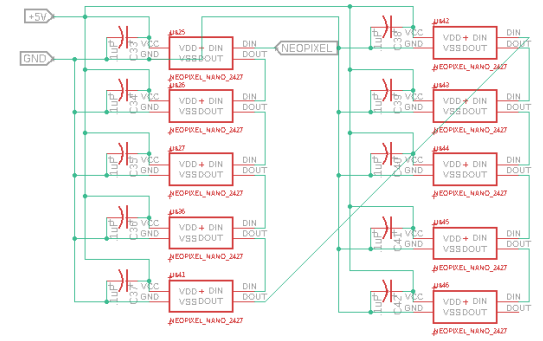
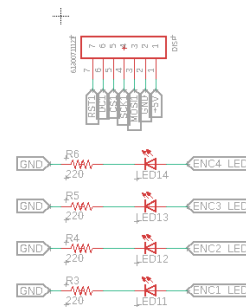
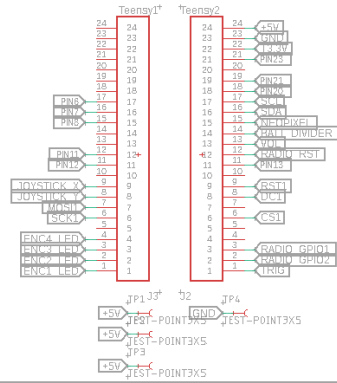
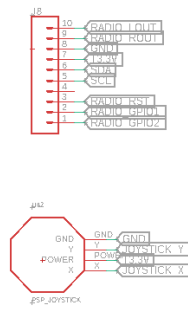
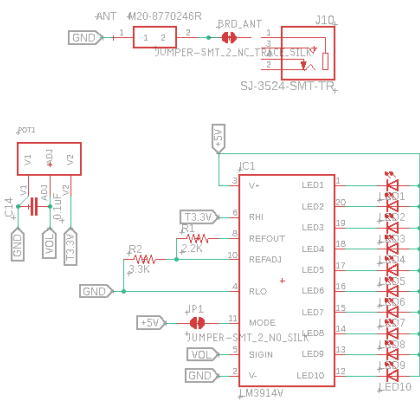


