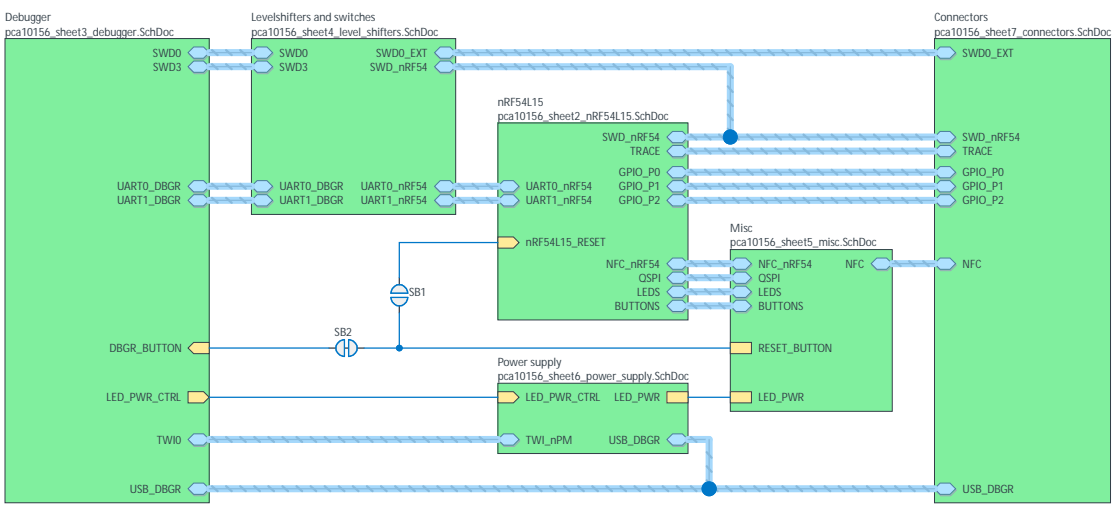


Nordic Semiconductor ASA

nRF54L15 Preview Development Kit (PCA10156)

- Sheet 1: Connections
- Sheet 2: nRF54L15
- Sheet 3: Debugger
- Sheet 4: Level Shifters
- Sheet 5: Misc
- Sheet 6: Power Supply
- Sheet 7: Connectors



✖ 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.

