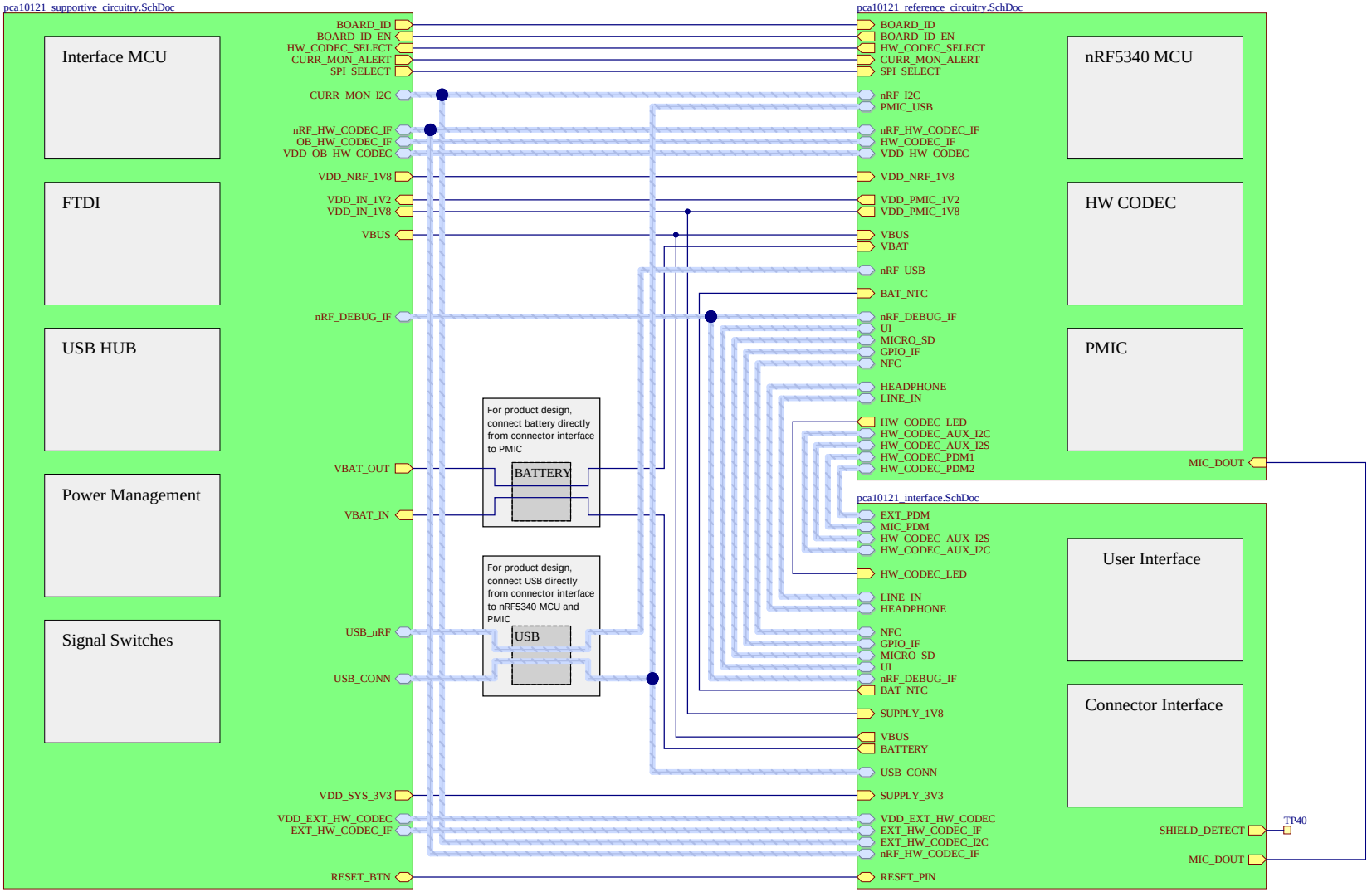
# Nordic Semiconductor ASA

## nRF5340 Audio Development Board (PCA10121)

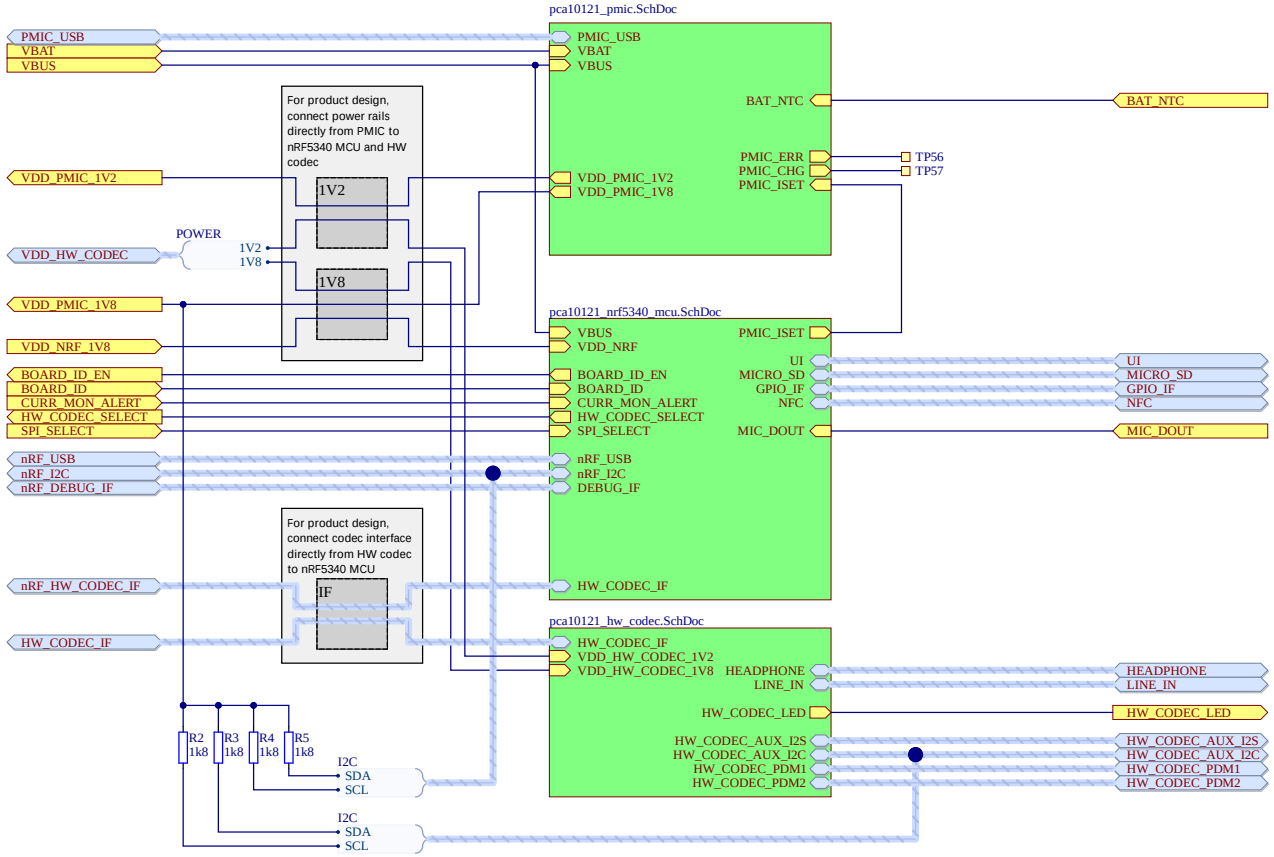



The No ERC object is a design directive.
This directive is placed on a node in the circuit to suppress harmless warnings and/or error violation conditions that are detected when the schematic project is compiled.

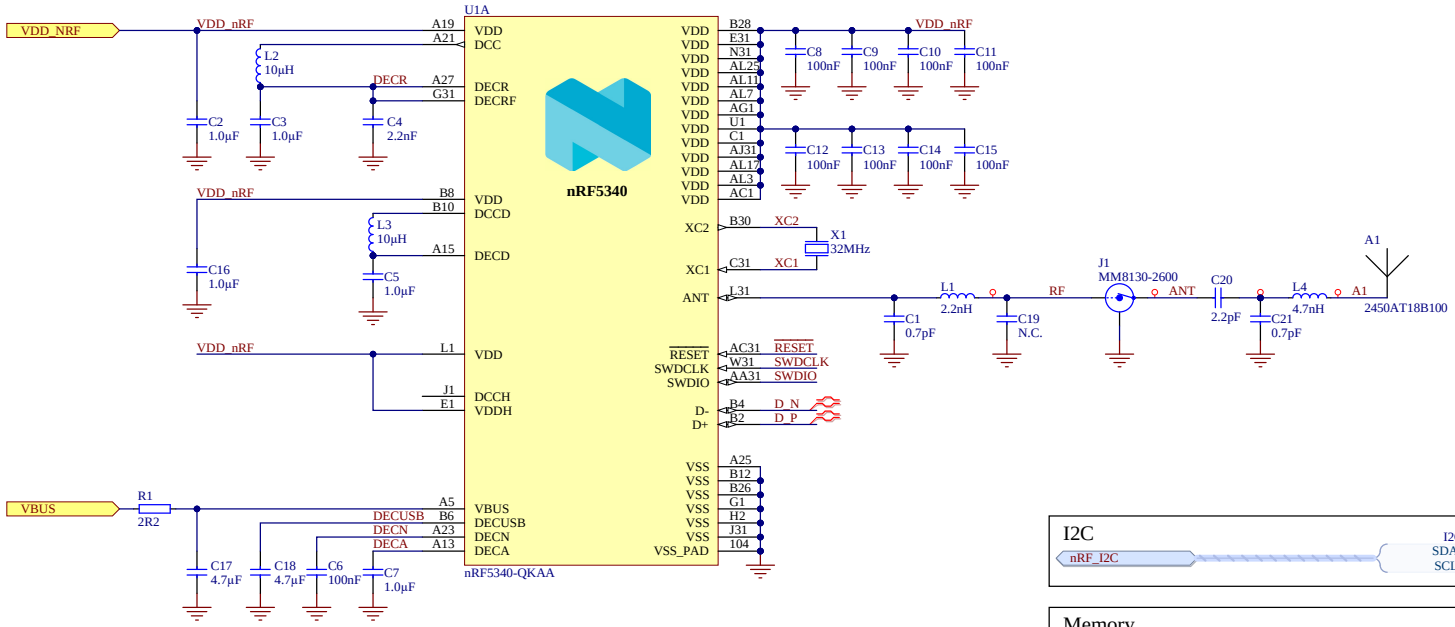
ENCLOSURE1 SCREW1 SCREW2

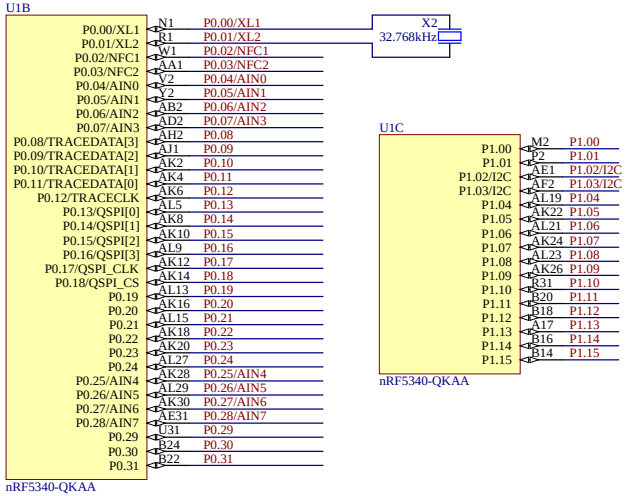
Nordic Logo

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - Top level | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 1 of 18 |
| File: pca10121_top_level.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



