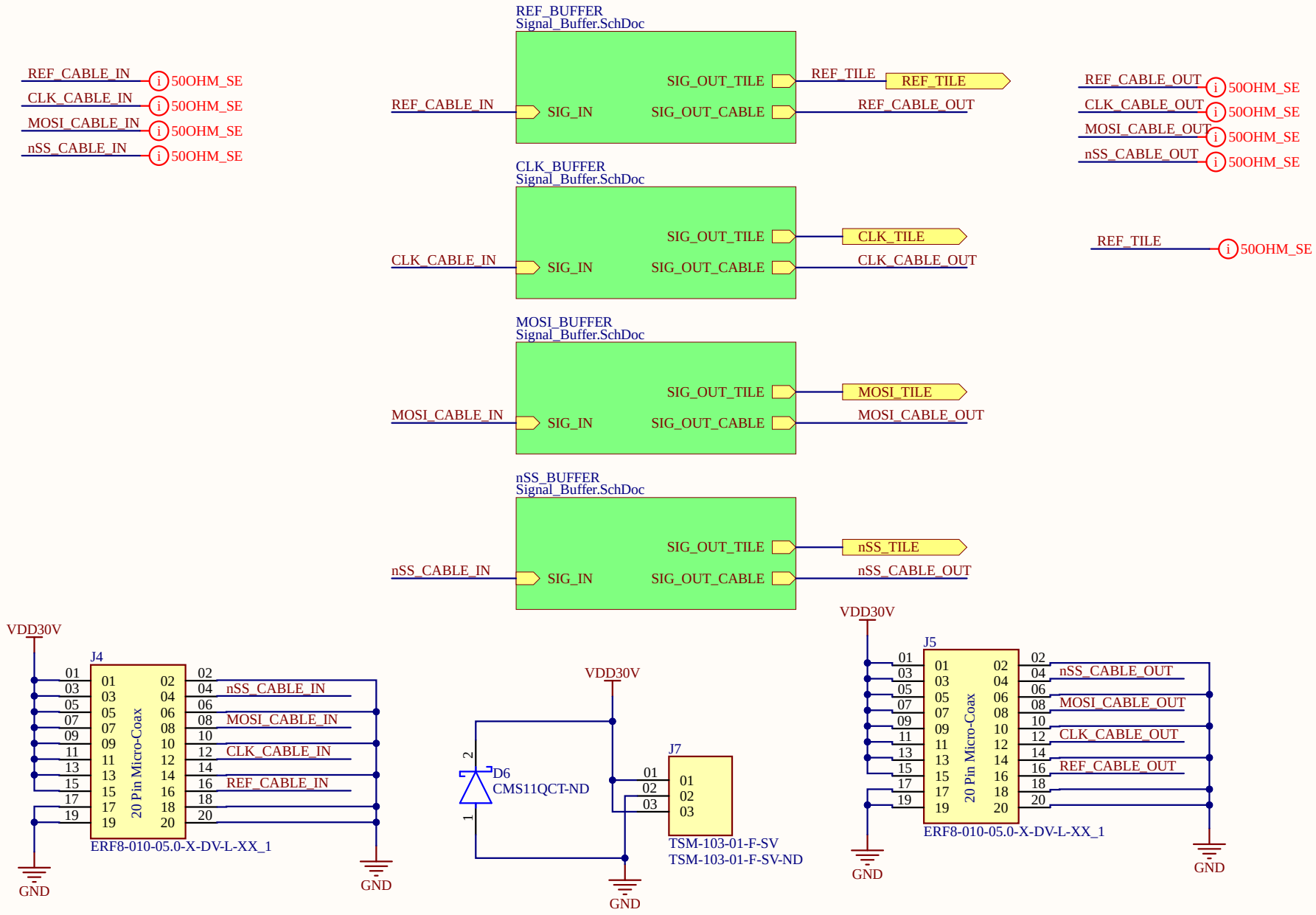

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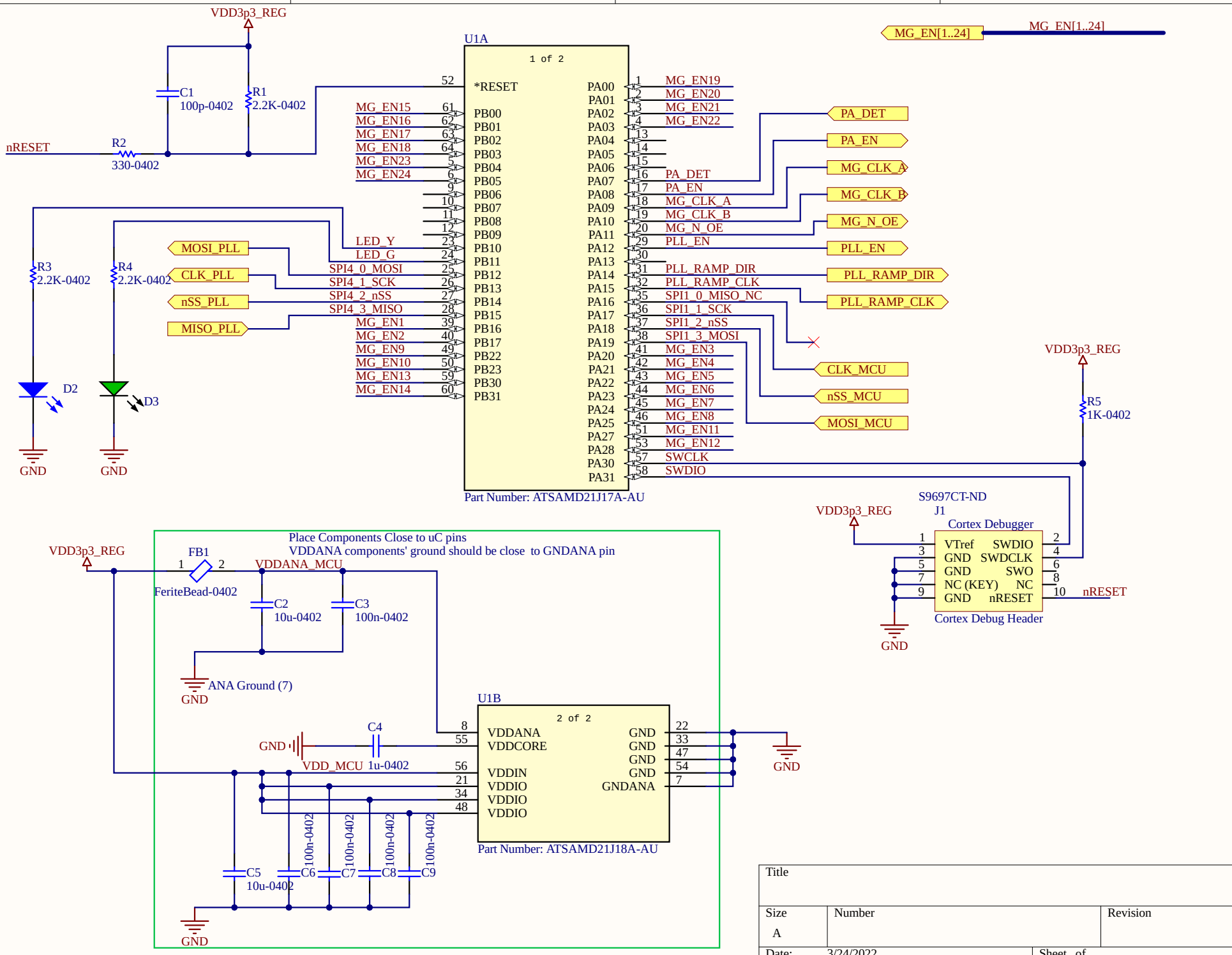
VDD3p3_REG
C1
100p-0402
R1
2.2K-0402
nRESET
R2
330-0402
U1A
1 of 2
*RESET
PB00
PB01
PB02
PB03
PB04
PB05
PB06
PB07
PB08
PB09
PB10
PB11
PB12
PB13
PB14
PB15
PB16
PB17
PB22
PB23
PB30
PB31
PA00
PA01
PA02
PA03
PA04
PA05
PA06
PA07
PA08
PA09
PA10
PA11
PA12
PA13
PA14
PA15
PA16
PA17
PA18
PA19
PA20
PA21
PA22
PA23
PA24
PA25
PA27
PA28
PA30
PA31
MG_EN15
MG_EN16
MG_EN17
MG_EN18
MG_EN23
MG_EN24
