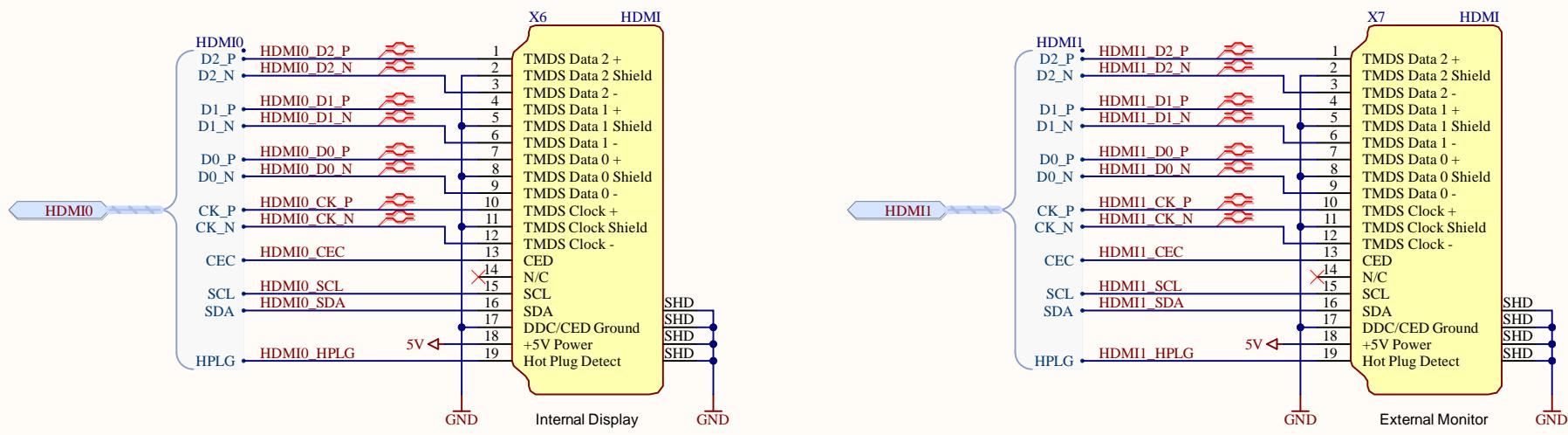
B

C

C

D

D



Title

Audio-Beamformer

Subtitle HDMI

Author: Florian Baumgartner & Thierry Schwaller