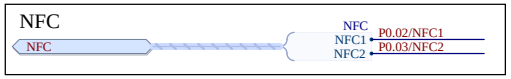

| | | |
|---|---|---|
| Title | nRF5340 Audio Development Board - Reference circuitry | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 2 of 18 |
| File: pca10121_reference_circuitry.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

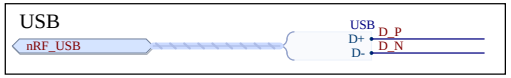


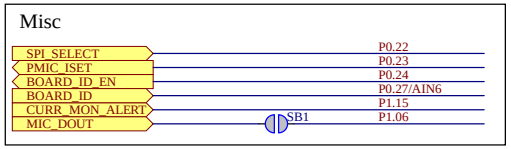







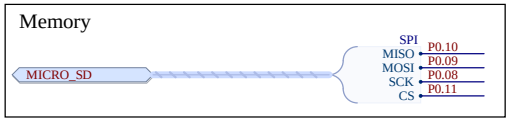


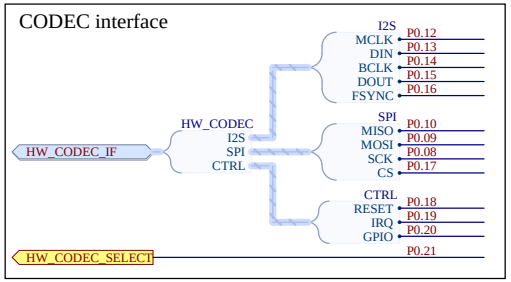



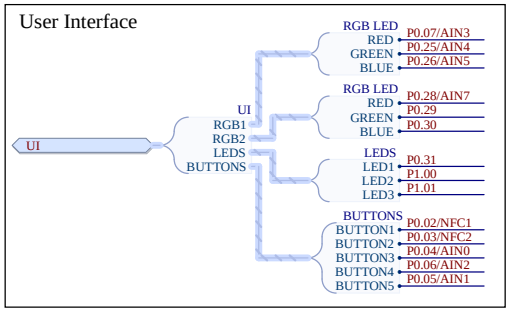



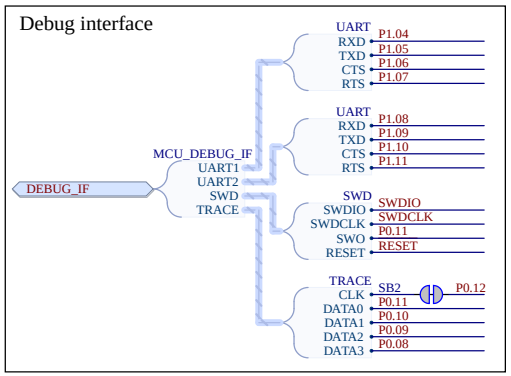


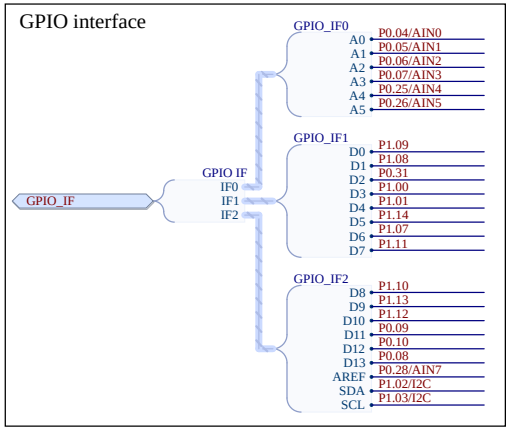




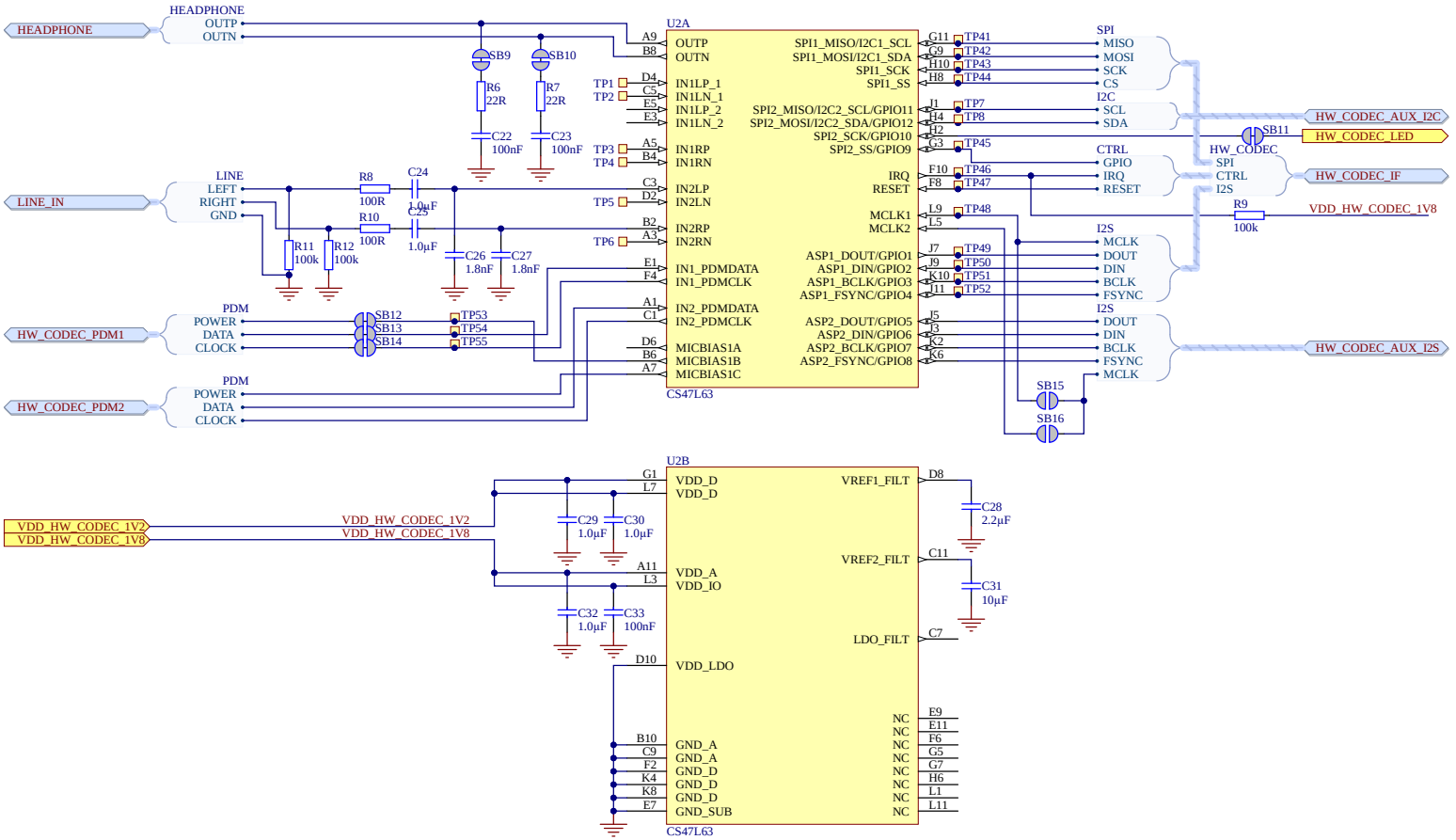



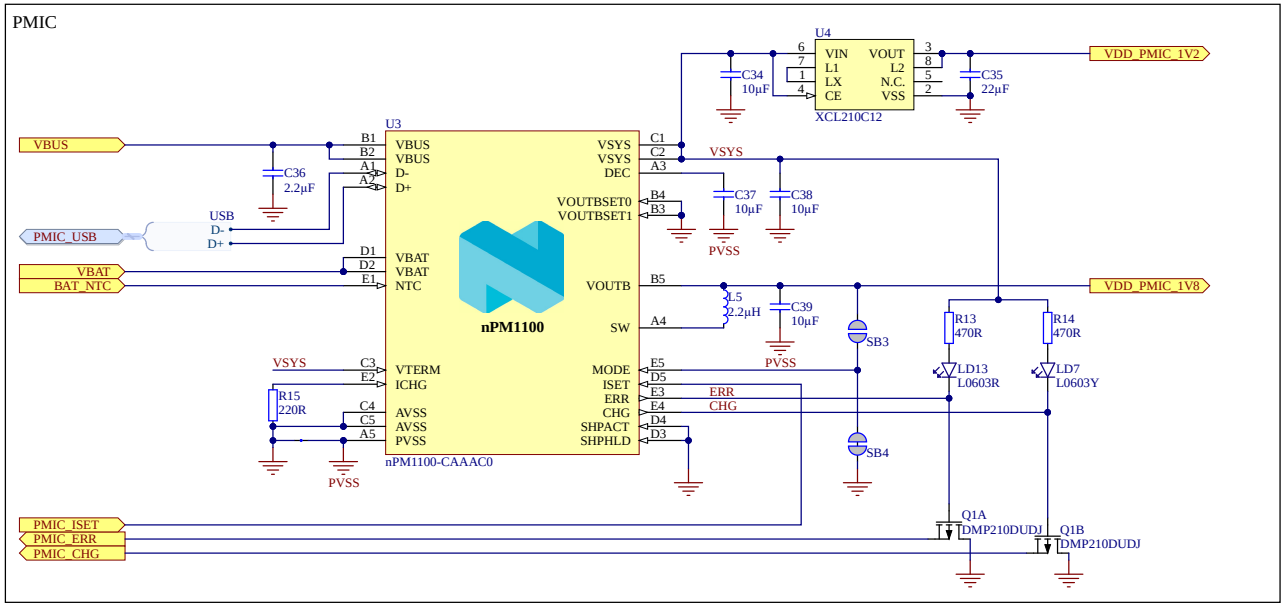




| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - nRF5340 MCU | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 3 of 18 |
| File: pca10121_nrf5340_mcu.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