Board fiducials

Logo's and markings

PCA10156
0.8.1
<year> <week>
<UID>



Title
nRF54L15-PDK - Connections

Size
A3

PCB Assembly Number
PCA10156

Revision
0.8.1

Date: 25.06.2024

File: pca10156_sheet1_connections.SchDoc

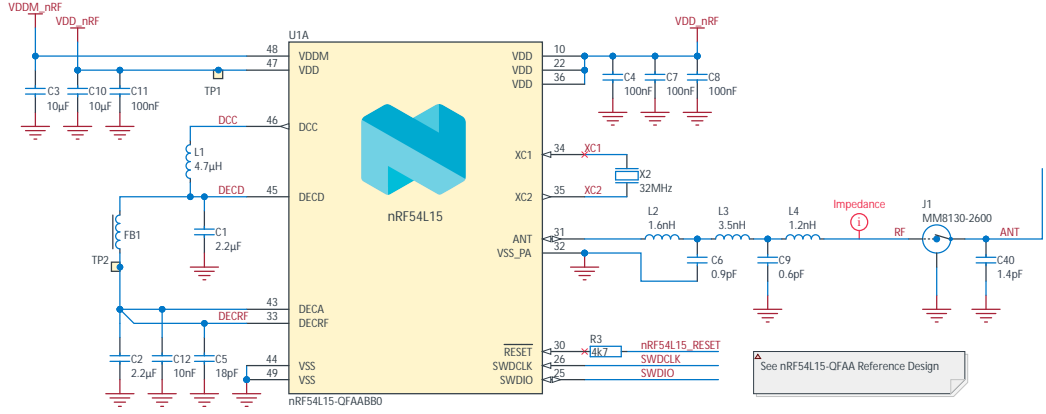
Classification: PUBLIC

Sheet 1 of 7

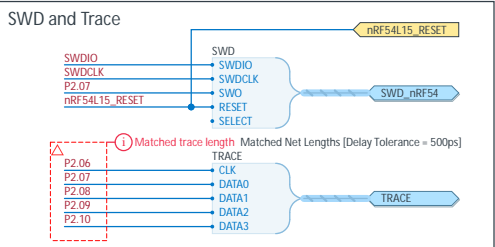
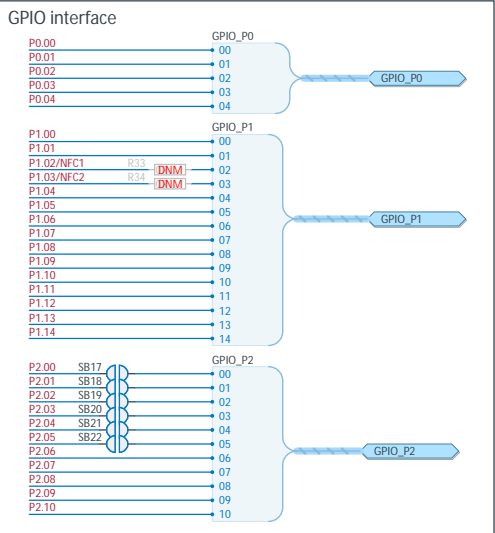
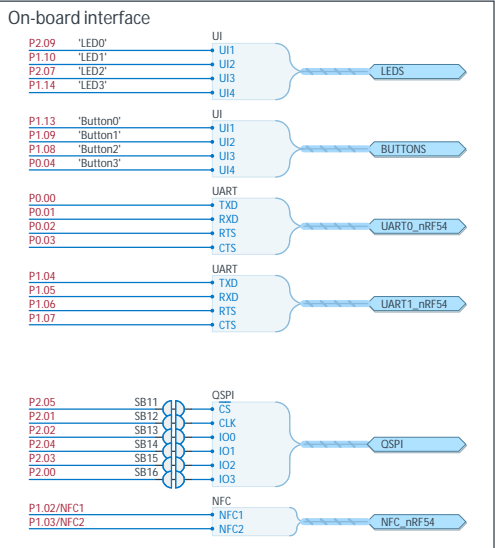
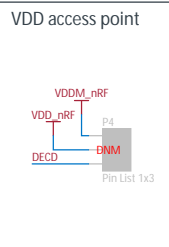
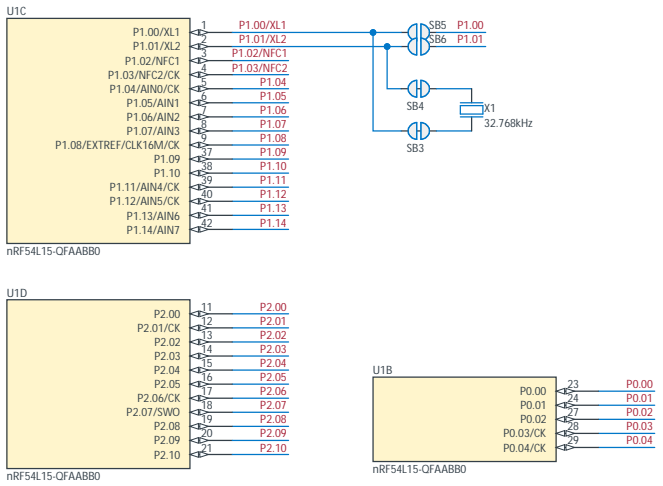
Drawn By: STL



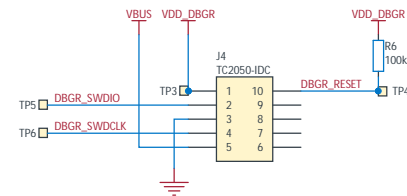
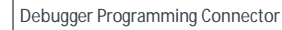
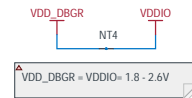
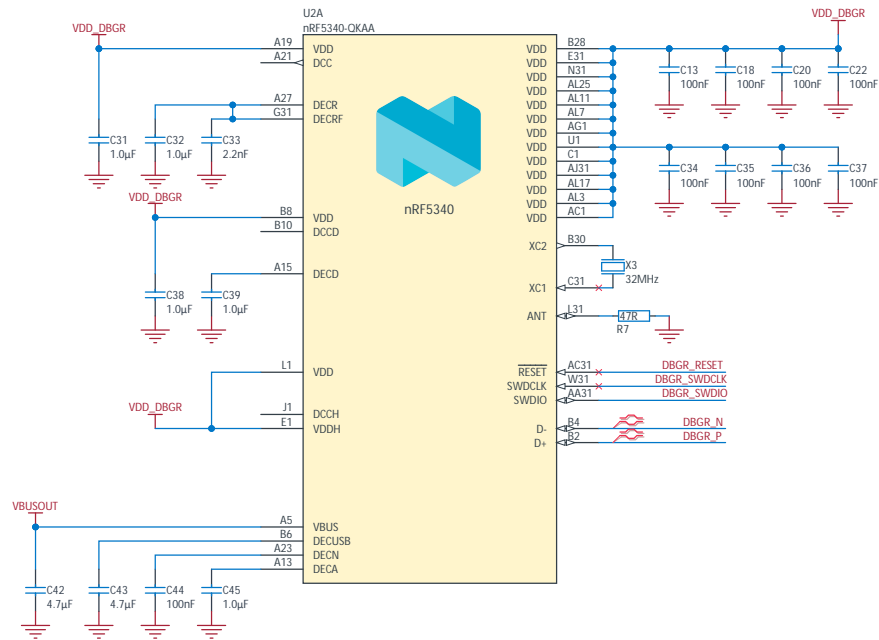
For this version of the DK, the VDDM pin provides the main power source to nRF54L15.
Reference designs v0.7 and newer will have the VDDM pin 48 renamed to VDD and shorted to VDD pin 47.



