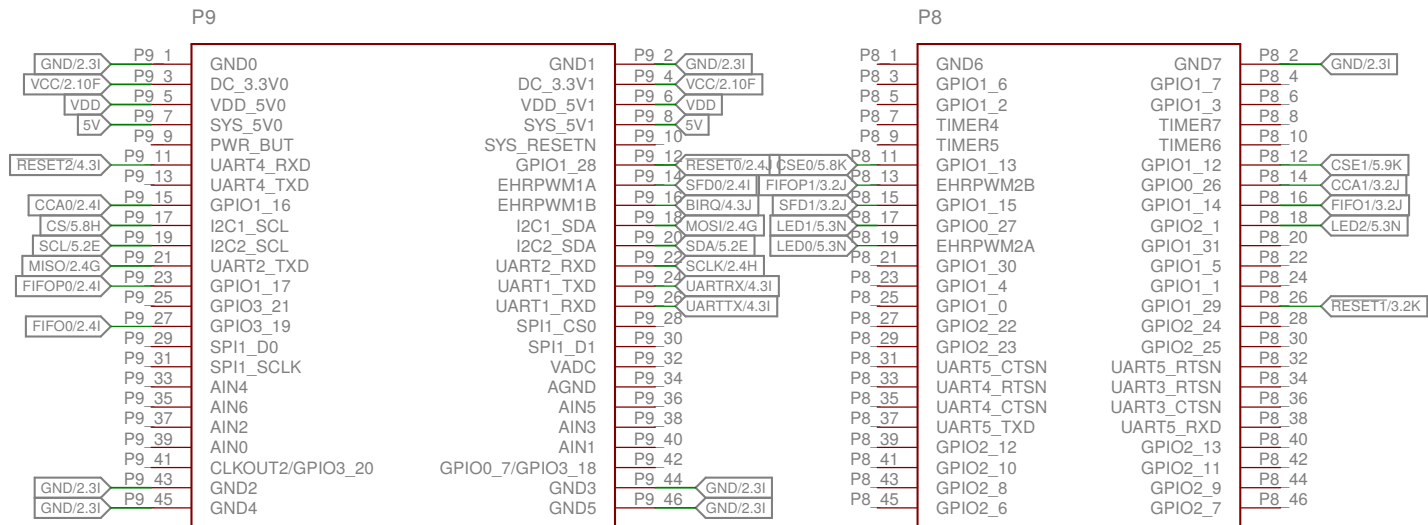
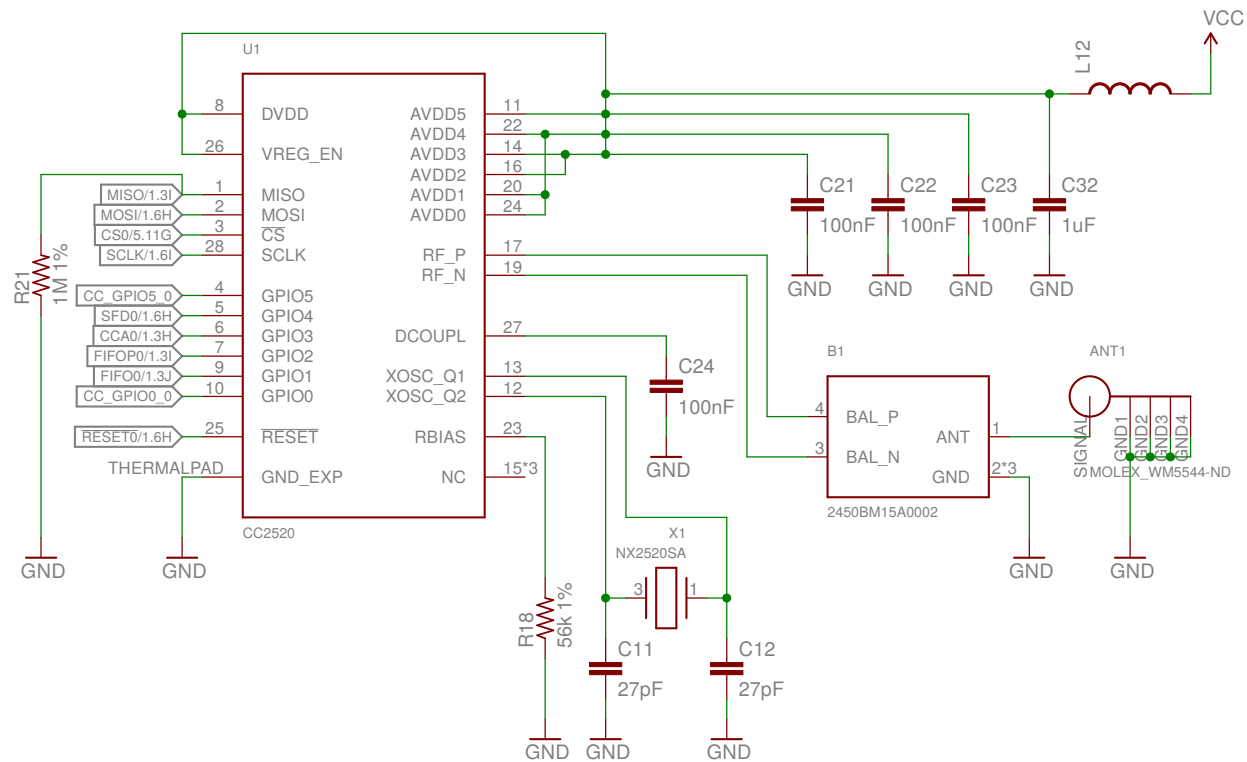


