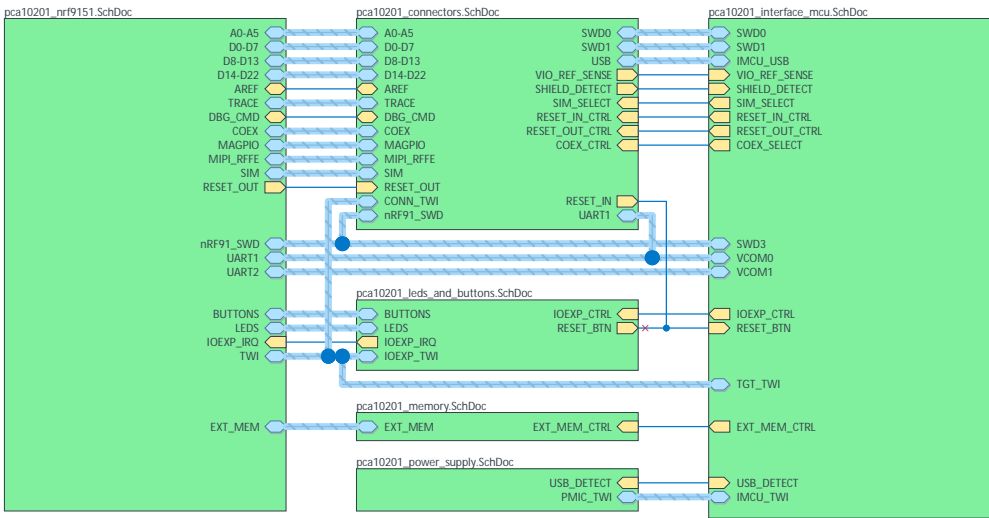


# Nordic Semiconductor ASA

## nRF9151 SMA Development Kit (PCA10201)

- Sheet 1: Top Level
- Sheet 2: nRF9151
- Sheet 3: Interface MCU
- Sheet 4: LEDs and Buttons
- Sheet 5: IO Expander
- Sheet 6: Memory
- Sheet 7: Connectors
- Sheet 8: Power Supply
- Sheet 9: Analog Switch 1
- Sheet 10: Analog Switch 2



✗ 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.



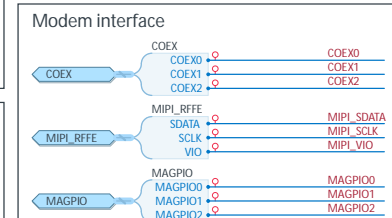
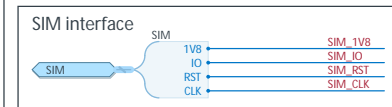
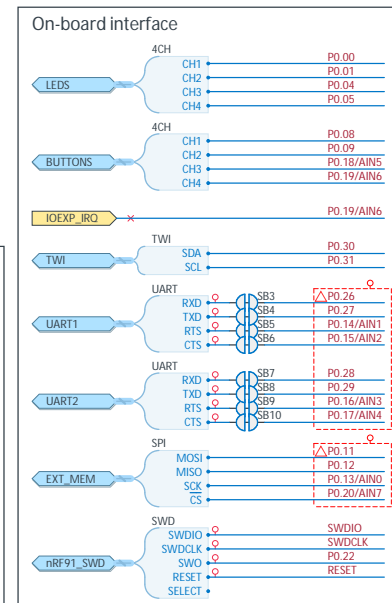
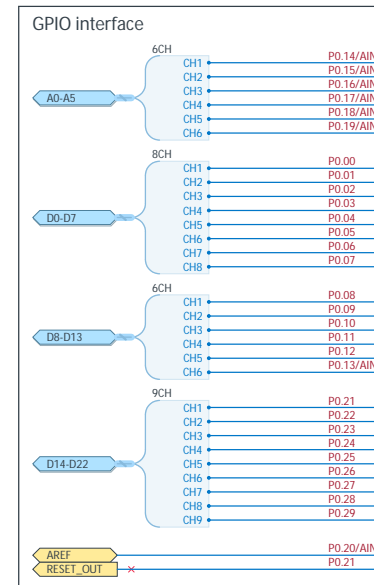
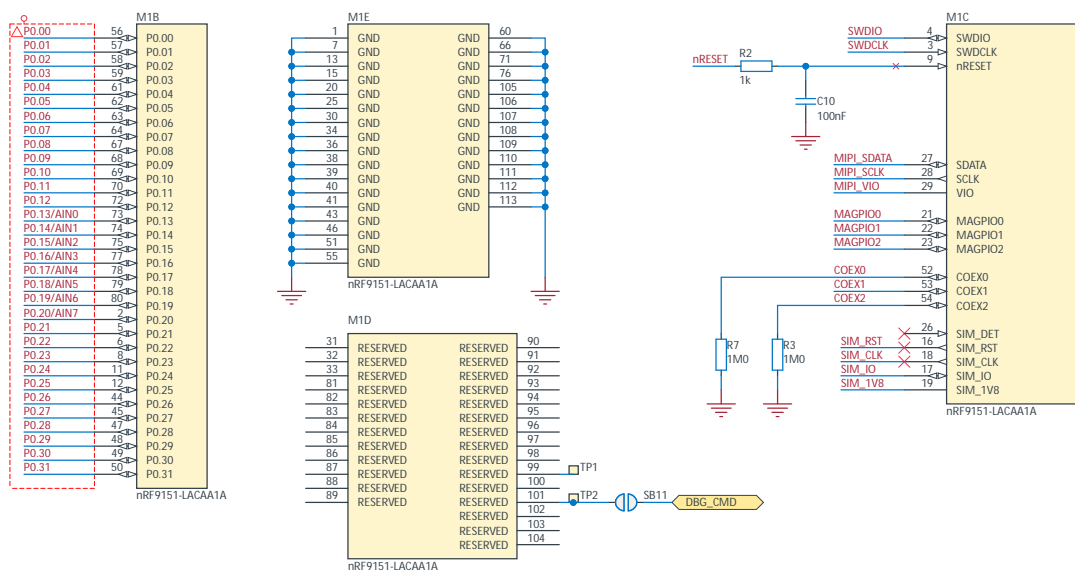
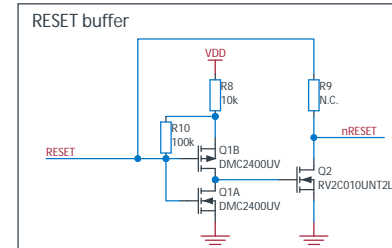
PCA10201  
1.0.0  
<year>, <week>  
<QID>

Nordic Semiconductor does not warrant the accuracy or completeness of this documentation or any included information. Nordic Semiconductor makes no assurances that this design will meet specification, be appropriate for your application, or fit for any particular purpose, or that it will function in an implementation. Nordic Semiconductor also does not claim that the design is ready for production. It is your responsibility to thoroughly validate and test your design implementation to confirm the functionality of your application.  
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Title  
nRF9151 SMA Development Kit - Top Level

Size A3	PCB Assembly Number PCA10201	Revision 1.0.0
Date: 10.12.2025	File: pca10201_top_level.SchDoc	Sheet 1 of 10
Classification: PUBLIC		Drawn By: RUBR