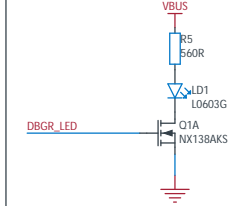
See nRF54L15-QFAA Reference Design



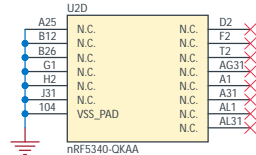
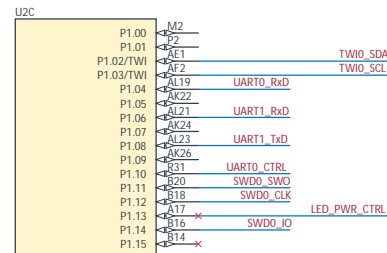
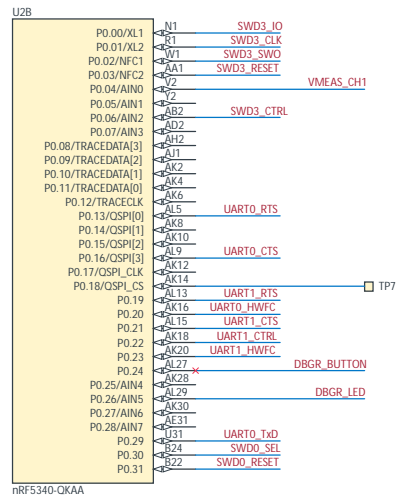
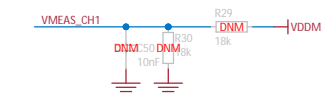
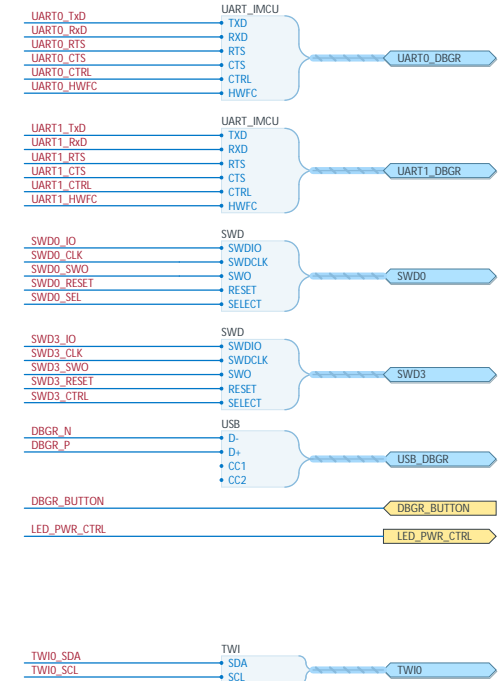
Debugger



LED



Ports

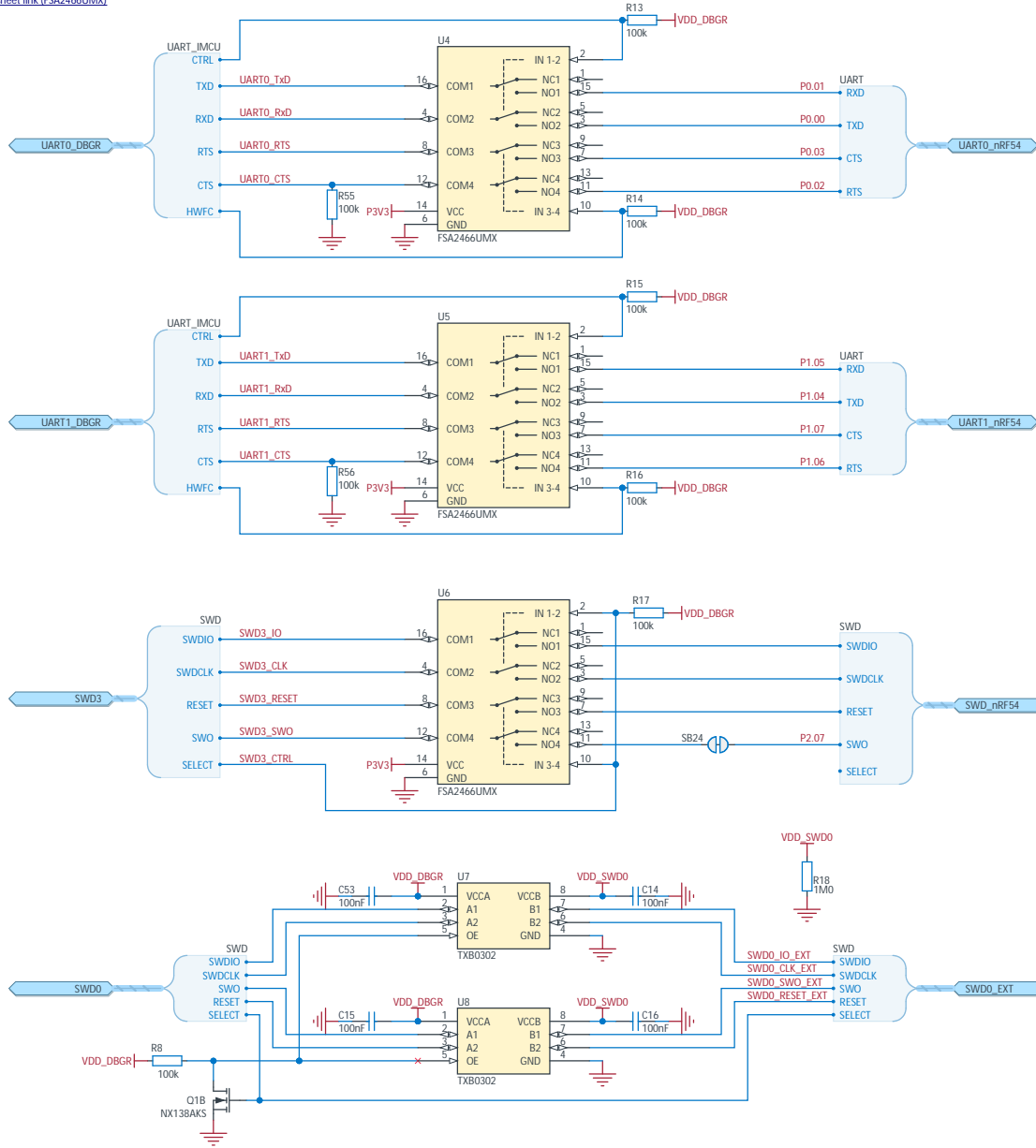


FSA2466UMX:
NC/NO terminal: 6pF, OFF
21pF, ON

Flow control and interface control
signal controlled by IMCU

Level Shifters and switches

[Datasheet link \(FSA2466UMX\)](#)



