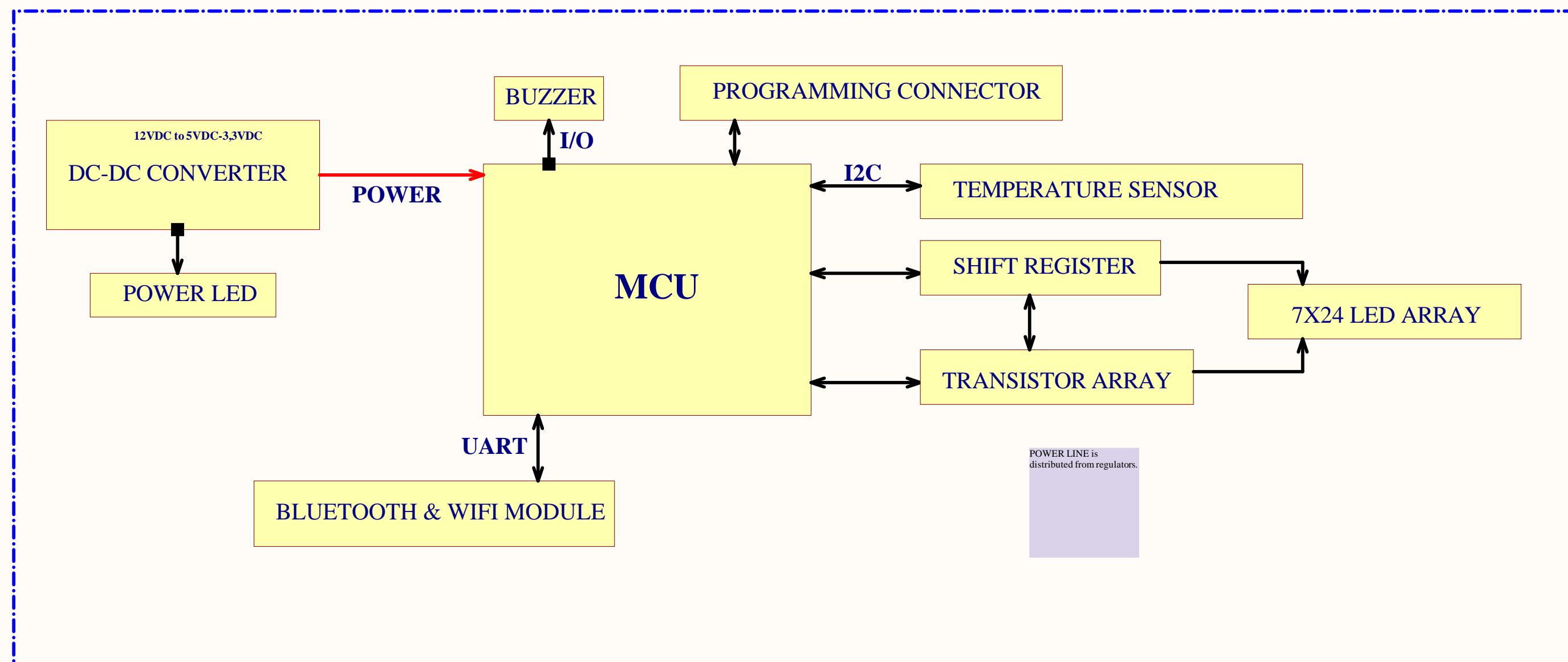


## ÜRETİM NOTLARI / PRODUCTION NOTES

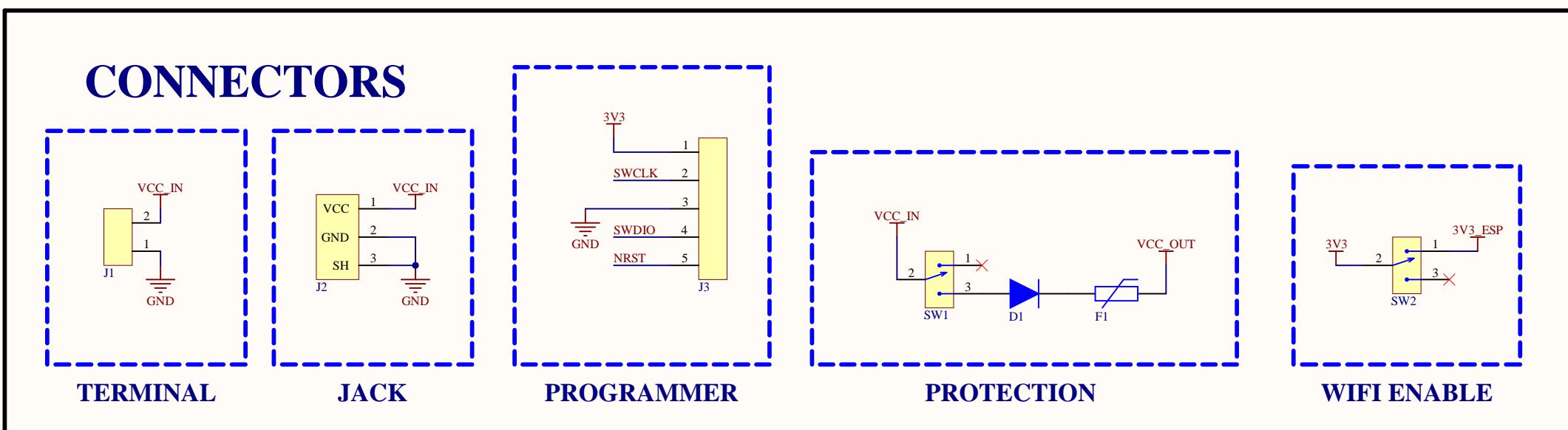
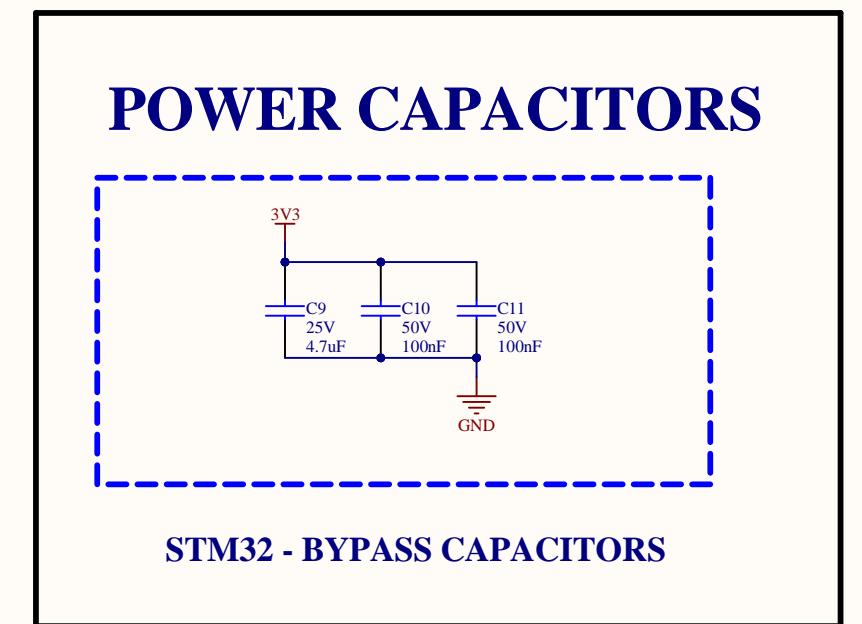
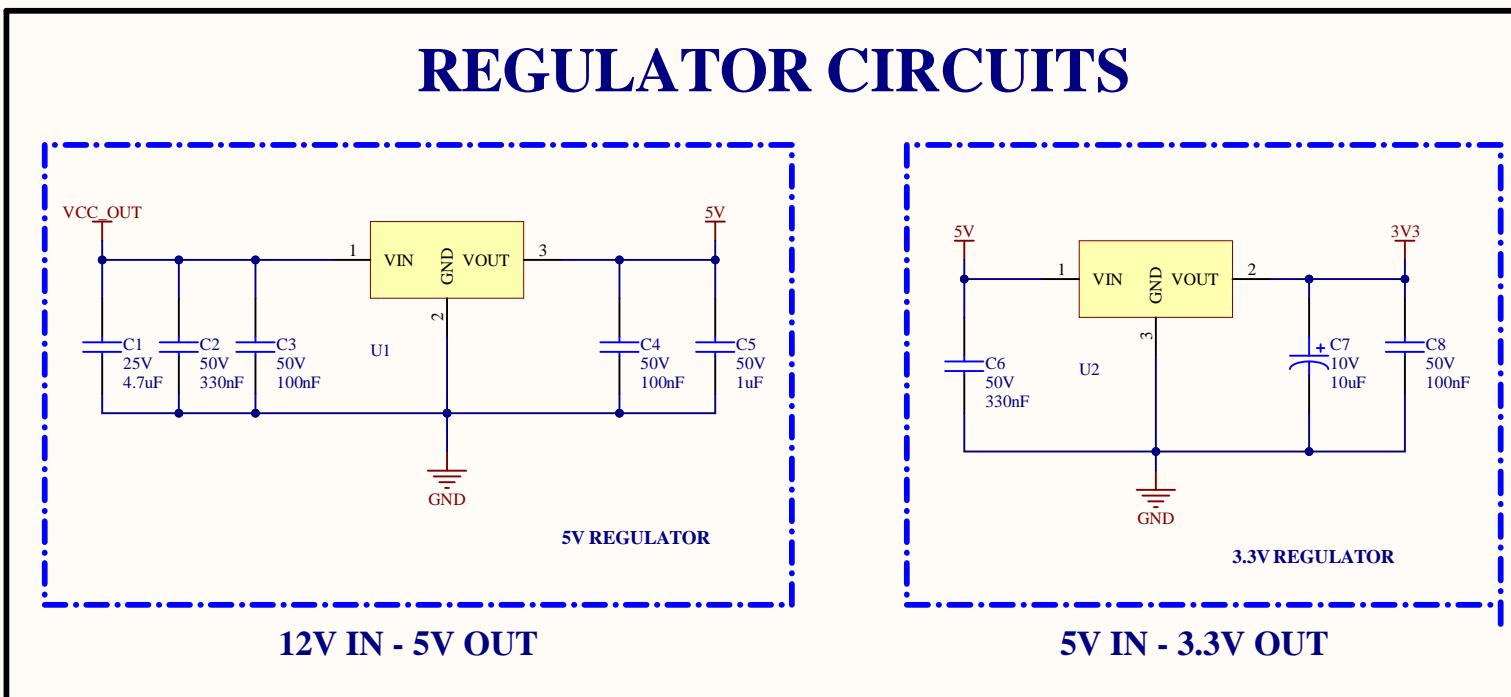
|                                    | Açıklama / Description |
|------------------------------------|------------------------|
| Kart Özellikleri<br>Board Features |                        |
| Üretim Çıktıları<br>Gerber Files   |                        |
| Ekler<br>Attachments               |                        |
|                                    |                        |
|                                    |                        |
|                                    |                        |

**İLETİŞİM / CONTACT**

|                                       |   |                        |