A

B

C

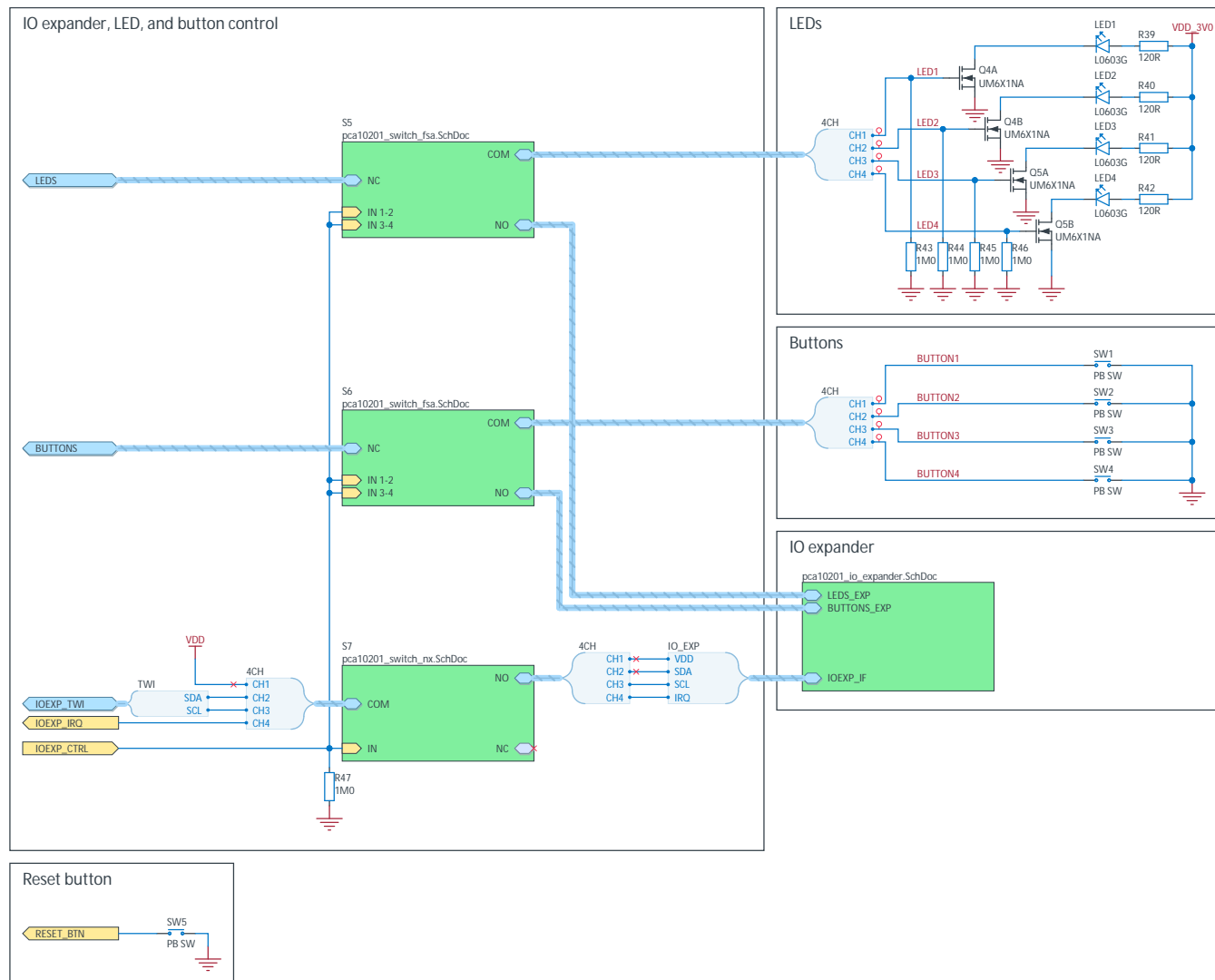
D

A

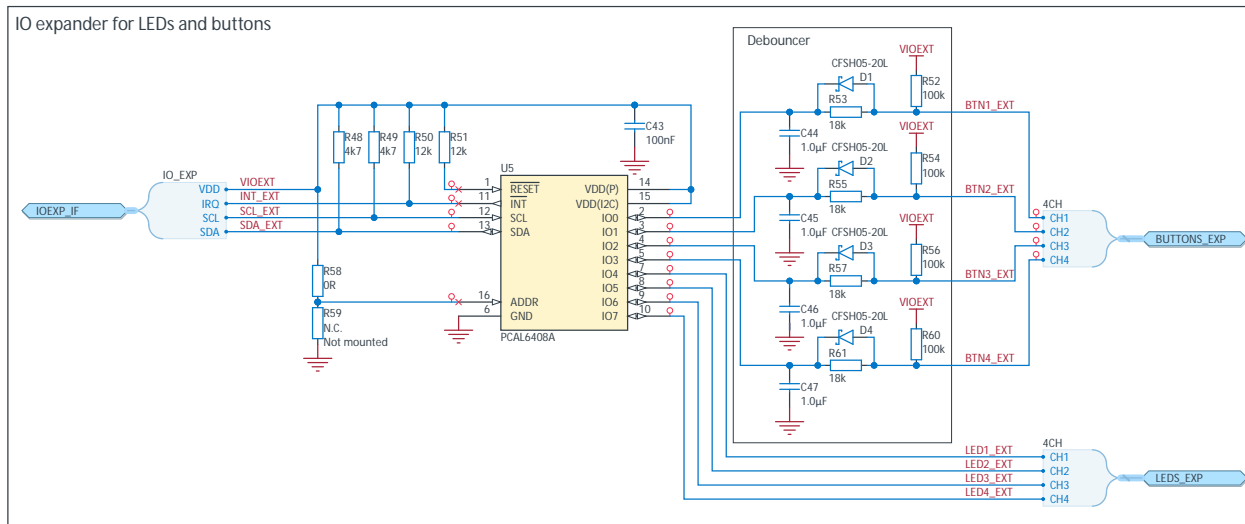
B

C

D







Title  
nRF9151 SMA Development Kit - IO Expander

Size  
A3

PCB Assembly Number  
PCA10201

Revision  
1.0.0

Date: 10.12.2025

File: pca10201\_io\_expander\_SchDoc

Classification: PUBLIC

Sheet 5 of 10

Drawn By: RUBR



A

B

C

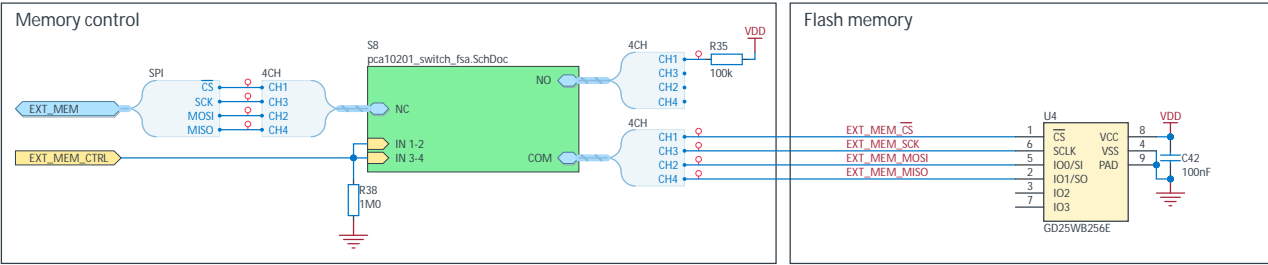
D

A

B

C

D



Title nRF9151 SMA Development Kit - Memory		
Size A3	PCB Assembly Number PCA10201	Revision 1.0.0
Date: 10.12.2025		Sheet 6 of 10
File: pca10201_memory.SchDoc		Drawn By: RUBR
Classification: PUBLIC		



[illegible][illegible][illegible]

The diagram illustrates the connection of the SWD00 module to a P19 pin header. The connections are as follows:

- Pin 1: VIO\_REF
- Pin 2: VDD
- Pin 10: Ground
- Pin 3: SWD
- Pin 4: SELECT
- Pin 5: SWDIO
- Pin 6: SWDCLK
- Pin 7: SWO
- Pin 8: RESET
- Pin 9: (Unlabeled)

A blue arrow labeled SWD00 points to the SWD pin (Pin 3).

Pin Header 2x10, 1.27mm, SWD

VDD

P25

1 2

3 4

5 6

7 8

9 10

11 12

13 14

15 16

17 18

19 20

SWDIO

SWDCLK

SWO

\*SELECT

RESET

TRACE

CLK

DATA0

DATA1

DATA2

DATA3

TRACE

The diagram illustrates the hardware connections for the USB-to-UART bridge. It shows a microSD card (J8) connected to the bridge's pins. The bridge's UART pins are connected to a USB-to-UART bridge module (UART1).

**MicroSD Card (J8) Connections:**

- VDD (Pin 4) to VDD
- DAT0 (Pin 8) to DATA0
- DAT1 (Pin 7) to DATA1
- DAT2 (Pin 1) to DATA2
- CD/DAT3 (Pin 2) to DATA3
- CLK (Pin 5) to CLK
- CLK CMD (Pin 3) to DBG CMD
- GND (Pin 10) to GND
- Shield (Pin 9) to GND
- VSS (Pin 0) to GND
- VSS (Pin 6) to GND

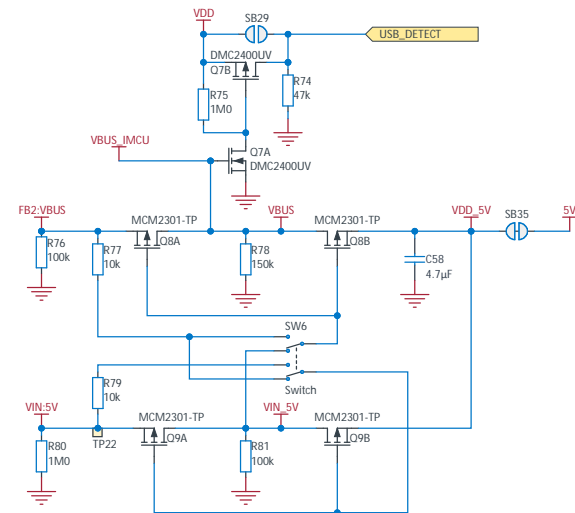
**UART Connections:**

- UART (Pin SB20) to UART1
- CTS (Pin 6) to CTS
- TXD (Pin 5) to TXD
- RXD (Pin 4) to RXD
- RTS (Pin 3) to RTS
- RTS (Pin 2) to GND
- RTS (Pin 1) to GND

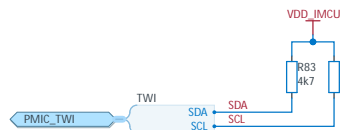
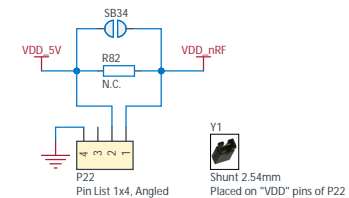
**Pin List 1x6, Angled Not mounted:**