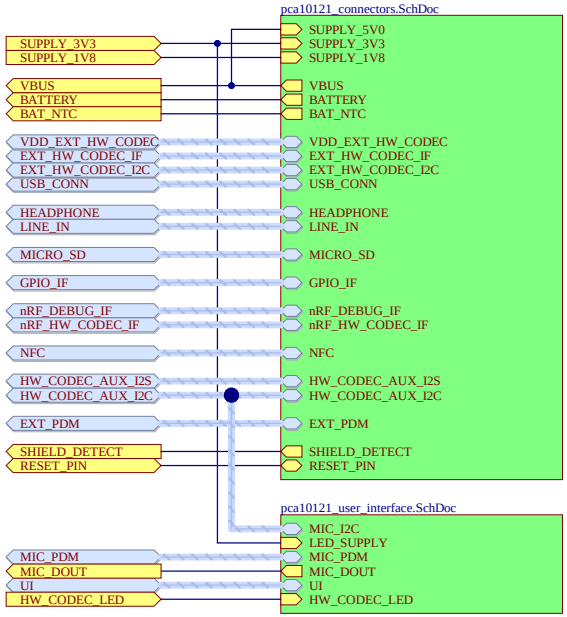
NORDIC SEMICONDUCTOR



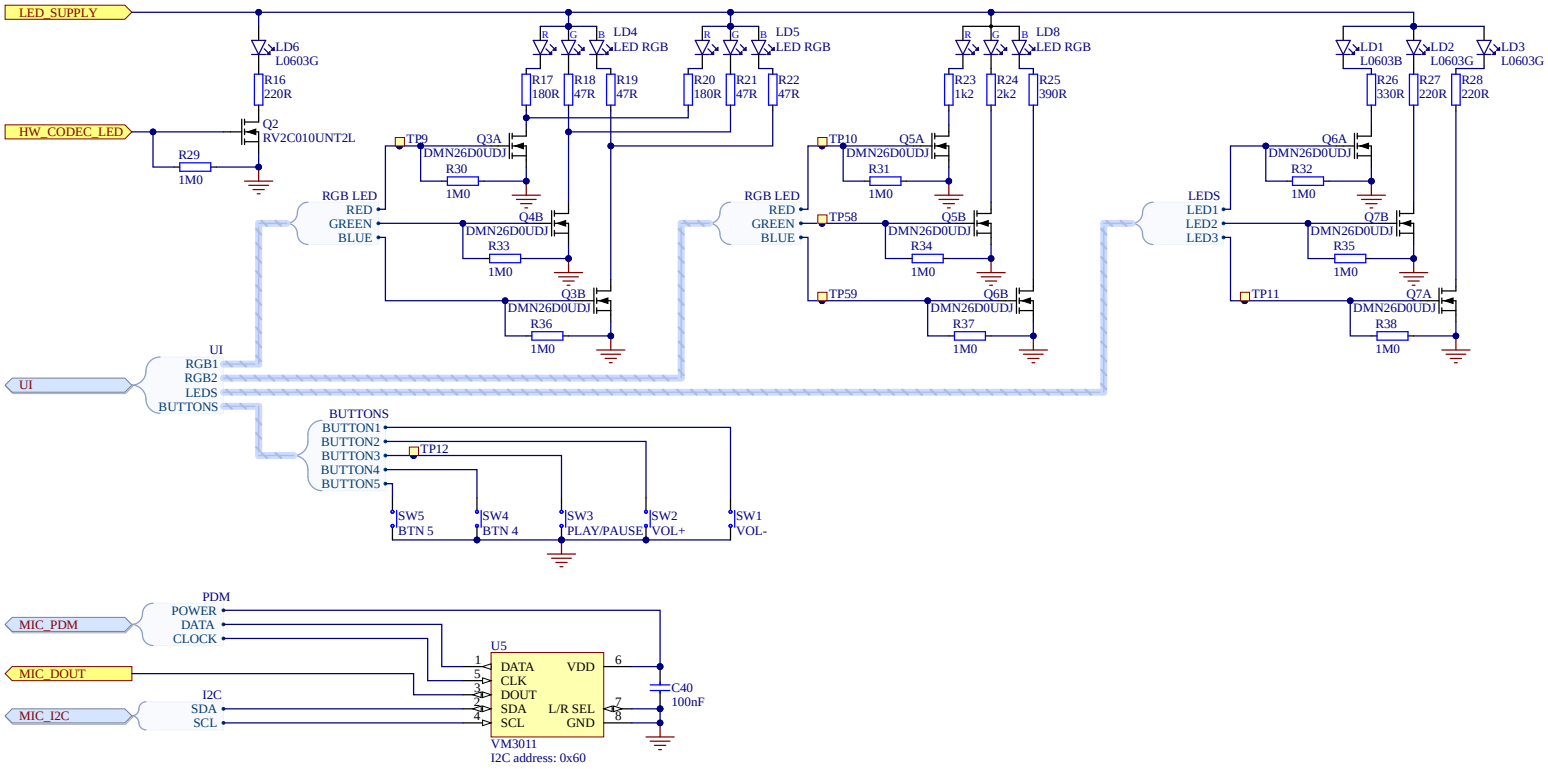

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - HW codec | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 4 of 18 |
| File: pca10121_hw_codec.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |




| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - PMIC | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 5 of 18 |
| File: pca10121_pmic.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

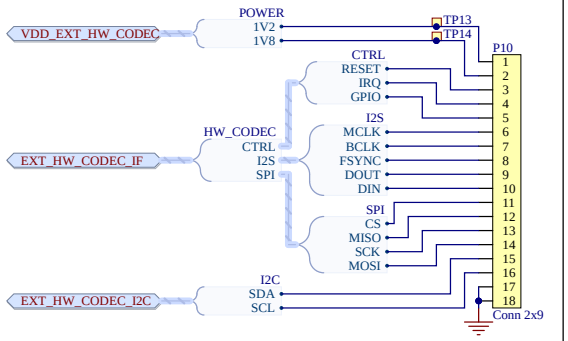



| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - Interfaces | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 6 of 18 |
| File: pca10121_interface.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

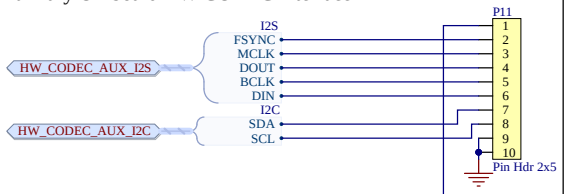



| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - User Interface | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 7 of 18 |
| File: pca10121_user_interface.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