V2.3 Electronics Summary

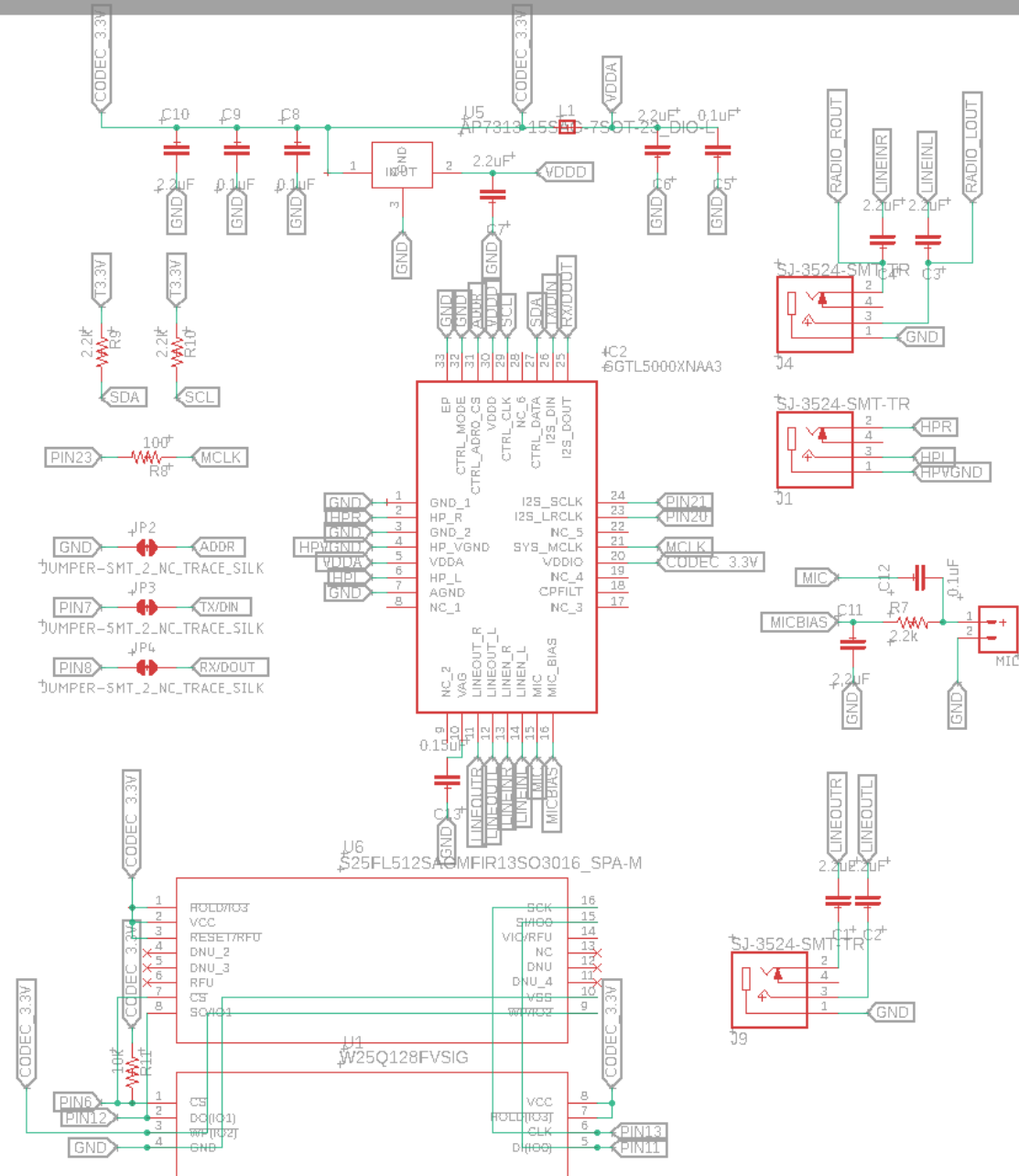
Prajwal Tumkur Mahesh