- Pin 6: CTS
- Pin 5: TXD
- Pin 4: RXD
- Pin 3: RTS
- Pin 2: GND
- Pin 1: GND

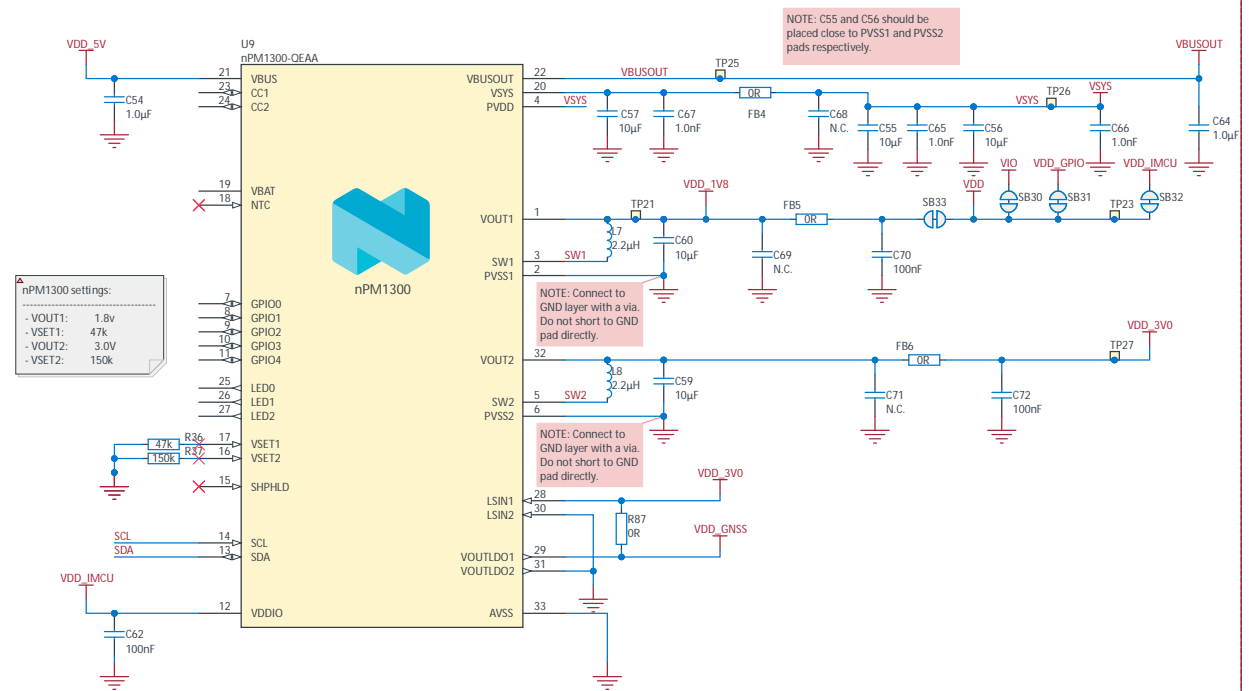
## Power input selection and power switch



## nRF91 VDD current measurement



## Power management



Instrument ground



Title  
nRF9151 SMA Development Kit - Power Supply

Size  
A3

Date: 10.12.2025

File: pca10201\_power\_supply.SchDoc

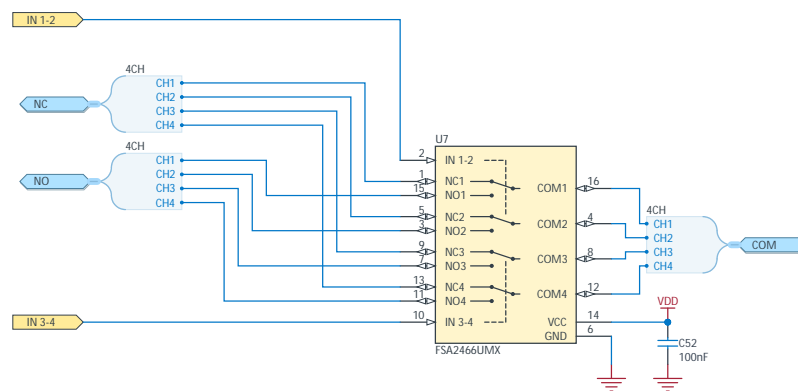
Classification: PUBLIC

Revision  
1.0.0

Sheet 8 of 10

Drawn By: RUBR



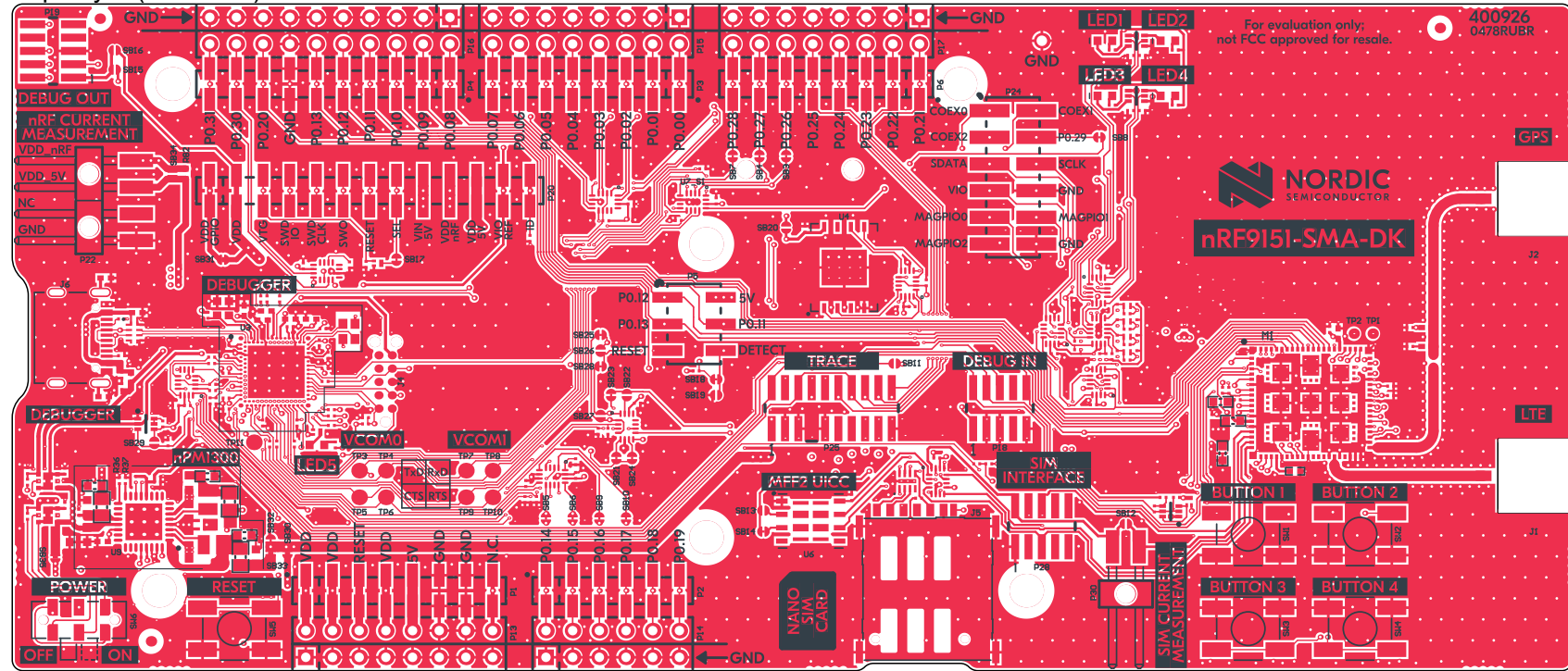


Title nRF9151 SMA Development Kit - Switch FSA		
Size A3	PCB Assembly Number PCA10201	Revision 1.0.0
Date: 10.12.2025	File: pca10201_switch_fsa_SchDoc	Sheet 9 of 10
Classification: PUBLIC	Drawn By: RUBR	