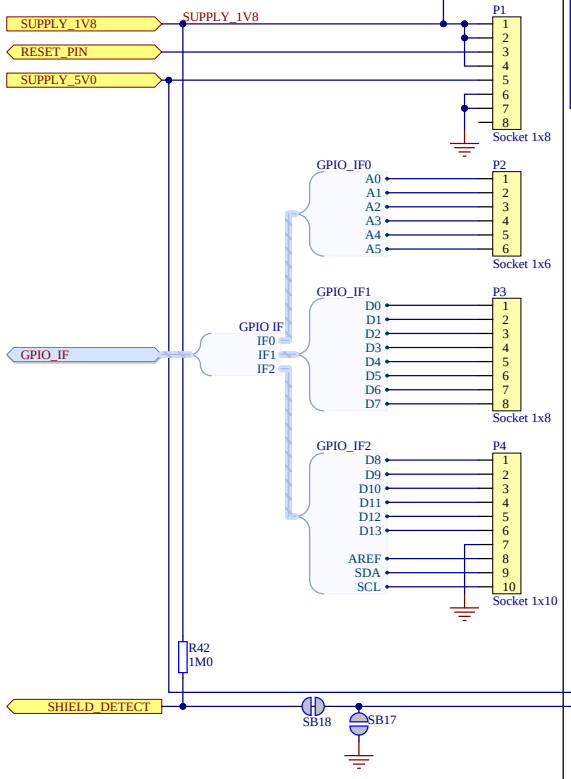
## External HW CODEC interface



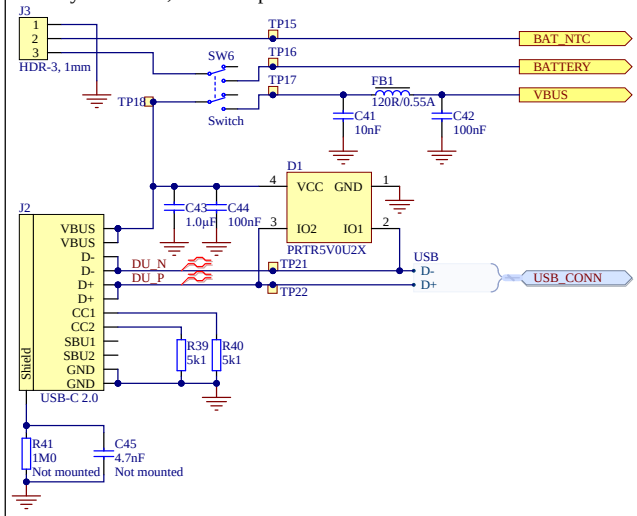

## Auxilary On-board HW CODEC interface



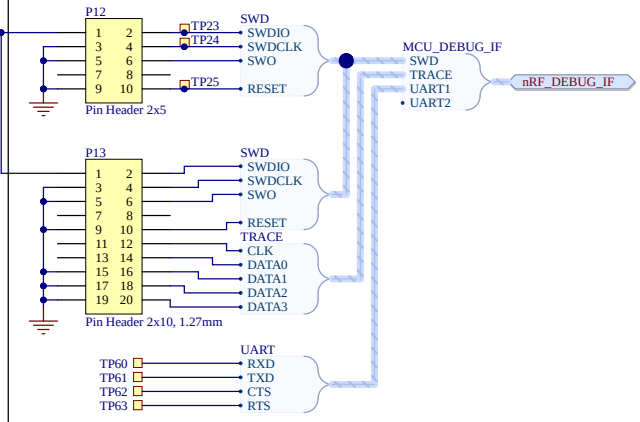

## Shield interface



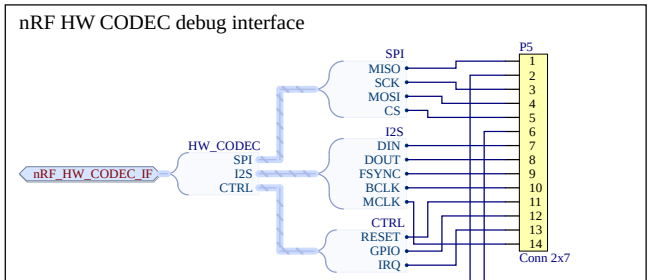

## Battery connector, USB and power switch




## nRF53 debug connectors




## nRF HW CODEC debug interface

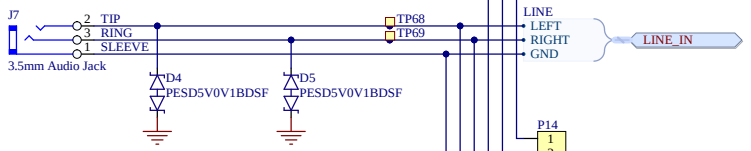



## Audio connectors

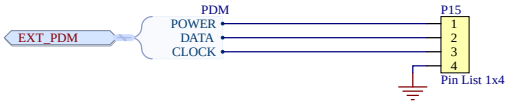
### Headphone



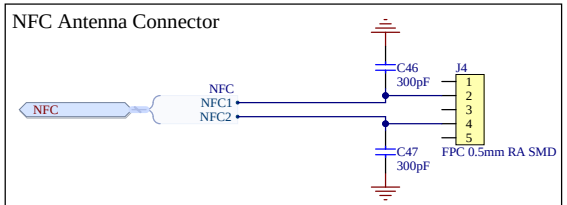

### Line-in



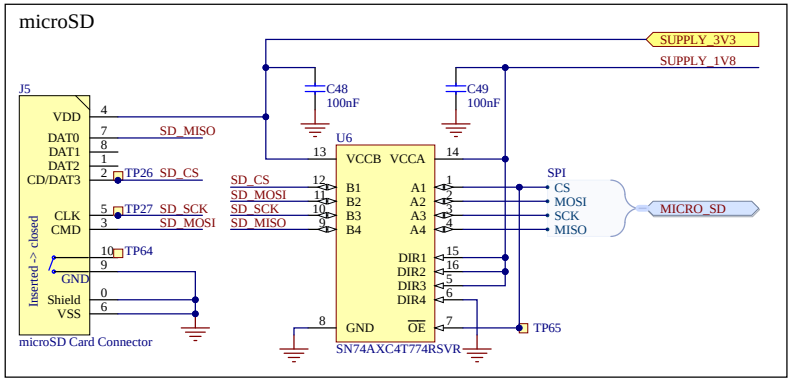

## PDM microphone interface




## NFC Antenna Connector

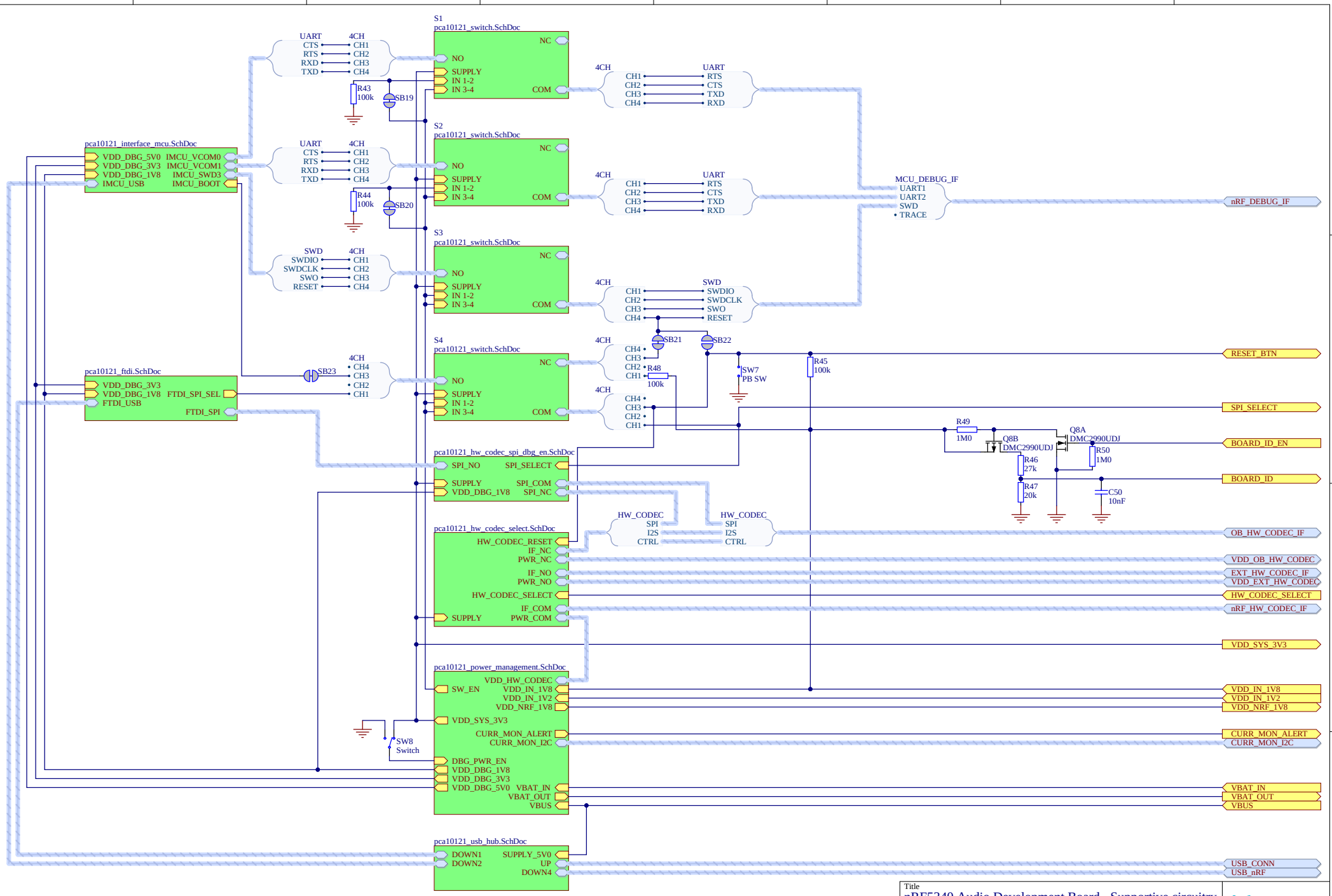



## microSD

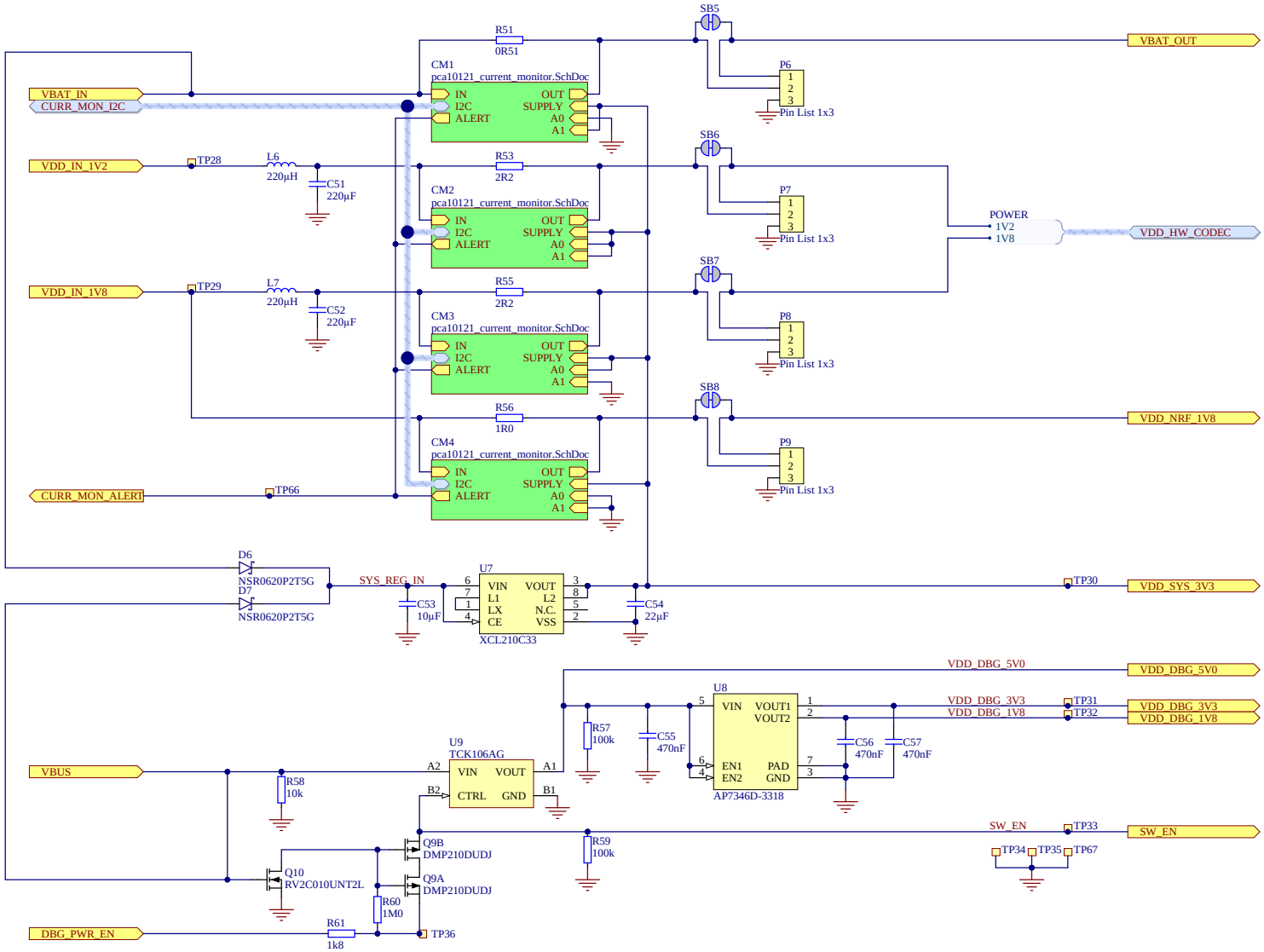



| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - Connectors | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 8 of 18 |
| File: pca10121_connectors.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