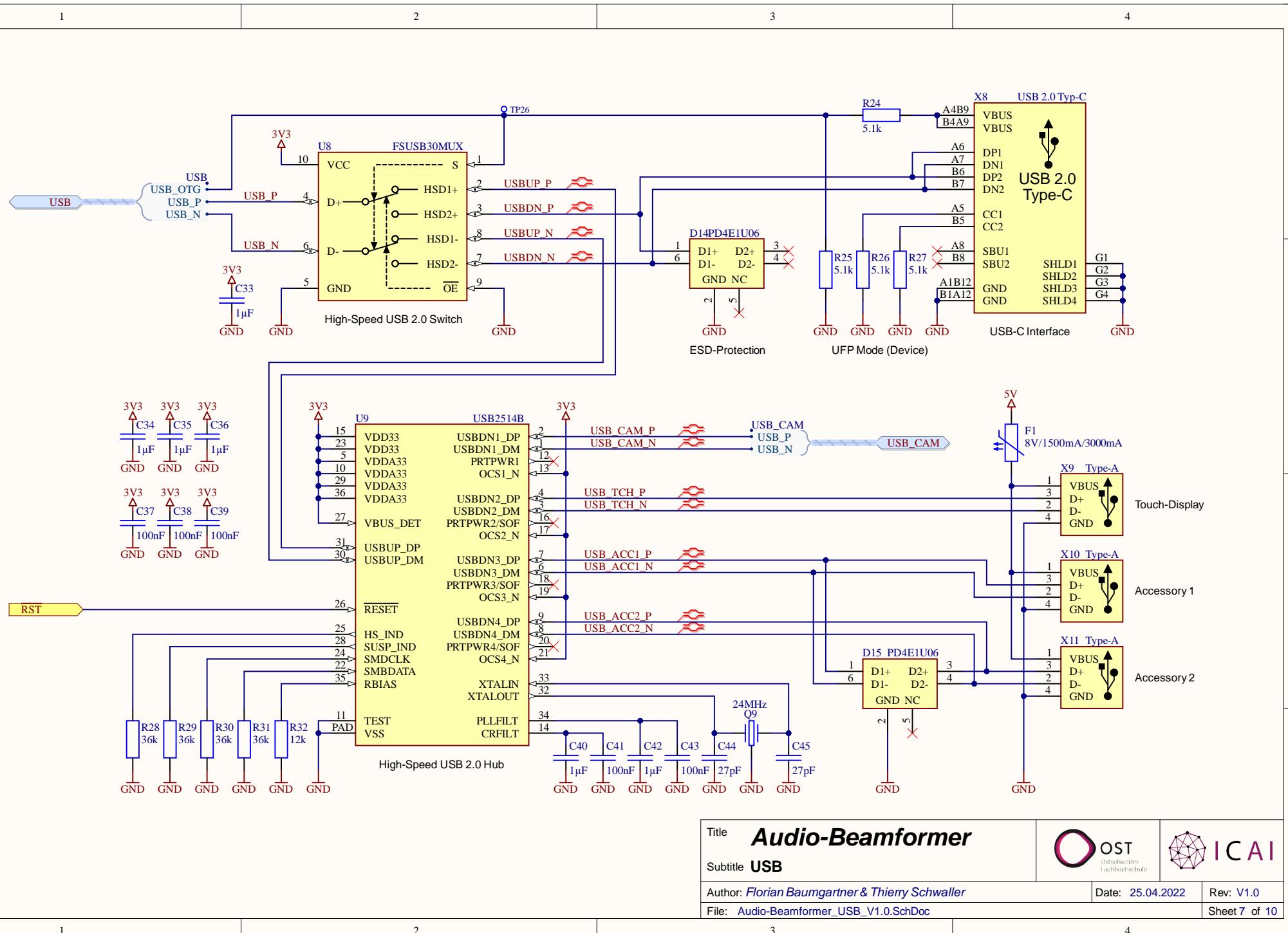
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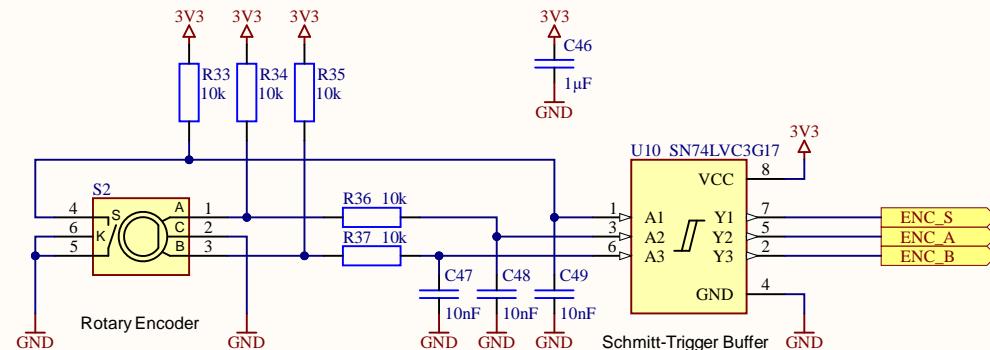
Date: 25.04.2022

