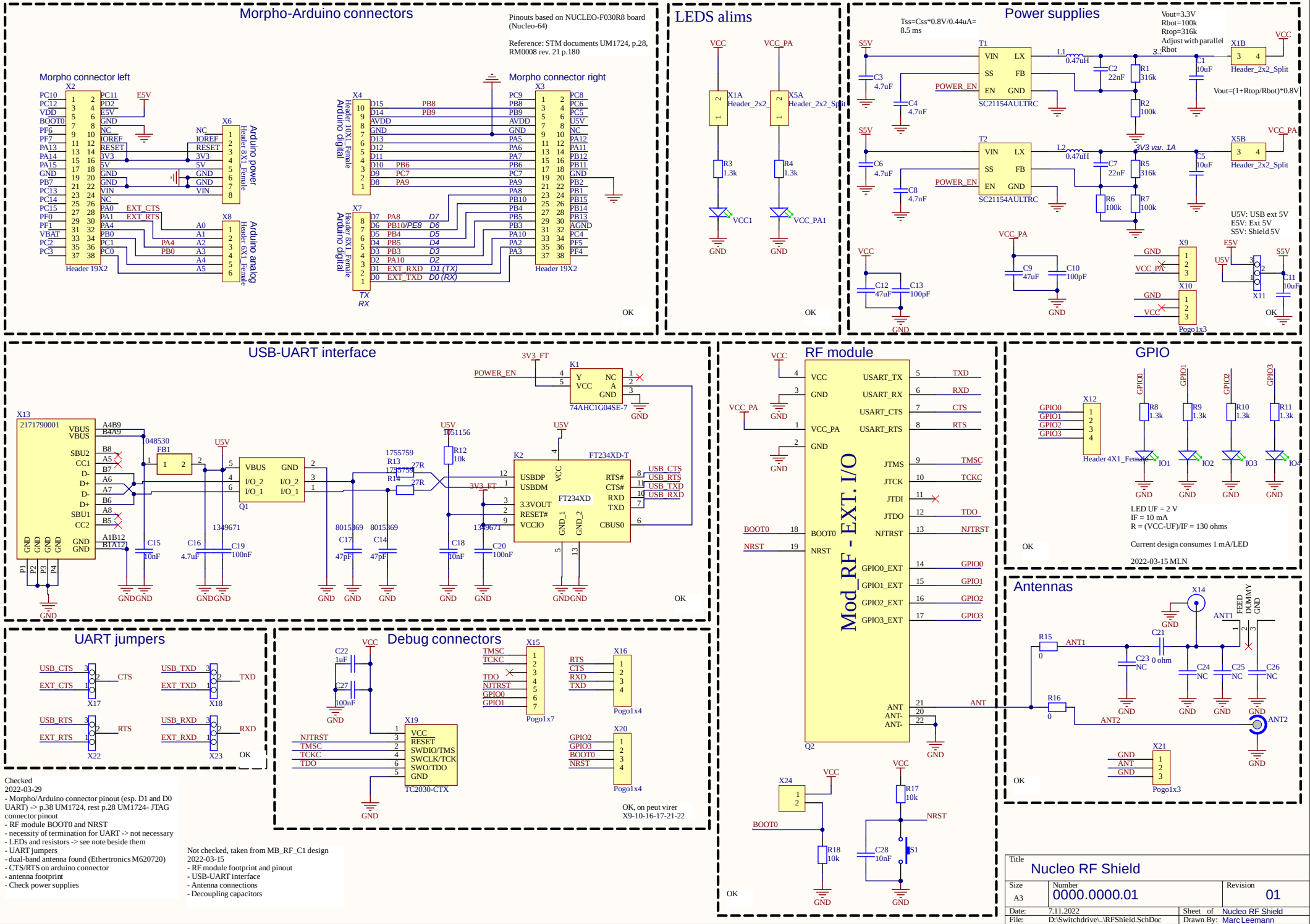
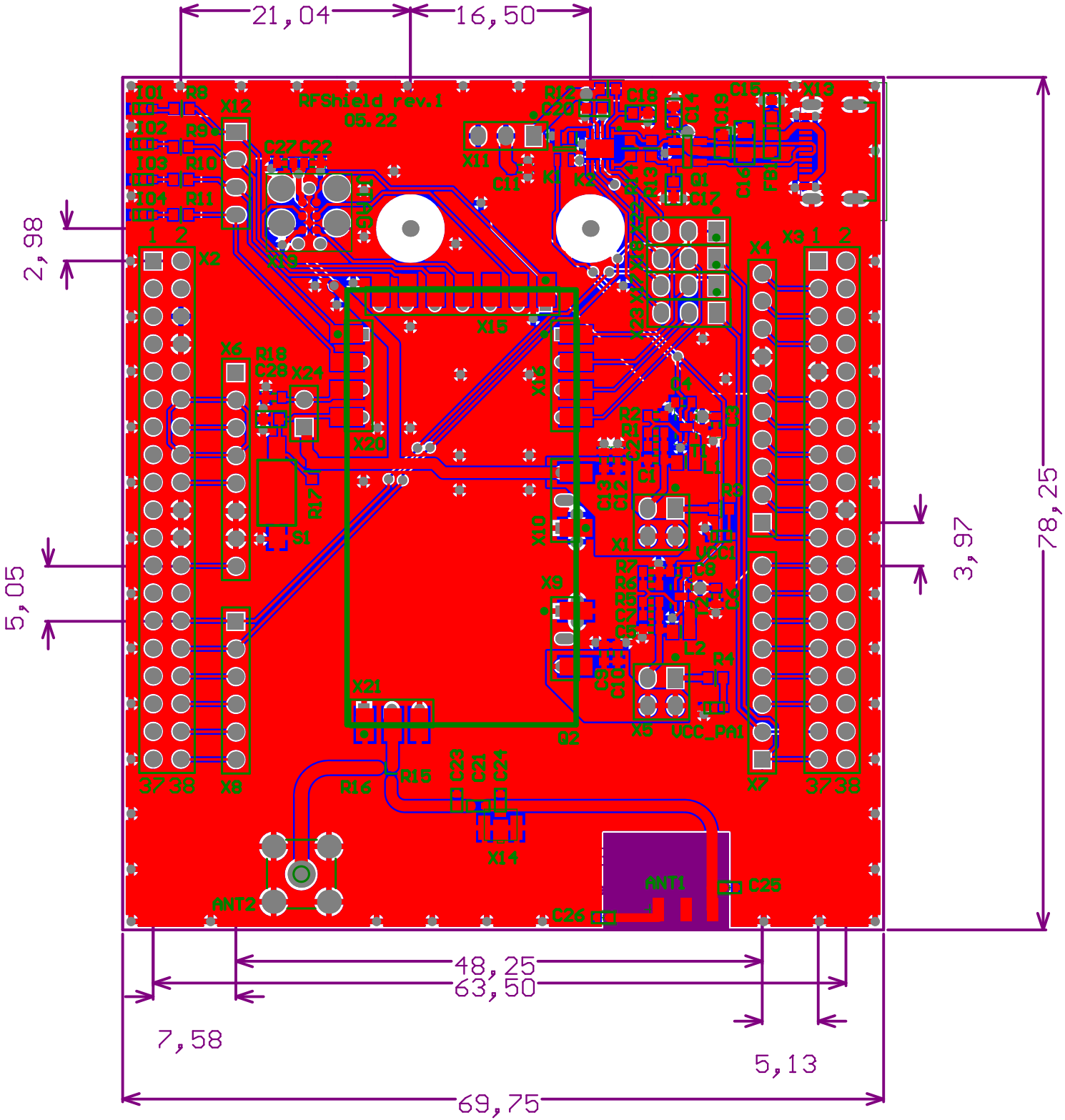
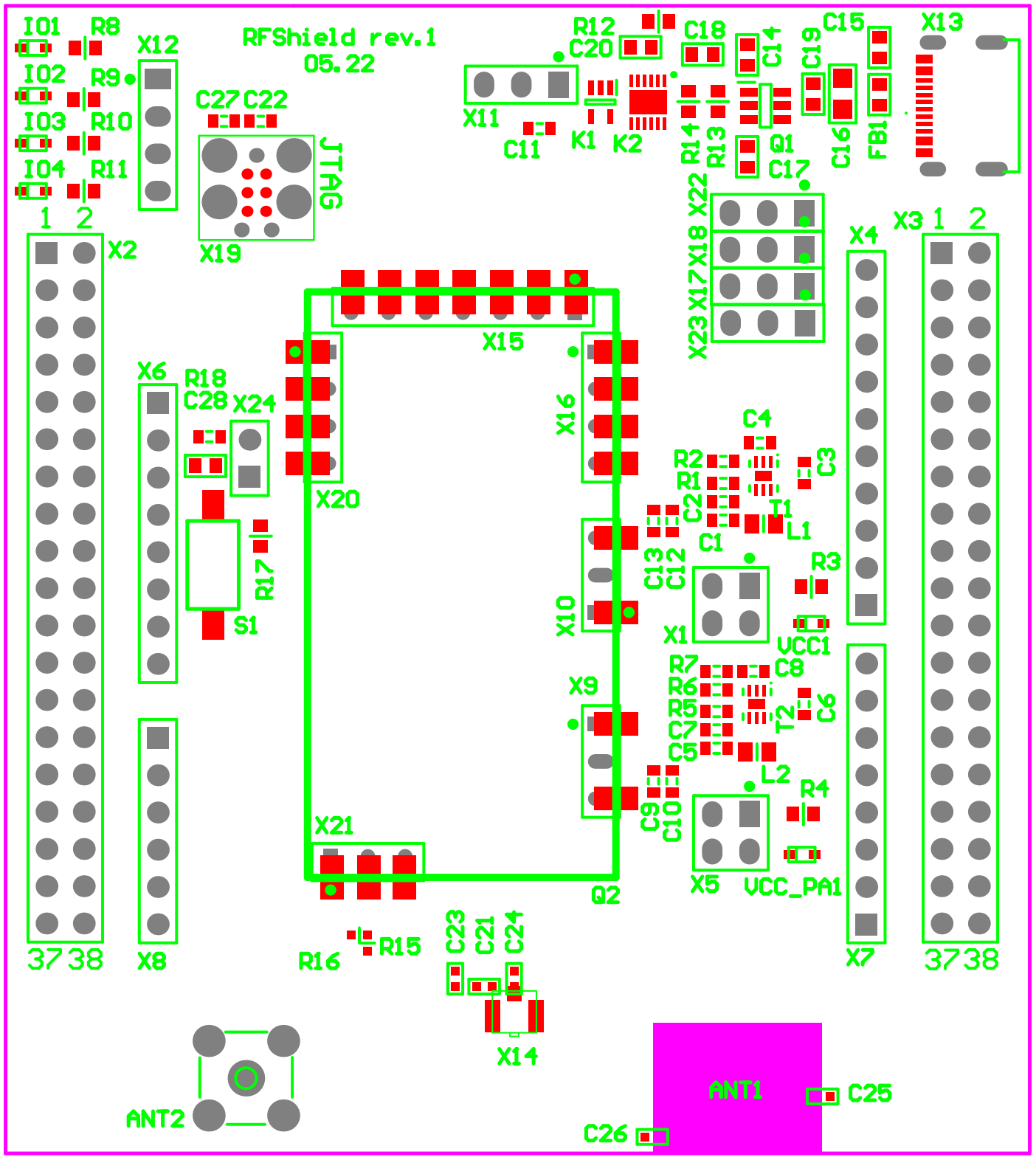
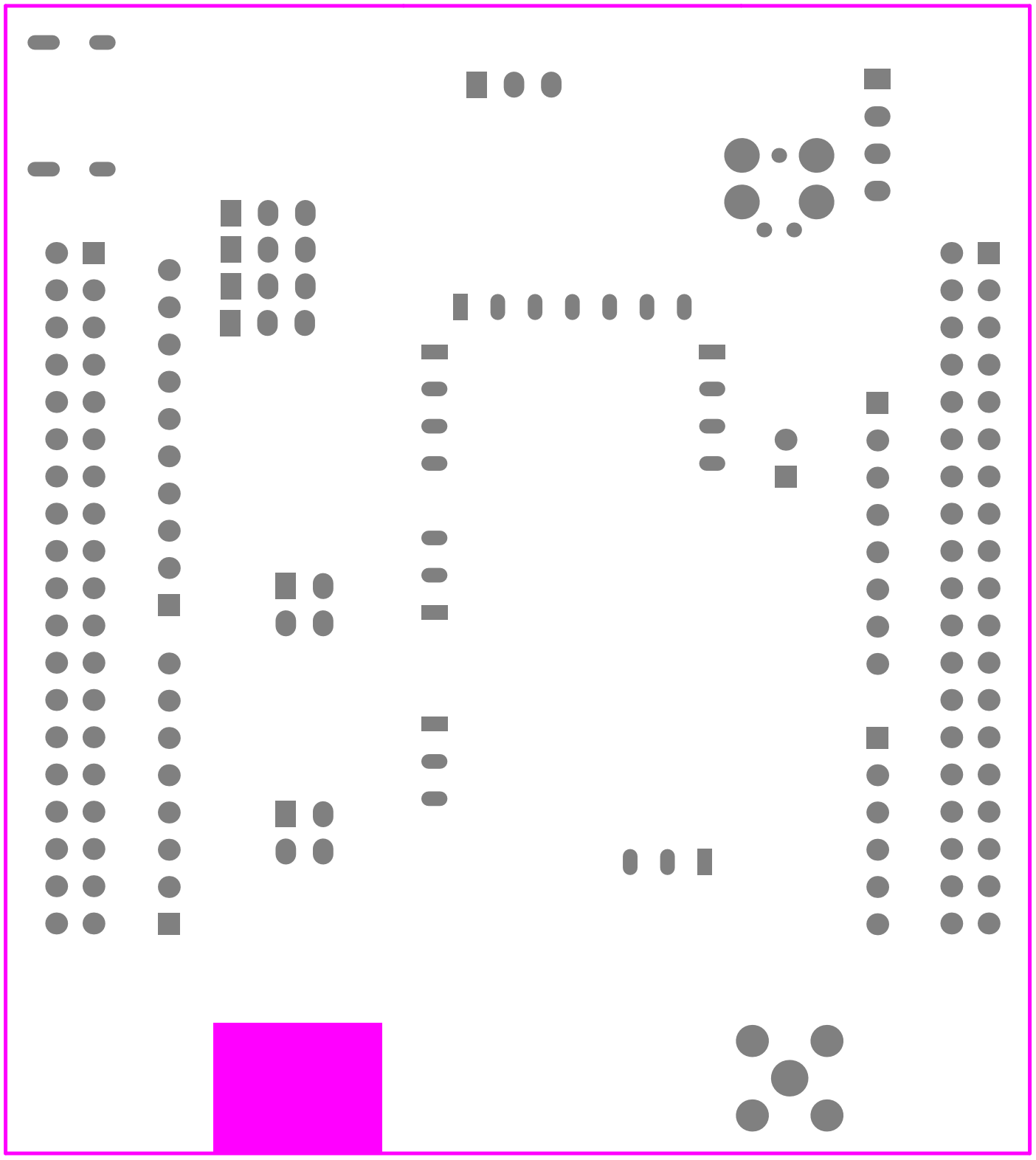

Morpho-Arduino connectors
Pinouts based on NUCLEO-F030R8 board (Nucleo-64)
Reference: STM documents UM1724, p.28, RM0008 rev. 21 p.180
Morpho connector left
Morpho connector right
Header 19X2
Arduino power
Arduino analog
Arduino digital
OK
LEDS alims
VCC
VCC_PA
VCC1
VCC_PA1
GND
OK
Power supplies
Tss=Css*0.8V/0.44uA= 8.5 ms
Vout=3.3V
Rbot=100k
Rtop=316k
Adjust with parallel Rbot
Vout=(1+Rtop/Rbot)*0.8V
SC21154AULTRC
3V3 var. 1A
U5V: USB ext 5V
E5V: Ext 5V
S5V: Shield 5V
Pogo1x3
OK
USB-UART interface
2171790001
FT234XD-T
FT234XD
74AHC1G04SE-7
OK
RF module
Mod_RF - EXT. I/O
Q2
OK