LED_Y
LED_G
SPI4_0_MOSI
SPI4_1_SCK
SPI4_2_nSS
SPI4_3_MISO
MG_EN1
MG_EN2
MG_EN9
MG_EN10
MG_EN13
MG_EN14
MG_EN19
MG_EN20
MG_EN21
MG_EN22
PA_DET
PA_EN
MG_CLK_A
MG_CLK_B
MG_N_OE
PLL_EN
PLL_RAMP_DIR
PLL_RAMP_CLK
SPI1_0_MISO_NC
SPI1_1_SCK
SPI1_2_nSS
SPI1_3_MOSI
MG_EN3
MG_EN4
MG_EN5
MG_EN6
MG_EN7
MG_EN8
MG_EN11
MG_EN12
SWCLK
SWDIO
Part Number: ATSAMD21J17A-AU
MG_EN[1..24]
MG_EN[1..24]
MOSI_PLL
CLK_PLL
nSS_PLL
MISO_PLL
CLK_MCU
nSS_MCU
MOSI_MCU
R3
2.2K-0402
R4
2.2K-0402
D2
D3
GND
GND
VDD3p3_REG
R5
1K-0402
S9697CT-ND
J1
Cortex Debugger
VTref
SWDIO
GND
SWDCLK
GND
SWO
NC (KEY)
NC
GND
nRESET
Cortex Debug Header
nRESET
GND
VDD3p3_REG
Place Components Close to uC pins
VDDANA components' ground should be close to GNDANA pin
FB1
FeriteBead-0402
VDDANA_MCU
C2
10u-0402
C3
100n-0402
ANA Ground (7)
GND
U1B
2 of 2
VDDANA
VDDCORE
VDDIN
VDDIO
VDDIO
VDDIO
GND
GND
GND
GND
GNDANA
C4
GND
VDD_MCU
1u-0402
GND
C5
10u-0402
C6
C7
C8
C9
100n-0402
100n-0402
100n-0402
100n-0402
GND
Part Number: ATSAMD21J18A-AU
Title
Size
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Number