Title
nRF54L15-PDK - Level Shifters

Size
A3

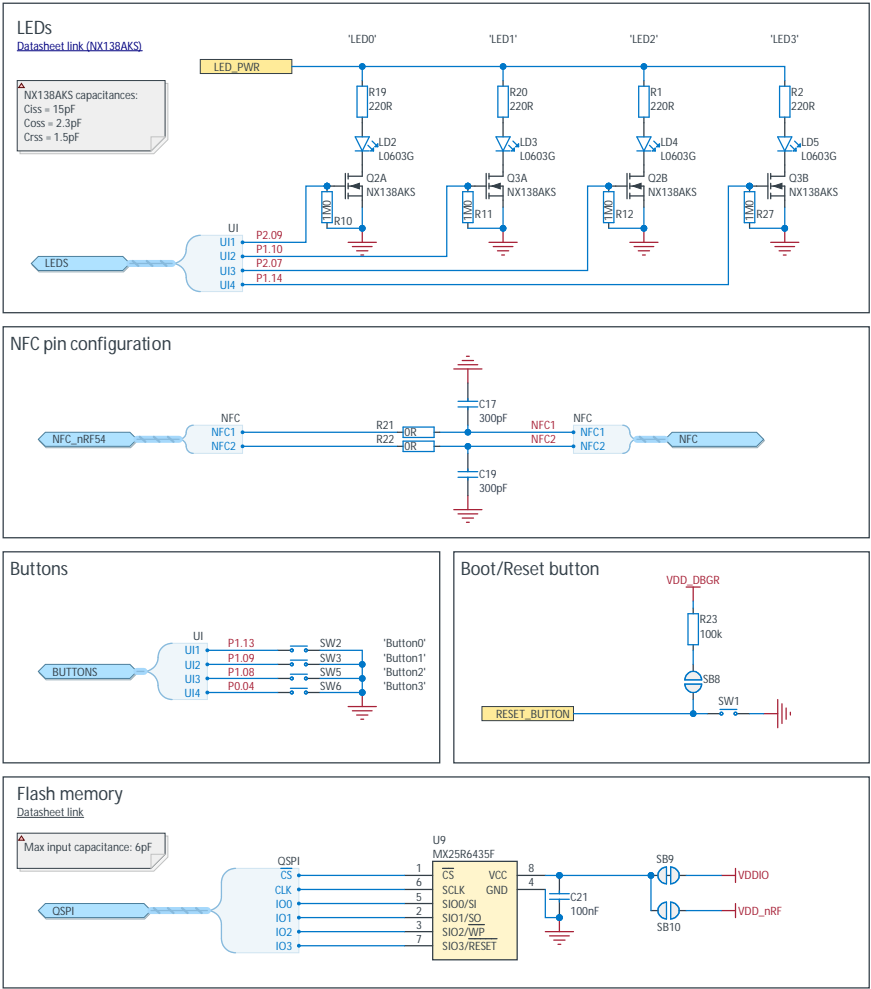
PCB Assembly Number
PCA10156

Revision
0.8.1

Date: 25.06.2024
File: pca10156-sheet4_level_shifters.SchDoc
Classification: PUBLIC

