



X-NUCLEO-NFC05A1



Title X-NUCLEO-NFC05A1		
Size: A4	Number: 1	Revision: A1
Date: 05.07.2019	Time: 07:45:08	Sheet 1 of 5
File: Title Page.SchDoc		



# X-NUCLEO-NFC05A1

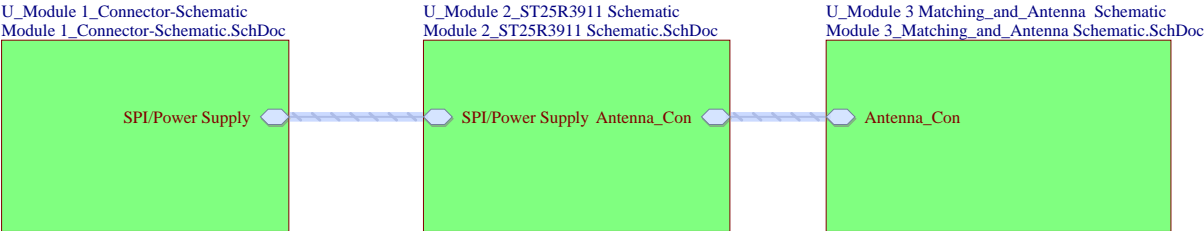


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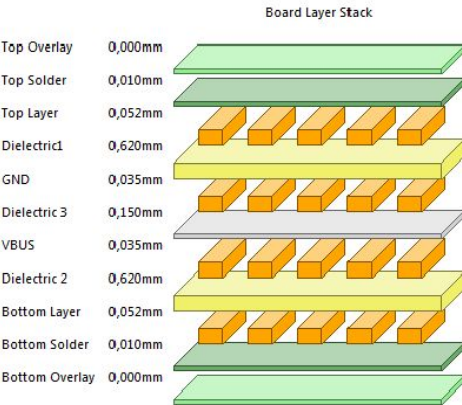
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## Revision History

A1: Initial Release 06.06.2017



## PCB Stackup



A

B

C

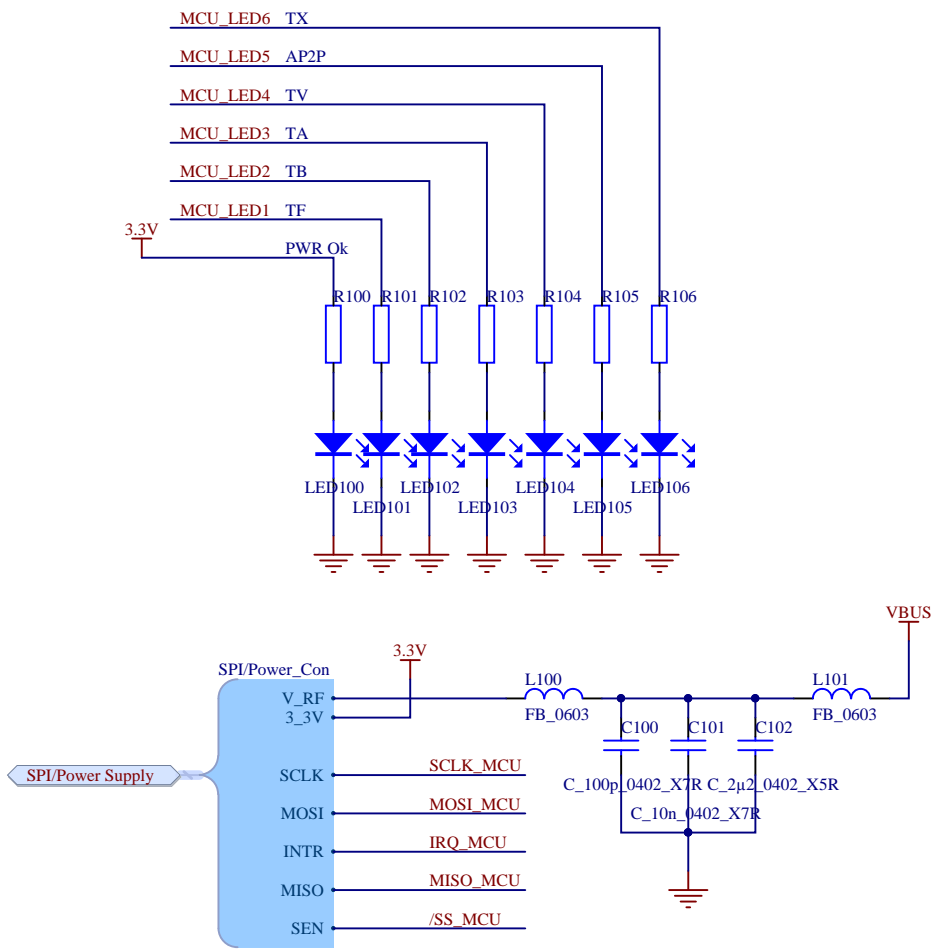
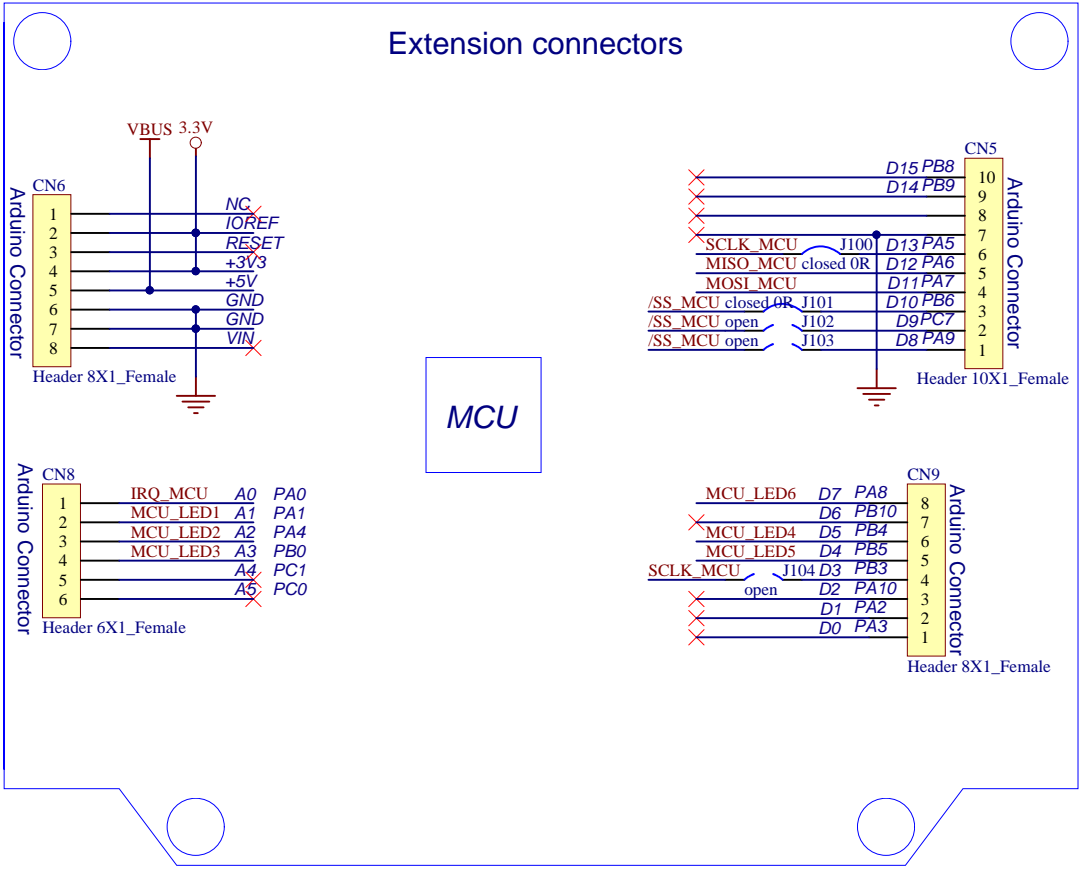
D