Revision
Date:
3/24/2022
Sheet of
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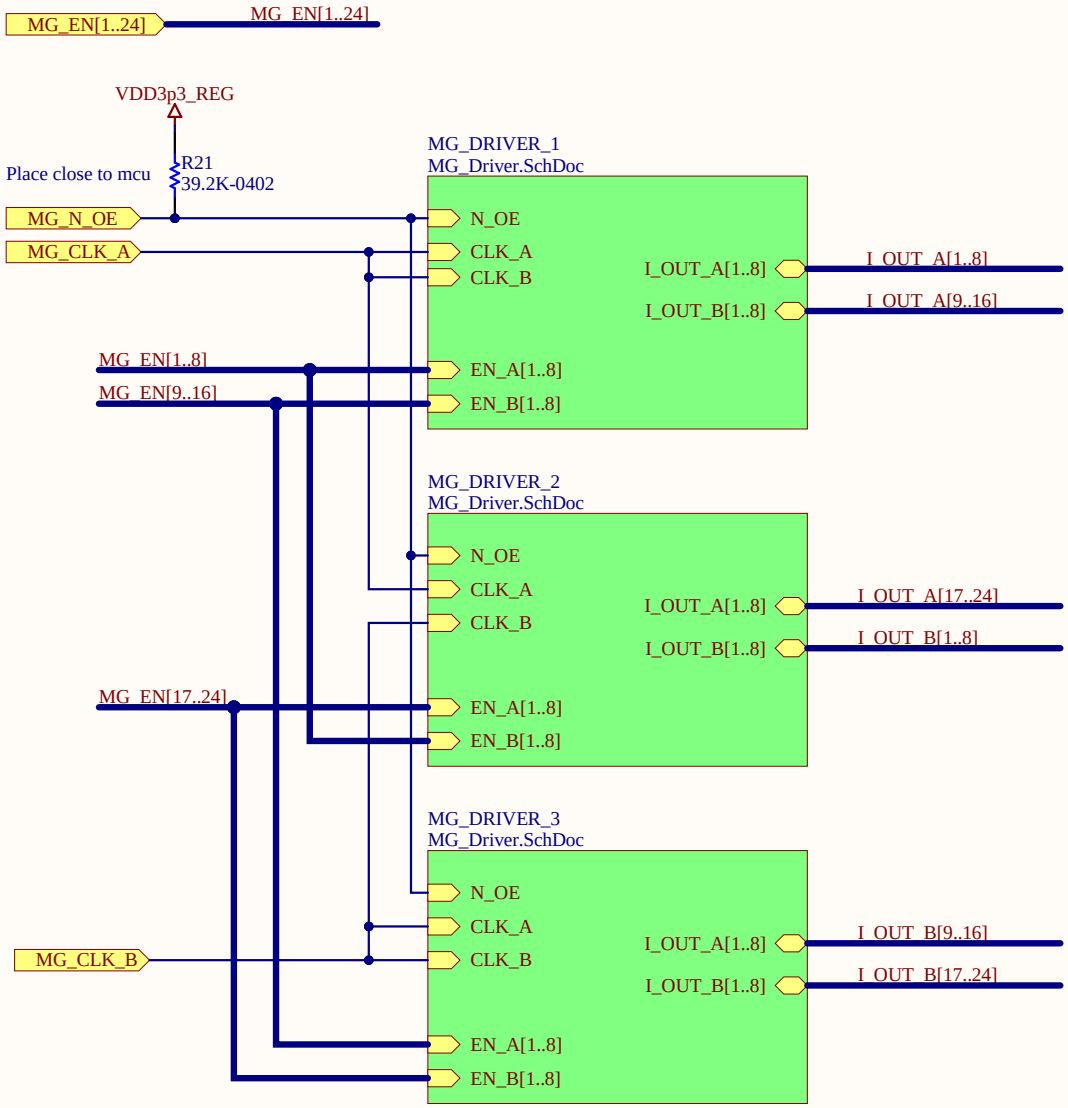

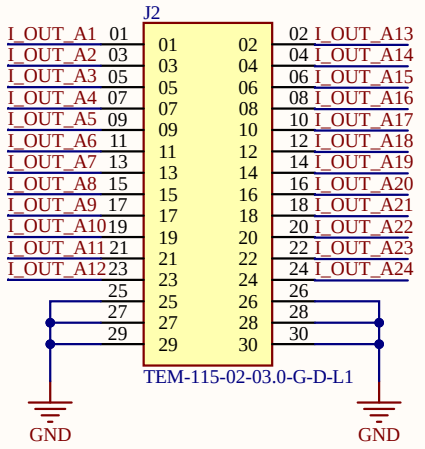

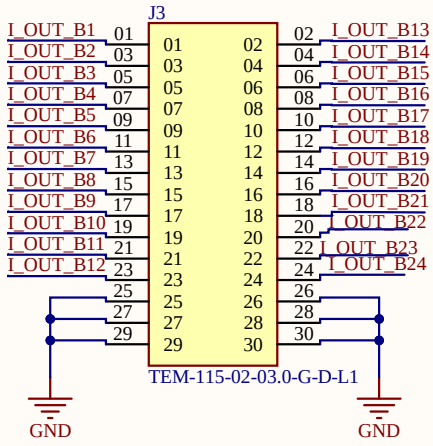

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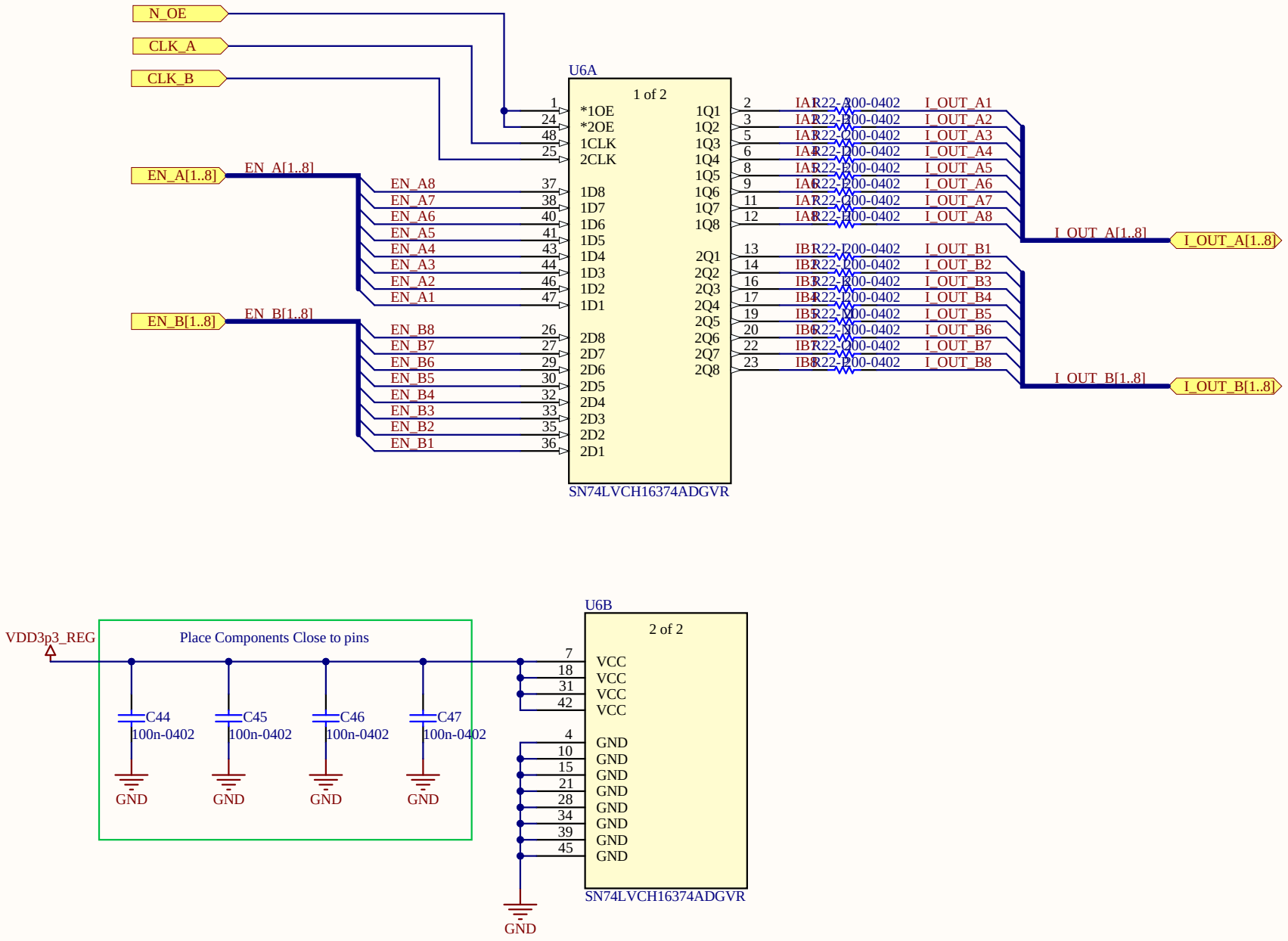

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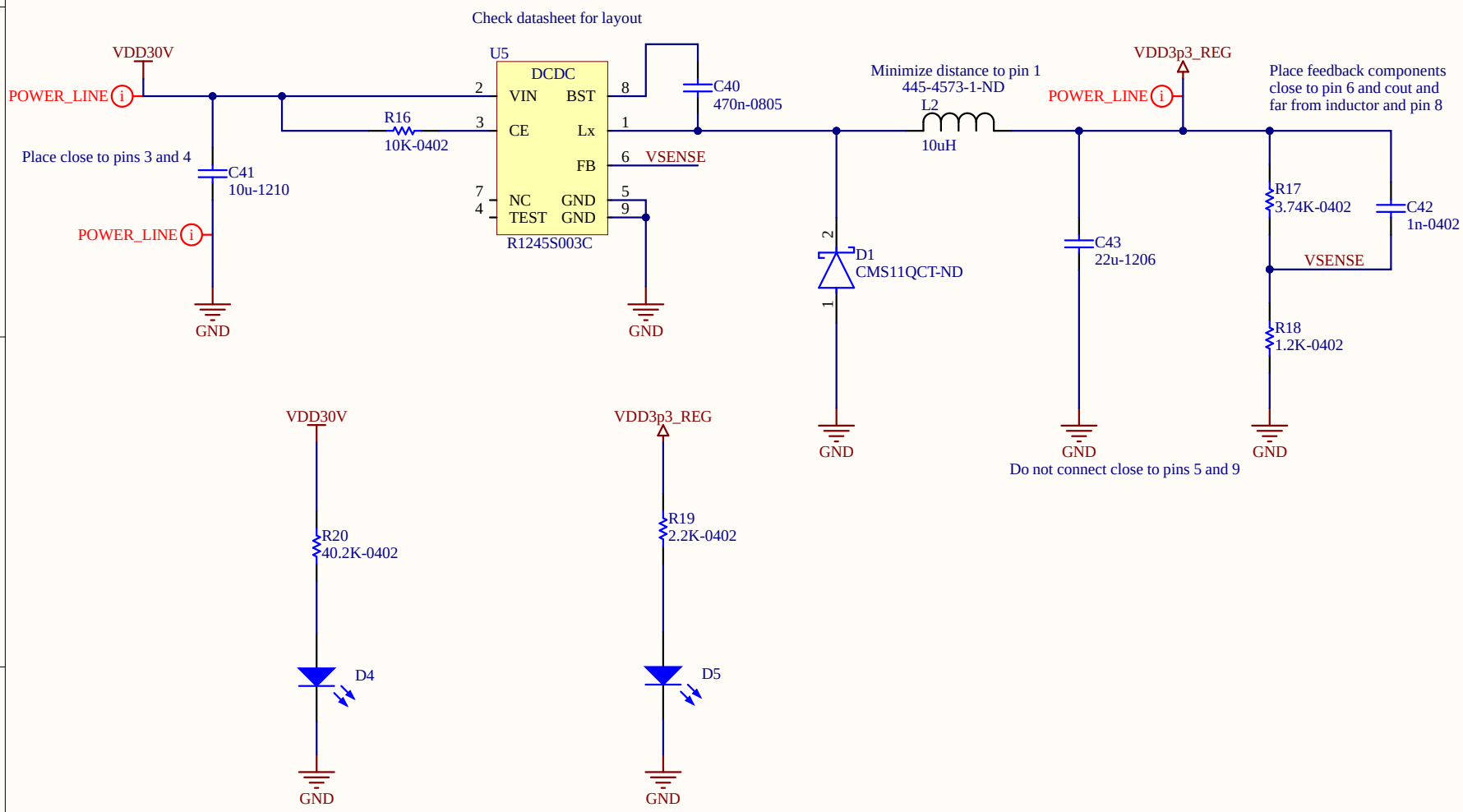

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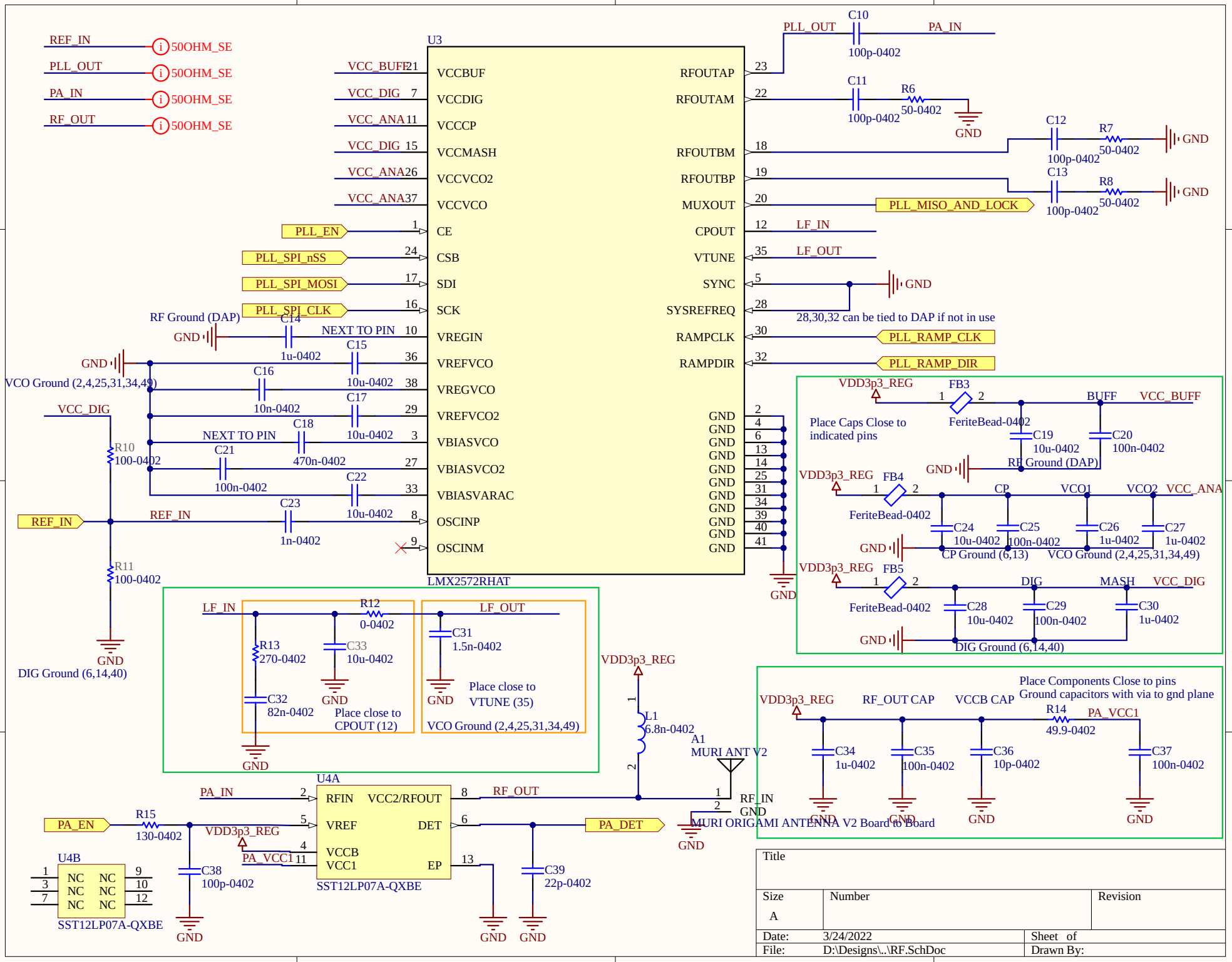