January 2020

Schematics

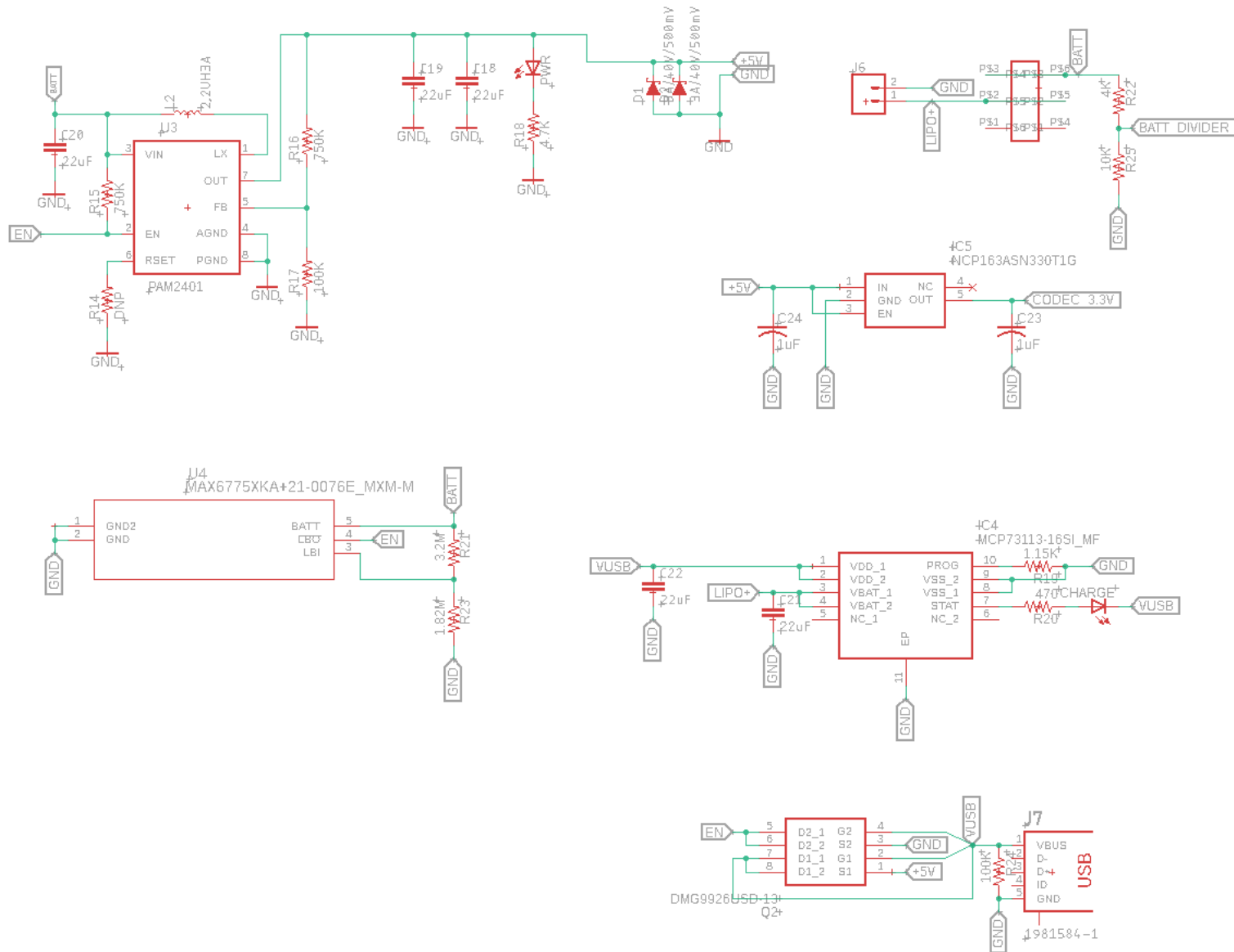
TEENSY