|---------------------------------------|---|------------------------|
| DOSYA ADI / FILE NAME<br>Cover.SchDoc | TANIM / DESCRIPTION<br>Bluetooth Controlled Led Matix |                        |
| <i>Aslı Kurt</i>                      | HAZIRLAYAN / PREPARED BY<br>Aslı Kurt                 |                        |
| YAYIN TARİHİ / REL. DATE              | BOYUT / SIZE<br>A3                                    | SAYFA / SHEET<br>1 / 6 |

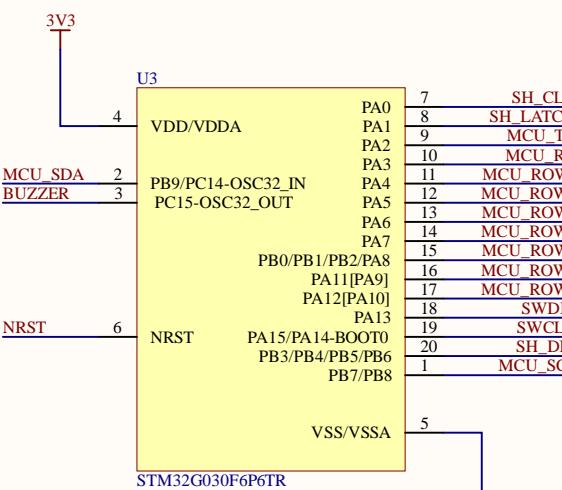


|  |   |
|--|---|
| DOSYA ADI / FILE NAME<br>BlockDiagram.SchDoc | TANIM / DESCRIPTION<br>Bluetooth Controlled Led Matix |
| Ashli Kurt                                   | HAZIRLAYAN / PREPARED BY<br>Ashli Kurt                |
|  | YAYIN TARIHI / REL. DATE<br>*                         |