# Top Layer (Scale 3:2)

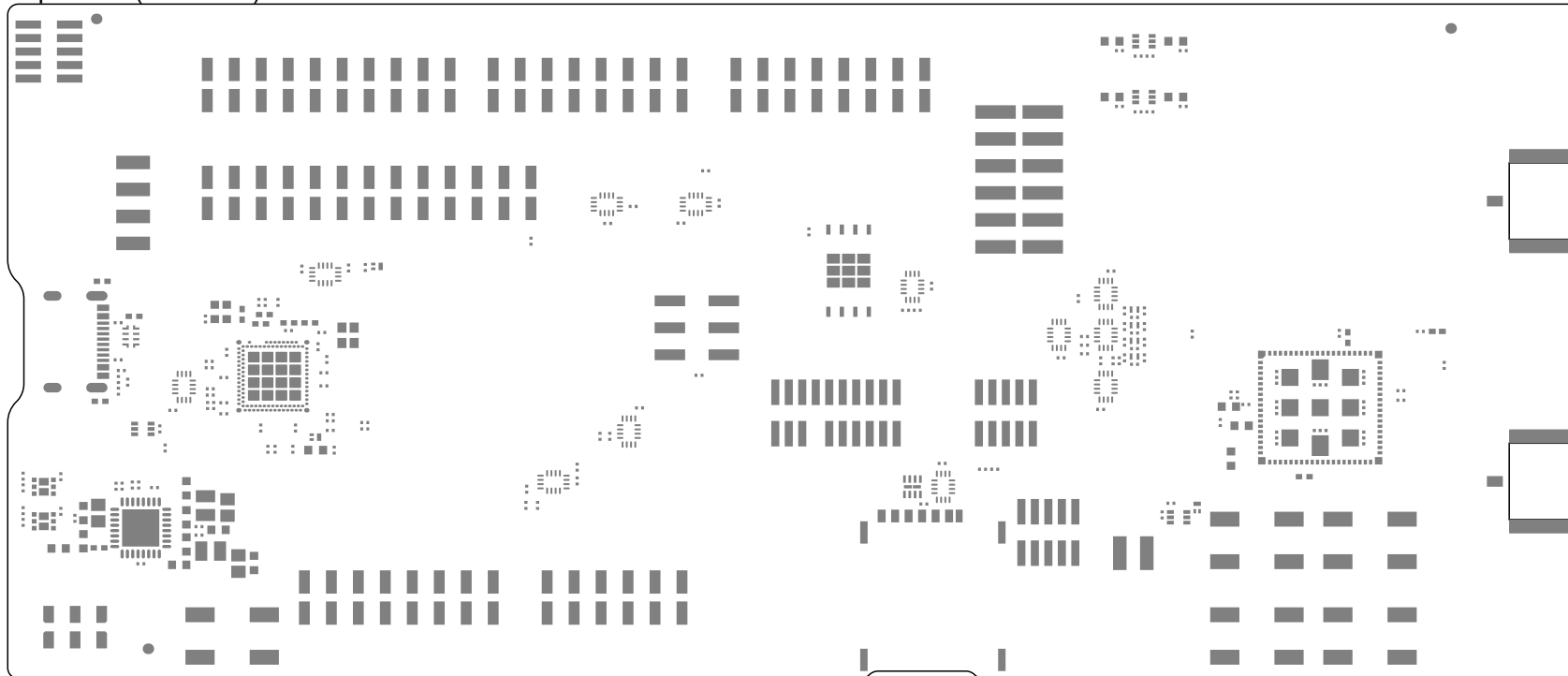


Title nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 1 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		





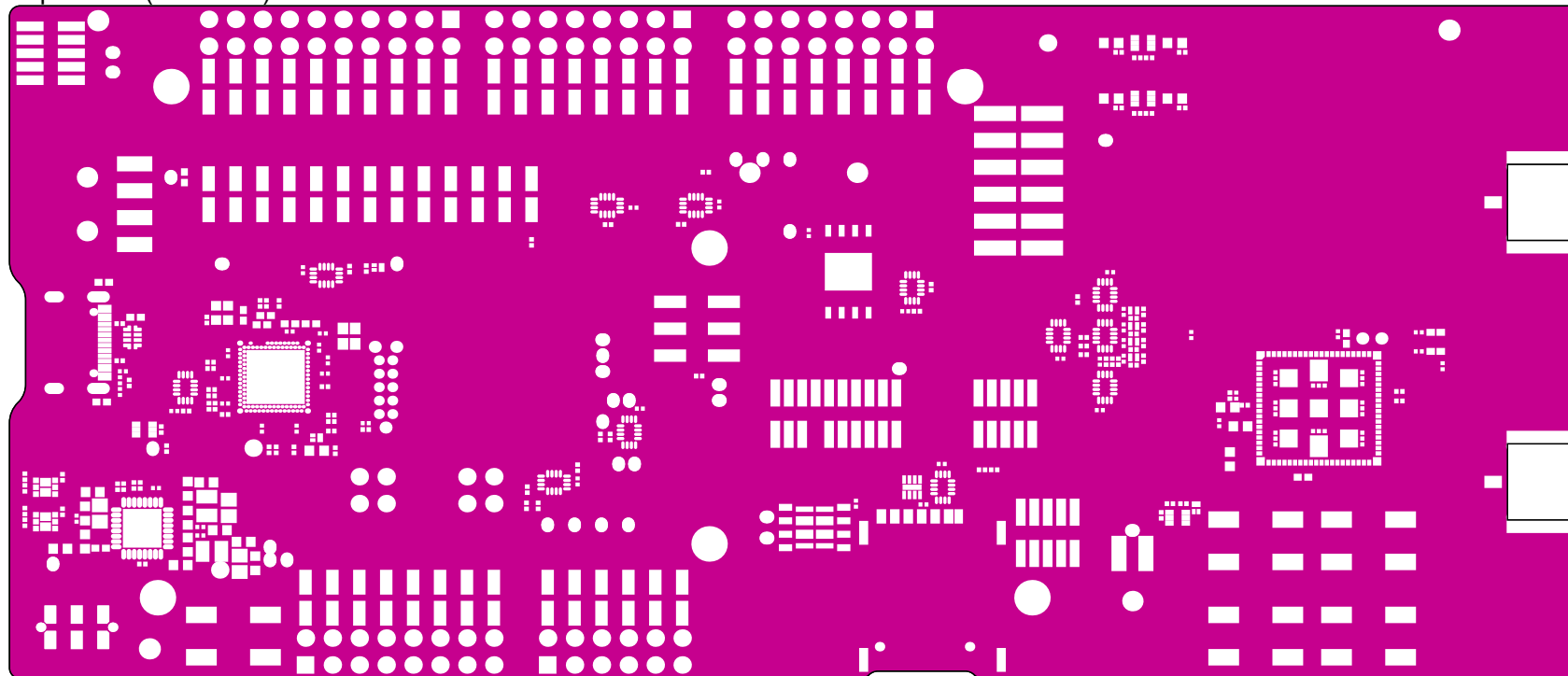
Top Paste (Scale 3:2)



Title			nRF9151 SMA Development Kit		
Size:	A4	Part Number:	400926	Revision:	0478RUBR
Date:	10.12.2025			Sheet	3 of 15
File:	400926_pcb_prints.PCBDwf			Drawn By:	RUBR
Classification:	PUBLIC				



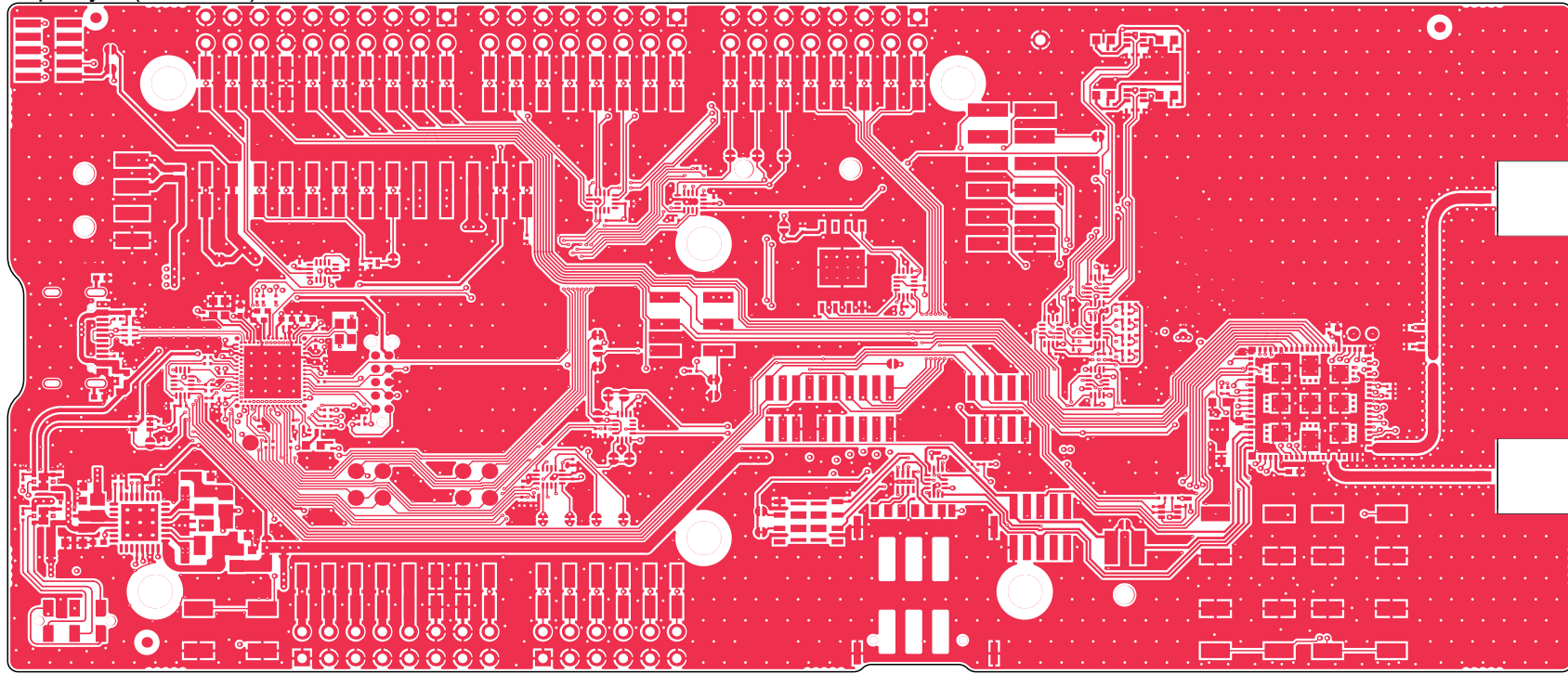
Top Solder (Scale 3:2)