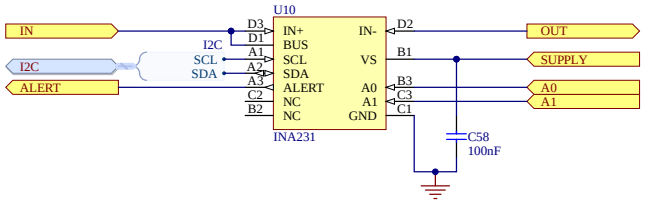
NORDIC SEMICONDUCTOR



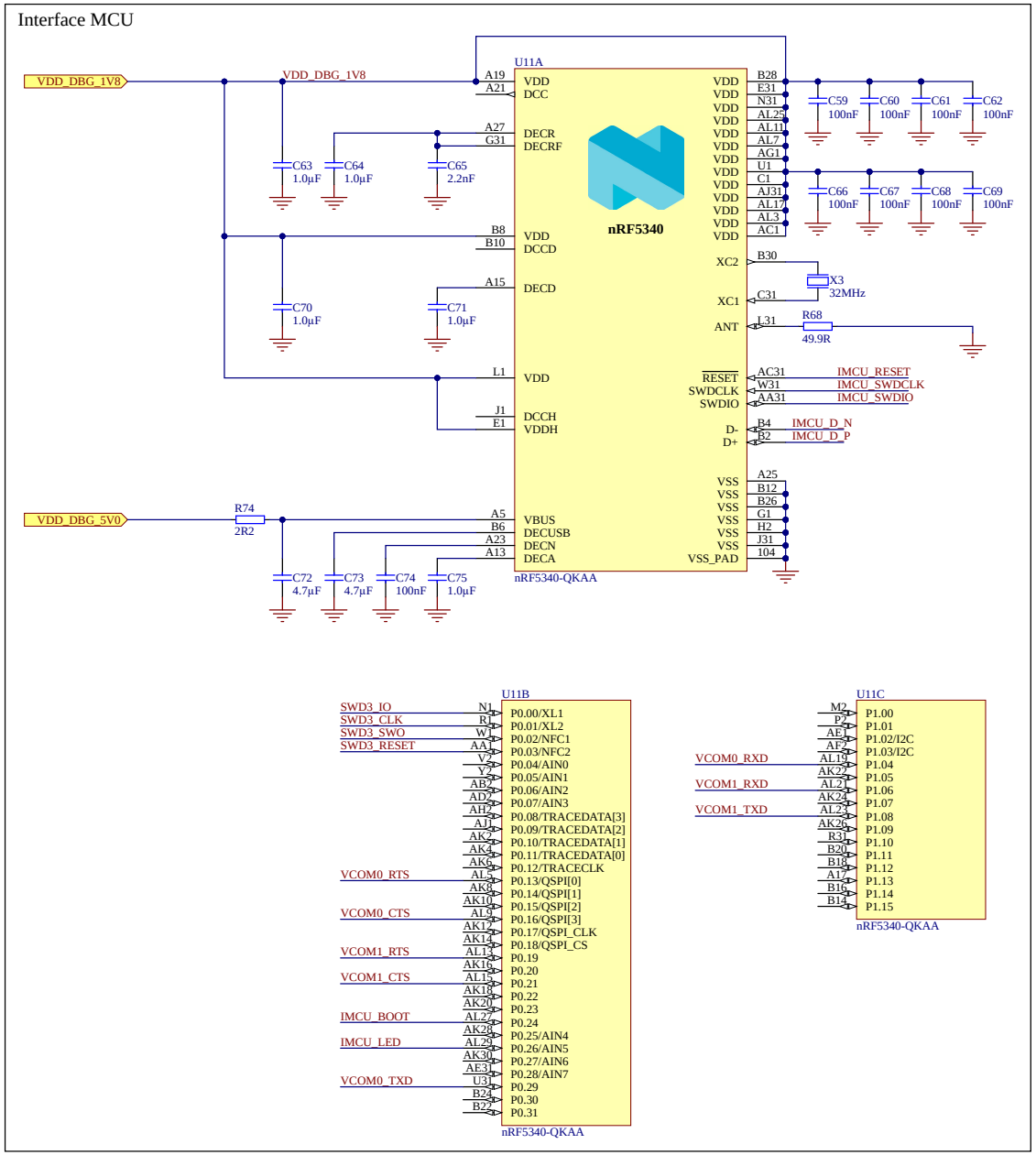

| | | |
|---|---|---|
| Title | nRF5340 Audio Development Board - Supportive circuitry | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 9 of 18 |
| File: pca10121_supportive_circuitry.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



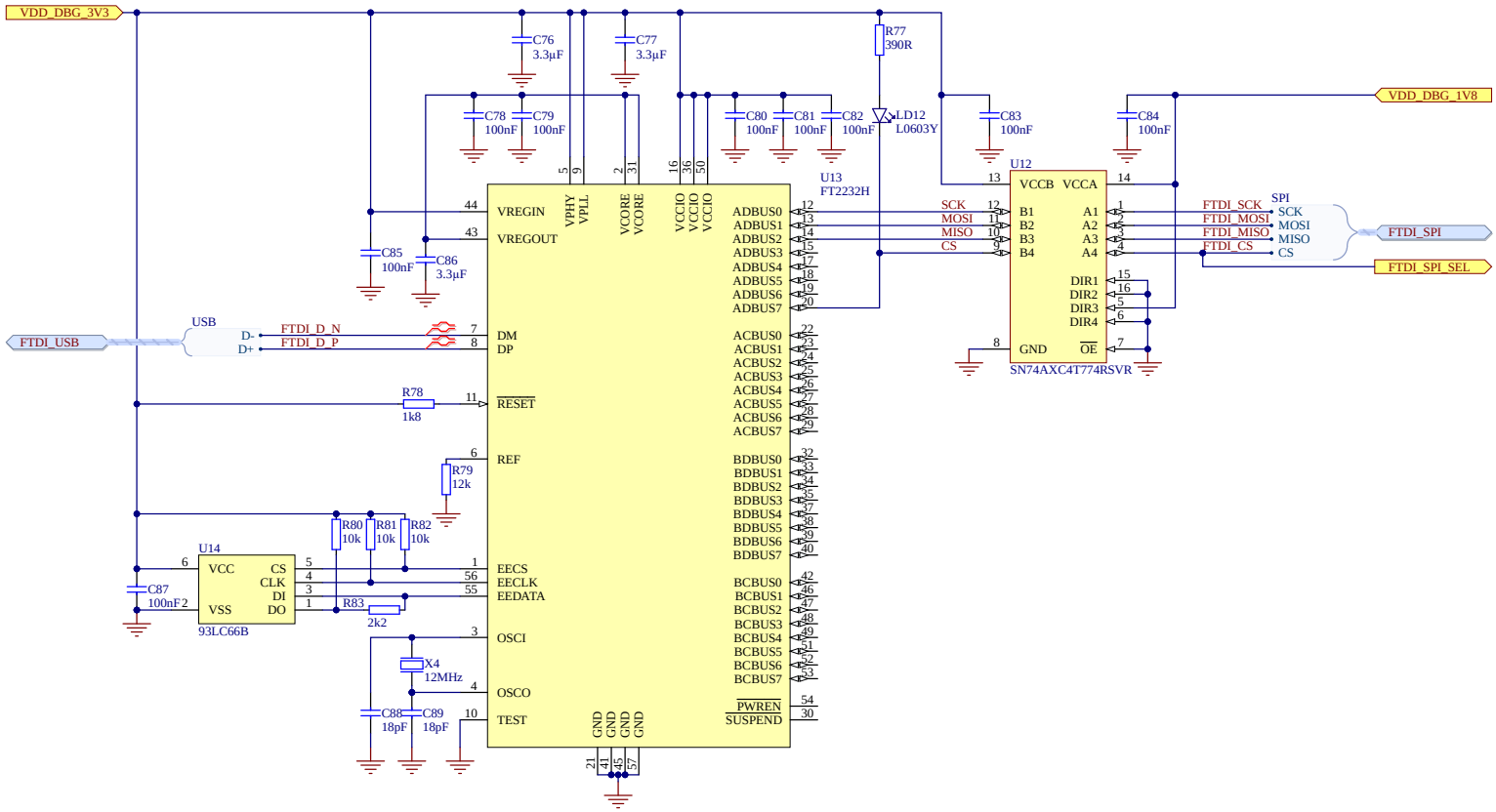

| | | |
|---|---|---|
| Title | nRF5340 Audio Development Board - Power management | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 10 of 18 |
| File: pca10121_power_management.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



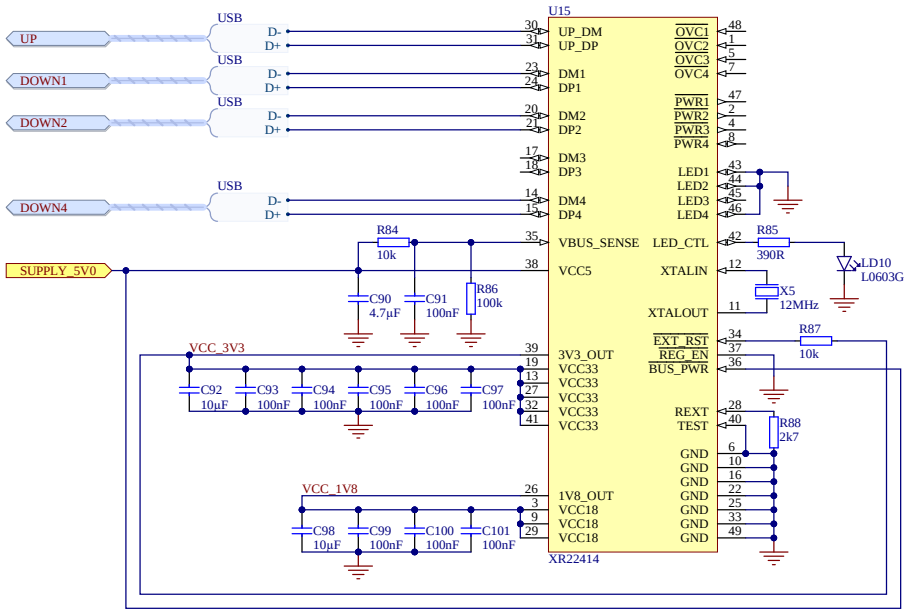

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - Current monitor | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 11 of 18 |
| File: pca10121_current_monitor.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



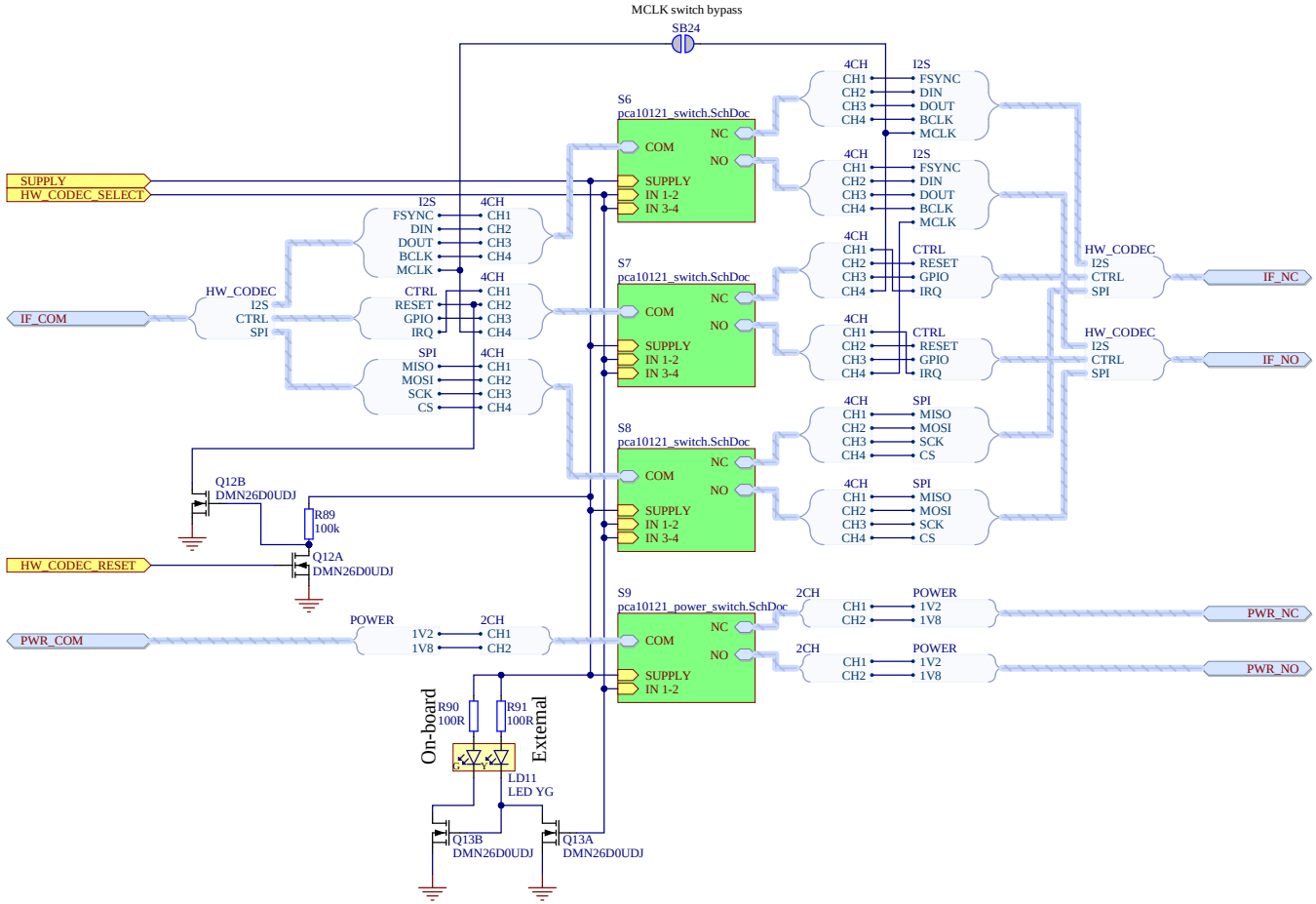

| | | |
|---|---|---|
| Title | nRF5340 Audio Development Board - Interface MCU | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 12 of 18 |
| File: pca10121_interface_mcu.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