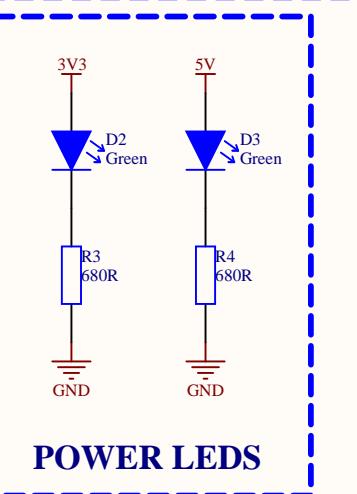
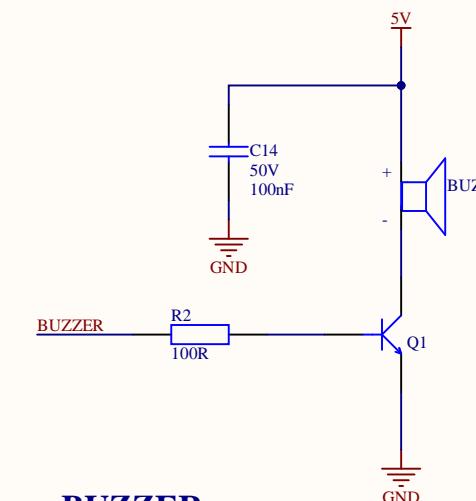


|   |   |
|---|---|
| DOSYA ADI / FILE NAME<br>PowerManagement.SchDoc | TANIM / DESCRIPTION<br>Bluetooth Controlled Led Matix |
| HAZIRLAYAN / PREPARED BY<br>Ashi Kurt           |   |
| YAYIN TARIHI / REL. DATE<br>*                   | BOYUT / SIZE<br>A3 SAYFA / SHEET<br>3 / 6             |

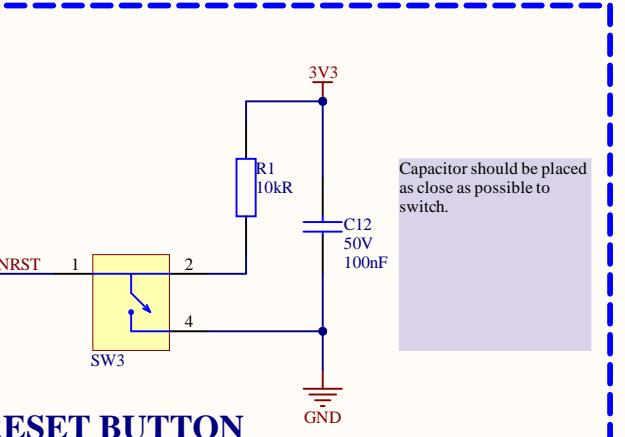
## STM32 CIRCUIT



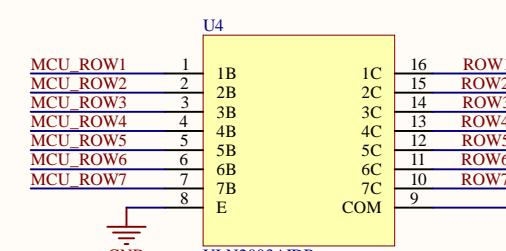
## OUTPUTS



## RESET BUTTON

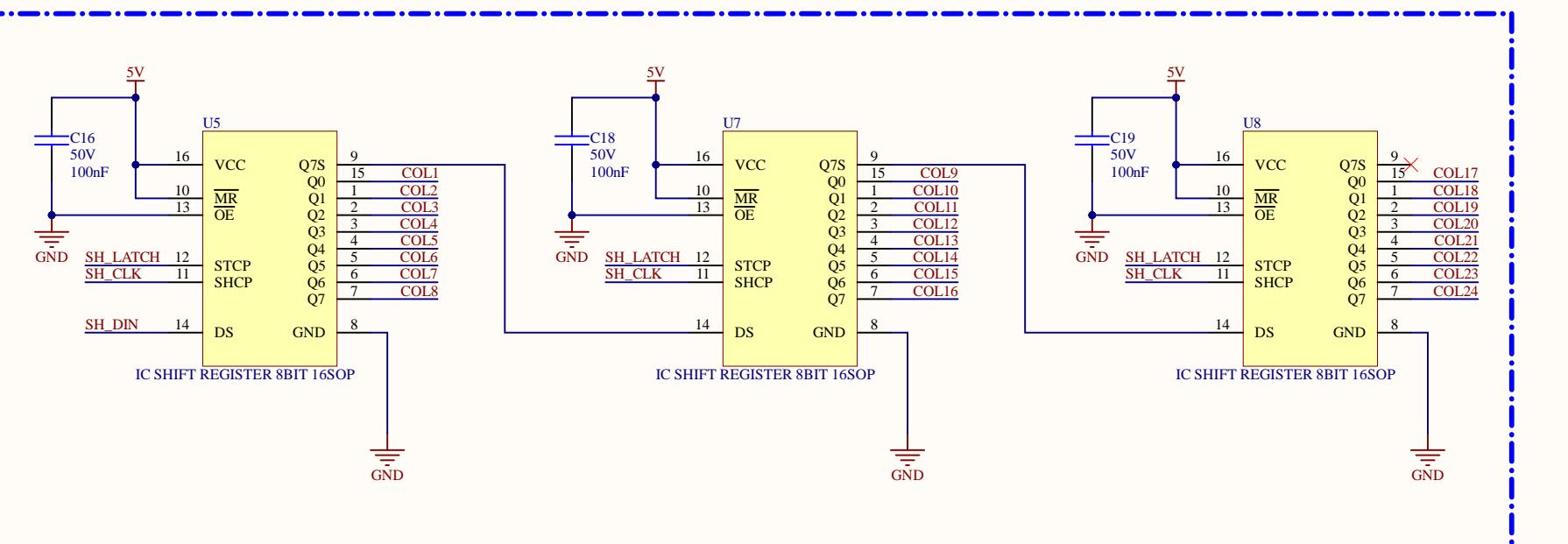


## LED DRIVER

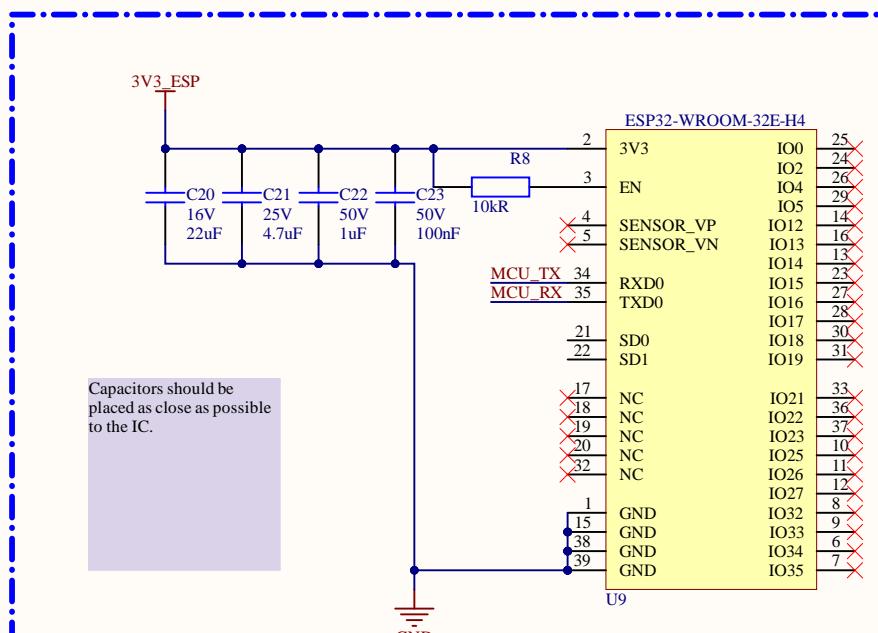


|                                       |   |
|---------------------------------------|---|
| DOSYA ADI / FILE NAME<br>MCU.SchDoc   | TANIM / DESCRIPTION<br>Bluetooth Controlled Led Matix |
| HAZIRLAYAN / PREPARED BY<br>Ashi Kurt |   |
| YAYIN TARİHİ / REL. DATE<br>*         | BOYUT / SIZE<br>A3 SAYFA / SHEET<br>4 / 6             |