GPIO
Header 4X1_Female
LED UF = 2 V
IF = 10 mA
R = (VCC-UF)/IF = 130 ohms
Current design consumes 1 mA/LED
2022-03-15 MLN
OK
Antennas
OK
UART jumpers
OK
Debug connectors
TC2030-CTX
Pogo1x7
Pogo1x4
OK, on peut virer X9-10-16-17-21-22
Checked
2022-03-29
- Morpho/Arduino connector pinout (esp. D1 and D0 UART) -> p.38 UM1724, rest p.28 UM1724- JTAG connector pinout
- RF module BOOT0 and NRST
- necessity of termination for UART -> not necessary
- LEDs and resistors -> see note beside them
- UART jumpers
- dual-band antenna found (Ethertronics M620720)
- CTS/RTS on arduino connector
- antenna footprint
- Check power supplies
Not checked, taken from MB_RF_C1 design
2022-03-15
- RF module footprint and pinout
- USB-UART interface
- Antenna connections
- Decoupling capacitors
Title
Nucleo RF Shield
Size
A3
Number
0000.0000.01
Revision
01
Date:
7.11.2022
Sheet of
Nucleo RF Shield
File:
D:\Switchdrive\..\RFShield.SchDoc
Drawn By:
Marc Leemann


21,04
16,50
2,98
5,05
3,97
78,25
48,25
63,50
7,58
5,13
69,75
RFShield rev.1
05.22
ANT1
ANT2
VCC_PA1


RFShield rev.1
05.22
IO1
IO2
IO3
IO4
R8
R9
R10
R11
X12
X2
1
2
37
38
X8
X19
JTAG
C27
C22
X11
C11
R12
C20
K1
K2
C18
C14
C19
C15
C16
FB1
R14
R13
Q1
C17
X13
X22
X18
X17
X23
X3
X4
X7
X15
X16
X20
X10
X9
X21
Q2
X6
R18
C28
X24
R17
S1
R16
R15
C23
C21
C24
X14
C4
R2
R1
C2
C3
T1
L1
C1
C13
C12
X1
R3
VCC1
R7
R6
R5
C7
C5
C8
T2
C6
L2
C9
C10
R4
X5
VCC_PA1
ANT2
ANT1
C25
C26



Designator	Comment	Footprint	Quantity	Supplier 1	Supplier Part Number 1