Rev: V1.0

Sheet 6 of 10

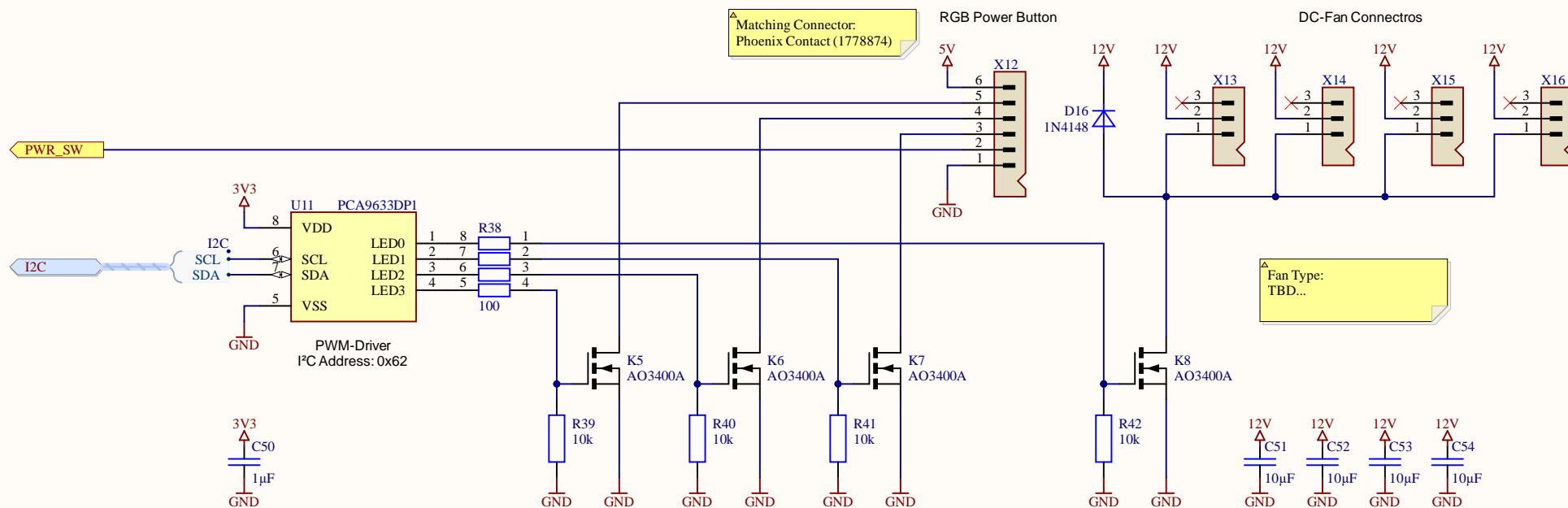


A



A

B



B

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C

Title

Audio-Beamformer

Subtitle HMI

Author: Florian Baumgartner & Thierry Schwaller

File: Audio-Beamformer_HMI_V1.0.SchDoc