Title		
nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 4 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		



Top Layer (Scale 3:2)



Title nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 5 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		

1

2

3

4

1

2

3

4

A

B

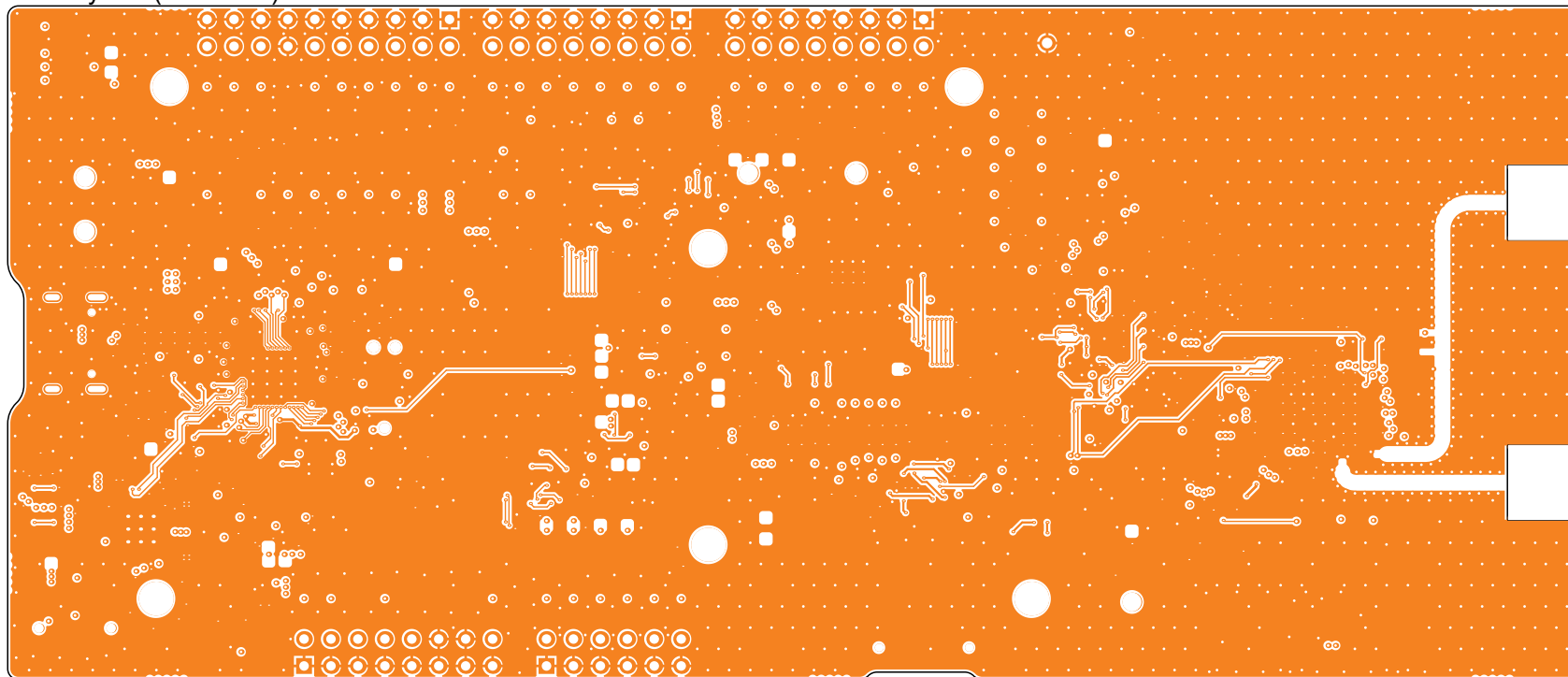
C

D

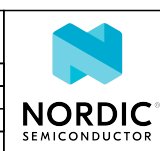
E

F

Mid-Layer 1 (Scale 3:2)



Title		
nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 6 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		



A

B

C

D

E

F

1

2

3

4

1

2

3

4

A

B

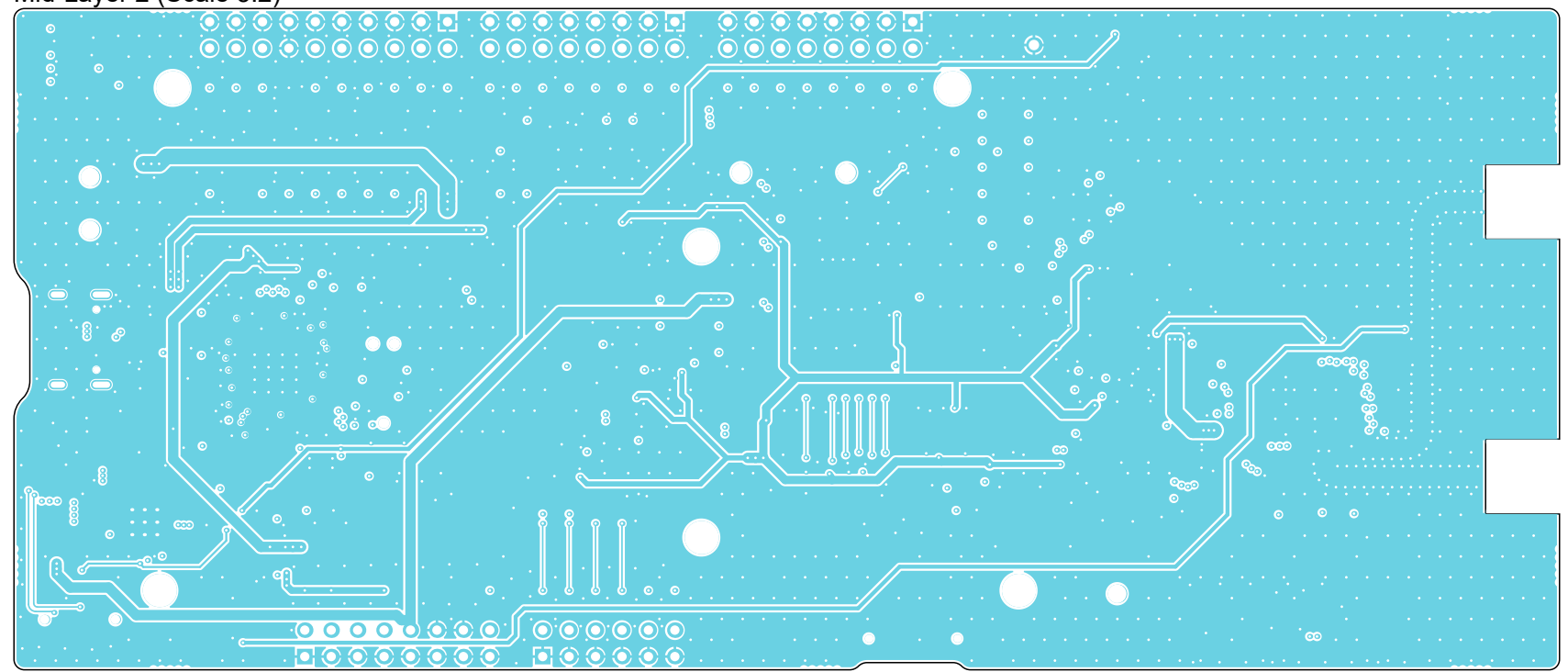
C

D

E

F

Mid-Layer 2 (Scale 3:2)



Title			nRF9151 SMA Development Kit		
Size:	A4	Part Number:	400926	Revision:	0478RUBR
Date:	10.12.2025			Sheet	7 of 15
File:	400926_pcb_prints.PCBDwf			Drawn By:	RUBR
Classification:	PUBLIC				