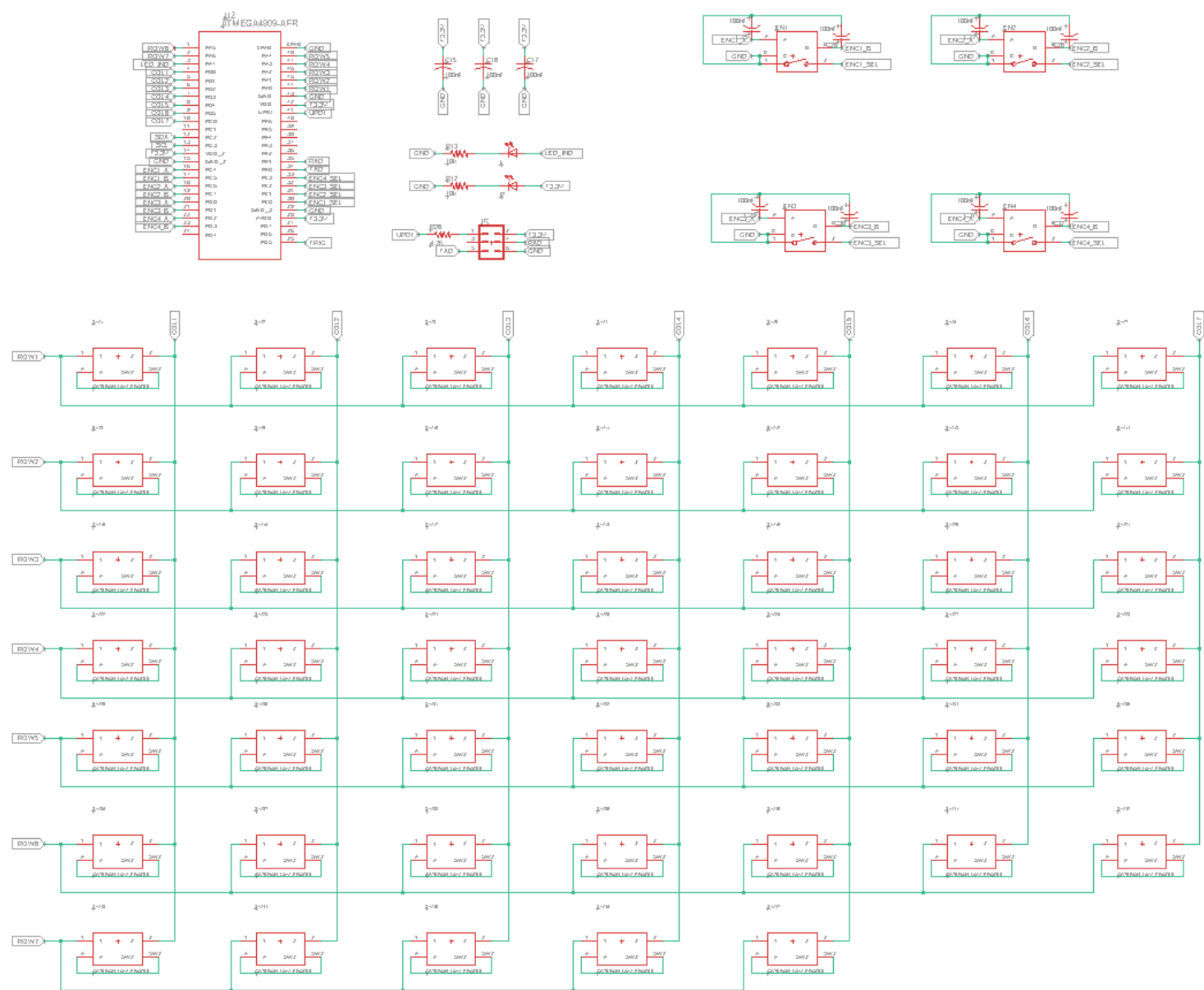
AUDIO CODEC



POWER

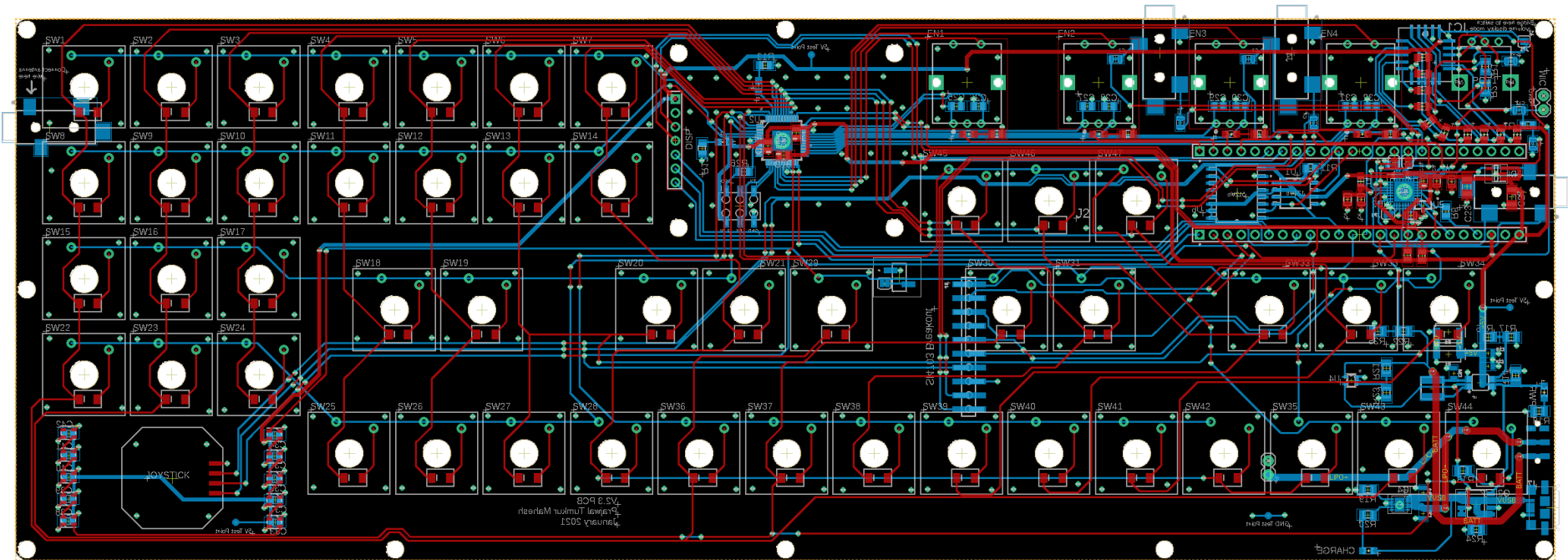