ANT1	ANT_M620720	M620720	1	Digi-Key	939-1066-6-ND
ANT2	SMA_ThroughHole_RightAngle	Amphenol-132225	1	Digi-Key	ACX2074-ND
C1, C5, C11	10uF	J1-0603	3		
C2, C7	22nF	J1-0603	2		
C3, C6	4.7uF	J1-0603	2		
C4, C8	4.7nF	J1-0603	2		
C9, C12	C-47uF-0805	J1-0603	2	Digi-Key	587-4280-1-ND
C10, C13	C-100pF-0603	J1-0603	2	Digi-Key	1292-1474-1-ND
C14, C17	C-47pF-0402	SM/C_0603	2	RSComponents	8015369
C15, C18, C28	C-10nF-0603	SM/C_0603	3	Digi-Key	490-1512-1-ND
C16	C-4.7uF-0805	SM/C_0805	1	Digi-Key	445-14527-1-ND
C19, C20	C-100nF-0402	SM/C_0603	2	RSComponents	1349671
C21, C23, C24, C25, C26	C-10pF-0402	SM/C_0402	5	Digi-Key	712-1253-1-ND
C22	C-1uF-0603	J1-0603	1	Digi-Key	445-1604-1-ND
C27	C-100nF-0603	J1-0603	1	Digi-Key	445-1316-1-ND
FB1	BLM15AX601SN1D	SM/C_0603	1	RSComponents	1048530