A

B

C

D

E

F

1

2

3

4

A

B

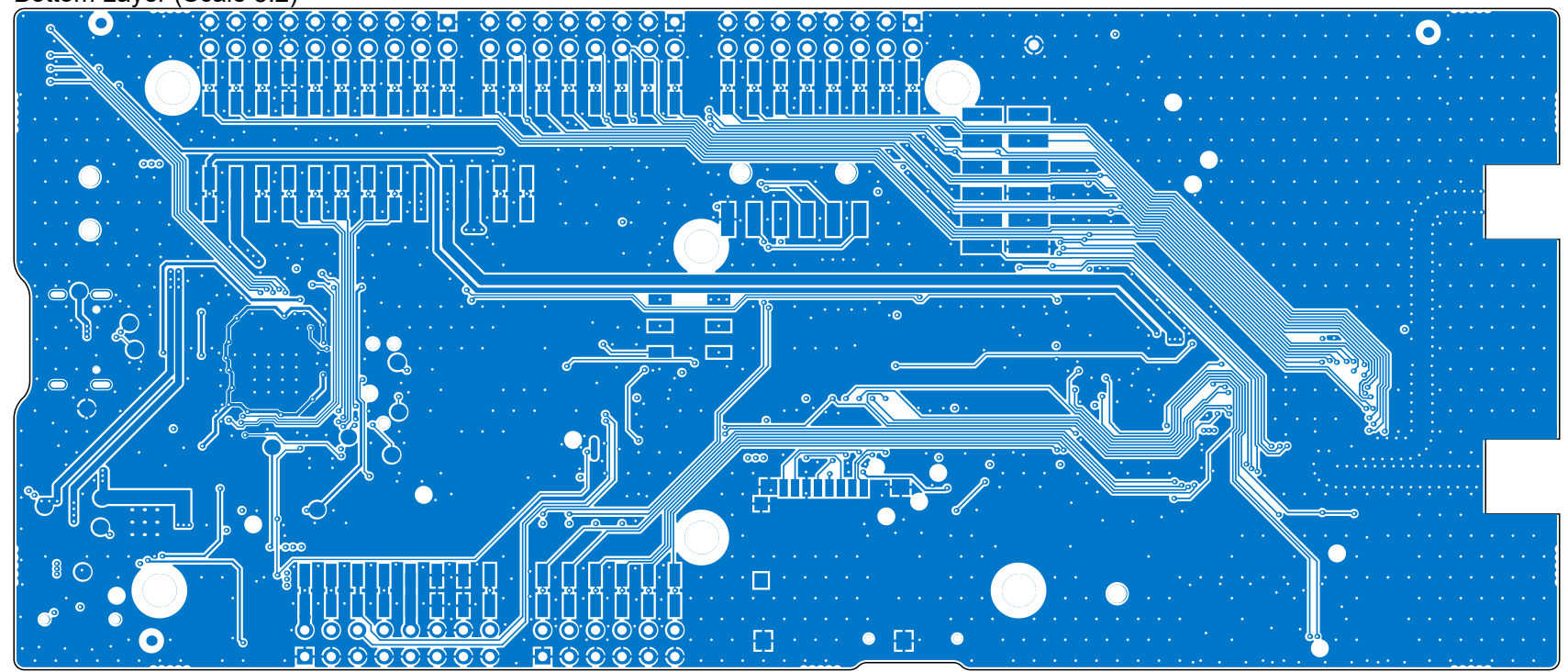
C

D

E

F

Bottom Layer (Scale 3:2)



1

2

3

4

Title			nRF9151 SMA Development Kit		
Size:	A4	Part Number:	400926	Revision:	0478RUBR
Date:	10.12.2025			Sheet	8 of 15
File:	400926_pcb_prints.PCBDwf			Drawn By:	RUBR
Classification:	PUBLIC				



A

B

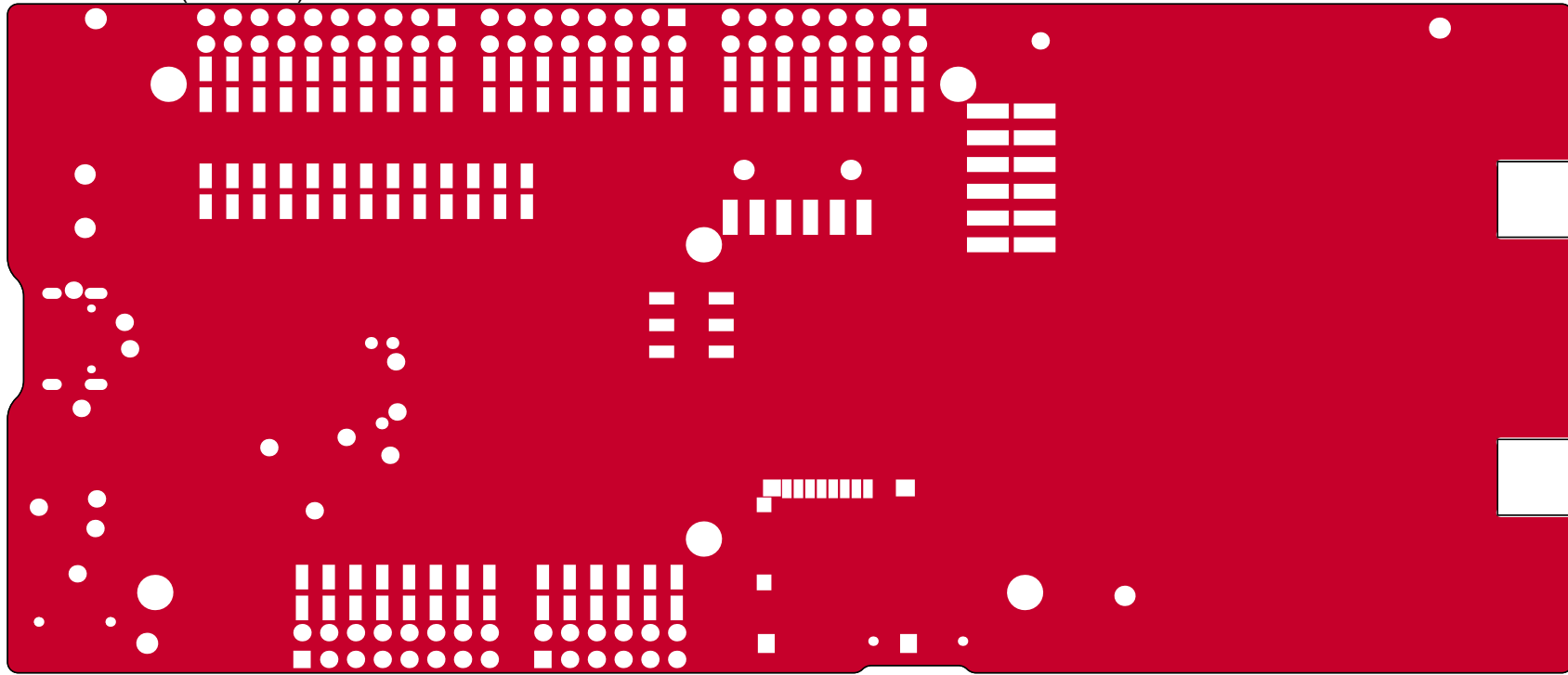
C

D

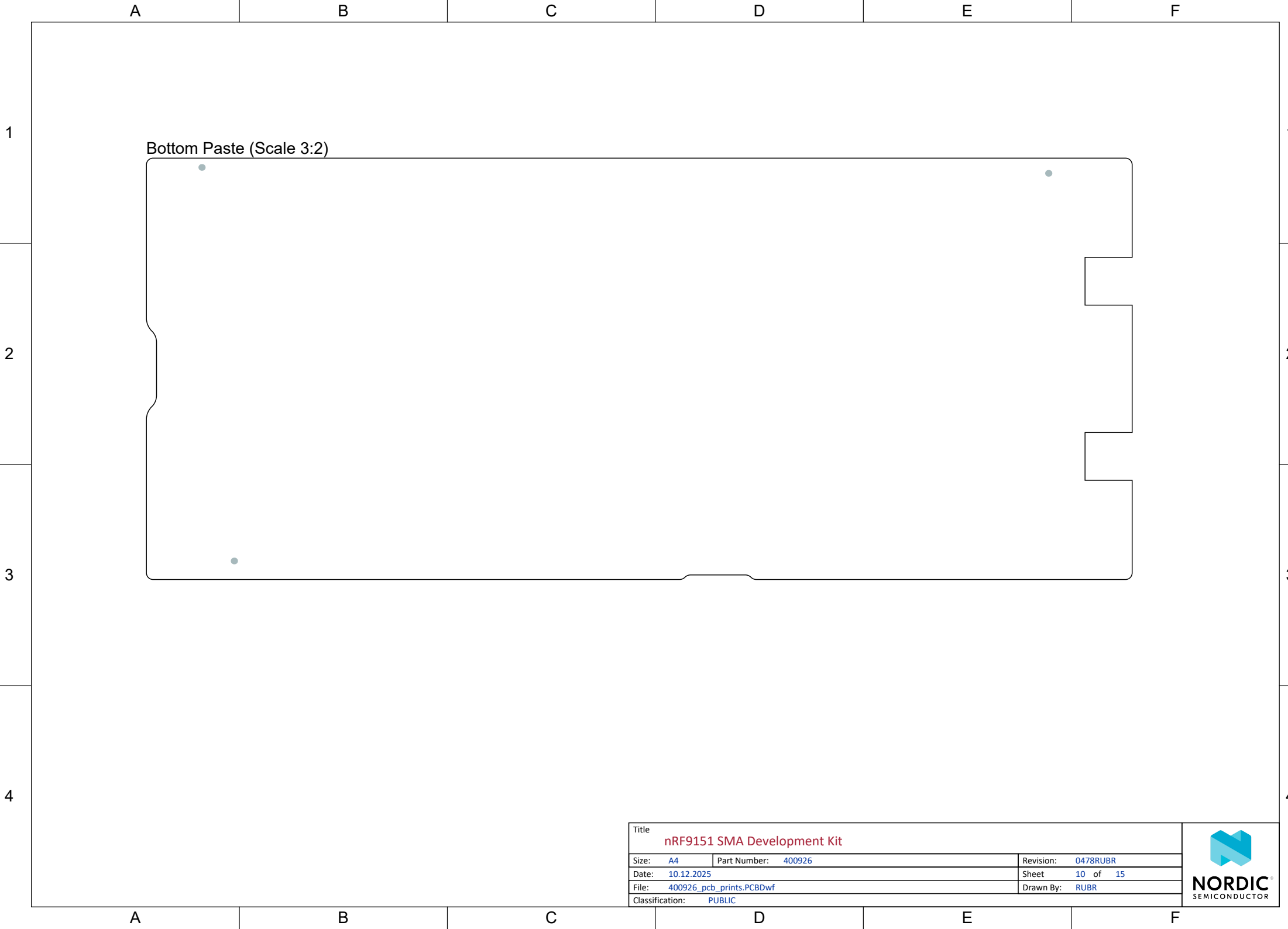
E

F

Bottom Solder (Scale 3:2)