Sheet 4 of 7
Drawn By: STL1





A

B

C

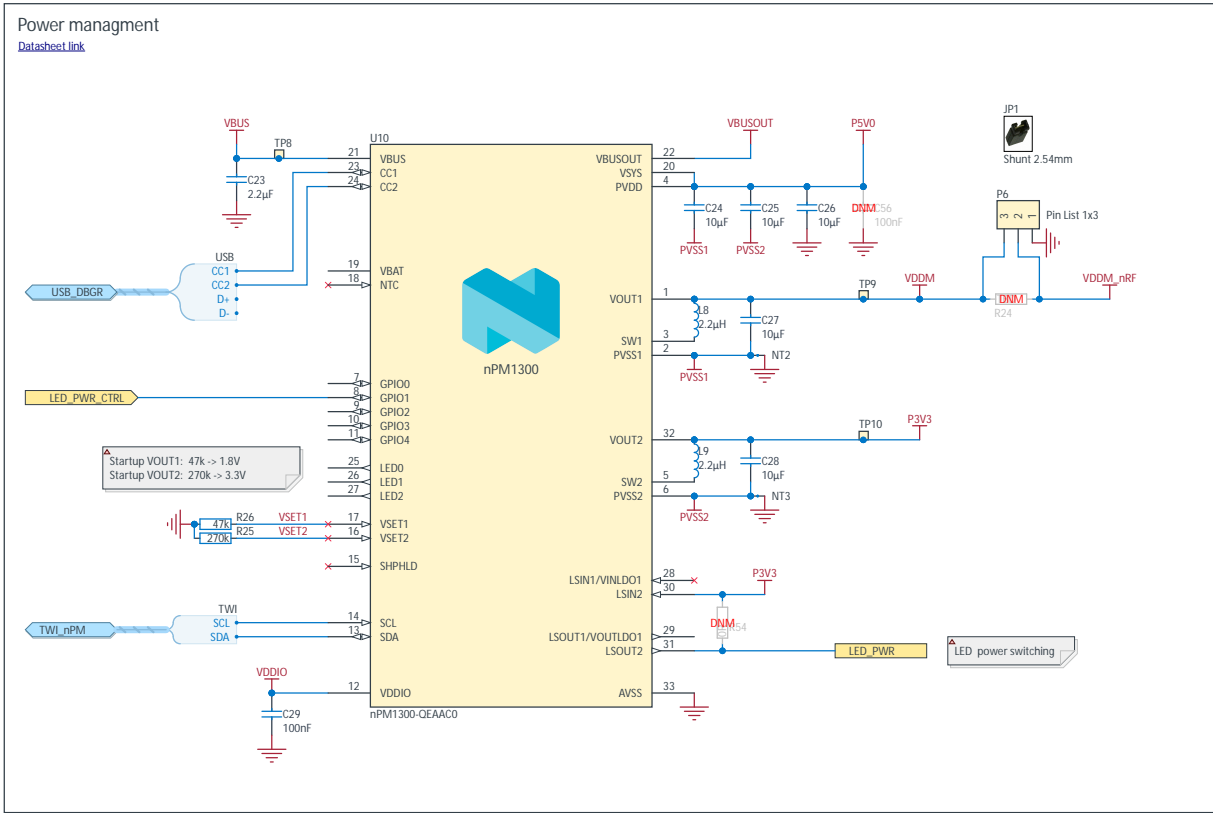
D

A

B

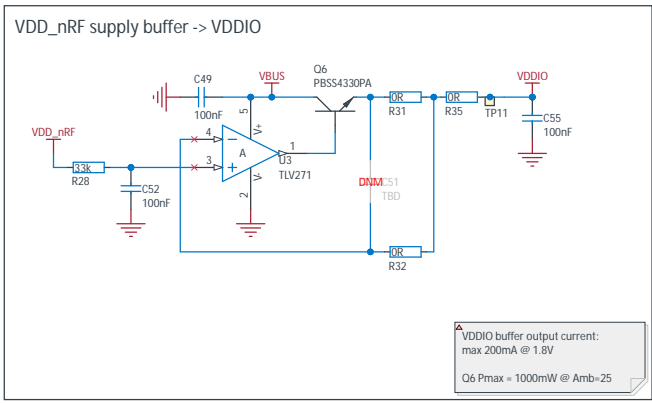
C


D



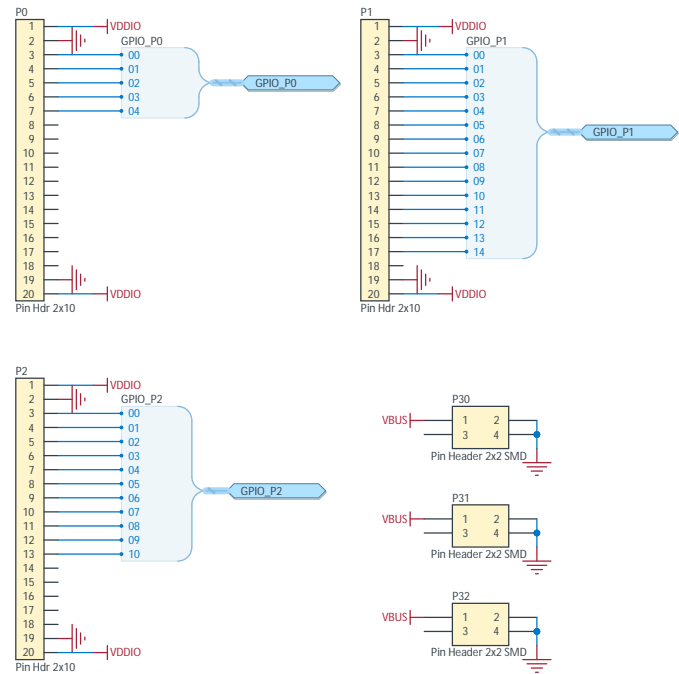
Power domain overview:	
VDDM_nRF	Main input power for nRF54L15
VDD_nRF	Main IO VDD for nRF54L15, 1.8V to 2.6V
VDDM	1.8V - 3.3V VDDM source from nPM1300 VOUT1
VDDIO	Buffered VDD_nRF used for IO supply
VDD_DBG	Debugger VDD tapped from VDDIO
VBUS	USB VBUS after power switch
VBUSOUT	VBUSOUT from nPM1300, used by Debugger
P5V0	5V VSYS (VBUS) used for input to Buck regulators
P3V3	Regulated 3.3V used for analog switches and LEDs

nPM1300 settings:	
- VOUT1 set to 1.8V	
- VOUT2 set to 3.3V	
- VOUT1 and VOUT2 enabled and forced in PWM mode	
- VOUT1 and VOUT2 output discharge enable	
- Enable LS2 for LED power switching, using GPIO1 as enable/disable signal.	