A

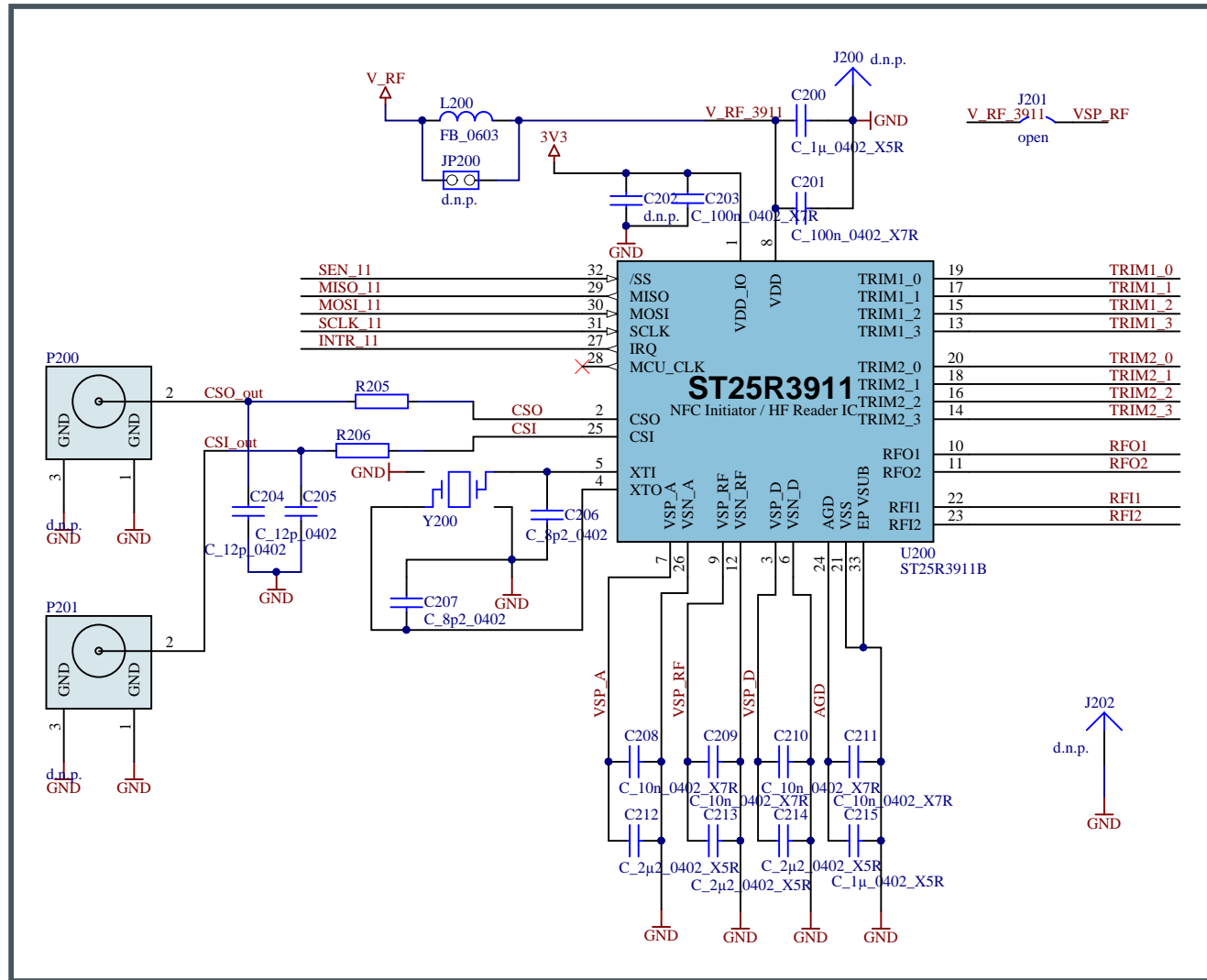
B

C

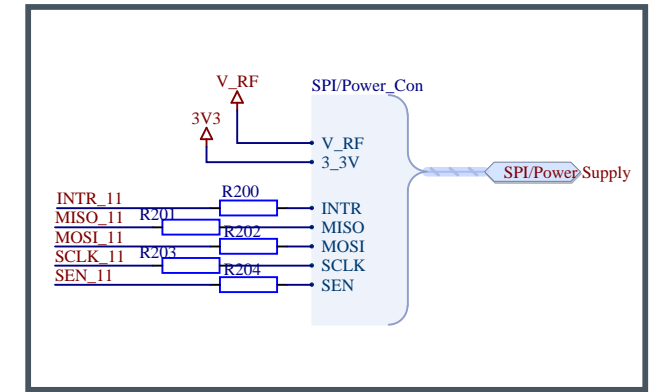
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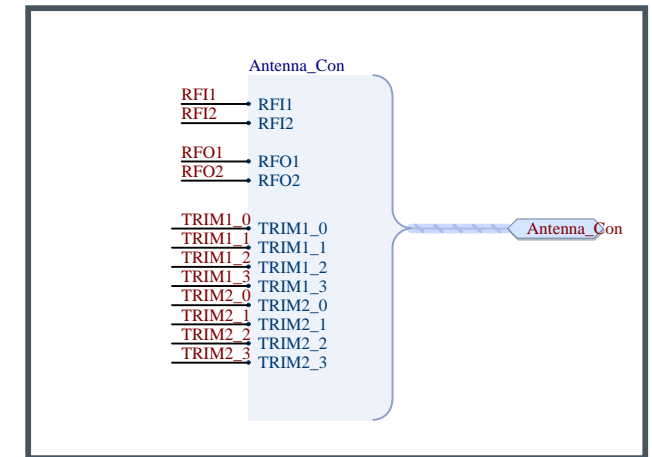
# ST25R3911 NFC Initiator / HF Reader