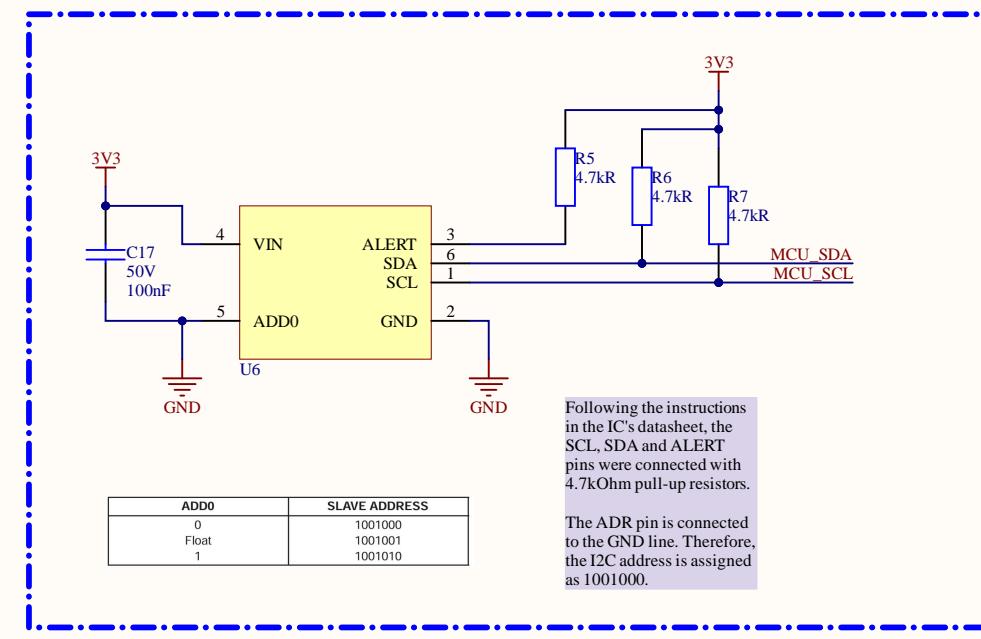
## SHIFT REGISTER



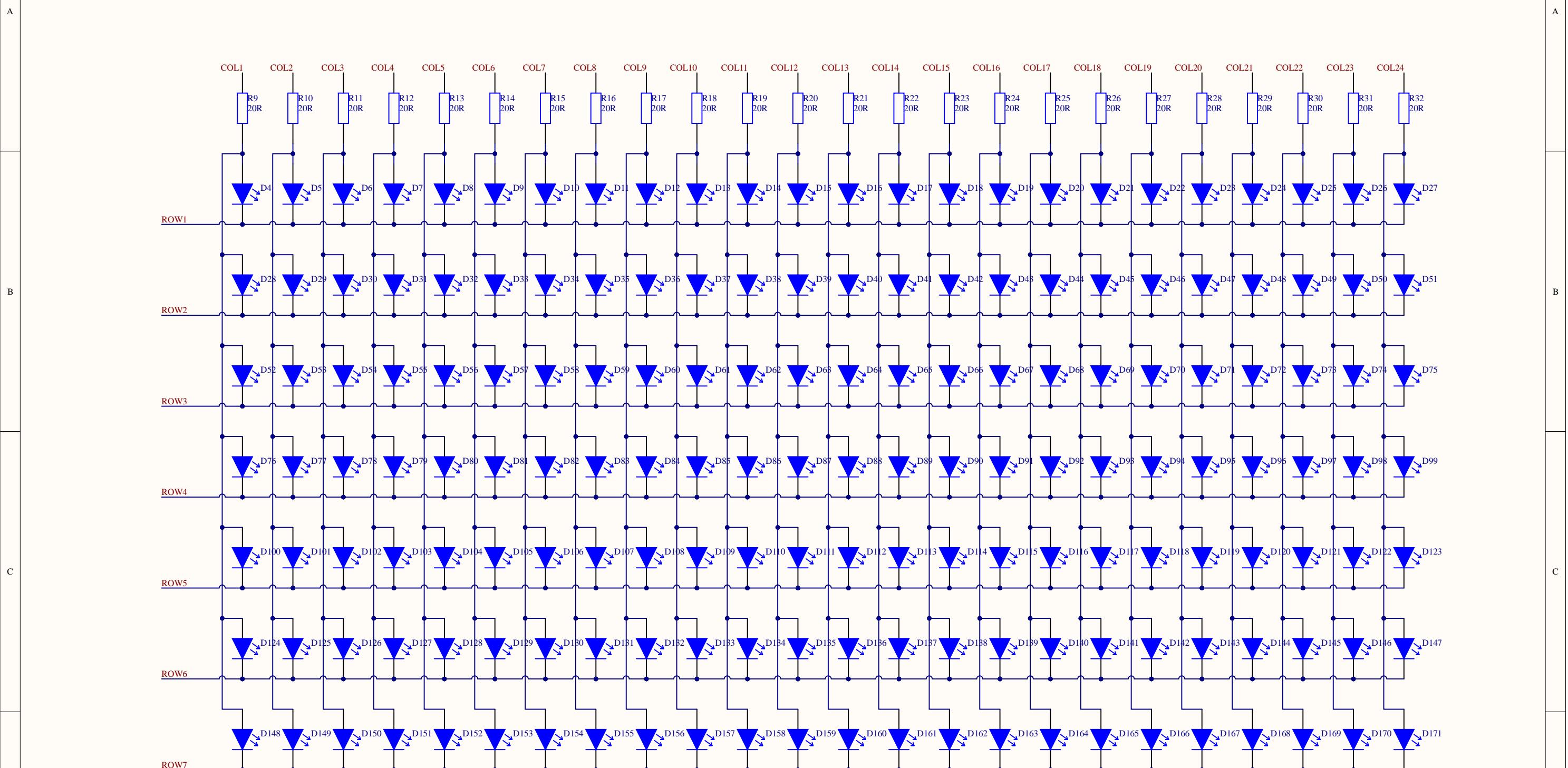
## COMMUNICATION



## SENSOR



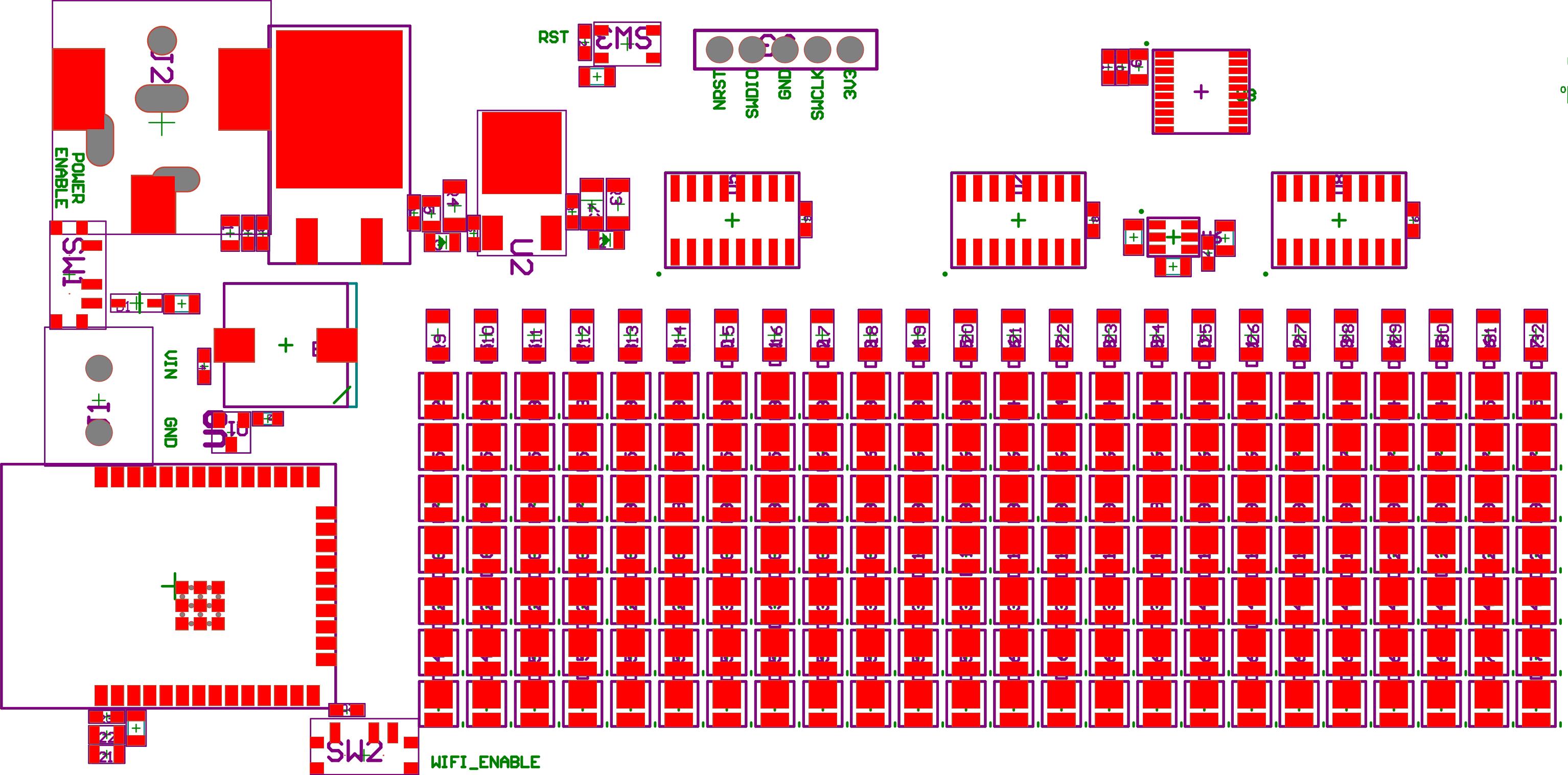
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|--|--|
| DOSYA ADI / FILE NAME<br><b>EnvironmentalElements.SchDoc</b> | TANIM / DESCRIPTION<br><b>Bluetooth Controlled Led Matix</b> |
| <i>Aslı Kurt</i>   | HAZIRLAYAN / PREPARED BY<br><b>Aslı Kurt</b>                 |
|  | YAYIN TARİHİ / REL. DATE<br>*      BOYUT / SIZE<br><b>A3</b> |
|  | SAYFA / SHEET<br><b>5 / 6</b>                                |