BeagleBone Black Header



CC2520. Index: 0, no amplifier



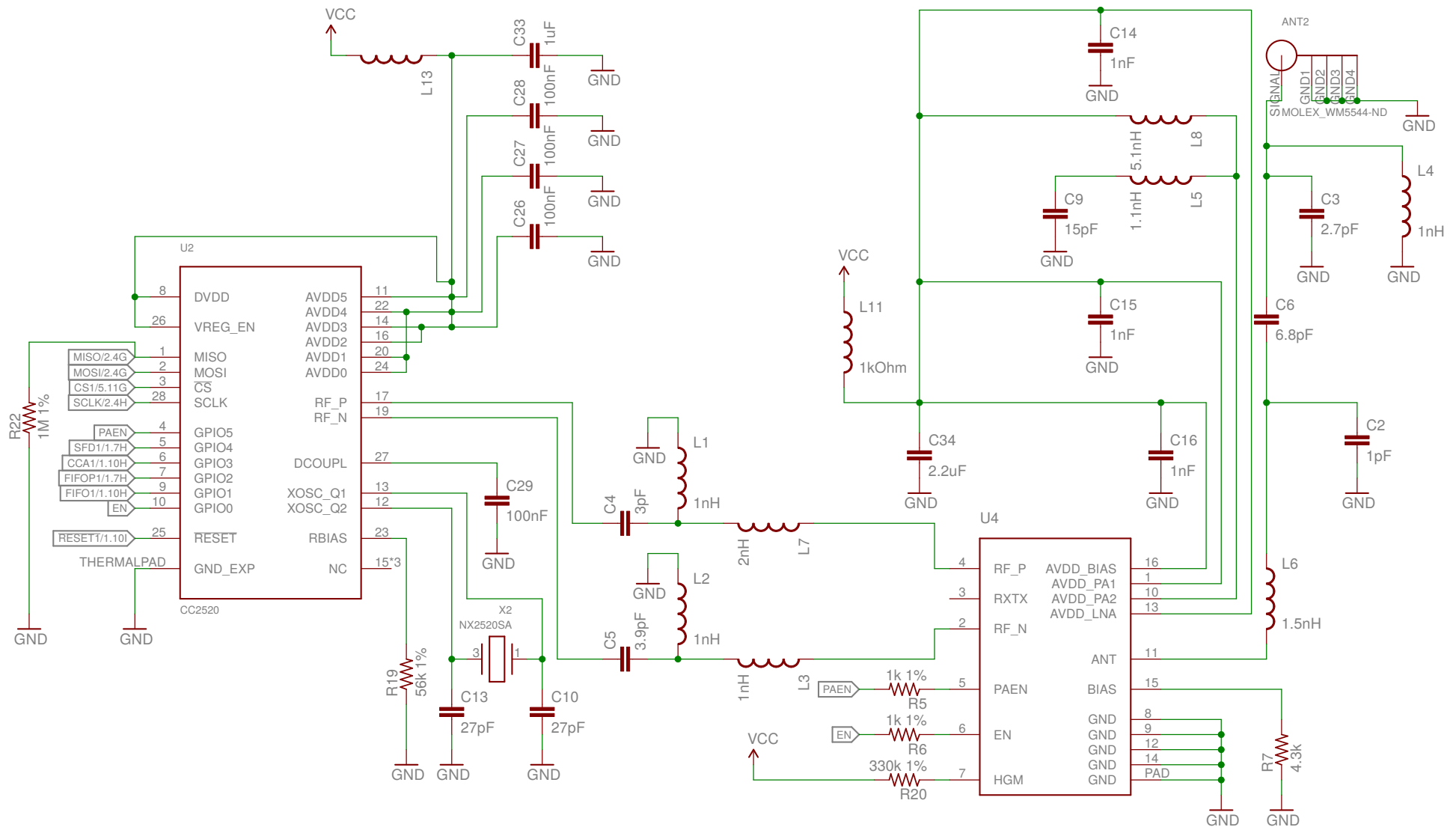
REV:
B

Author: Neal Jackson

Date: 11/20/14 2:20 AM

Sheet: 2/5

CC2520. Index: 1, with amplifier



M Zigbeag

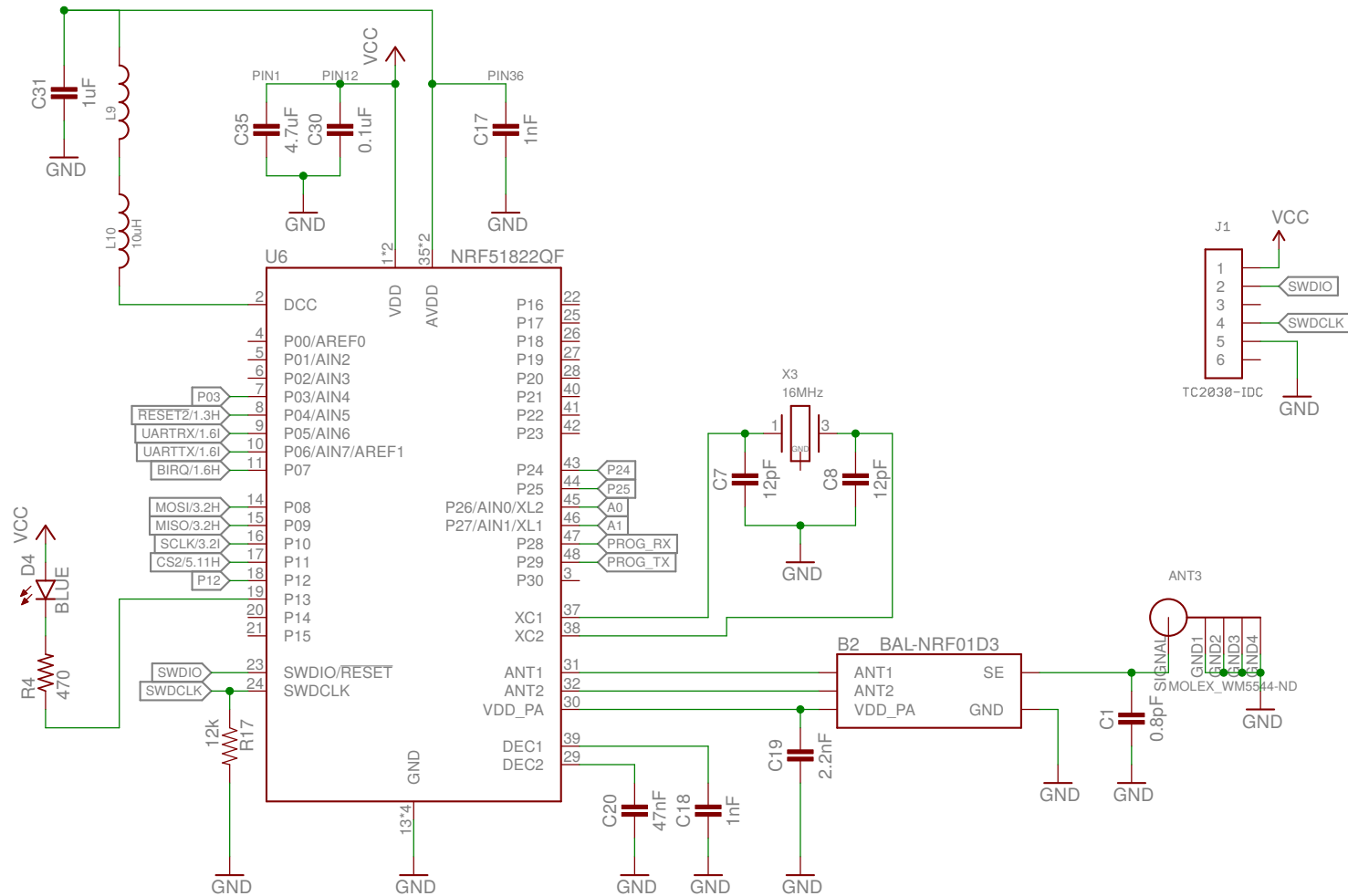
REV:
B

Author: Neal Jackson

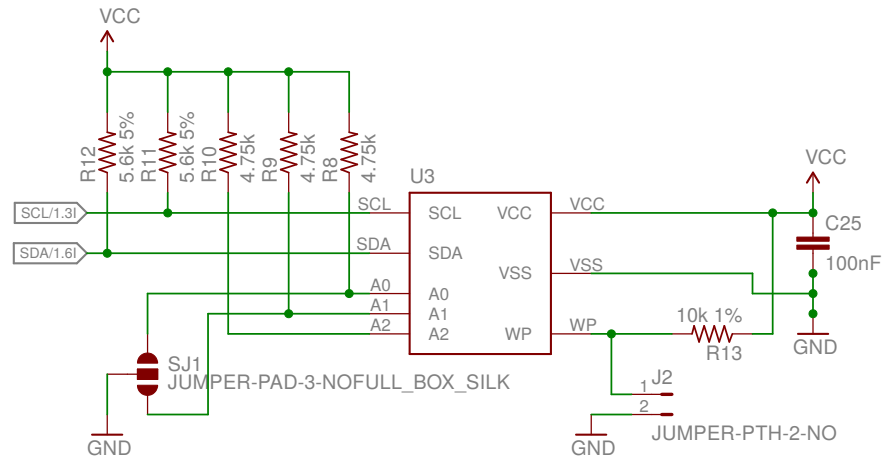
Date: 11/20/14 2:20 AM

Sheet: 3/5

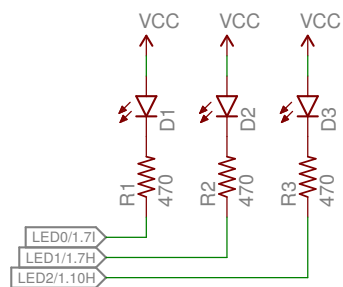
nRF51822



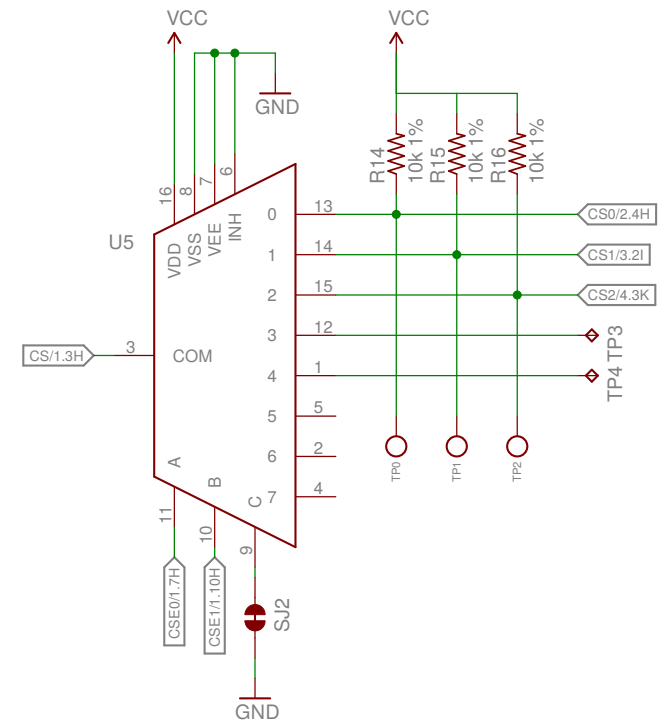
EEPROM