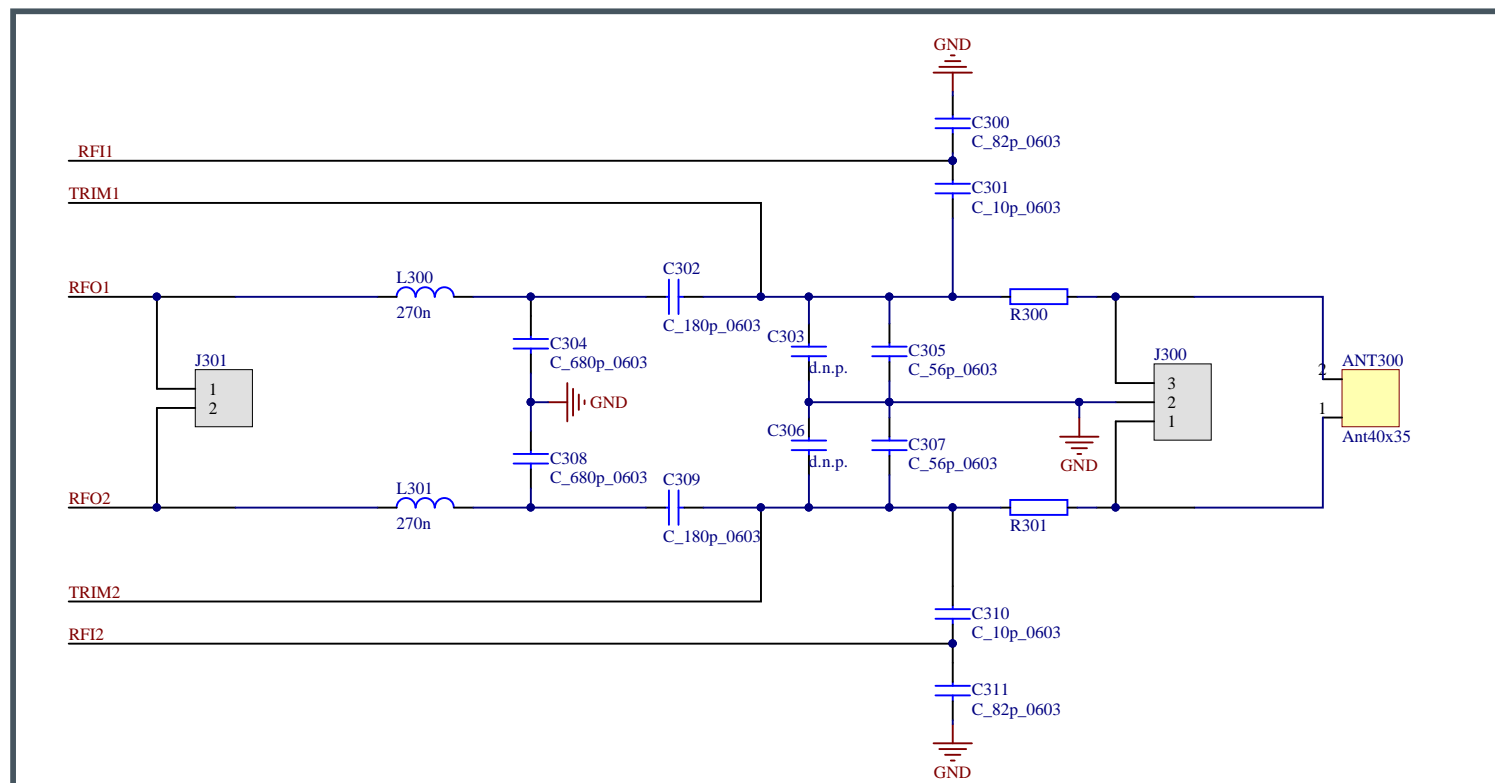
## Controller Interface



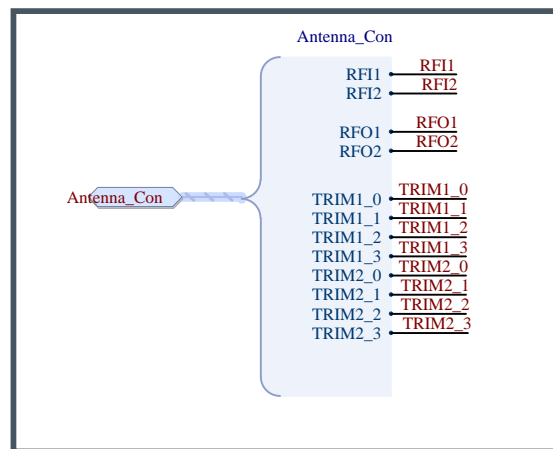
## Antenna Connection



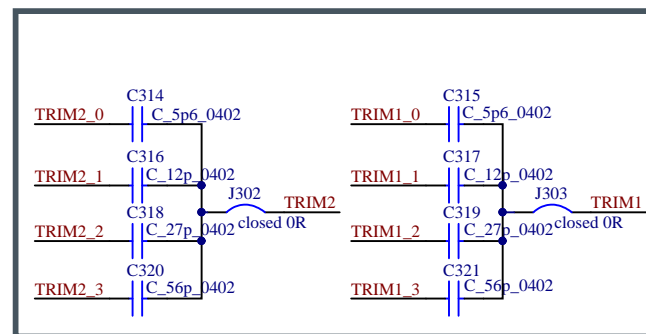
# Antenna Circuit incl. EMI Filter and Matching