INPUTS

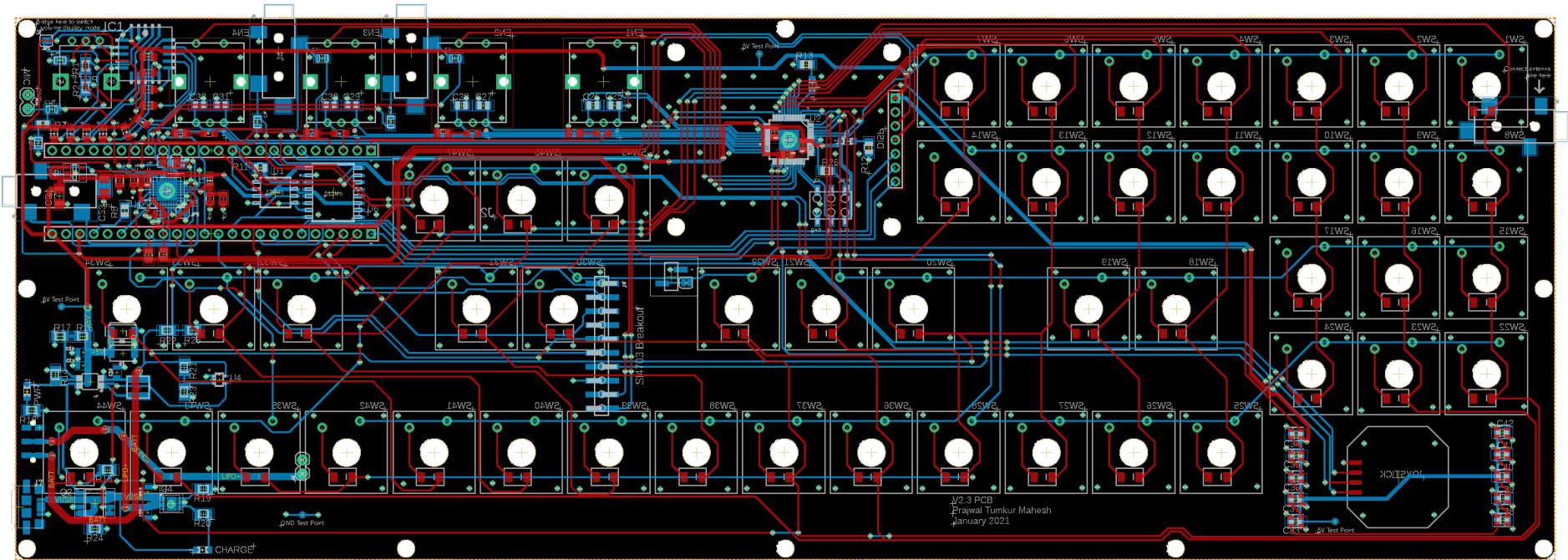


Board Layout

FRONT:



BACK:



BOM

DIGIKEY

| Manufacturer Part Number | Manufacturer | Digi-Key Part Number | Reference Designator | Quantity | Unit Price | Extended Price | Description |
|--------------------------|---------------------------------|-----------------------------|---|----------|------------|----------------|----------------------------------|
| CL21B225KPFNNNE | Samsung Electro-Mechanics | 1276-1188-1-ND | C1,C2,C3,C4,C6,C7,C10,C11 | 8 | 0.11 | \$0.88 | CAP CER 2.2UF 10V X7R 0805 |
| CL21B104KACNNNC | Samsung Electro-Mechanics | 1276-1099-1-ND | C5,C8,C9,C12,C14,C15,C16,C17,C25,C26,C27,C28,C29, | 26 | 0.04 | \$1.04 | CAP CER 0.1UF 25V X7R 0805 |
| CL21B154KBFNNNG | Samsung Electro-Mechanics | 1276-6476-1-ND | C30,C31,C32,C33,C34,C35,C36,C37,C38,C39,C40,C41,C42 | 1 | 0.1 | \$0.10 | CAP CER 0.15UF 50V X7R 0805 |
| CL31B105KBHNFNE | Samsung Electro-Mechanics | 1276-3091-1-ND | C13 | 2 | 0.15 | \$0.30 | CAP CER 1UF 50V X7R 1206 |
| 3484 | Adafruit Industries LLC | 1528-2291-ND | C23,C24 | 1 | 4.95 | \$4.95 | ADDRESS LED DISCRETE SERIAL RGB |
| LH R974-LP-1 | OSRAM Opto Semiconductors Inc. | 475-1415-1-ND | PWR,P,LED11 | 3 | 0.25 | \$0.75 | LED RED DIFFUSED 0805 SMD |
| SML-LXT0805YW-TR | Lumex Opto/Components Inc. | 67-1554-1-ND | CHARGE,L,LED13 | 3 | 0.28 | \$0.84 | LED YELLOW DIFFUSED SMD |
| QBLP631-IW | QT Brightek (QTB) | 1516-1085-1-ND | LED1,LED2,LED3,LED4,LED5,LED6,LED7,LED8,LED9,LED10 | 10 | 0.286 | \$2.86 | LED WHITE 0805 SMD |
| LG R971-KN-1 | OSRAM Opto Semiconductors Inc. | 475-1410-1-ND | LED12 | 1 | 0.25 | \$0.25 | LED GREEN DIFFUSED 0805 SMD |
| HSMR-C170 | Broadcom Limited | 516-1445-1-ND | LED14 | 1 | 0.8 | \$0.80 | LED BLUE DIFFUSED CHIP SMD |
| PEC11R-4115F-S0018 | Bourns Inc. | PEC11R-4115F-S0018-ND | EN1,EN2,EN3,EN4 | 4 | 1.57 | \$6.28 | ROTARY ENCODER MECHANICAL 18PPR |
| P0915N-FC15BR10K | TT Electronics/BI | 987-1649-ND | POT1 | 1 | 1.36 | \$1.36 | POT 10K OHM 1/20W PLASTIC LINEAR |
| B340A-13-F | Diodes Incorporated | B340A-FDICT-ND | D1,D2 | 2 | 0.41 | \$0.82 | DIODE SCHOTTKY 40V 3A SMA |
| SGTL5000XNAA3 | NXP USA Inc. | SGTL5000XNAA3-ND | IC2 | 1 | 3.37 | \$3.37 | IC AUDIO CODEC STEREO 32-QFN |
| ATMEGA4809-AFR | Microchip Technology | ATMEGA4809-AFRCT-ND | U2 | 1 | 1.59 | \$1.59 | IC MCU 8BIT 48KB FLASH 48TQFP |