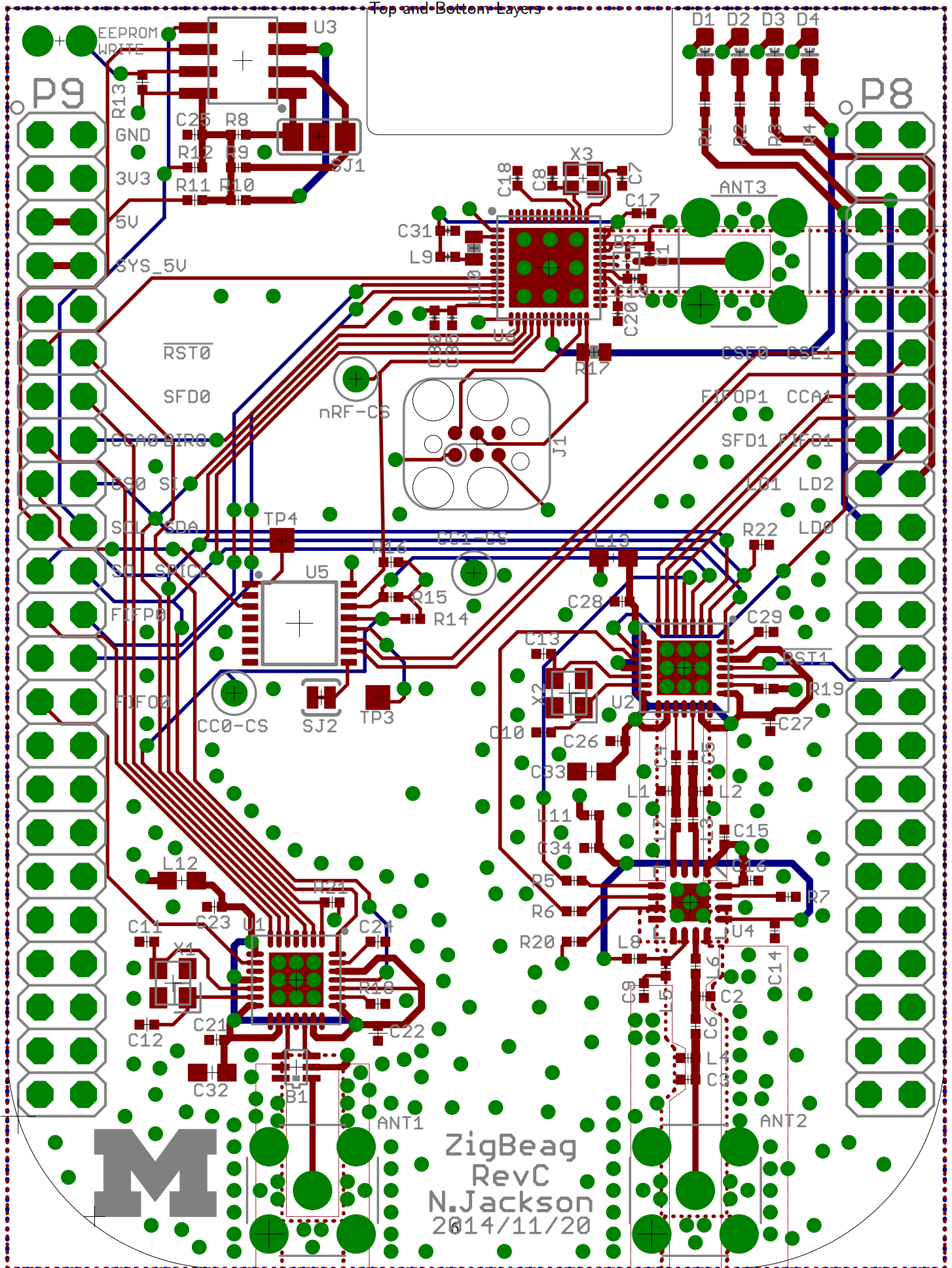
LEDs



Chip Select DeMux



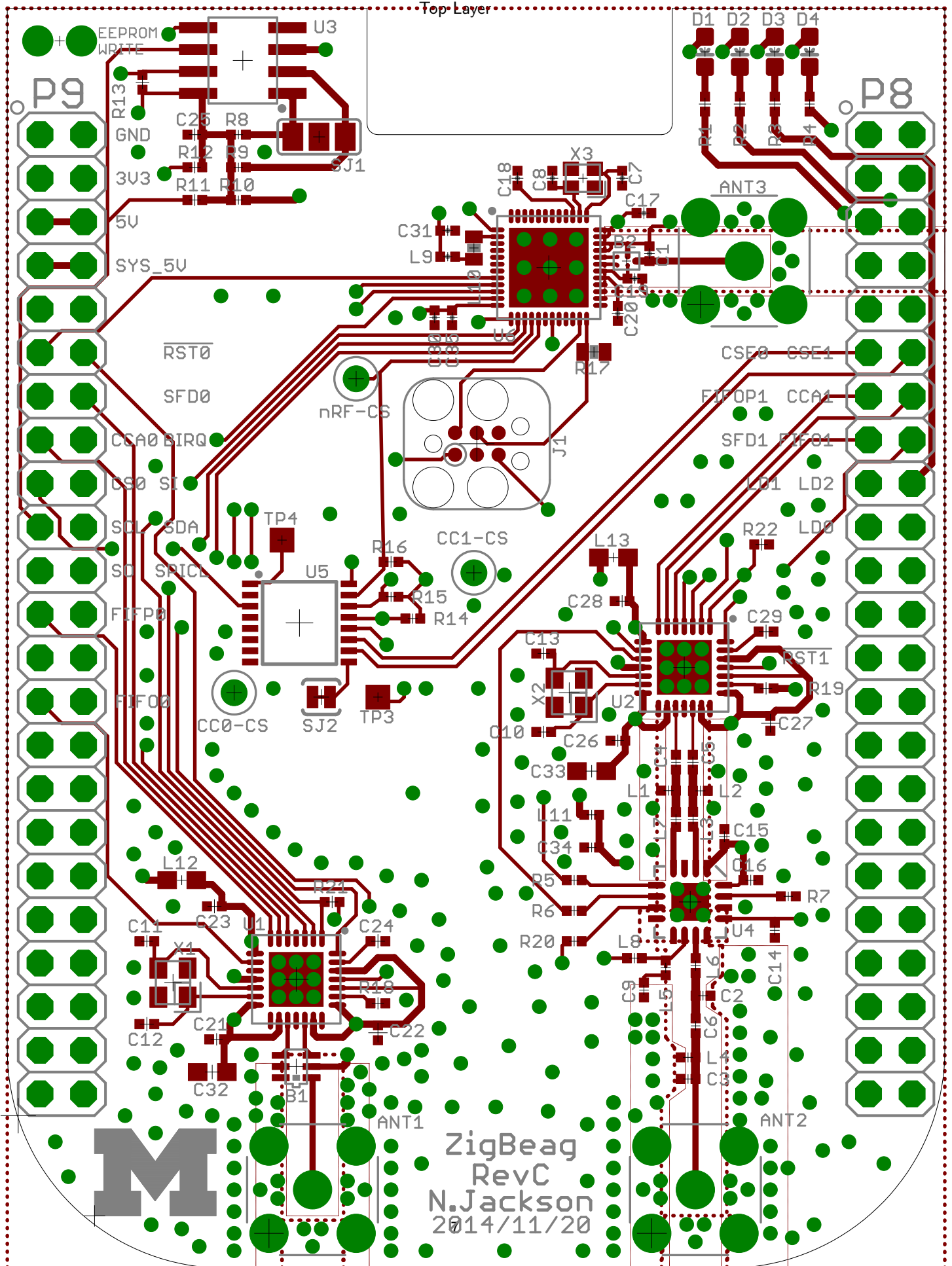
Top and Bottom Layers



M

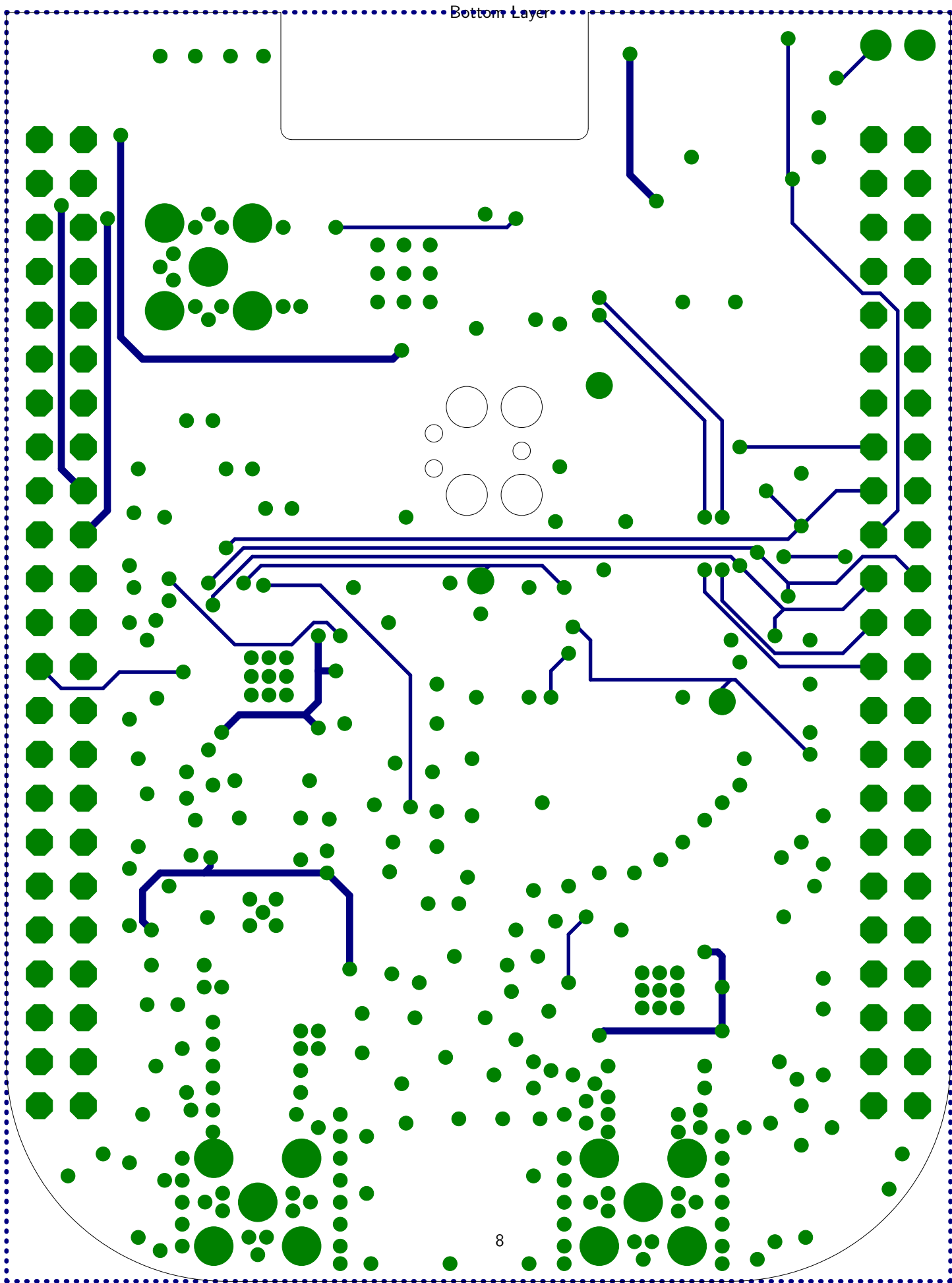
ZigBee
RevC
N.Jackson
2014/11/20

Top Layer

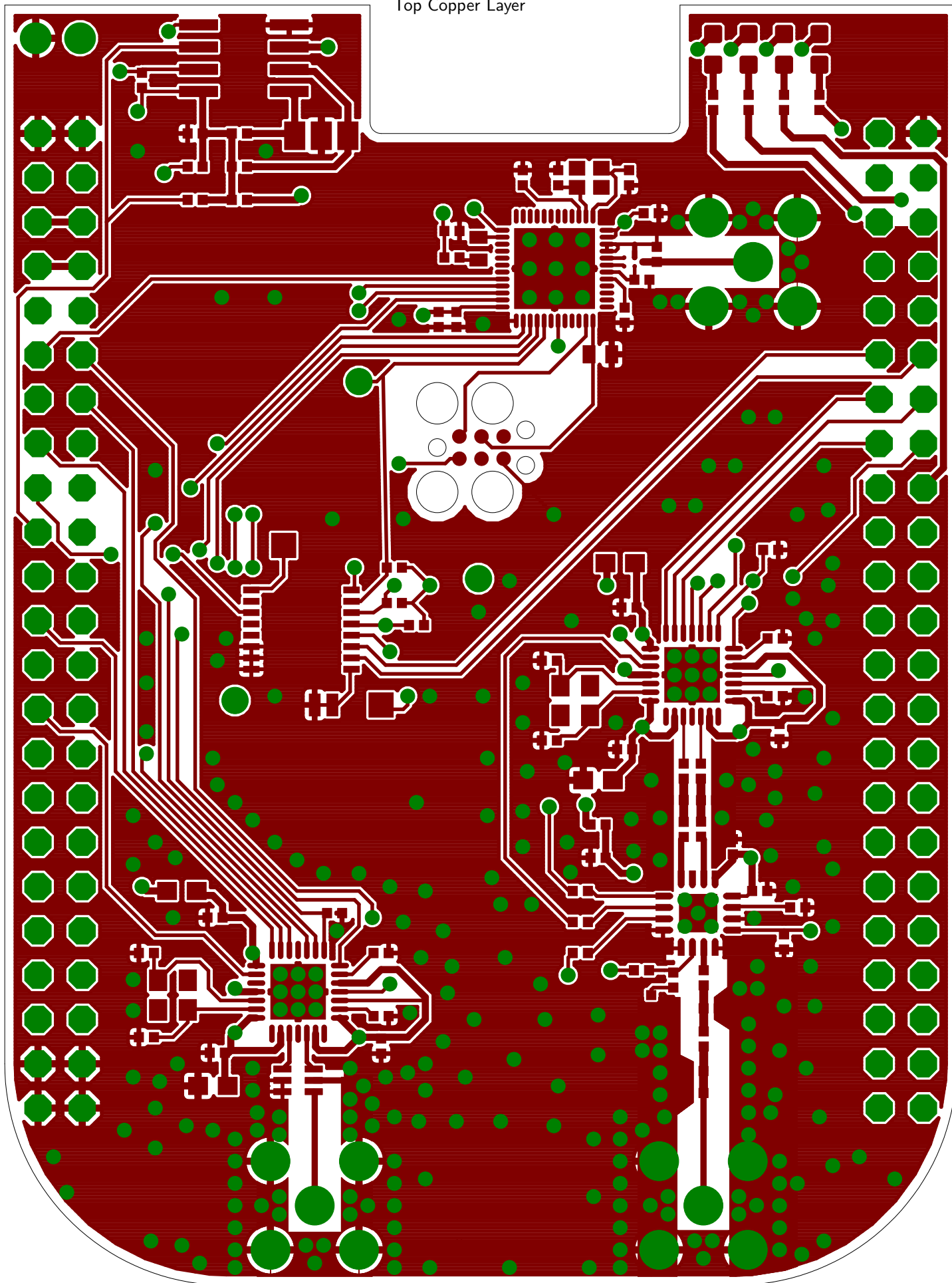


M

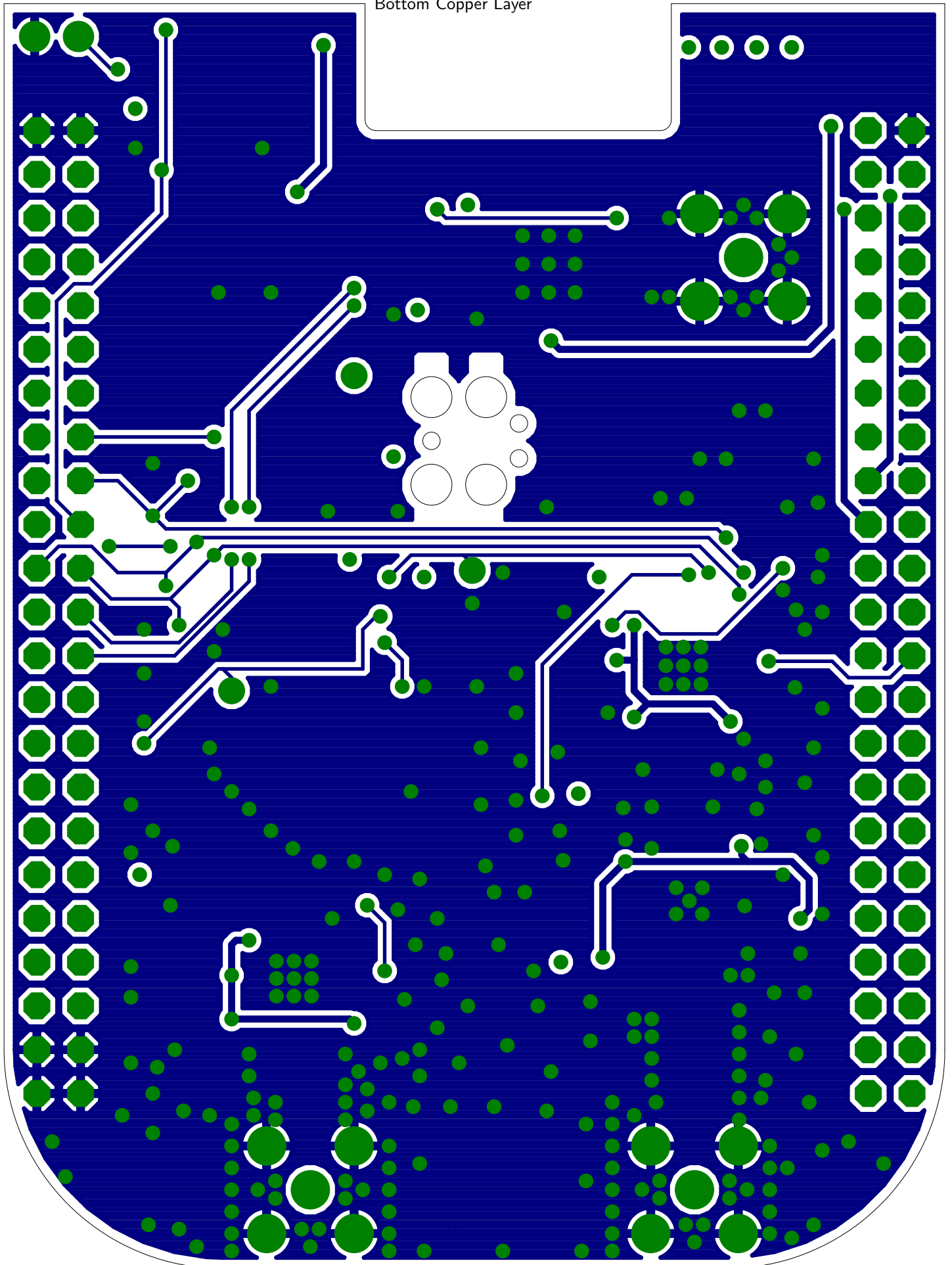
ZigBeag
RevC
N.Jackson
2014/11/20

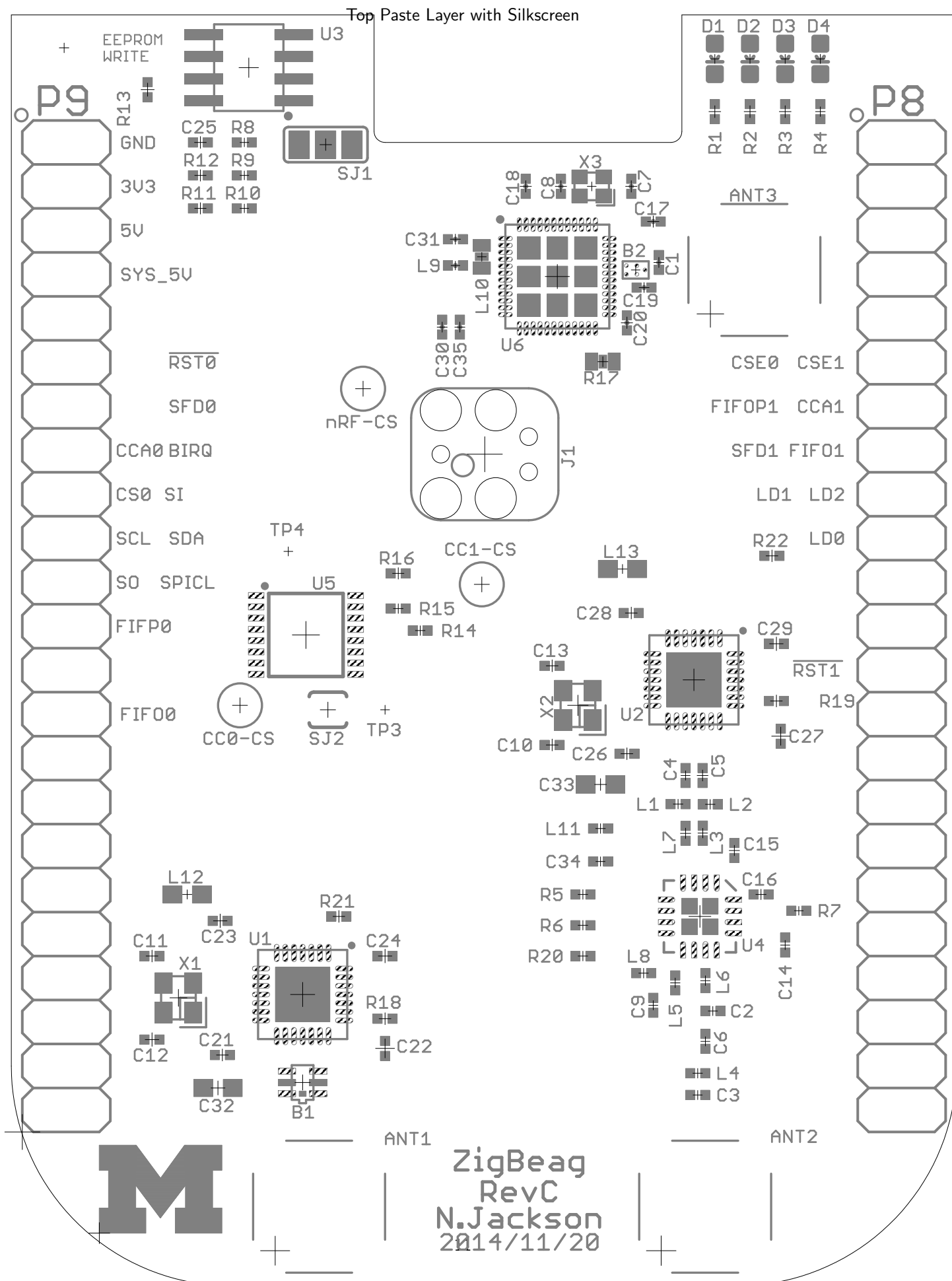


Top Copper Layer

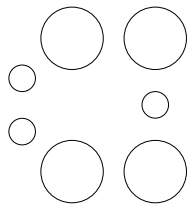


Bottom Copper Layer