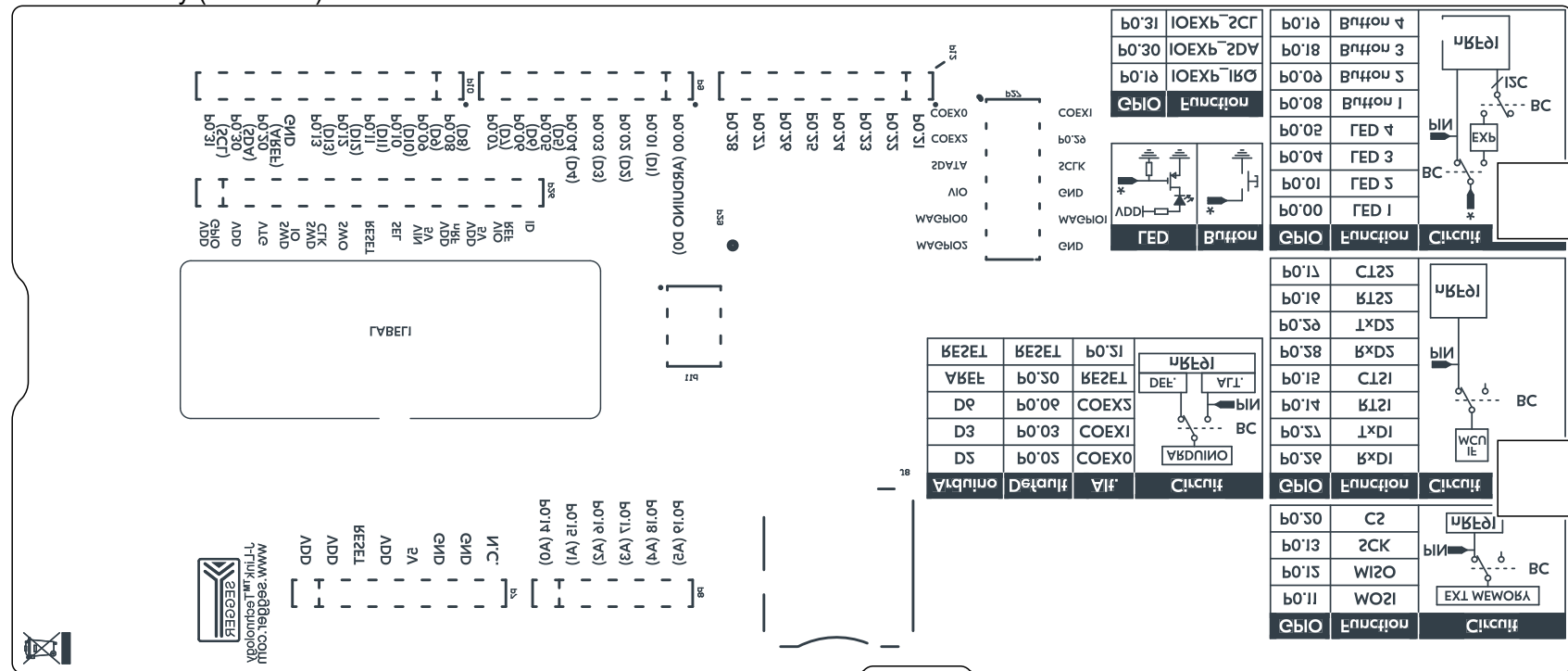


Title		
nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 9 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		





# Bottom Overlay (Scale 3:2)



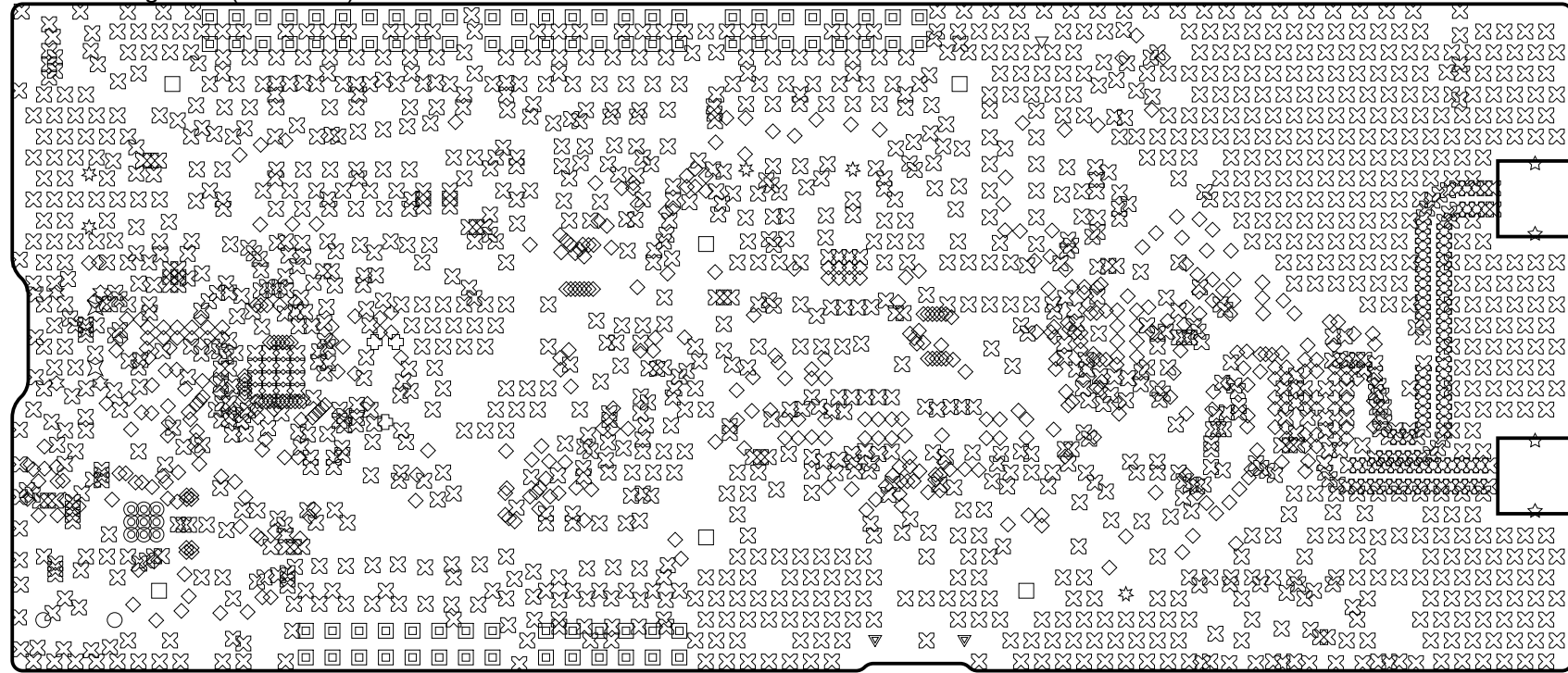
Title		
nRF9151 SMA Development Kit		
Size: A4	Part Number: 400926	Revision: 0478RUBR
Date: 10.12.2025		Sheet 11 of 15
File: 400926_pcb_prints.PCBDwf		Drawn By: RUBR
Classification: PUBLIC		



Title <b>nRF9151 SMA Development Kit</b>		
Size: <b>A4</b>	Part Number: <b>400926</b>	Revision: <b>0478RUBR</b>
Date: <b>10.12.2025</b>		Sheet <b>12</b> of <b>15</b>
File: <b>400926_pcb_prints.PCBDwf</b>		Drawn By: <b>RUBR</b>
Classification: <b>PUBLIC</b>		



Drill Drawing View (Scale 3:2)