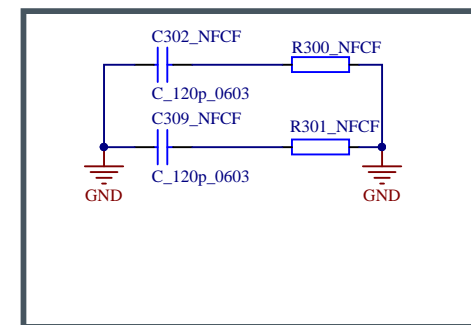
## Antenna Connection



## Trim Capacitor Banks



## NFC Forum matching



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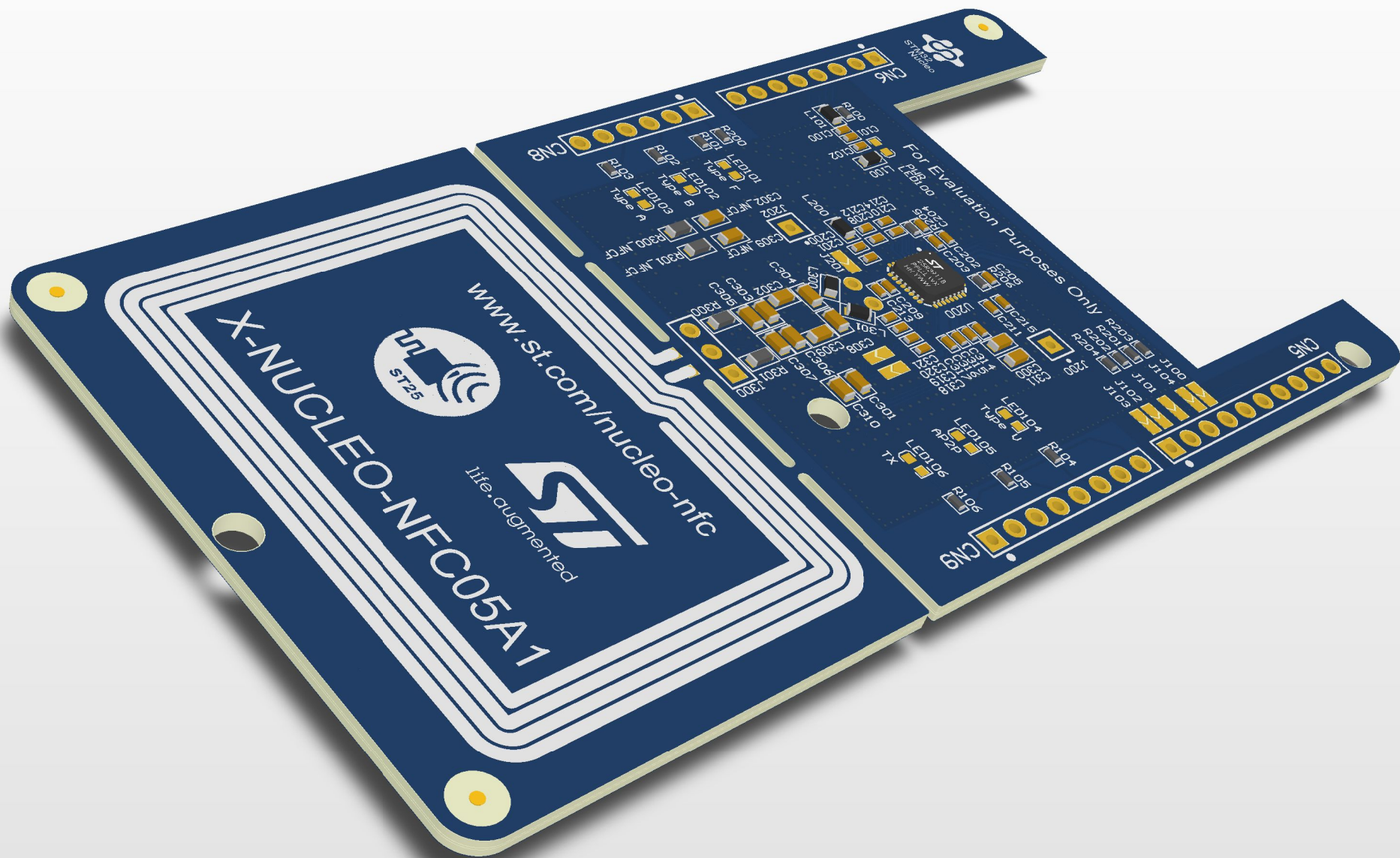
File: Module 3\_Matching\_and\_Antenna Schematic.SchDoc