IO1, IO2, IO3, IO4, VCC1, VCC_PA1	LED-GREEN-0603	SM/D_0603	6	Digi-Key	P11480DKR-ND
K1	74AHC1G04SE-7	SOT65P210X110-5N	1	Digikey	74AHC1G04SE-7DICT-ND
K2	FT234XD-T	SON45P300X300X80-13N-D	1	Digikey	768-1345-ND
L1, L2	0.47uH	6-0805_L	2		
Q1	USBLC6-2SC6	SOT95P280X145-6N	1	Digi-Key	497-4492-1-ND
Q2	Module_RF_C1	Module_RF_C1	1		
R1	316k	J1-0603	1	Digi-Key	P10.0KHCT-ND
R2, R6	100k	J1-0603	2	Digi-Key	P10.0KHCT-ND
R3, R4, R8, R9, R10, R11	R-1.3k-0603	SM/R_0603	6	Digi-Key	P1.30KHCT-ND
R5	68k	J1-0603	1	Digi-Key	P10.0KHCT-ND
R7	12k	J1-0603	1	Digi-Key	P10.0KHCT-ND
R12	R-10k-0402	SM/R_0603	1	RSComponents	1051156
R13, R14	R-27R-0402	SM/R_0603	2	RSComponents	1755759
R15, R16	R-0-0402-1%	SM/R_0402	2	Digi-Key	311-0.0LBCT-ND
R17	R-10k-0603	SM/R_0603	1	Digi-Key	P10.0KHCT-ND