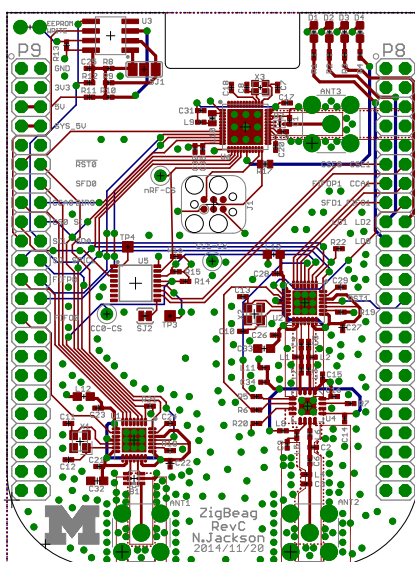




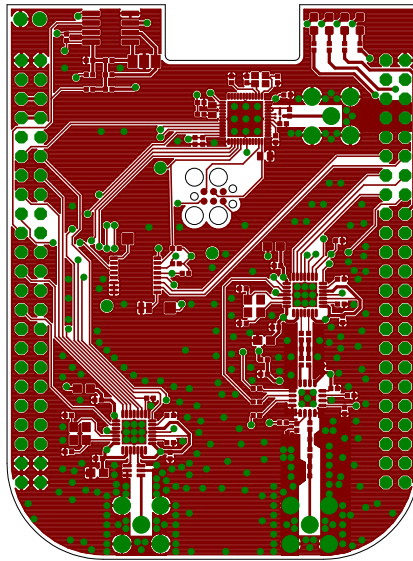
Bottom Paste Layer with Silkscreen

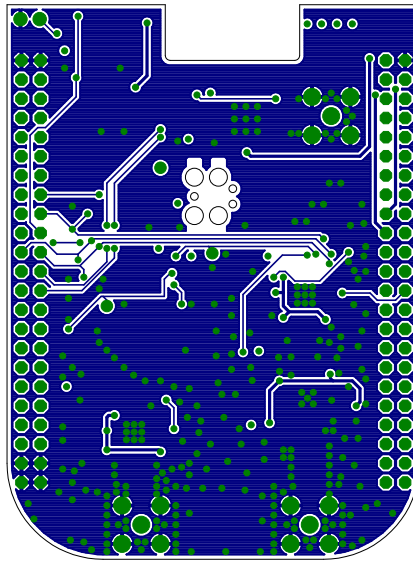


Top and Bottom Layers 1:1 Scale



Top Layer 1:1 Scale





| Qty | Value | Device |
|-----|--------------------|--------------------|
| 3 | MOLEX_WM5544-ND | MOLEX_WM5544-ND |
| 1 | 2450BM15A0002 | 2450BM15A0002 |
| 1 | BAL-NRF01D3 | BAL-NRF01D3 |
| 1 | 0.8pF | CAPACITOR |
| 1 | 1pF | C-EUC0402 |