REF_IN
PLL_OUT
PA_IN
RF_OUT
50OHM_SE
U3
LMX2572RHAT
VCCBUF
VCCDIG
VCCCP
VCCMASH
VCCVCO2
VCCVCO
CE
CSB
SDI
SCK
VREGIN
VREFVCO
VREGVCO
VREFVCO2
VBIASVCO
VBIASVCO2
VBIASVARAC
OSCINP
OSCINM
RFOUTAP
RFOUTAM
RFOUTBM
RFOUTBP
MUXOUT
CPOUT
VTUNE
SYNC
SYSREFREQ
RAMPCLK
RAMPDIR
GND
VCC_BUFF
VCC_DIG
VCC_ANA
PLL_EN
PLL_SPI_nSS
PLL_SPI_MOSI
PLL_SPI_CLK
PLL_MISO_AND_LOCK
PLL_RAMP_CLK
PLL_RAMP_DIR
LF_IN
LF_OUT
C10
100p-0402
C11
100p-0402
R6
50-0402
C12
100p-0402
R7
50-0402
C13
100p-0402
R8
50-0402
RF Ground (DAP)
C14
1u-0402
NEXT TO PIN
C15
10u-0402
C16
10n-0402
C17
10u-0402
C18
470n-0402
C21
100n-0402
C22
10u-0402
C23
1n-0402
R10
100-0402
R11
100-0402
VCO Ground (2,4,25,31,34,49)
DIG Ground (6,14,40)
28,30,32 can be tied to DAP if not in use
Place Caps Close to indicated pins
FB3
FeriteBead-0402
C19
10u-0402
C20
100n-0402
FB4
CP
VCO1
VCO2
C24
10u-0402
C25
100n-0402
C26
1u-0402
C27
1u-0402
CP Ground (6,13)
FB5
DIG
MASH
C28
10u-0402
C29
100n-0402
C30
1u-0402
R12
0-0402
R13
270-0402
C33
10u-0402
C32
82n-0402
Place close to CPOUT (12)
C31