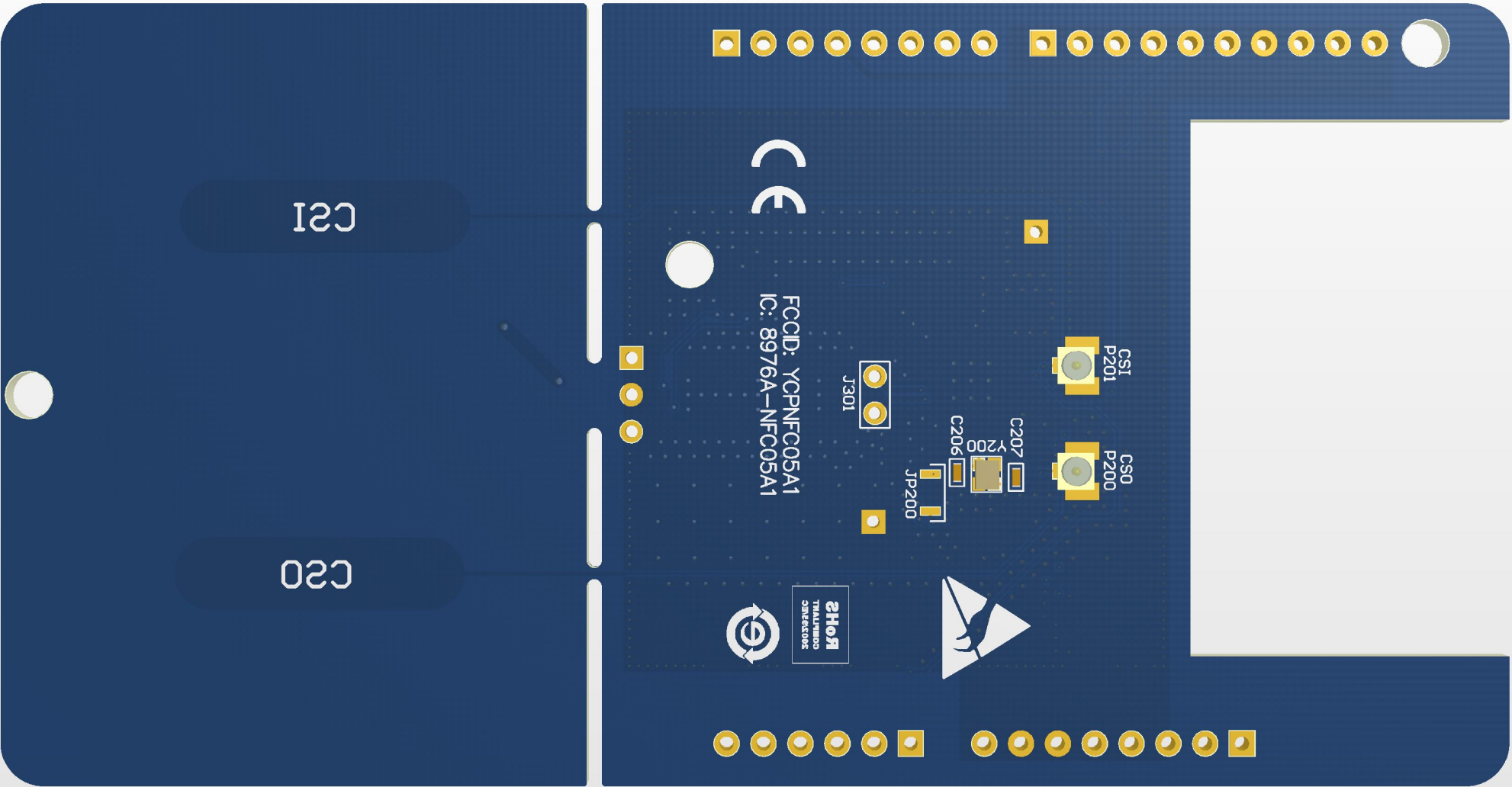


MDG NFC & Reader Competence Center





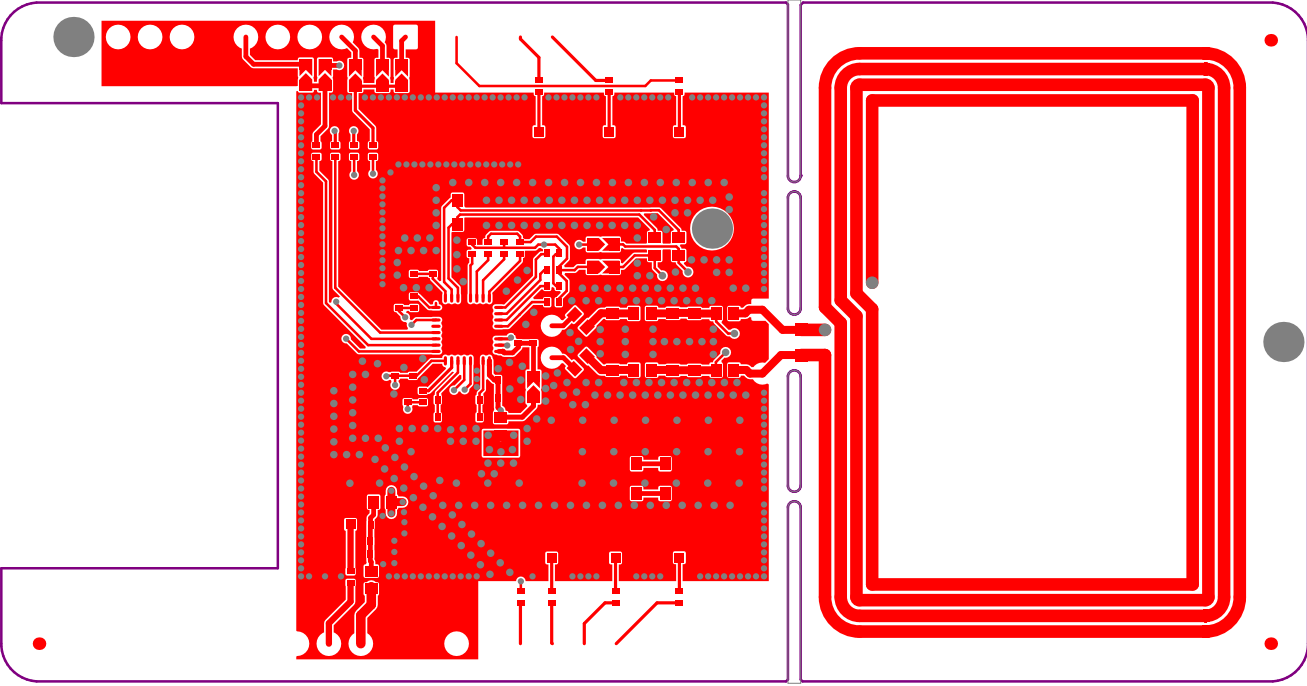


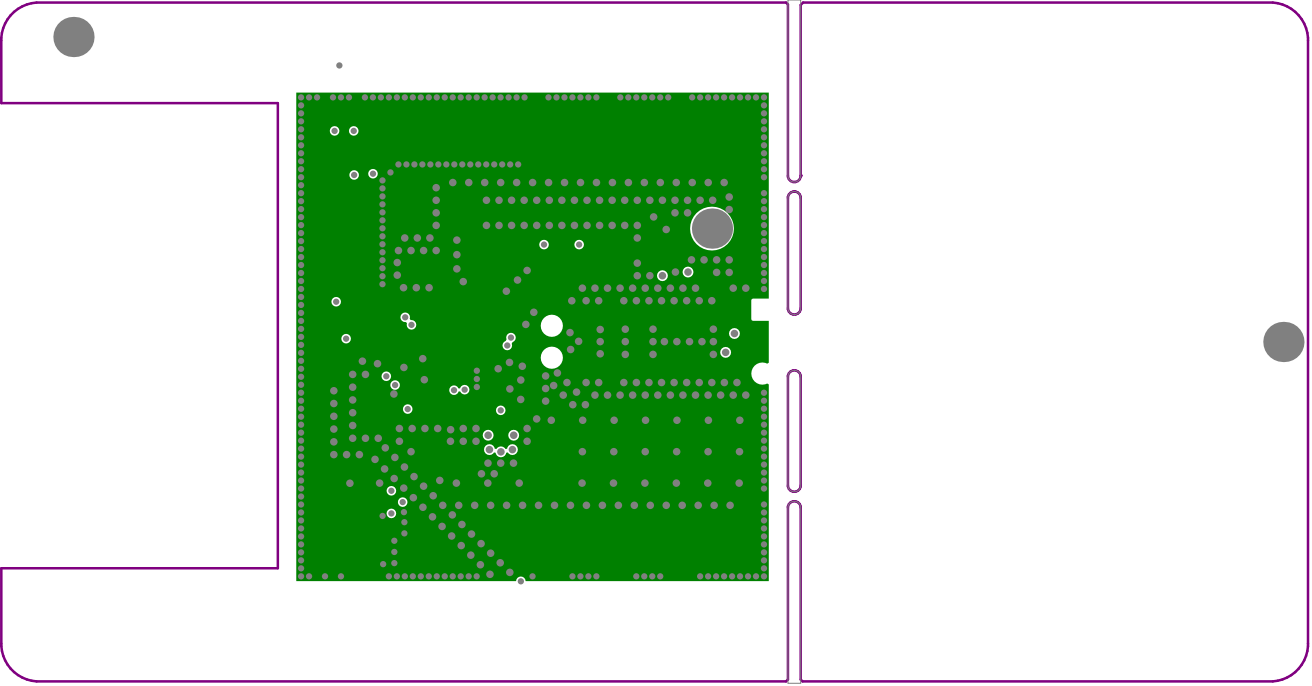


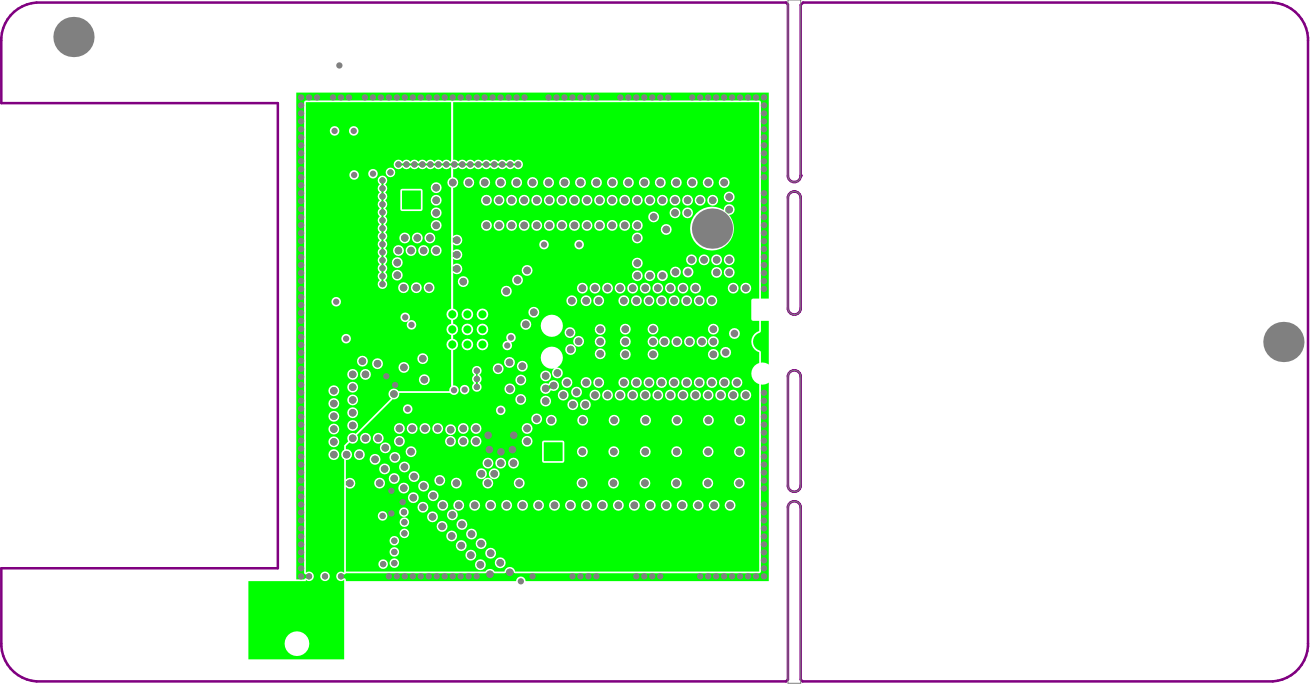
C21

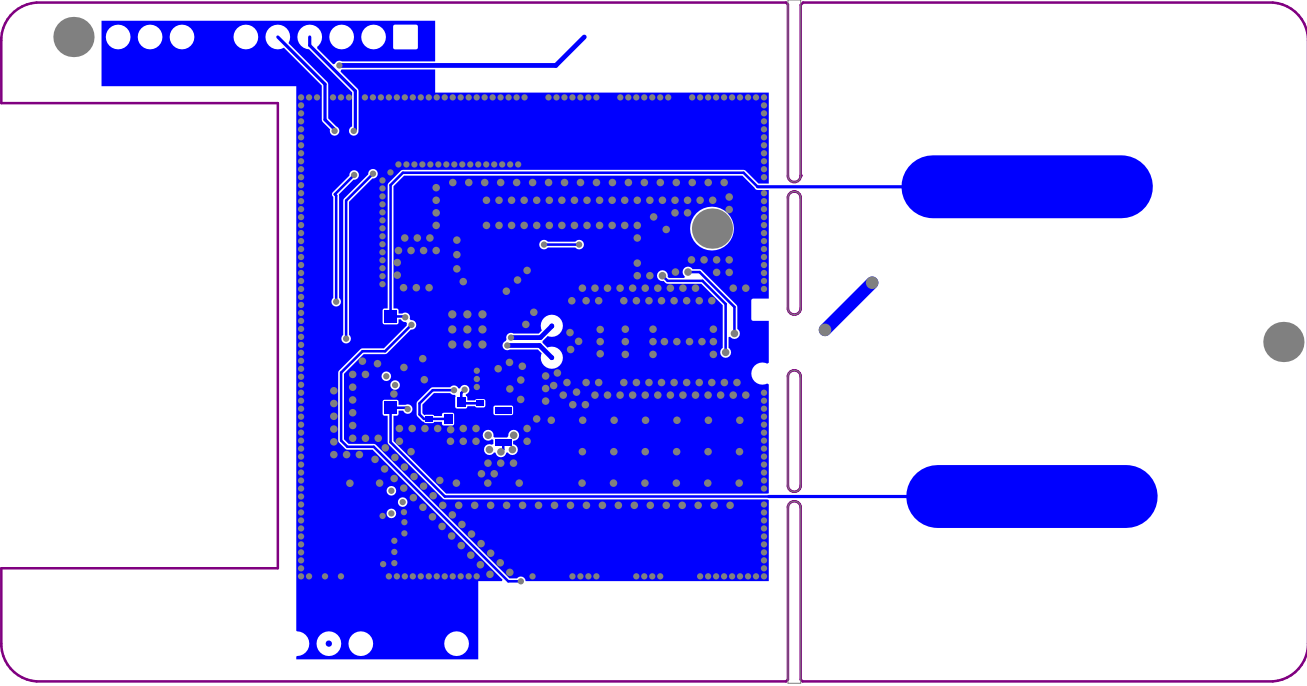
C20















CSI

CSO



IC: 8838V-MEC02V1  
ECID: YCPMEC02V1



1301



1b500



CS0R

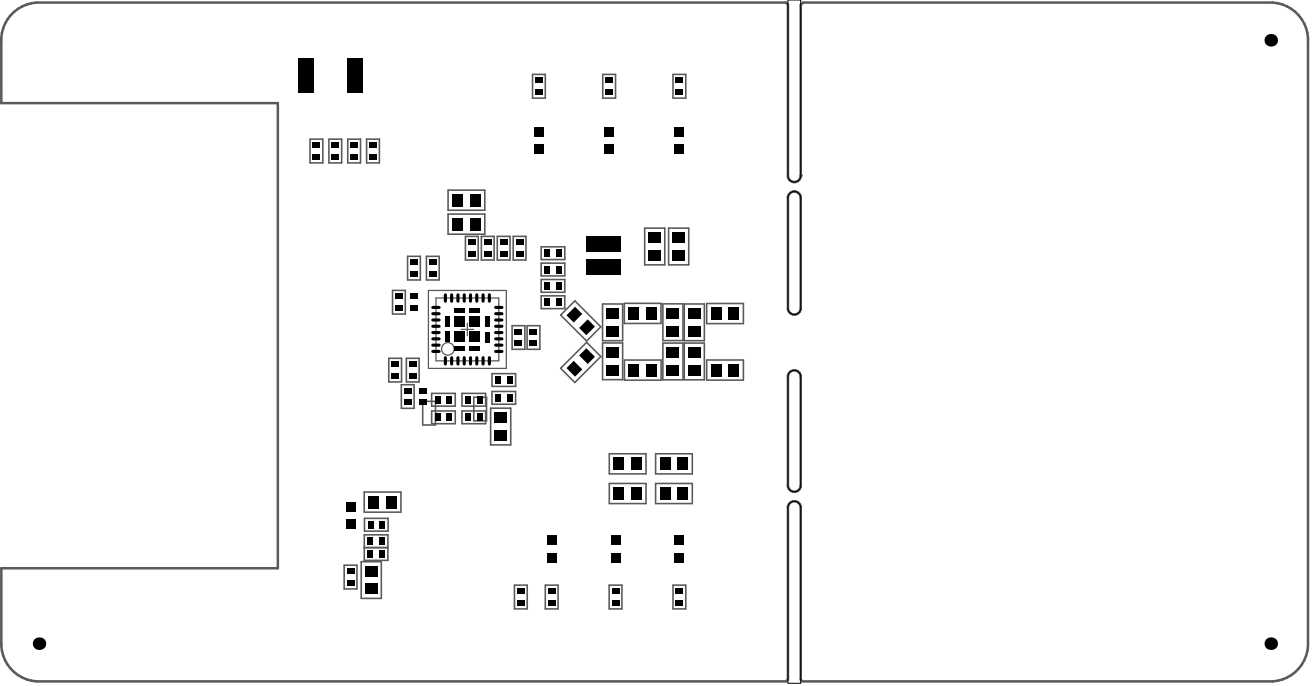


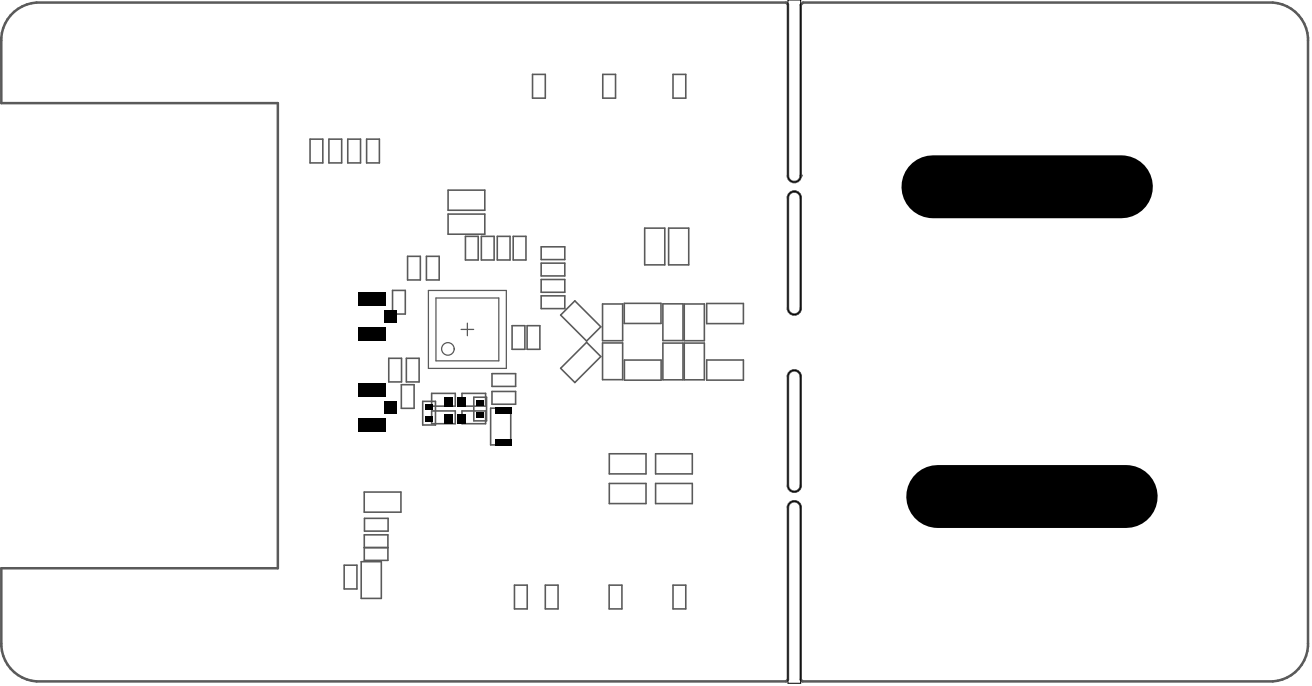
003Y

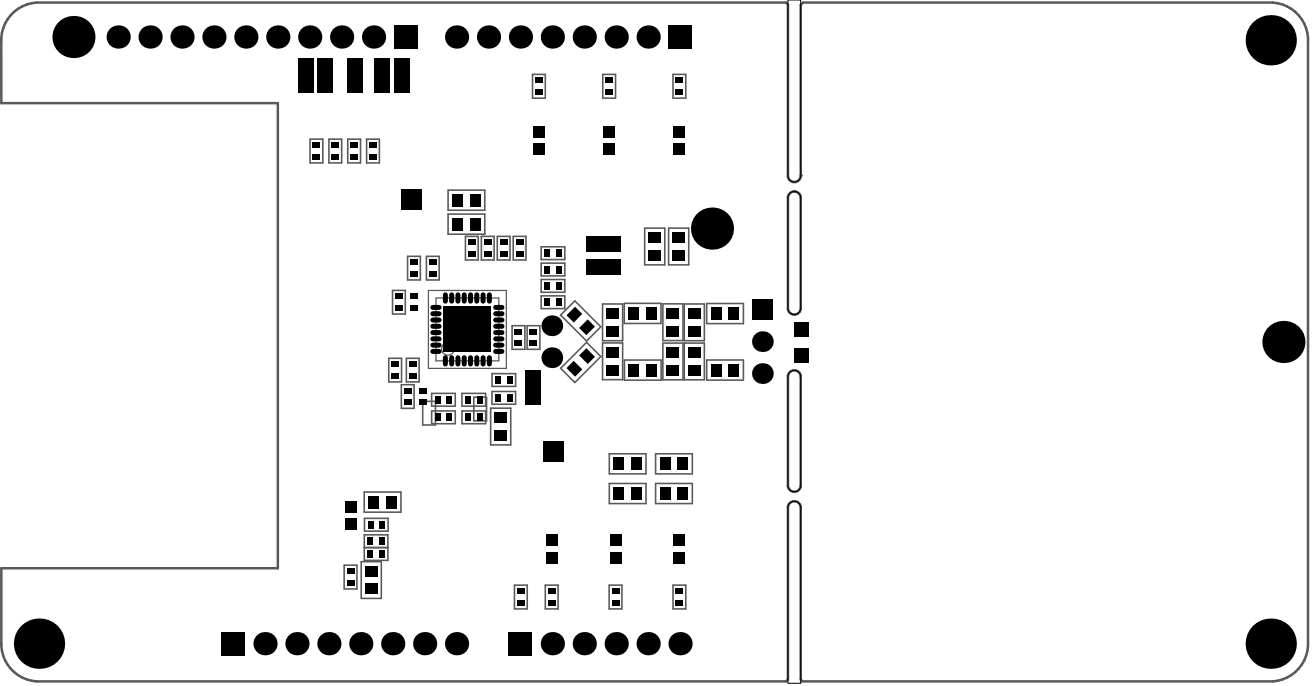


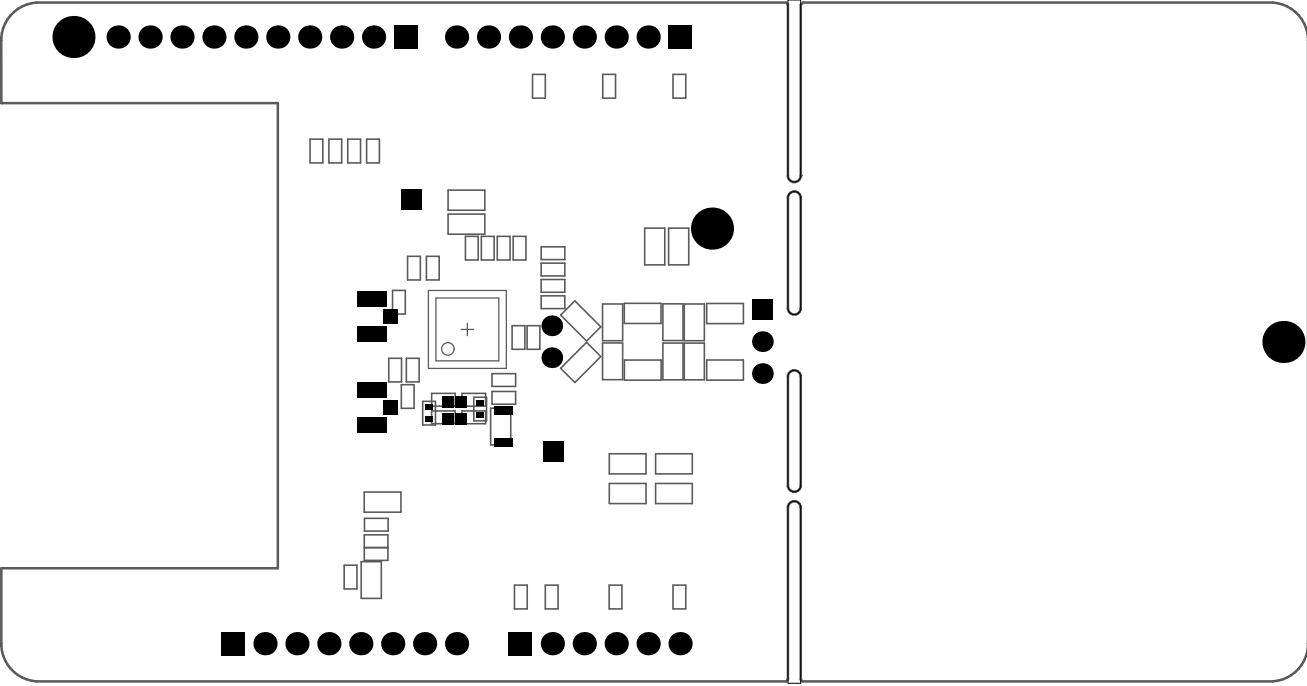
CS0S













Source Data From: None  
Project: X-NUCLEO-NFC05A1  
Variant: None



Board Reference	NFC05A1
Board Category	X-NUCLEOO
Version	A1

Designator	Comment	Footprint	Quantity	Manufacturer	Manufacturer Part Number	Supplier 1	Supplier Part Number 1	2nd Source
C202	d.n.p.	C0402	1					
C303, C306	d.n.p.	C0603	2					
CN5	Header 10X1_Female	1*10P_FEMALE	1	Samtec	SSQ-110-03-L-S	Farnell	<a href="#">2283783</a>	
CN6, CN9	Header 8X1_Female	1*8P_FEMALE	2	Samtec	SSQ-108-03-L-S	Farnell	<a href="#">2283782</a>	
CN8	Header 6X1_Female	1*6P_FEMALE	1	Samtec	SSQ-106-03-L-S	Farnell	<a href="#">2283759</a>	