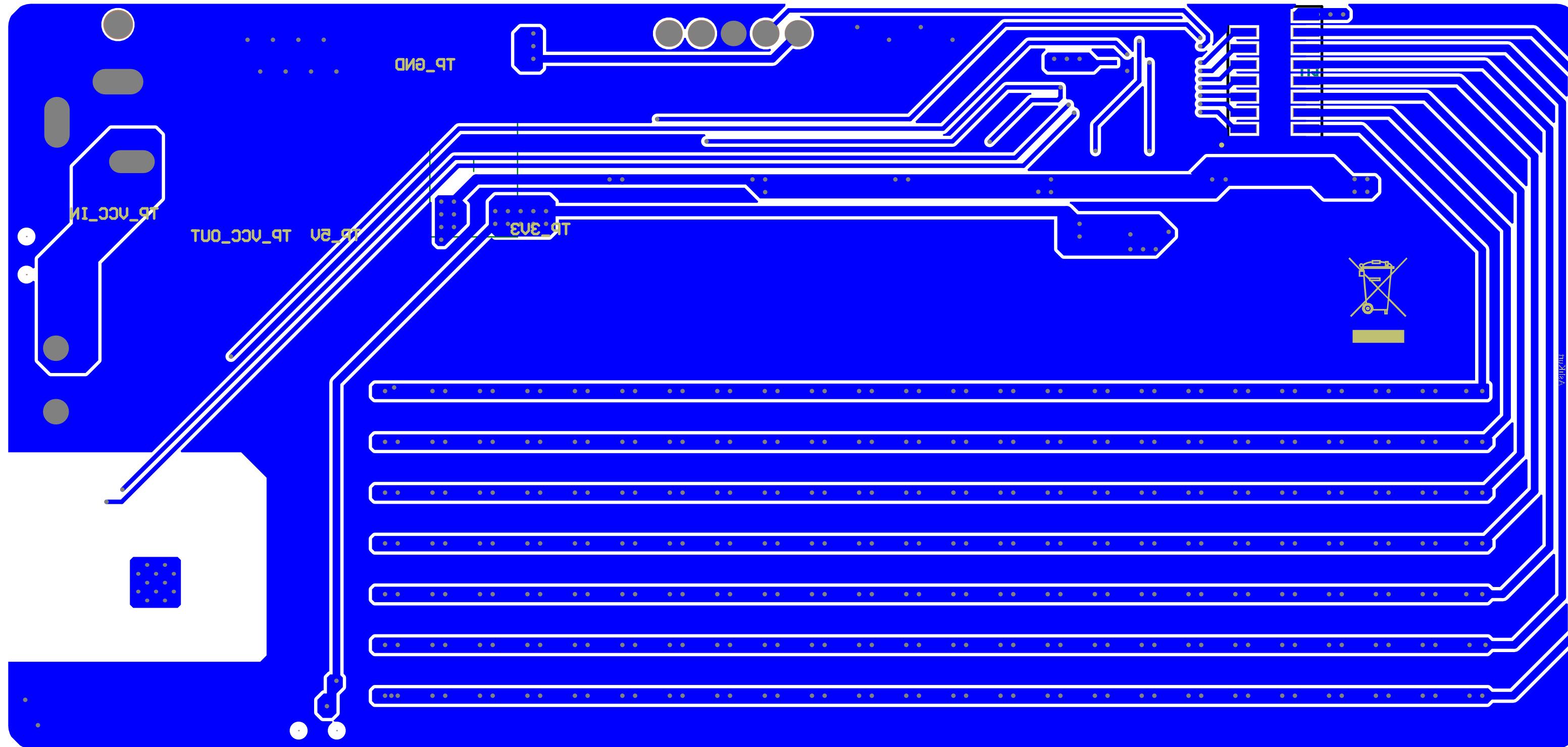


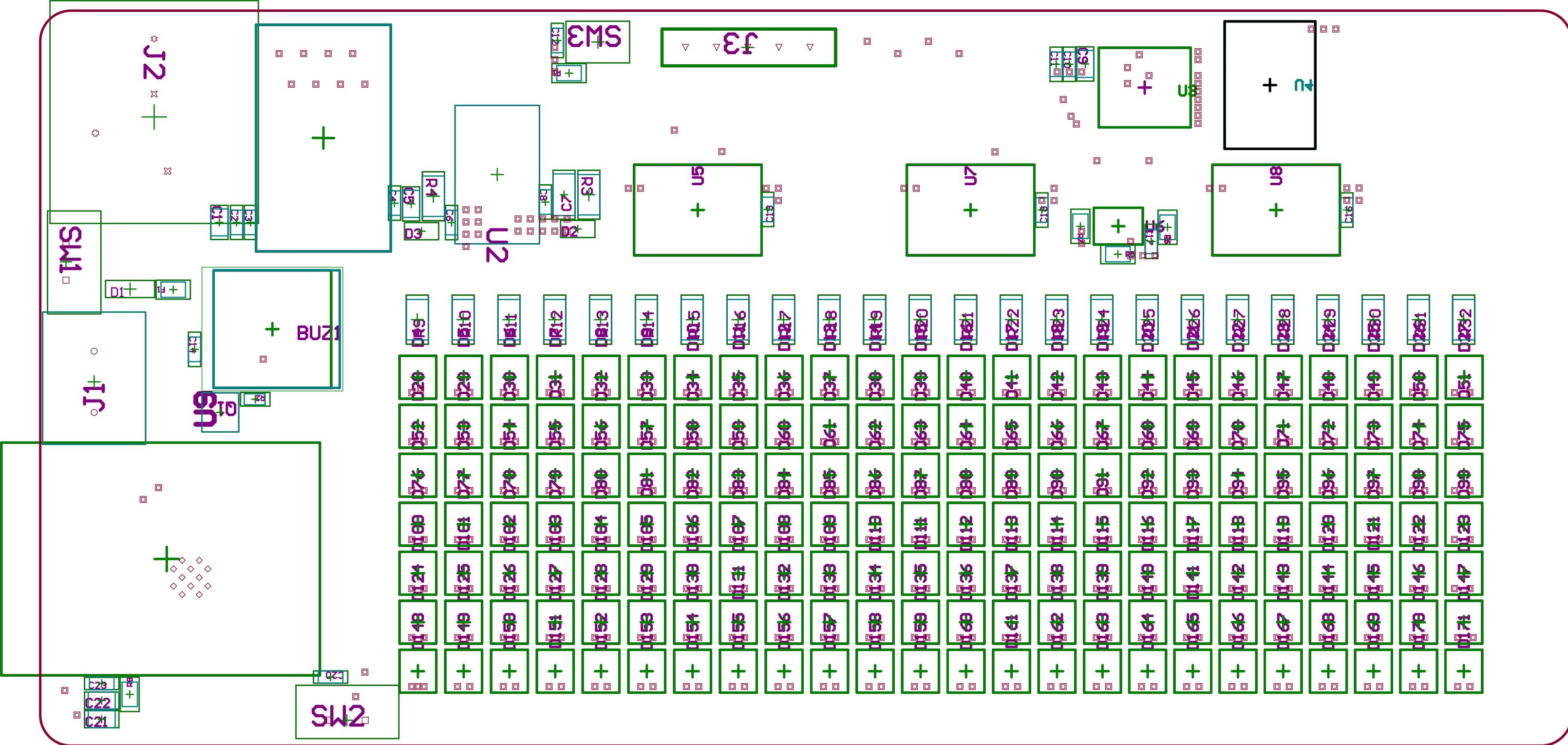
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|-------------------------------------|---|
| DOSYA ADI / FILE NAME<br>LED.SchDoc | TANIM / DESCRIPTION<br>Bluetooth Controlled Led Matix |
| <i>Ashlı Kurt</i>                   | HAZIRLAYAN / PREPARED BY<br>Ashlı Kurt                |
|                                     | YAYIN TARIHI / REL. DATE<br>*                         |