| 1 | 2.7pF | C-EUC0402 |
| 1 | 3pF | C-EUC0402 |
| 1 | 3.9pF | C-EUC0402 |
| 1 | 6.8pF | C-EUC0402 |
| 2 | 12pF | CAPACITOR |
| 1 | 15pF | C-EUC0402 |
| 4 | 27pF | C-EUC0402 |
| 3 | 1nF | C-EUC0402 |
| 2 | 1nF | CAPACITOR |
| 1 | 2.2nF | CAPACITOR |
| 1 | 47nF | CAPACITOR |
| 9 | 100nF | C-EUC0402 |
| 1 | 0.1uF | CAPACITOR |
| 1 | 1uF | CAPACITOR |
| 2 | 1uF | C-EUC0603 |
| 1 | 2.2uF | C-EUC0402 |
| 1 | 4.7uF | CAPACITOR |
| 1 | GREEN | LED0603 |
| 1 | RED | LED0603 |
| 1 | BLUE | LED0603 |
| 1 | YELLOW | LED0603 |
| 1 | JUMPER-PTH-2-NO | JUMPER-PTH-2-NO |
| 4 | 1nH | INDUCTOR0402 |
| 1 | 1.1nH | INDUCTOR0402 |
| 1 | 1.5nH | INDUCTOR0402 |
| 1 | 2nH | INDUCTOR0402 |
| 1 | 5.1nH | INDUCTOR0402 |
| 1 | 15nH | INDUCTOR0402 |
| 1 | 10uH | INDUCTOR0603 |
| 1 | 1k Ohm | INDUCTOR0402 |
| 2 | 1k Ohm | INDUCTOR0603 |
| 2 | BBB_HEADERS | BBB_HEADERS |
| 3 | 470 ohm | R-US_R0402 |
| 2 | 1k 1% | R-US_R0402 |
| 1 | 4.3k | R-US_R0402 |
| 3 | 4.75k | R-US_R0402 |
| 2 | 5.6k 5% | R-US_R0402 |
| 1 | 10k 1% | R-US_R0402 |
| 1 | 12k | RESISTOR |
| 2 | 56k 1% | R-US_R0402 |
| 1 | 330k 1% | R-US_R0402 |
| 2 | 1M 1% | R-US_R0402 |
| 3 | TEST_POINT_0.040IN | TEST_POINT_0.040IN |
| 2 | CC2520 | CC2520 |
| 1 | CAT24C256WI-GT3 | CAT24C256WI-GT3 |
| 1 | CC2591 | CC2591 |
| 1 | CD4051B-53B | CD4051B-53B |
| 1 | NRF51822QF | NRF51822QF |
| 2 | NX2520SA | NX2520SA |
| 1 | 16MHz | TXC-8Y |