J100, J101, J302, J303	closed 0R	JP2_SMD_CLOS ED	4	Multicomp	MC00625W040210R	Farnell	<a href="#">1357983</a>	
J200, J202	d.n.p.	PIN1	2					
J300	d.n.p.	HDR1X3	1					
J301	d.n.p.	HDR1X2_SLIM	1					
JP200	d.n.p.	SMD H2	1					
L100, L101, L200	FB_0603	L0603	3	MURATA	BLM18EG471SN1D	Farnell	<a href="#">1515722</a>	
LED100	Green	D0603	1	Lite-On	LTST-C190KGKT	Digi-Key	<a href="#">160-1435-1-ND</a>	
LED101, LED102, LED103, LED104, LED105, LED106	Blue	D0603	6	Lite-On	LTST-C190TBKT	Digi-Key	<a href="#">160-1646-1-ND</a>	
logo1	Comment	NUCLEO_black 0.5cm	1					
P200, P201	d.n.p.	U FL Socket - HRS - Surface Mount	2	HRS (HIROSE)	U.FL-R-SMT-1(10)	Farnell	<a href="#">1688077</a>	
U200	ST25R3911B	ST25R3911B- QFN32_5X5_0.5	1	STMicroelectronics	ST25R3911B-AQFMCT- ND	Digi-Key	<a href="#">ST25R3911B-AQFMCT-ND</a>	
Y200	27,12MHz Crystal	XRCGB_F_MN	1	MURATA	XRCGB27M120F3M00R 0	Farnell	<a href="#">1885632</a>	
L300, L301	270n	L0603	2	MURATA	LQW18ANR27G80D	Digi-Key	<a href="#">490-13392-2-ND</a>	"270nH Unshielded Wirewound Inductor 260mA 2.42 Ohm Max 0603, SFR @ 1,25GHz, Q>24@100MHz"