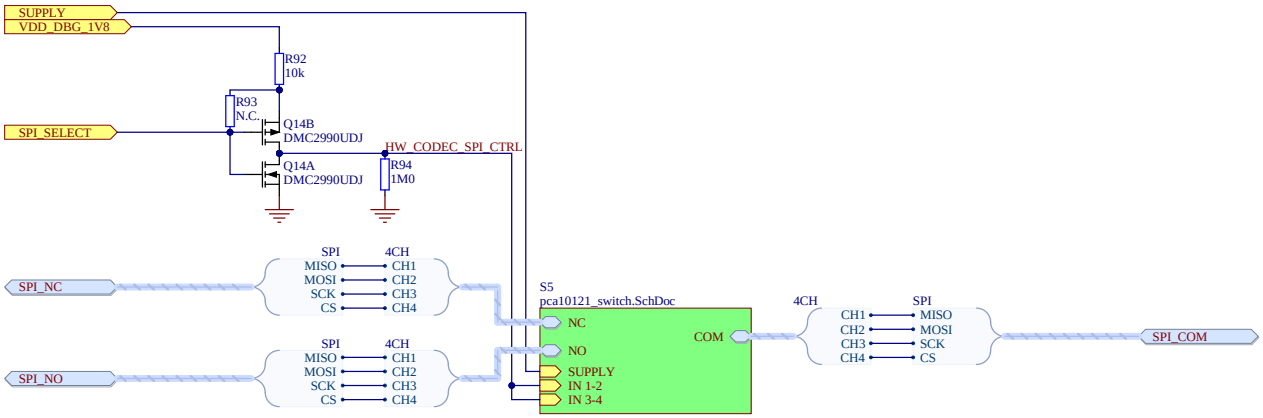

| | | |
|---|---|---|
| Title | nRF5340 Audio Development Board - FTDI | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 13 of 18 |
| File: pca10121_ftdi.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



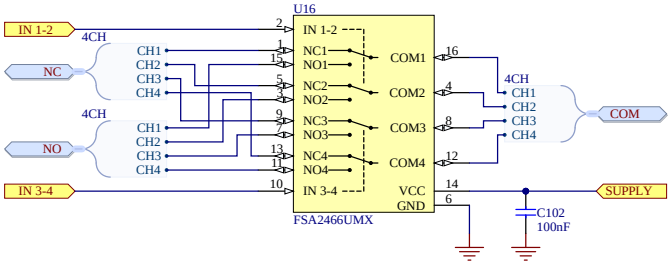

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - USB HUB | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 14 of 18 |
| File: pca10121_usb_hub.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



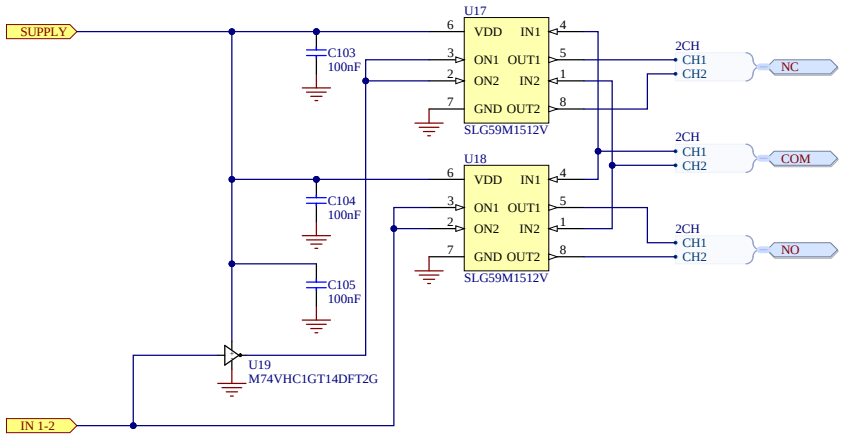

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - HW codec select | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 15 of 18 |
| File: pca10121_hw_codec_select.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |



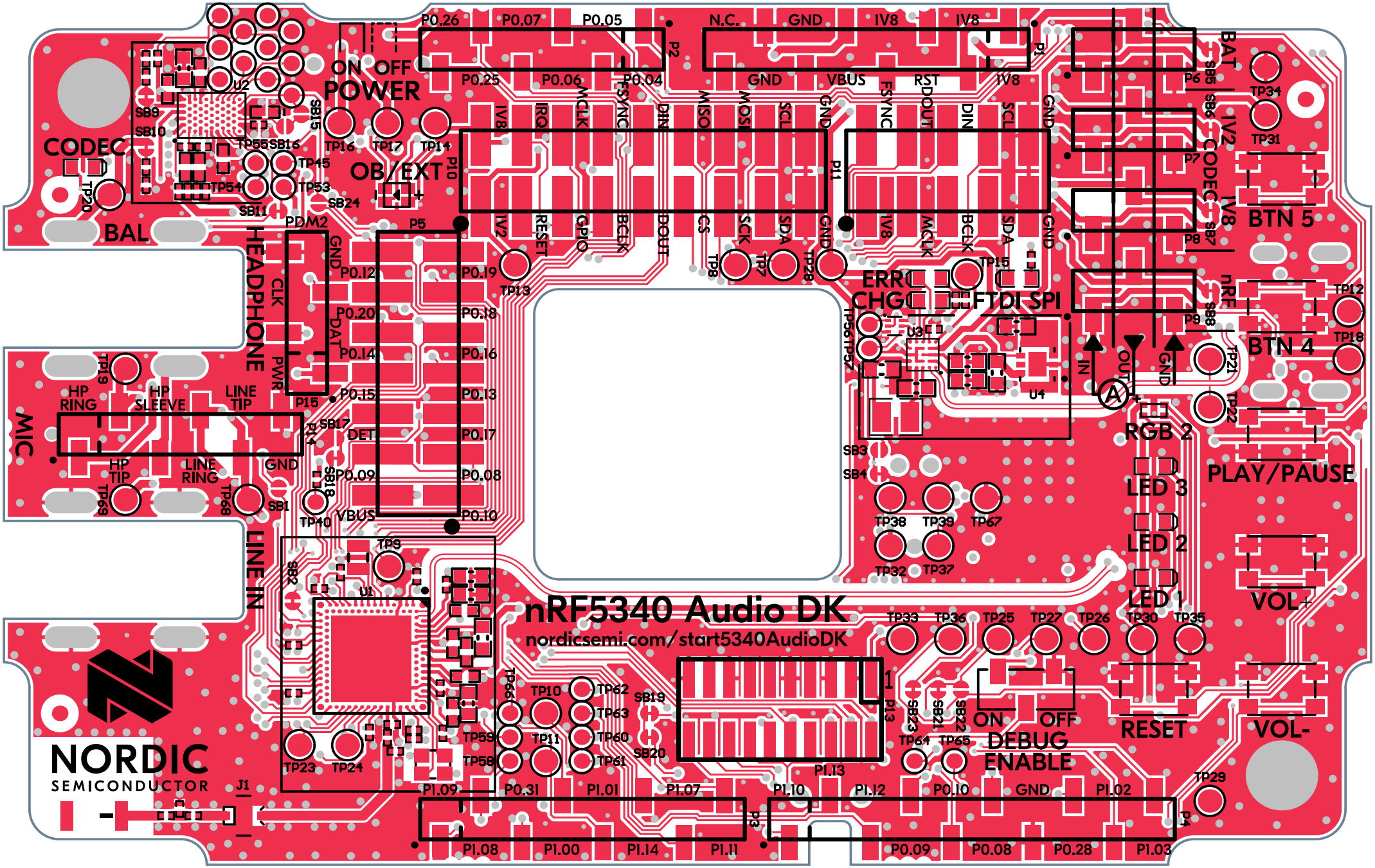

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - HW codec debug EN | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 16 of 18 |
| File: pca10121_hw_codec_spi_dbg_en.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |

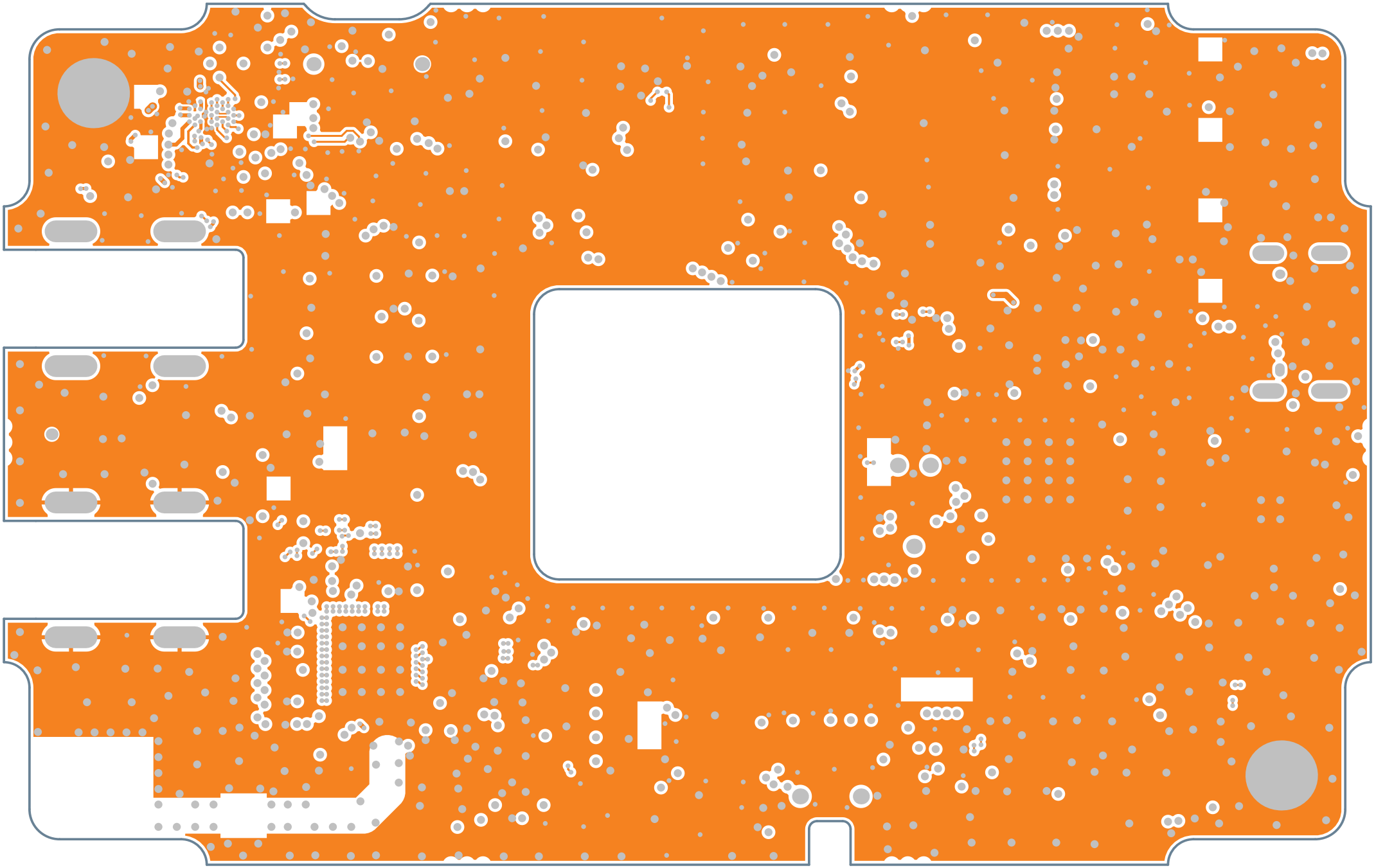


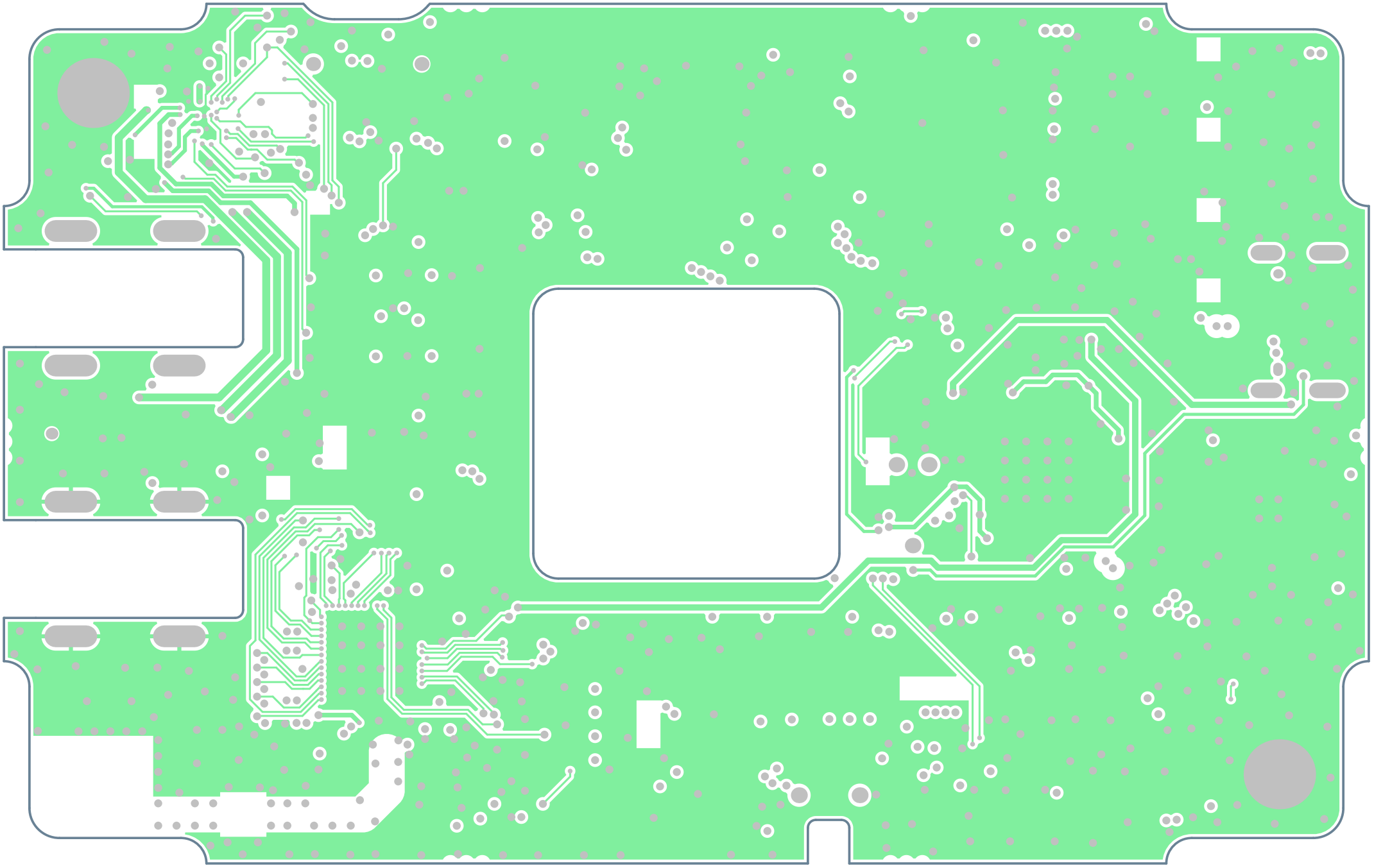

| | | | |
|---|---|---|---|
| Title | nRF5340 Audio Development Board - Switch | | |
| Size | PCB Assembly Number | Revision | |
| A3 | PCA10121 | 1.0.0 | |
| Date: 16.02.2022 | | Sheet 17 of 18 | |
| File: pca10121_switch.SchDoc | | Drawn By: RUBR | |
| Classification: PUBLIC | | | |