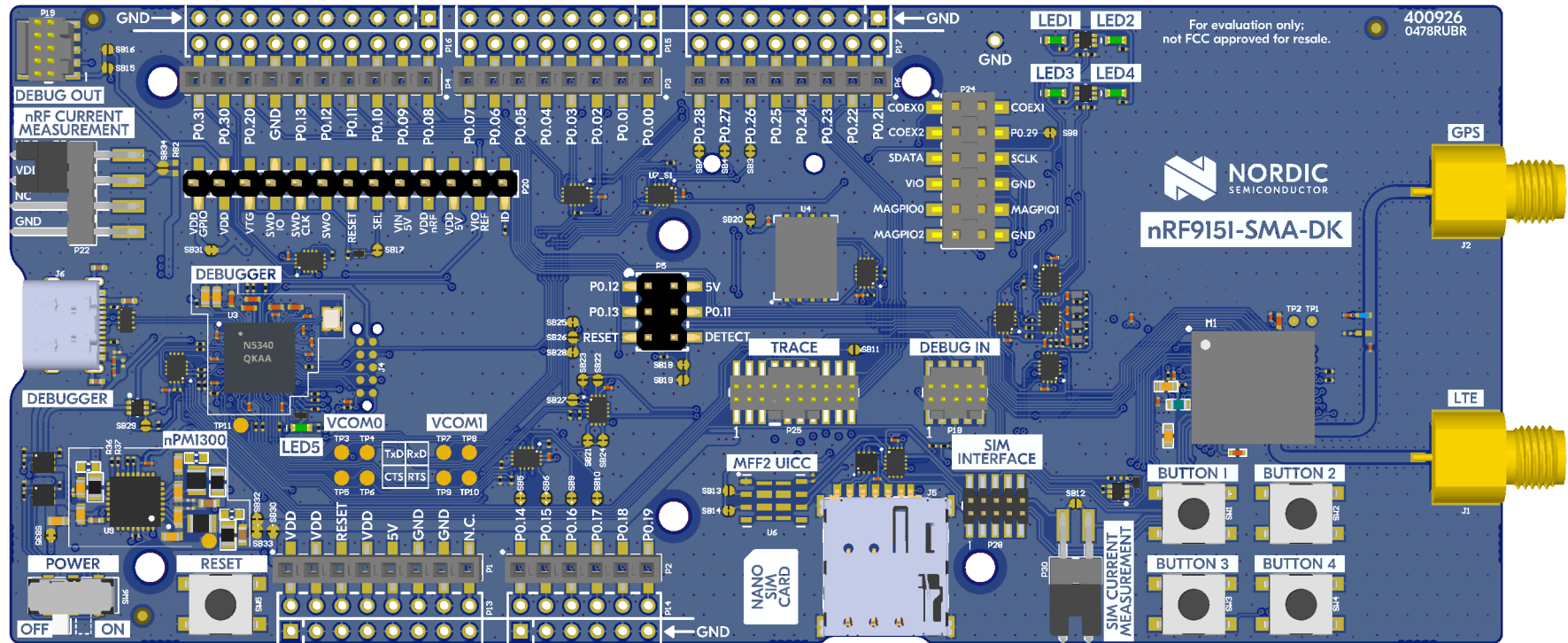


Drill Table

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair
◇	519	0.10mm	Plated	Round	Top Layer - Mid-Layer 1
⊗	1704	0.25mm	Plated	Round	Top Layer - Bottom Layer
◎	9	0.30mm	Plated	Round	Top Layer - Bottom Layer
☆	4	0.50mm	Plated	Slot	Top Layer - Bottom Layer
✧	2	0.60mm	Non-Plated	Round	Top Layer - Bottom Layer
☆	4	0.60mm	Plated	Slot	Top Layer - Bottom Layer
▼	2	0.75mm	Non-Plated	Round	Top Layer - Bottom Layer
○	2	0.90mm	Non-Plated	Round	Top Layer - Bottom Layer
□	80	0.90mm	Plated	Round	Top Layer - Bottom Layer
⊕	3	0.99mm	Non-Plated	Round	Top Layer - Bottom Layer
▽	1	1.00mm	Plated	Round	Top Layer - Bottom Layer
☆	5	1.78mm	Non-Plated	Round	Top Layer - Bottom Layer
□	6	3.20mm	Non-Plated	Round	Top Layer - Bottom Layer
2341 Total					

Title <b>nRF9151 SMA Development Kit</b>		
Size: <b>A4</b>	Part Number: <b>400926</b>	Revision: <b>0478RUBR</b>
Date: <b>10.12.2025</b>	Sheet <b>13</b> of <b>15</b>	
File: <b>400926_pcb_prints.PCBDwf</b>	Drawn By: <b>RUBR</b>	
Classification: <b>PUBLIC</b>		

Realistic Top View (Scale 2:1)



Title			nRF9151 SMA Development Kit		
Size:	A4	Part Number:	400926	Revision:	0478RUBR
Date:	10.12.2025			Sheet	14 of 15
File:	400926_pcb_prints.PCBDwf			Drawn By:	RUBR
Classification:	PUBLIC				

SEGGER  
J-Link v11 technology  
www.segger.com

VDD  
GPIO  
VDD  
VTG  
SWD  
IO  
SWD  
CLK  
GND  
P0.31 (SCL)  
P0.30 (SDA)  
P0.20 (AREF)  
P0.13  
P0.12  
P0.11  
P0.10 (SEL)  
P0.09 (VIN)  
P0.08 (5V)  
P0.07 (nRF)  
P0.06 (VDD)  
P0.05 (REF)  
P0.04 (D4)  
P0.03 (D3)  
P0.02 (D2)  
P0.01 (D1)  
P0.00 (ARDUINO D0)

RESET  
P0.15 (A0)  
P0.14 (A1)  
P0.16 (A2)  
P0.17 (A3)  
P0.18 (A4)  
P0.19 (A5)

5V  
GND  
GND  
N.C.

11d

11a

11b

11c

11e

11f

11g

11h

11i

11j

11k

11l

11m

11n

11o

11p

11q

11r

11s

11t

11u

11v

11w

11x

11y

11z

11aa

11ab

11ac

11ad

11ae

11af

11ag

11ah

11ai

11aj

11ak

11al

11am

11an

11ao

11ap

11aq

11ar

11as

11at

11au

11av

11aw

11ax

11ay

11az

11ba

11bb

11bc

11bd

11be

11bf

11bg

11bh

11bi

11bj

11bk

11bl

11bm

11bn

11bo

11bp

11bq

11br

11bs

11bt

11bu

11bv

11bw

11bx

11by

11bz

11ca

11cb

11cc

11cd

11ce

11cf

11cg

11ch

11ci

11cj

11ck

11cl

11cm

11cn

11co

11cp

11cq

11cr

11cs

11ct

11cu

11cv

11cw

11cx

11cy

11cz

11da

11db

11dc

11dd

11de

11df

11dg

11dh

11di

11dj

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11dt

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11ec

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11et

11eu

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11ey

11ez

11fa

11fb

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11fd

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11ff

11fg

11fh

11fi

11fj

11fk

11fl

11fm

11fn

11fo

11fp

11fq

11fr

11fs

11ft

11fu

11fv

11fw

11fx

11fy

11fz

11ga

11gb

11gc

11gd

11ge

11gf

11gg

11gh

11gi

11gj

11gk

11gl

11gm

11gn

11go

11gp

11gq

11gr

11gs

11gt

11gu

11gv

11gw

11gx

11gy

11gz

11ha

11hb

11hc

11hd

11he

11hf

11hg

11hh

11hi

11hj

11hk

11hl

11hm

11hn

11ho

11hp

11hq

11hr

11hs

11ht

11hu

11hv

11hw

11hx

11hy

11hz

11ia

11ib

11ic

11id

11ie

11if

11ig

11ih

11ii

11ij

11ik

11il

11im

11in

11io

11ip

11iq

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11it

11iu

11iv

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11iy

11iz

11ja

11jb

11jc

11jd

11je

11jf

11jg

11jh

11ji

11jj

11jk

11jl

11jm

11jn

11jo

11jp

11jq

11jr

11js

11jt

11ju

11jv

11jw

11jx

11jy

11jz

11ka

11kb

11kc

11kd

11ke

11kf

11kg

11kh

11ki

11kj

11kk

11kl

11km

11kn

11ko

11kp

11kq

11kr

11ks

11kt

11ku

11kv

11kw

11kx

11ky

11kz

11la

11lb

11lc

11ld

11le

11lf

11lg

11lh

11li

11lj

11lk

11ll

11lm

11ln

11lo

11lp

11lq

11lr

11ls

11lt

11lu

11lv

11lw

11lx

11ly

11lz

11ma

11mb

11mc

11md

11me

11mf

11mg

11mh

11mi

11mj

11mk

11ml

11mm

11mn

11mo

11mp

11mq

11mr

11ms

11mt

11mu

11mv

11mw

11mx

11my

11mz

11na

11nb

11nc

11nd

11ne

11nf

11ng

11nh

11ni

11nj

11nk

11nl

11nm

11nn

11no

11np

11nq

11nr

11ns

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11nu

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Title <b>nRF9151 SMA Development Kit</b>		
Size: <b>A4</b>	Part Number: <b>400926</b>	Revision: <b>0478RUBR</b>
Date: <b>10.12.2025</b>		Sheet <b>15</b> of <b>15</b>
File: <b>400926_pcb_prints.PCBDwf</b>		Drawn By: <b>RUBR</b>
Classification: <b>PUBLIC</b>		