| IFSC1515AHER2R2M01 | Vishay Dale | 541-1404-1-ND | L2 | 1 | 0.56 | \$0.56 | FIXED IND 2.2UH 3A 45 MOHM SMD |
| 742792040 | Würth Elektronik | 732-1620-1-ND | L1 | 1 | 0.22 | \$0.22 | FERRITE BEAD 600 OHM 0805 1LN |
| RNCP0805FTD10K0 | Stackpole Electronics Inc | RNCP0805FTD10K0CT-ND | R11,R12,R13,R25 | 4 | 0.1 | \$0.40 | RES 10K OHM 1% 1/4W 0805 |
| ERA-6AEB104V | Panasonic Electronic Components | P100KDACT-ND | R17,R24 | 3 | 0.31 | \$0.93 | RES 100K OHM 0.1% 1/8W 0805 |
| ESR10EZPJ222 | Rohm Semiconductor | RHM2.2KCT-ND | R1,R7,R9,R10 | 4 | 0.1 | \$0.40 | RES SMD 2.2K OHM 5% 0.4W 0805 |
| RC0805FR-07750KL | Yageo | 311-750KCRCT-ND | R15,R16 | 2 | 0.1 | \$0.20 | RES SMD 750K OHM 1% 1/8W 0805 |
| CRGQ0805F3K3 | TE Connectivity Passive Product | A129755CT-ND | R2 | 2 | 0.1 | \$0.20 | CRGQ 0805 3K3 1% |
| RC0805JR-074K7L | Yageo | 311-4.7KARCT-ND | R18,R26 | 2 | 0.1 | \$0.20 | RES SMD 4.7K OHM 5% 1/8W 0805 |
| RC0805FR-071K15L | Yageo | 311-1.15KCRCT-ND | R19 | 1 | 0.1 | \$0.10 | RES SMD 1.15K OHM 1% 1/8W 0805 |
| CRCW08054K00FKTA | Vishay Dale | 541-CRCW08054K00FKTACT-ND | R22 | 1 | 0.13 | \$0.13 | RES SMD 4K OHM 1% 1/8W 0805 |
| JS202011JAQN | C&K | CKN10722CT-ND | | 1 | 0.58 | \$0.58 | SWITCH SLIDE DPDT 300MA 6V |
| W25Q128JVSQ TR | Winbond Electronics | W25Q128JVSQCT-ND | U1 | 1 | 1.42 | \$1.42 | IC FLASH 128MBIT SPI/QUAD 8SOIC |
| PAM2401SCADJ | Diodes Incorporated | PAM2401SCADJDICT-ND | U3 | 1 | 0.99 | \$0.99 | IC REG BOOST ADJUSTABLE 1A 8MSOP |
| AP7313-15SAG-7 | Diodes Incorporated | AP7313-15SAG-7DICT-ND | U5 | 1 | 0.39 | \$0.39 | IC REG LINEAR 1.5V 150MA SOT23-3 |
| MCP73113-16SI/MF | Microchip Technology | MCP73113-16SI/MF-ND | IC4 | 1 | 1.12 | \$1.12 | IC BATT CONTRL LI-ION 1CEL 10DFN |
| NCP163ASN330T1G | ON Semiconductor | NCP163ASN330T1GOSCT-ND | IC5 | 1 | 0.49 | \$0.49 | LDO REG ULTRA-LOW NOISE & HIGH P |
| SJ-3524-SMT-TR | CUI Devices | CP-3524SJCT-ND | | 4 | 0.95 | \$3.80 | CONN JACK STEREO 3.5MM SMD R/A |
| 10118192-0001LF | Amphenol ICC (FCI) | 609-4613-1-ND | | 1 | 0.48 | \$0.48 | CONN RCPT USB2.0 MICRO B SMD R/A |
| 10129380-910001ALF | Amphenol ICC (FCI) | 609-10129380-910001ALFCT-ND | | 1 | 0.26 | \$0.26 | CONN HEADER SMD 10POS 2.54MM |