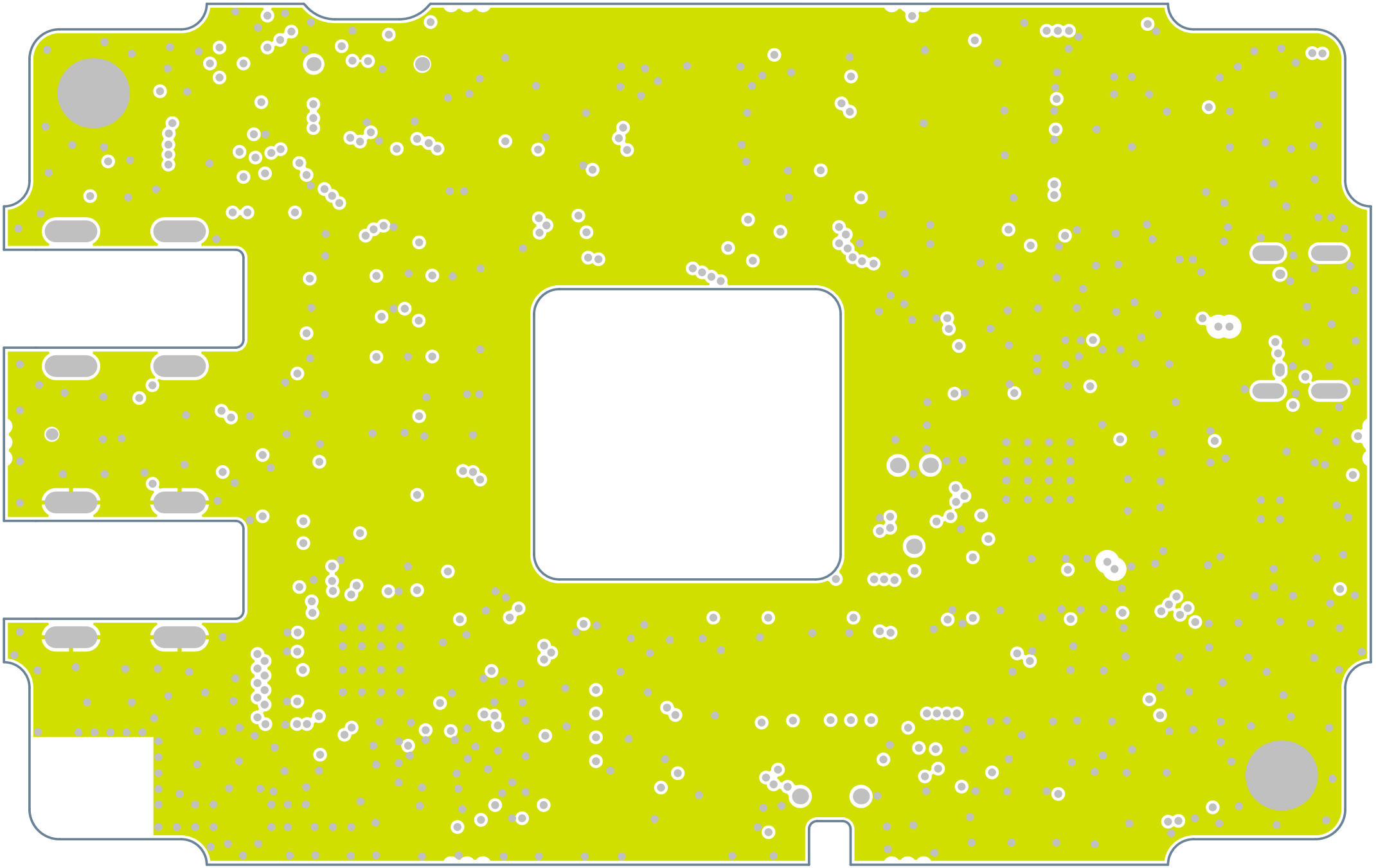


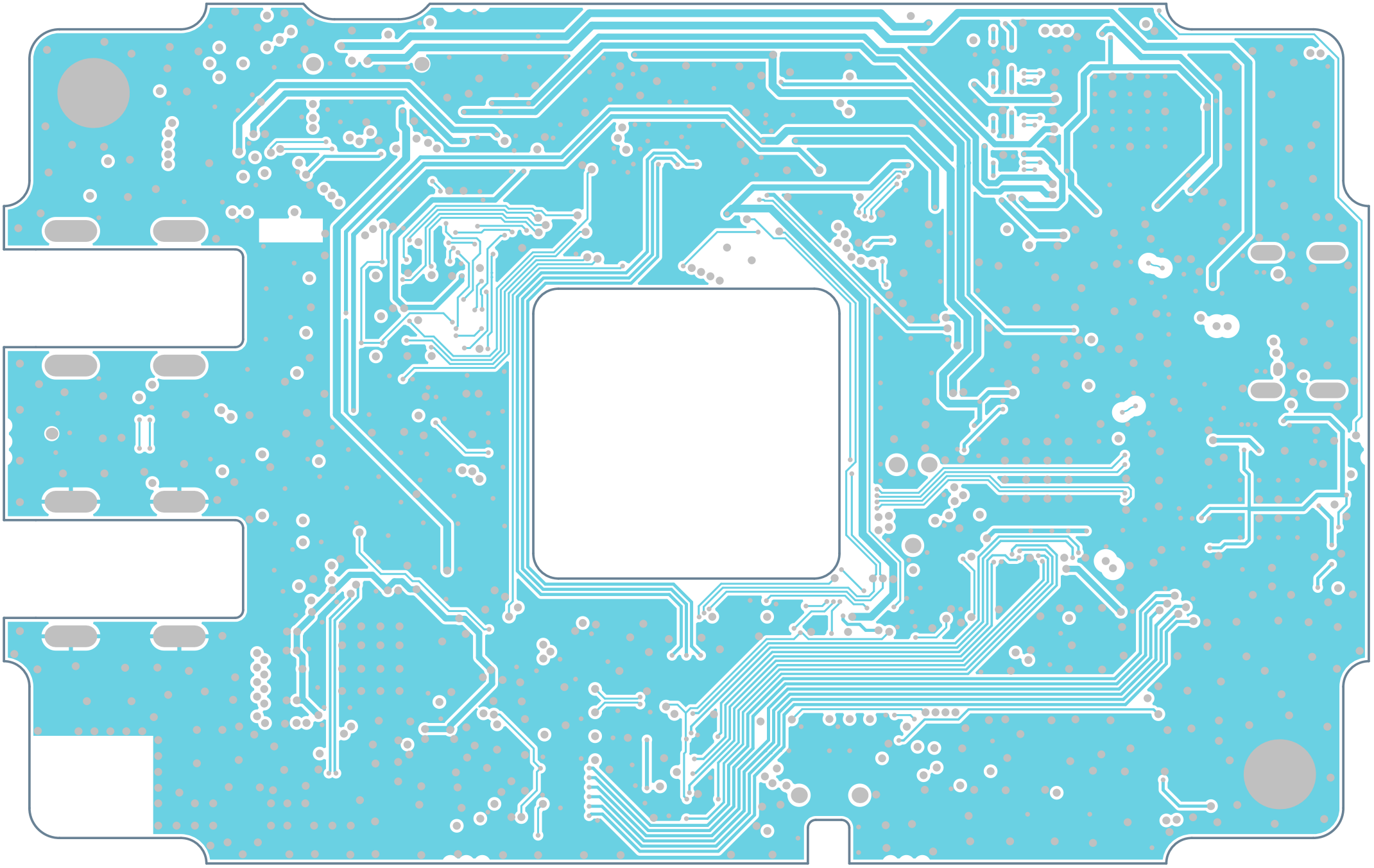

| | | |
|---|---|---|
| Title: nRF5340 Audio Development Board - Power switch | | |
| Size: A3 | PCB Assembly Number: PCA10121 | Revision: 1.0.0 |
| Date: 16.02.2022 | | Sheet 18 of 18 |
| File: pca10121_power_switch.SchDoc | | Drawn By: RUBR |
| Classification: PUBLIC | | |


nRF5340 Audio DK
nordicsemi.com/start5340AudioDK
NORDIC
SEMICONDUCTOR
ON
OFF
POWER
CODEC
BAL
HEADPHONE
MIC
LINE IN
OB/EXT
ERR
CHG
FTDI SPI
BAT
CODEC
nRF
BTN 5
BTN 4
RGB 2
LED 3
LED 2
LED 1
PLAY/PAUSE
VOL+
VOL-
RESET
ON
OFF
DEBUG
ENABLE
P0.26
P0.07
P0.05
N.C.
GND
IV8
P0.25
P0.06
P0.04
VBUS
RST
IV2
P0.12
P0.20
P0.14
P0.15
P0.19
P0.18
P0.16
P0.13
P0.17
P0.09
P0.08
P0.10
P1.09
P0.31
P1.01
P1.07
P1.10
P1.12
P0.10
P1.02
P1.08
P1.00
P1.14
P1.11
P0.09
P0.28
P1.03
P1.13

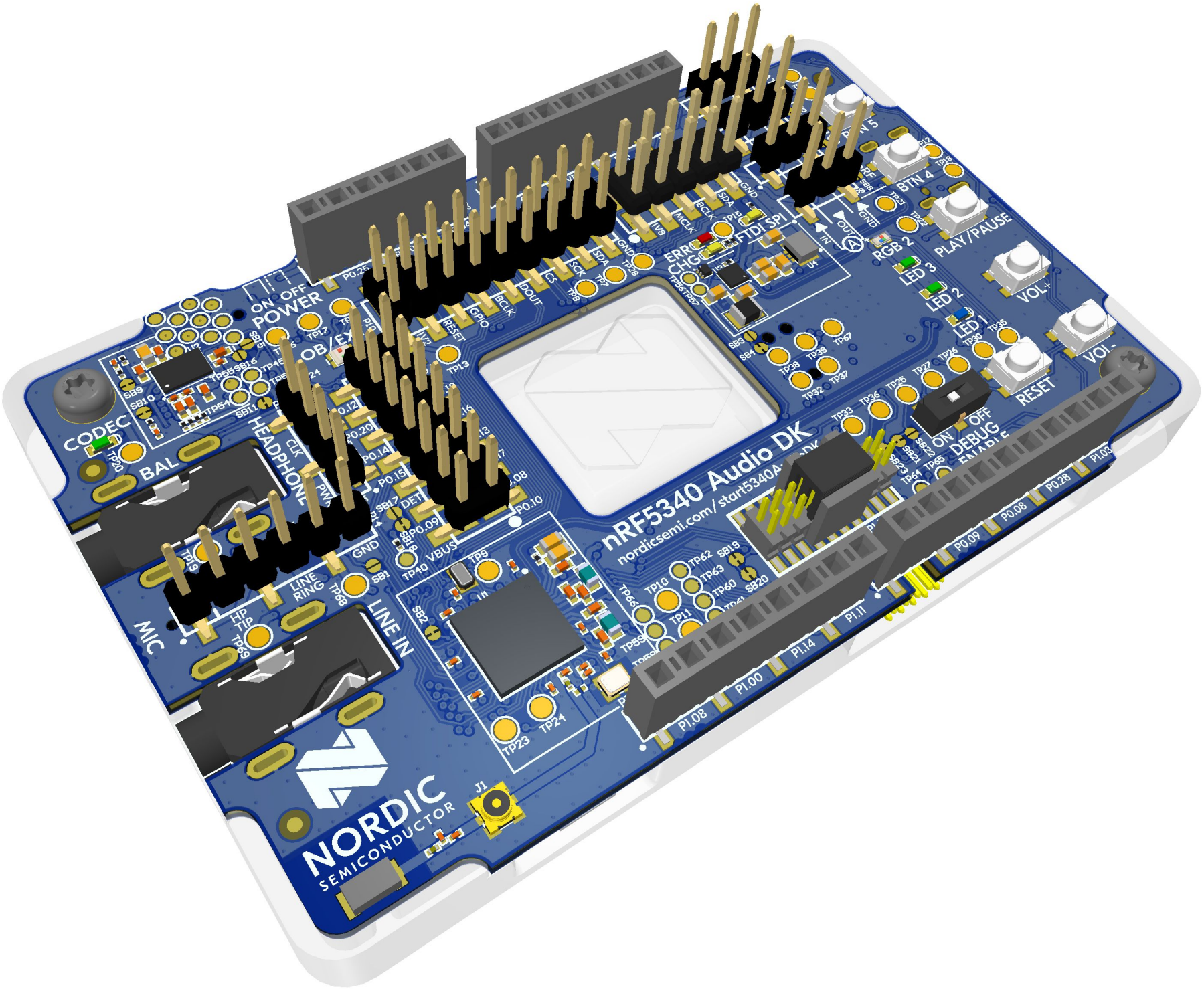


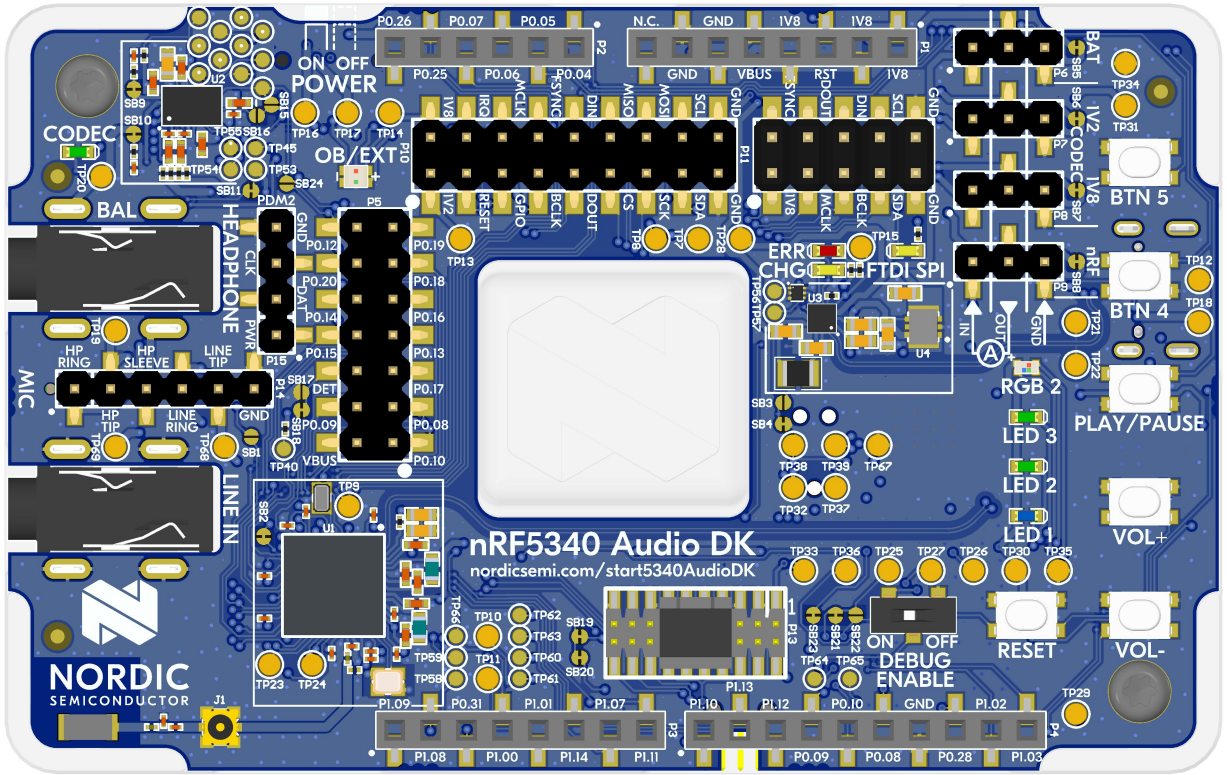






ON
OFF
400516
04ISRUBR
TP6
TP4
TP2
TP5
TP3
TP1
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nRF5340 Audio DK
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NORDIC
SEMICONDUCTOR
POWER
ON OFF
CODEC
BAL
HEADPHONE
MIC
LINE IN
LINE
RING
HP
TIP
GND
VBUS
DET
CLK
PDM
BTN 4
PLAY/PAUSE
VOL+
VOL-
RESET
RGB 2
LED 3
LED 2
LED 1
FTDI SPI
DEBUG
ENABLE
J1


nRF5340 Audio DK
nordicsemi.com/start5340AudioDK
NORDIC
SEMICONDUCTOR
ON OFF
POWER
CODEC
BAL
HEADPHONE
MIC
LINE IN
OB/EXT
PDM2
FTDI SPI
ERR
CHG
RGB 2
LED 3
LED 2
LED 1
BTN 5
BTN 4
PLAY/PAUSE
VOL+
VOL-
RESET
ON OFF
DEBUG
ENABLE
BAT
IV2
IV8
nRF
CODEC
HP RING
HP SLEEVE
LINE TIP
HP TIP
LINE RING
GND
VBUS
DET
PWR
CLK
DAT
P0.26
P0.07
P0.05
P0.25
P0.06
P0.04
N.C.
GND
IV8
VBUS
RST
MCLK
LRSYNC
DIN
MISO
MOSI
SCL
SYNC
DOUT
IRQ
RESET
GPIO
BCLK
DOUT
CS
SCK
SDA
MCLK
IN
OUT
P1.09
P0.31
P1.01
P1.07
P1.10
P1.12
P0.10
P1.02
P1.08
P1.00
P1.14
P1.11
P0.09
P0.08
P0.28
P1.03