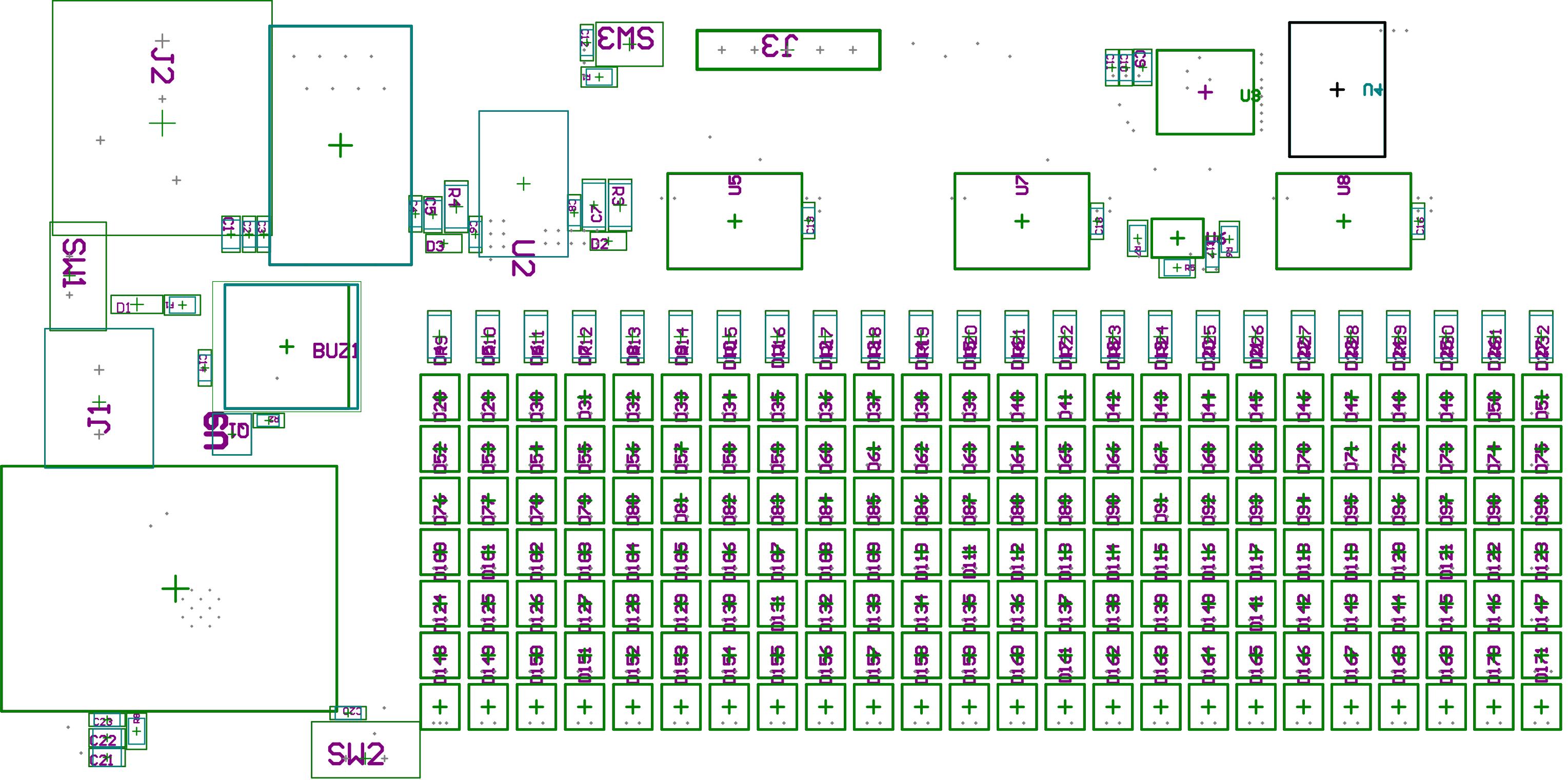
BOYUT / SIZE  
A3

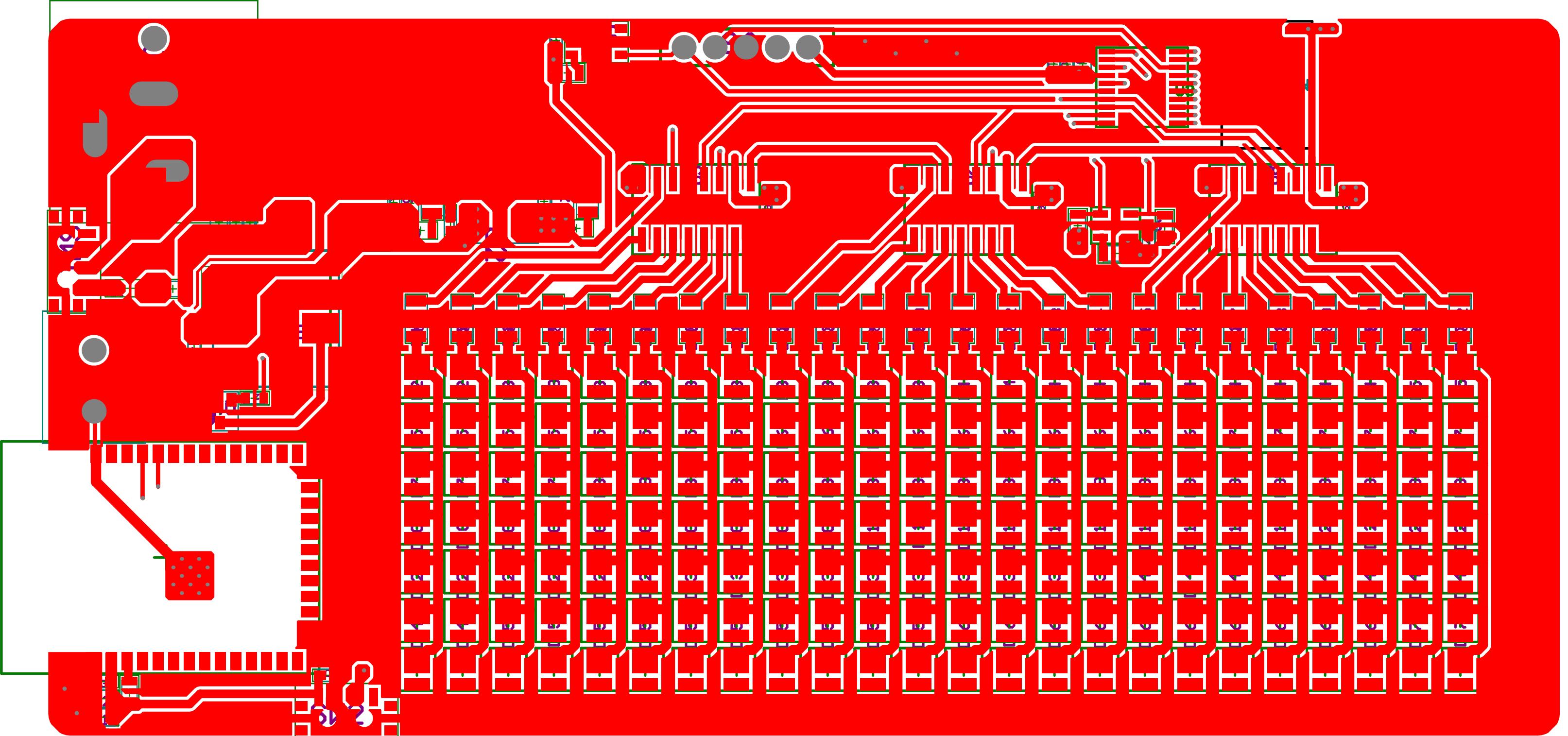