| DM3CS-SF | Hirose Electric Co Ltd | HR1972CT-ND | | 1 | 1.43 | \$1.43 | CONN MICRO SD CARD HINGED TYPE |
| MAX6775XKB+T | Maxim Integrated | MAX6775XKB+TCT-ND | U4 | 1 | 2.18 | \$2.18 | IC BATT MON MULTI-CHEM 1C SC70-5 |
| POM-5046P-C3310-R | PUI Audio, Inc. | 668-1677-ND | MIC | 1 | 1.69 | \$1.69 | MIC COND ANALOG OMNI -46DB 6MM D |
| LL4148 | ON Semiconductor | LL4148FSCT-ND | | 50 | 0.068 | \$3.40 | DIODE GEN PURP 100V 200MA SOD80 |
| RC0805FR-073M16L | Yageo | 311-3.16MCRCT-ND | R21 | 1 | 0.1 | \$0.10 | RES SMD 3.16M OHM 1% 1/8W 0805 |
| CRCW08051M82FKEA | Vishay Dale | 541-1.82MCCT-ND | R23 | 1 | 0.1 | \$0.10 | RES SMD 1.82M OHM 1% 1/8W 0805 |
| LM3914VX/NOPB | Texas Instruments | LM3914VX/NOPBCT-ND | IC1 | 1 | 3.71 | \$3.71 | IC DRVR DOT/BAR DISPLAY 20PLCC |
| CRGQ0805F220R | TE Connectivity Passive Product | A129741CT-ND | R3,R4,R5,R6 | 10 | 0.044 | \$0.44 | CRGQ 0805 220R 1% |
| CRGQ0805J100R | TE Connectivity Passive Product | A130128CT-ND | R8 | 1 | 0.1 | \$0.10 | CRGQ 0805 100R 5% |
| CRGQ0805F470R | TE Connectivity Passive Product | A129745CT-ND | R20 | 1 | 0.1 | \$0.10 | CRGQ 0805 470R 1% |
| CL21A226MQQNNNE | Samsung Electro-Mechanics | 1276-1100-1-ND | C18,C19,C20,C21,C22 | 5 | 0.14 | \$0.70 | CAP CER 22UF 6.3V X5R 0805 |
| 444 | Adafruit Industries LLC | 1528-444-ND | JOYSTICK | 1 | 3.5 | \$3.50 | PSP 2-AXIS ANALOG THUMB JOYSTICK |
| S25FL512SAGMFIR13 | Cypress Semiconductor Corp | 428-S25FL512SAGMFIR13CT-ND | U6 | 1 | 7.72 | \$7.72 | IC FLASH 512MBIT SPI/QUAD 16SOIC |
| 22284245 | Molex | 900-0022284245-ND | | 2 | 1.41 | \$2.82 | CONN HEADER VERT 24POS 2.54MM |
| 61300711121 | Würth Elektronik | 732-5320-ND | | 1 | 0.37 | \$0.37 | CONN HEADER VERT 7POS 2.54MM |

CART LINK: <https://www.digikey.com/short/4734rh>

KEYCHRON

| ITEM | QUANTITY | UNIT PRICE | EXTENDED PRICE | LINK |
|---|----------|------------|----------------|---|
| Low Profile Gateron Mechanical Switch Set | 4 | \$4.00 | \$16.00 | http://bit.ly/38GNrUU |

AMAZON

| ITEM | QUANTITY | UNIT PRICE | EXTENDED PRICE | LINK |
|---|----------|------------|----------------|---|
| Waveshare 1.5inch RGB OLED Display Module | 4 | \$18.90 | 18.9 | https://amzn.to/3qhuBcX |