Parts

ANT1, ANT2, ANT3

B1

B2

C1

C2

C3

C4

C5

C6

C7, C8

C9

C10, C11, C12, C13

C14, C15, C16

C17, C18

C19

C20

C21, C22, C23, C24, C25, C26, C27, C28, C29

C30

C31

C32, C33

C34

C35

D1

D2

D3

D4

J2

L1, L2, L3, L4

L5

L6

L7

L8

L9

L10

L11

L12, L13

P8, P9

R1, R2, R3, R4

R5, R6

R7

R8, R9, R10

R11, R12

R13, R14, R15, R16

R17

R18, R19

R20

R21, R22

TP0, TP1, TP2

U1, U2

U3

U4

U5

U6

X1, X2

X3

Description

Through-hole SMA Antenna

BALUN JTI MATCHED ZIGBEE

50 ohm nominal input / conjugate match balun to nRF51422-QFAA,

0402 Capacitor

Capacitor, 1p, 0402, NP0, +/-0.1pF 50V

Capacitor, 2p7, 0402, NP0, +/-0.25pF, 50V

Capacitor, 3p, 0402, NP0, +/-0.25pF, 50V

Capacitor, 3p9, 0402, NP0, +/-0.25pF, 50V

Capacitor, 6p8, 0402, NP0, +/-0.25pF 50V

0402 Capacitor

Capacitor, 15p, 0402, NP0, 5%, 50V

Capacitor, 27p, 0402, NP0, 5%, 50V

Capacitor, 1n, 0402, NP0, 5%, 50V

0402 Capacitor

0402 Capacitor

0402 Capacitor

Capacitor, 100n, 0402, X5R, 10%, 10V

0402 Capacitor

0402 Capacitor

Capacitor, 1u0, 0402, X5R, 10%, 6.3V

Capacitor, 2u2, 0402, X5R, 20%, 4V

0402 Capacitor

LEDs

LEDs

LEDs

LEDs

Inductor, 1n0, 0402, Monolithic type, +/-0.3 nH

Inductor, 1n1, 0402, Monolithic type, +/-0.3 nH

Inductor, 1n5, 0402, wire-wound type, +/-0.1 nH

Inductor, 2n0, 0402, +/-0.3 nH

Inductor, 5n1, 0402, +/-0.3 nH

EMI filter bead, 0402 1Kohms GHz Band Gen Use

EMI filter bead, 0603 1Kohms GHz Band Gen Use

2x23 Pin Header

RESISTOR, American symbol

RESISTOR, American symbol

RESISTOR, American symbol

RESISTOR, American symbol

RESISTOR, American symbol

RESISTOR, American symbol

Resistor

RESISTOR, American symbol

RESISTOR, American symbol

RESISTOR, American symbol

0.040in Test Point

2.4 GHz IEEE 802.15.4/ZIGBEE® RF TRANSCEIVER

256kb Serial CMOS EEPROM

2.4GHz Range Extender

IC MUX/DEMUX 8x1 16TSSOP

Multiprotocol Bluetooth® 4.0 low energy/2.4 GHz RF SoC

CRYSTAL 32MHZ 10PF SMD

2mmx1.6mm SMD Crystal

| DIGIKEY | SAMTEC | MAJOR LEAGUE |
|------------------------|----------------|--------------------|
| WM5544-ND | | |
| 712-1536-1-ND | | |
| 497-13637-1-ND | | |
| 490-6269-1-ND | | |
| 490-6206-1-ND | | |
| 490-5934-1-ND | | |
| 490-5872-1-ND | | |
| 490-1272-1-ND | | |
| 490-5949-1-ND | | |
| 490-6197-1-ND | | |
| 490-5888-1-ND | | |
| 490-5869-1-ND | | |
| 490-3244-1-ND | | |
| 490-1303-1-ND | | |
| 490-5419-1-ND | | |
| 445-1264-1-ND | | |
| 490-1318-1-ND | | |
| 445-4952-1-ND | | |
| 1276-1513-1-ND | | |
| 490-1550-1-ND | | |
| 490-4518-1-ND | | |
| 445-5947-1-ND | | |
| 160-1834-1-ND | | |
| 160-1835-1-ND | | |
| 160-1837-1-ND | | |
| 160-1831-1-ND | | |
| 3M9447-ND | | |
| 490-2610-1-ND | | |
| 490-6567-1-ND | | |
| 490-6782-1-ND | | |
| 490-6569-1-ND | | |
| 490-6573-1-ND | | |
| 587-1521-1-ND | | |
| 490-4025-1-ND | | |
| 490-3999-1-ND | | |
| 490-1015-1-ND | | |
| | SSW-123-03-T-D | SSHQ-123-D-08-G-LF |
| RHM470CDCT-ND | | |
| RHM1.00KCDCT-ND | | |
| 1276-4078-1-ND | | |
| 1276-4083-1-ND | | |
| RHM5.6KCGCT-ND | | |
| RHM10.0KCDCT-ND | | |
| RHM12.0KCDCT-ND | | |
| P56.0KLCT-ND | | |
| RHM330KCFCT-ND | | |
| RHM1.00MCDCT-ND | | |
| 5001K-ND | | |
| 296-22996-1-ND | | |
| CAT24C256WI-GT3OSCT-ND | | |
| 296-23603-1-ND | | |
| 296-11993-1-ND | | |
| 1490-1031-1-ND | | |
| 644-1065-1-ND | | |
| 887-2003-1-ND | | |