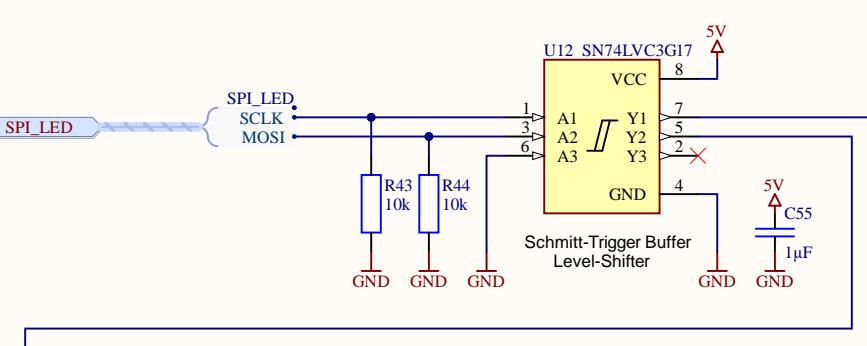


Date: 25.04.2022

Rev: V1.0

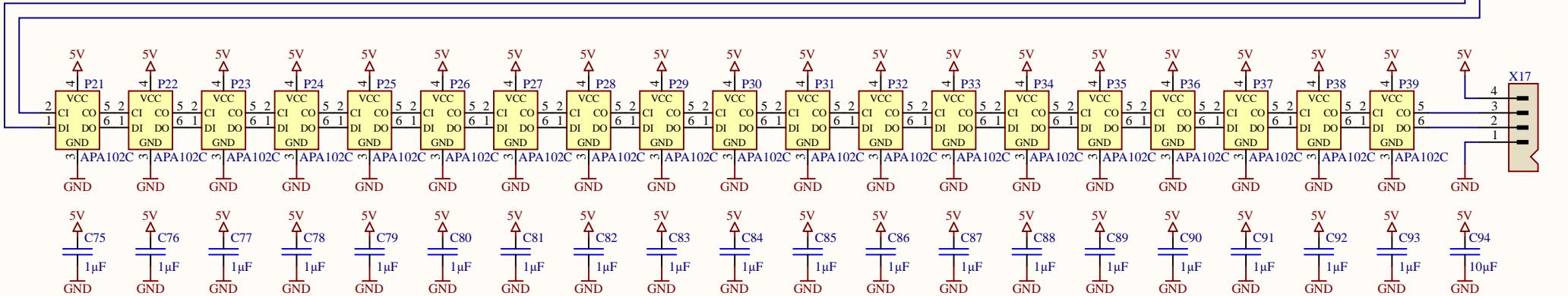
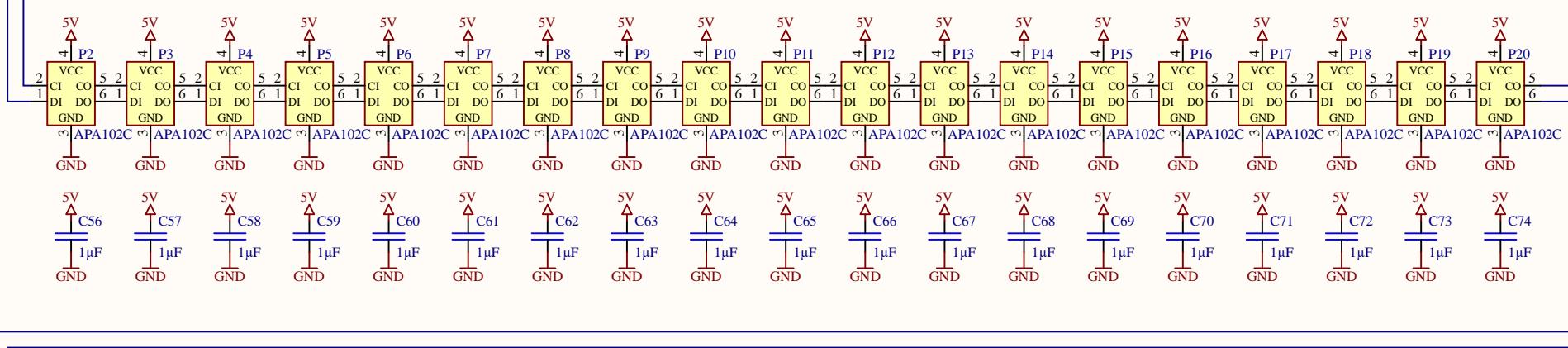
Sheet 8 of 10

1 2 3 4



LED Ring:
Sparkfun (COM-14967)
APA102C (20 LEDs, 25.4 mm)

Matching Connector:
Phoenix Contact (1778858)