R101, R102, R103, R104, R105, R106, R205, R206	1k	R0402	8	Panasonic	ERJ2GEJ102X	Farnell	<a href="#">2059225</a>	1 kohm, 50 V, 0402, >100 mW, ± 5%
R300_NFCF, R301_NFCF	1R9	R0603	2	Vishay Dale	CRCW06031R96FKEA	Digi-Key	<a href="#">541-1.96HHCT-ND</a>	1.96 Ohm ±1% 0.1W, 1/10W Chip Resistor 0603
C314, C315	C_5p6_0402	C0402	2	MURATA	GRM1555C1H5R6DA01 D	Digi-Key	<a href="#">490-5946-1-ND</a>	5.6pF ±0.5pF 50V C0G, NP0 0402
R300, R301	5R6	R0603	2	Yageo	RC0603FR-075R62L	Digi-Key	<a href="#">311-5.62HRTR-ND</a>	5.6 Ohm ±5% 0.1W, 1/10W Chip Resistor 0603
C204, C205, C316, C317	C_12p_0402	C0402	4	MURATA	GRM1555C1H120GA01 D	Digi-Key	<a href="#">490-6197-1-ND</a>	12pF ±2% 50V C0G, NP0 0402
C318, C319	C_27p_0402	C0402	2	MURATA	GRM1555C1H270GA01 D	Digi-Key	<a href="#">490-6224-1-ND</a>	27pF ±2% 50V C0G, NP0 0402
C320, C321	C_56p_0402	C0402	2	MURATA	GRM1555C1H560GA01 D	Digi-Key	<a href="#">490-6247-1-ND</a>	56pF ±2% 50V C0G, NP0 0402
C305, C307	C_56p_0603	C0603	2	MURATA	GRM1885C1H560FA01D	Digi-Key	<a href="#">490-9726-1-ND</a>	56pF ±2% 50V C0G, NP0 0603
C300, C311	C_82p_0603	C0603	2	MURATA	GRM1885C1H820FA01D	Digi-Key	<a href="#">490-10724-1-ND</a>	82pF ±1% 50V C0G, NP0 0603