Title			
nRF54L15-PDK - Power Supply			
Size	PCB Assembly Number	Revision	
A3	PCA10156	0.8.1	
Date: 25.06.2024			
File: pca10156_sheet6_power_supply.SchDoc			Sheet 6 of 7
Classification: PUBLIC			Drawn By: STL1

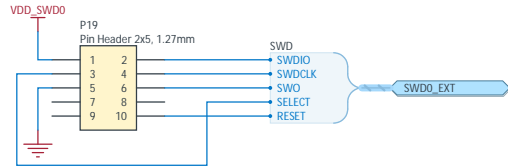
GPIO Connectors



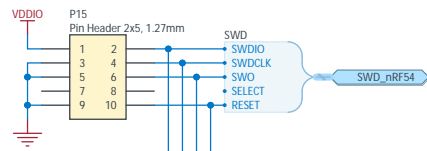
GND probe point



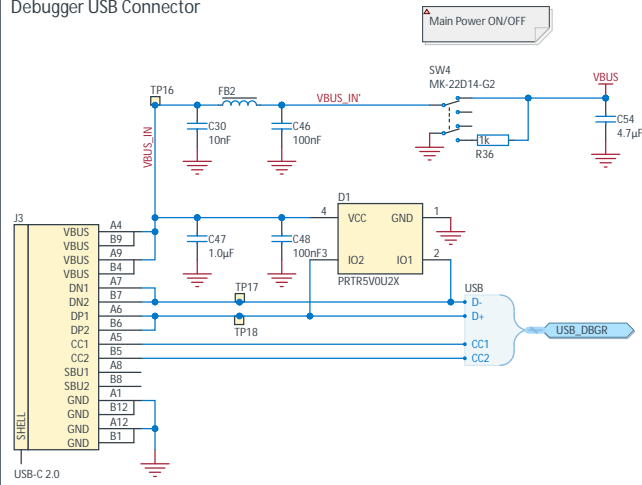
Debug OUT Connector



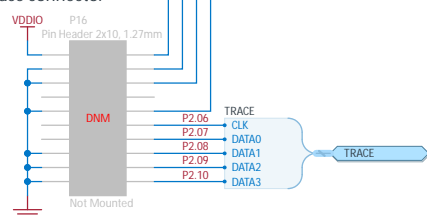
Debug IN Connector



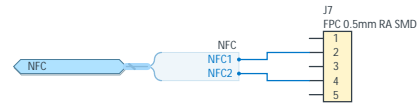
Debugger USB Connector