1.5n-0402
Place close to VTUNE (35)
L1
6.8n-0402
A1
MURI ANT V2
Place Components Close to pins
Ground capacitors with via to gnd plane
RF_OUT CAP
VCCB CAP
R14
49.9-0402
C34
1u-0402
C35
100n-0402
C36
10p-0402
C37
100n-0402
MURI ORIGAMI ANTENNA V2 Board to Board
U4A
RFIN
VCC2/RFOUT
VREF
DET
VCCB
VCC1
EP
SST12LP07A-QXBE
R15
130-0402
C38
100p-0402
C39
22p-0402
U4B
NC
SST12LP07A-QXBE
Title
Size
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Number
Revision
Date:
3/24/2022
Sheet of
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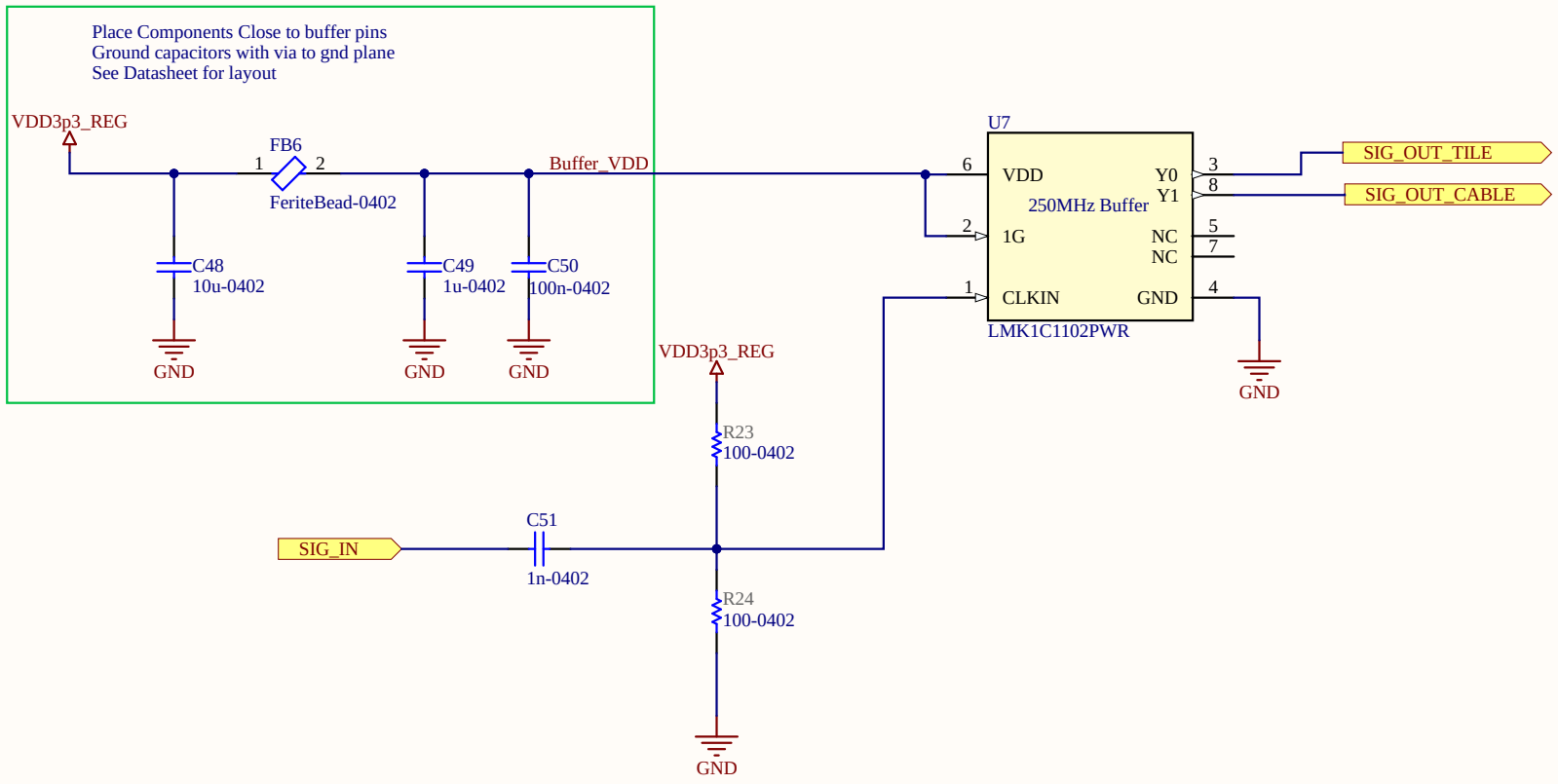
D:\Designs\..\RF.SchDoc
Drawn By:



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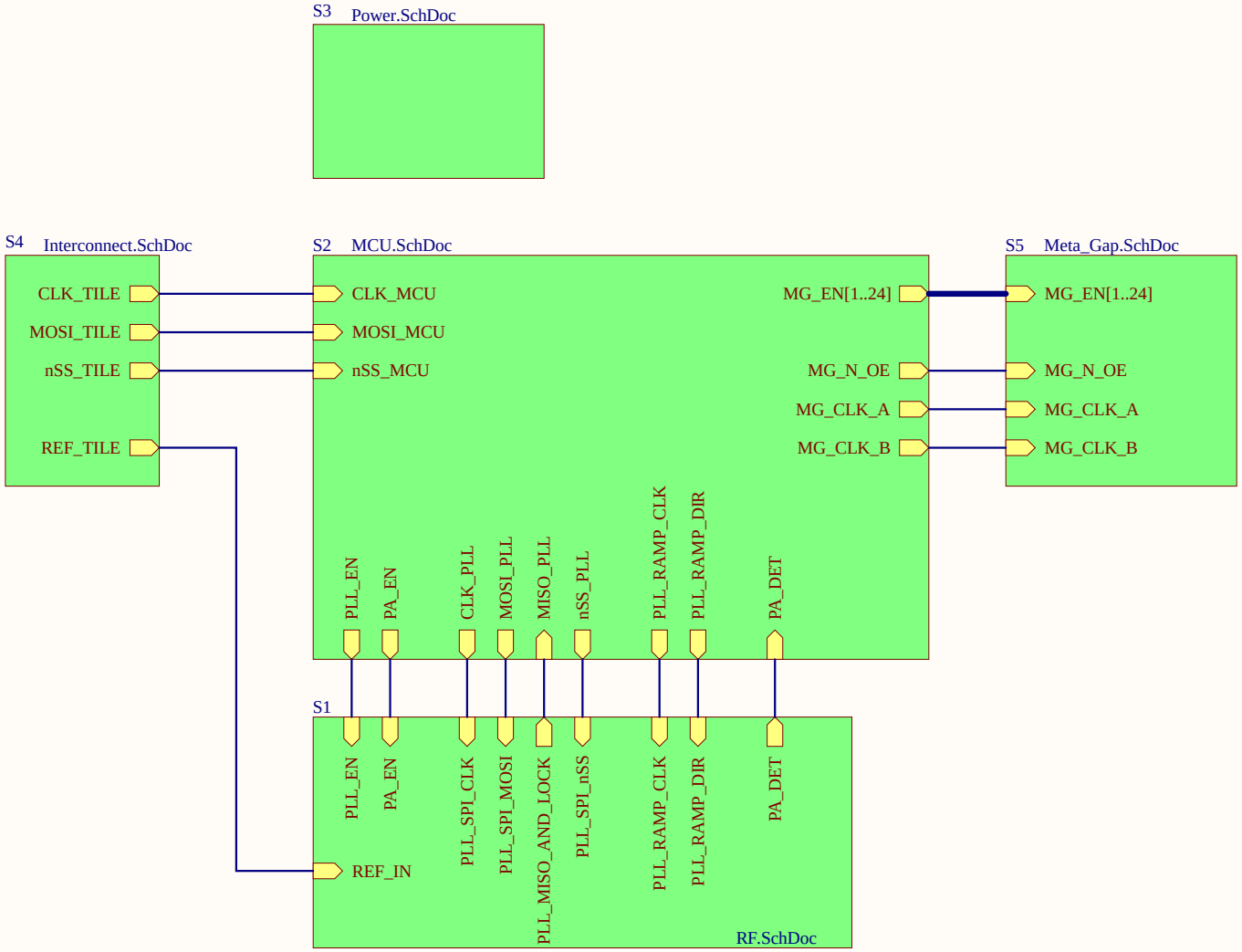

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Date: 3/24/2022	Sheet of	
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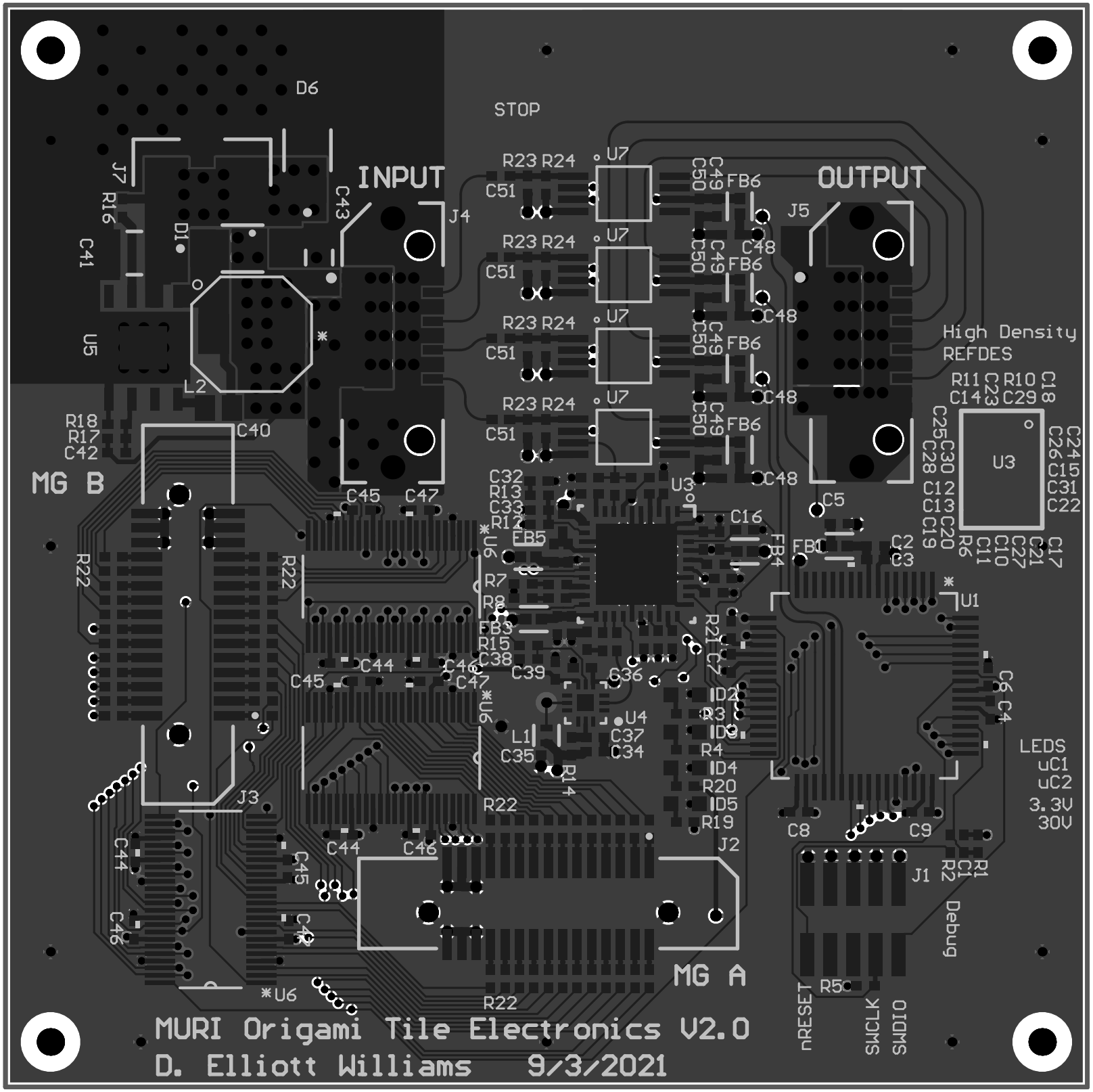
INPUT
OUTPUT
STOP
MG B
MG A
High Density
REFDES
LEDS
3.3V
3.0V
Debug
nRESET
SWCLK
SWDIO
MURI Origami Tile Electronics V2.0
D. Elliott Williams 9/3/2021