Title **Audio-Beamformer**

Subtitle **LEDs**

Author: *Florian Baumgartner & Thierry Schwaller*

File: *Audio-Beamformer_LED_V1.0.SchDoc*

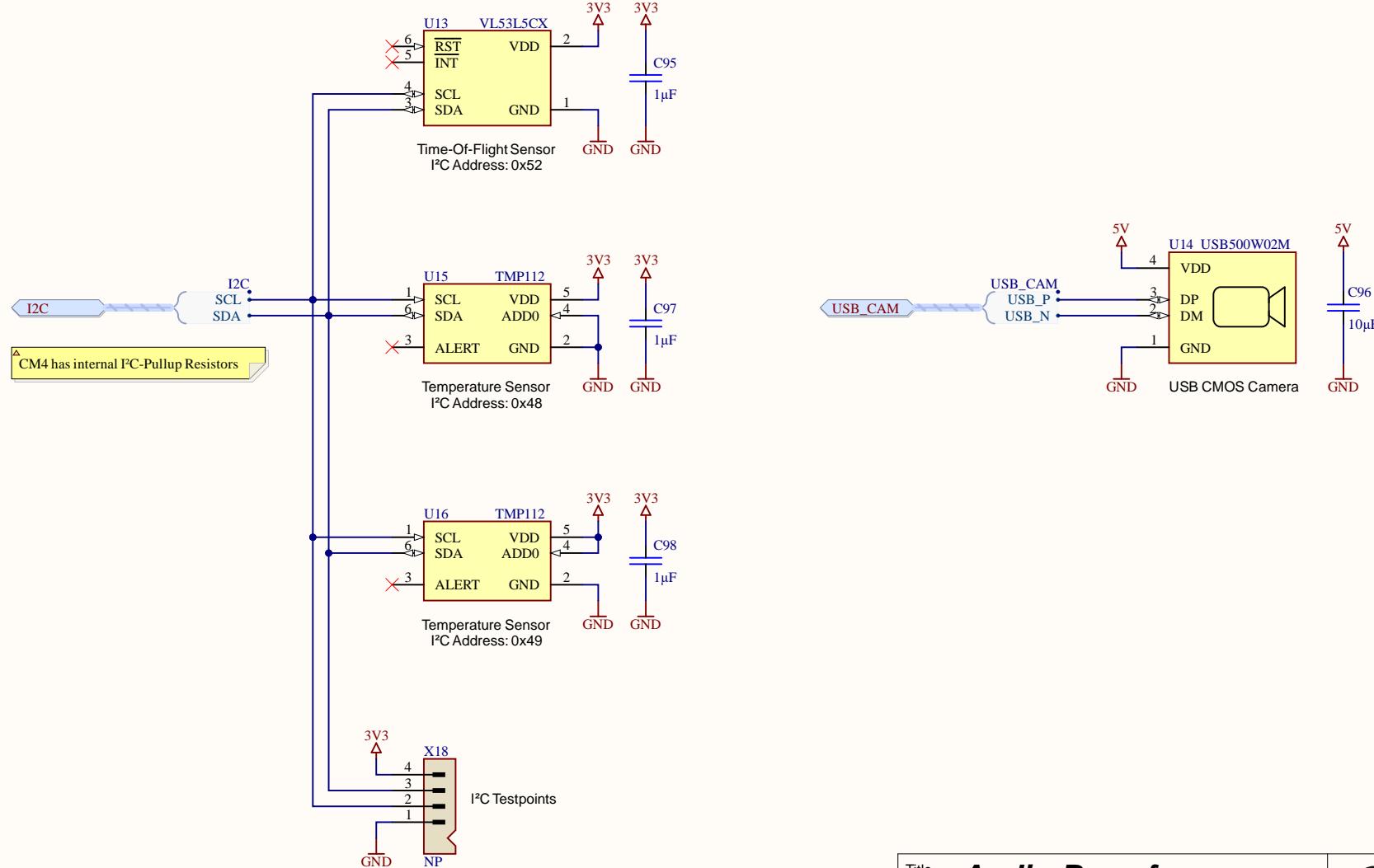


Date: *25.04.2022*

Rev: *V1.0*

Sheet *9* of *10*

1 2 3 4



Title

Audio-BeamformerSubtitle **Sensors**Author: *Florian Baumgartner & Thierry Schwaller*File: *Audio-Beamformer_Sensors_V1.0.SchDoc*Date: *25.04.2022*Rev: *V1.0*Sheet *10 of 10*