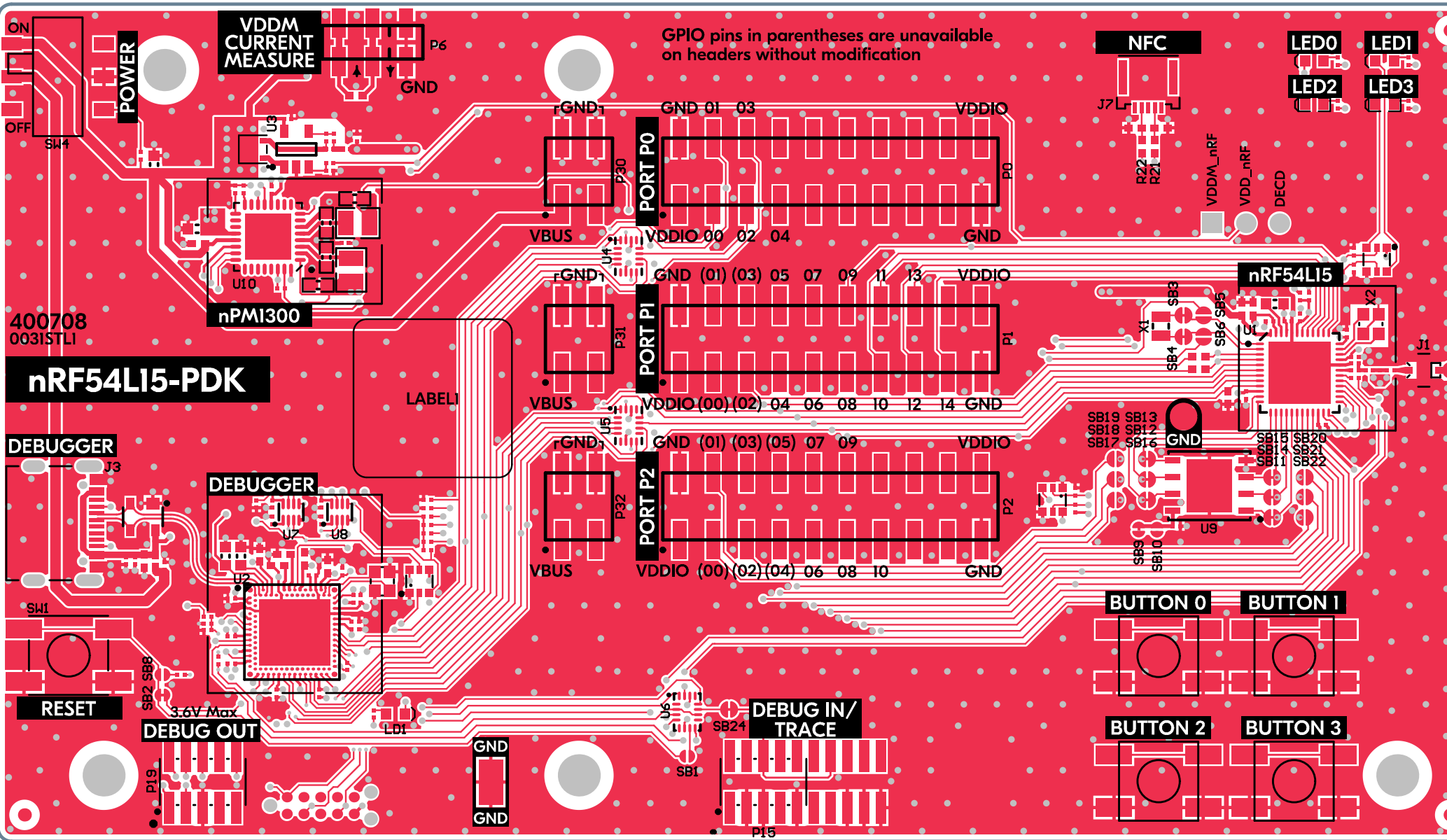


Trace connector



NFCT Antenna Connector





ON
OFF
SW4

VDDM
CURRENT
MEASURE

400708
0031STL1

nRF54L15-PDK

DEBUGGER

RESET

DEBUG OUT

DEBUGGER

GPIO pins in parentheses are unavailable
on headers without modification

PORT P0

PORT P1

PORT P2

DEBUG IN/
TRACE

NFC

LED0

LED1

LED2

LED3

nRF54L15

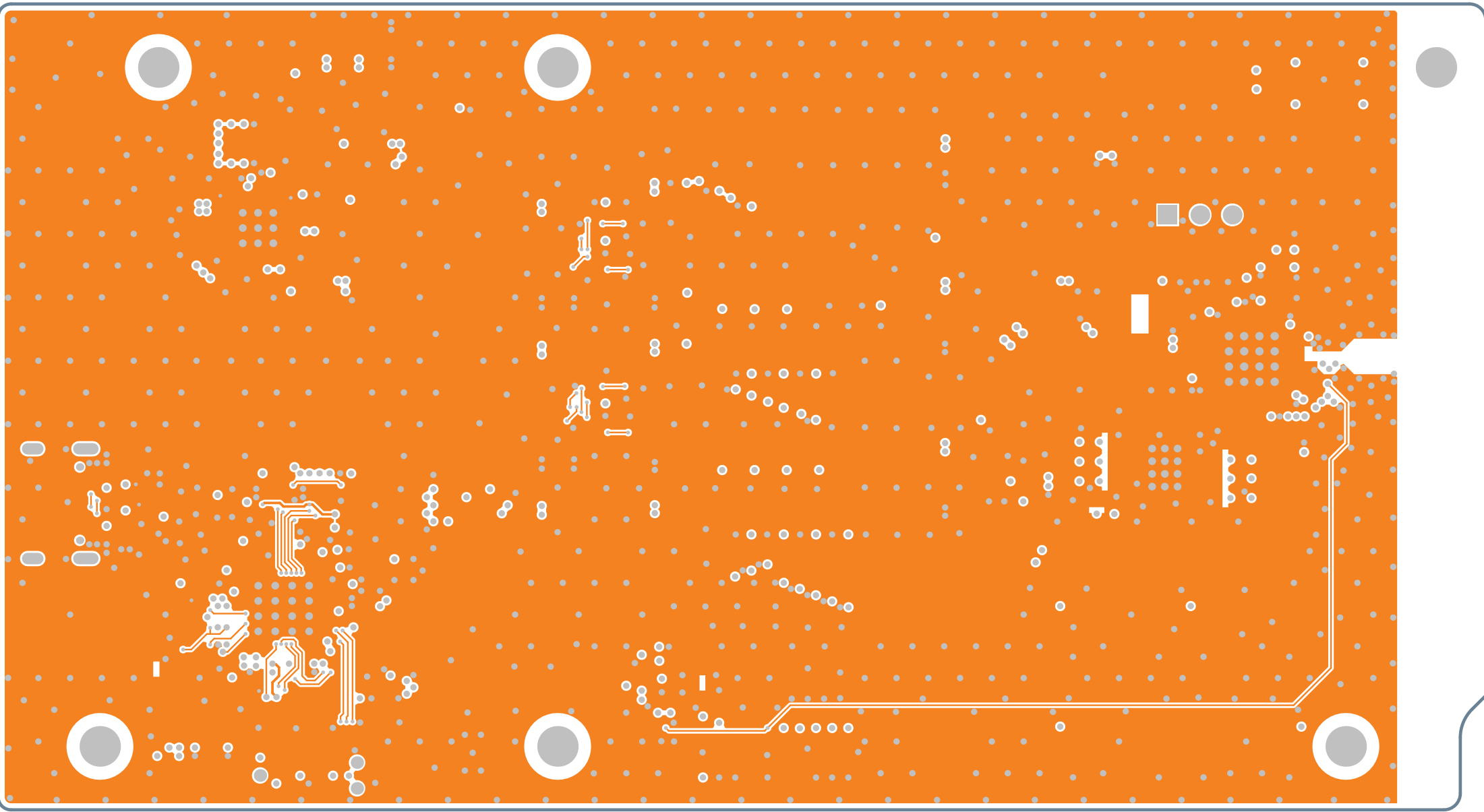
BUTTON 0

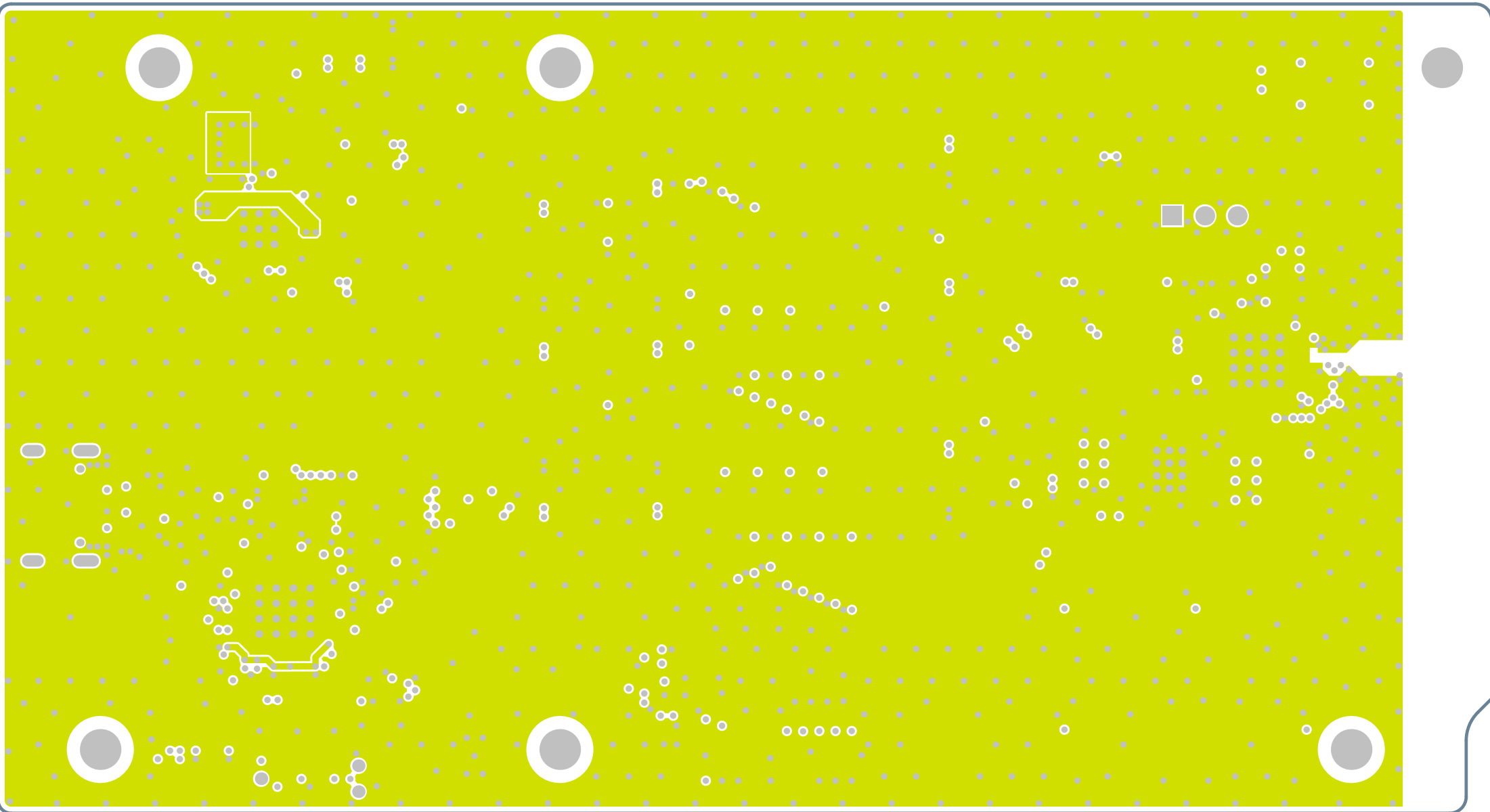
BUTTON 1

BUTTON 2

BUTTON 3







Б5'03	2MO	uBE24
	2MDCFK	
	2MDIO	DEBUGGER
	BE2EL	
Б1'01	CT21	uBE24
Б1'08	BT21	
Б1'04	TXD1	БИН
Б1'02	BXD1	
Б0'03	CT20	
Б0'05	BT20	DEBUGGER
Б0'00	TXD0	
Б0'01	BXD0	
БЫО	Function	Circuit

Б1'03	ИЕС3	БЫО	ИЕС
Б1'05	ИЕС1		БИН
Б1'01	XГ3	2B8	
		2B4	БЫО
Б1'00	XГ1	2B2	БИН
		2B3	
БЫО	Function	Порт	НМ
Б5'00	DIO3	2B18\13	
Б5'03	DIO5	2B12\30	
Б5'04	DIO1	2B14\31	БЫО WEW
Б5'05	DIO0	2B13\16	2Bx\ БИН
Б5'01	CFK	2B15\18	
Б5'02	C2	2B11\33	
БЫО	Function	Порт	НМ

Б0'04	БУТТОН 3	
Б1'08	БУТТОН 2	
Б1'06	БУТТОН 1	БЫО
Б1'13	БУТТОН 0	
Б1'14	ГЕД 3	
Б5'01	ГЕД 2	1W
Б1'10	ГЕД 1	БЫО
Б5'06	ГЕД 0	3.3V
БЫО	Function	НМ