C302_NFCF, C309_NFCF	C_120p_0603	C0603	2	MURATA	GRCM1885C1H121GA01 D	Digi-Key	<a href="#">490-12712-1-ND</a>	120pF ±2% 50V C0G, NP0 0603
C302, C309	C_180p_0603	C0603	2	MURATA	GRM1885C1H181GA01 D	Digi-Key	<a href="#">490-11450-1-ND</a>	180pF ±2% 50V C0G, NP0 0603
R200, R201, R202, R203, R204	220R	R0402	5	Yageo	RC0402JR-07220RL	Digi-Key	<a href="#">311-220JRTR-ND</a>	220 Ohm ±5% 0.063W, 1/16W Chip Resistor 0402
C100	C_100p_0402_X7 R	C0402	1	AVX	0402YC101KAT2A	Digikey	<a href="#">478-7887-1-ND</a>	0402, 0.01 µF, 25 V, ± 10%, X7R
C101, C208, C209, C210, C211	C_10n_0402_X7R	C0402	5	AVX	04023C103KAT2A	Farnell	<a href="#">1327624</a>	0402, 0.01 µF, 25 V, ± 10%, X7R
C201, C203	C_100n_0402_X7 R	C0402	2	MULTICOMP	MC0402X104K100CT	Farnell	<a href="#">1759380</a>	0402, 0.1 µF, 10 V, ± 10%, X5R,
C200, C215	C_1µ_0402_X5R	C0402	2	MURATA	GRM155R61C105KA12D	Farnell	<a href="#">2362093</a>	0402, 1 µF, 16 V, ± 10%, X5R,
C102, C212, C213, C214	C_2µ2_0402_X5R	C0402	4	MURATA	GRM155R60J225ME15D	Farnell	<a href="#">2362088</a>	0402, 2.2 µF, 6.3 V, ± 20%, X5R
C206, C207								

[illegible]