R18	R-10k-0603	J1-0603	1	Digi-Key	P10.0KHCT-ND
S1	PTS636 SL43 SMTR LFS	PTS36	1	Digi-Key	CKN12309-1-ND
T1, T2	SC21154AULTRC	SON50P200X60_HS-7N	2	Mouser	947-SC21154AULTRC
X1, X5	Header_2x2_Split	2*2P	2	Digikey	
X2, X3	Header 19X2	HDR2X19	2		
X4	Header 10X1_Female	HDR1X10	1		
X6, X7	Header 8X1_Female	HDR1X8	2		
X8	Header 6X1_Female	HDR1X6	1		
X9, X10, X21	Pogo1x3	Pogo_1x3	3	Digikey	ED8197-03-ND
X11, X17, X18, X22, X23	Jumper3	1*3P_MALE	5		
X12	Header 4X1_Female	1*4P_FEMALE	1		
X13	2171790001	2171790001	1	Digikey	900-2171790001CT-ND
X14	U.FL-R-SMT	U.FL-R-SMT	1	Digi-Key	H9161CT-ND
X15	Pogo1x7	Pogo_1x7	1	Digikey	ED8197-07-ND
X16, X20	Pogo1x4	Pogo_1x4	2	Digikey	ED8197-04-ND
X24	Header_2_2.54mm	HDR1X2	1	Digi-Key	S2011E-01-ND