SAYFA / SHEET  
6 / 6

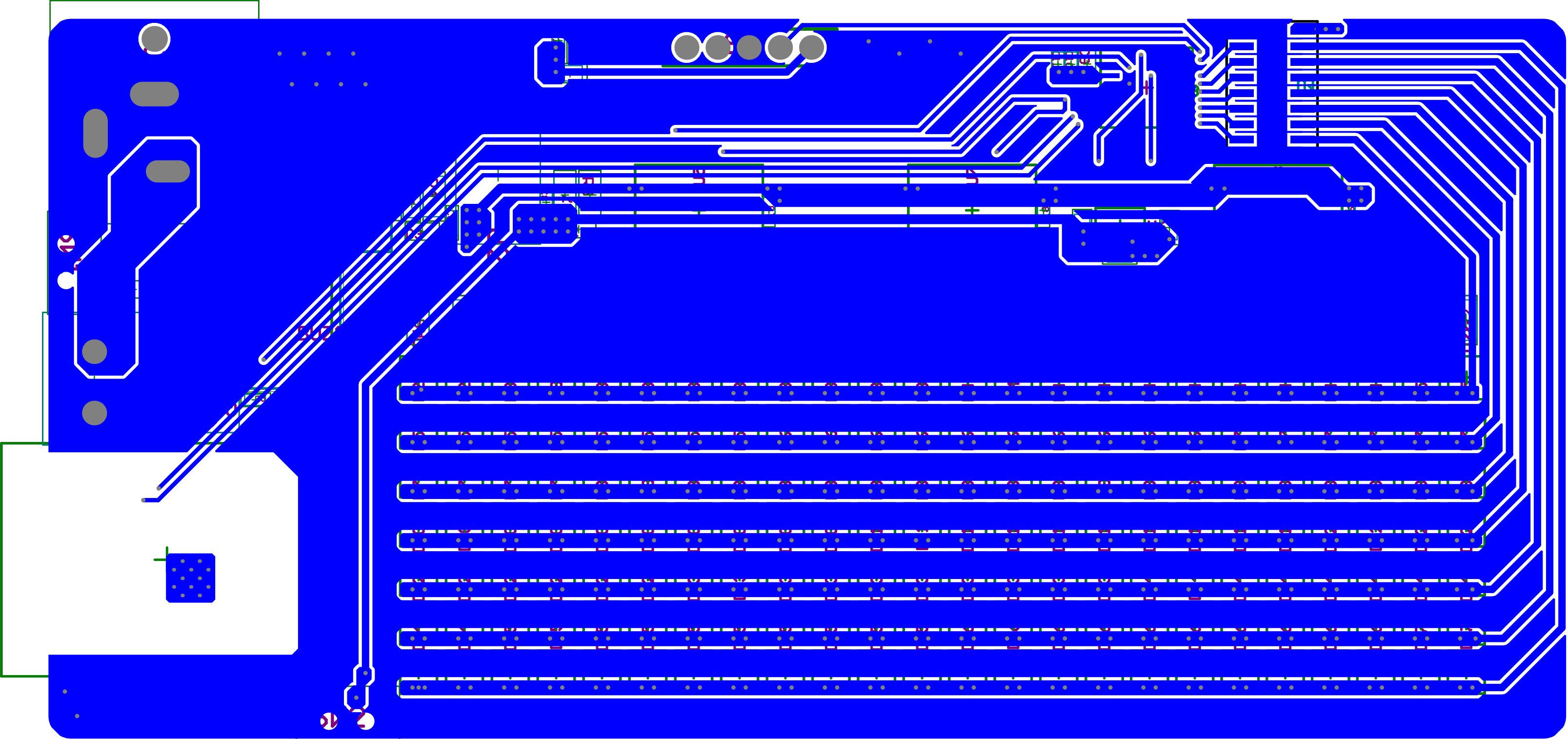






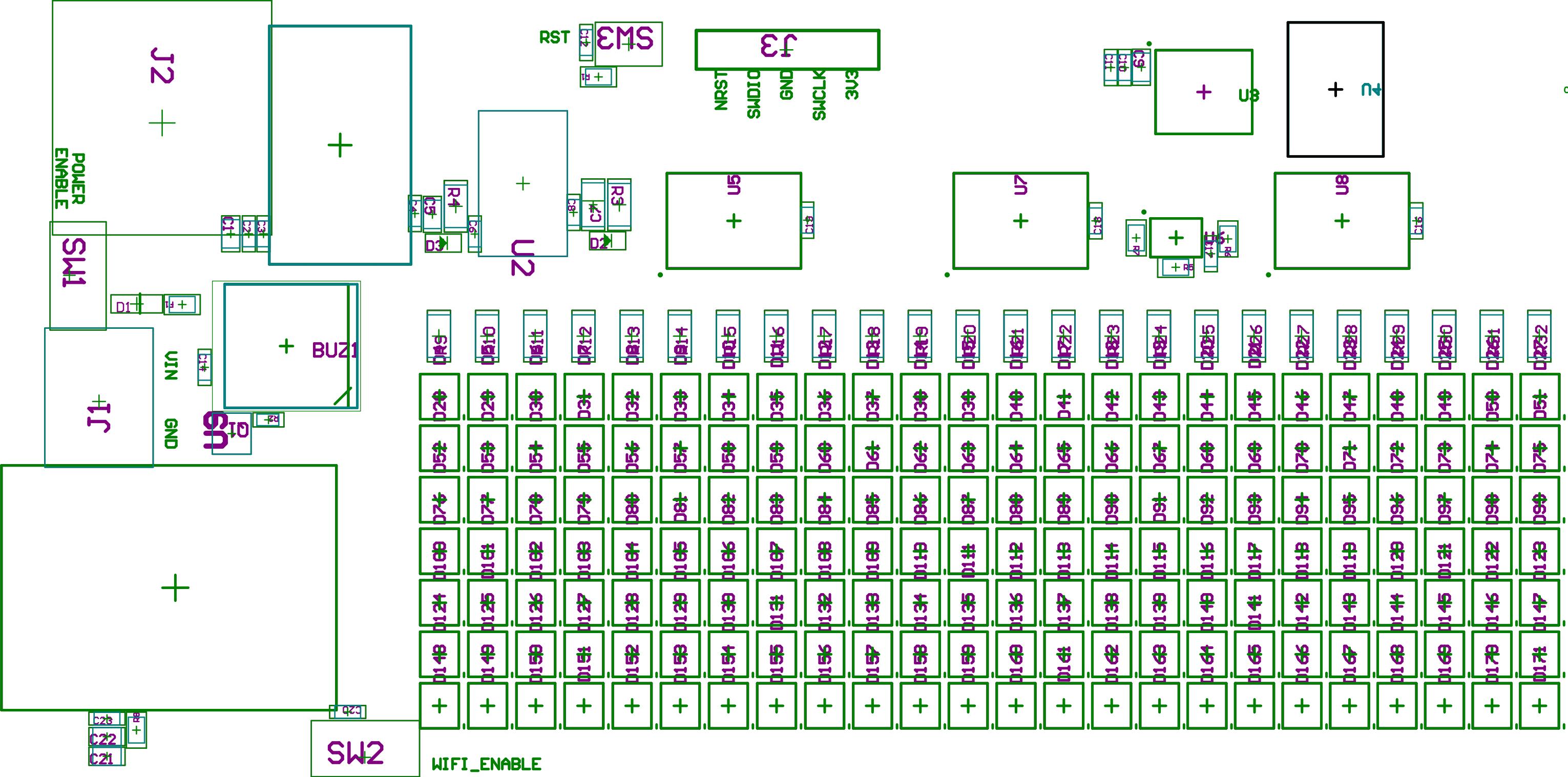


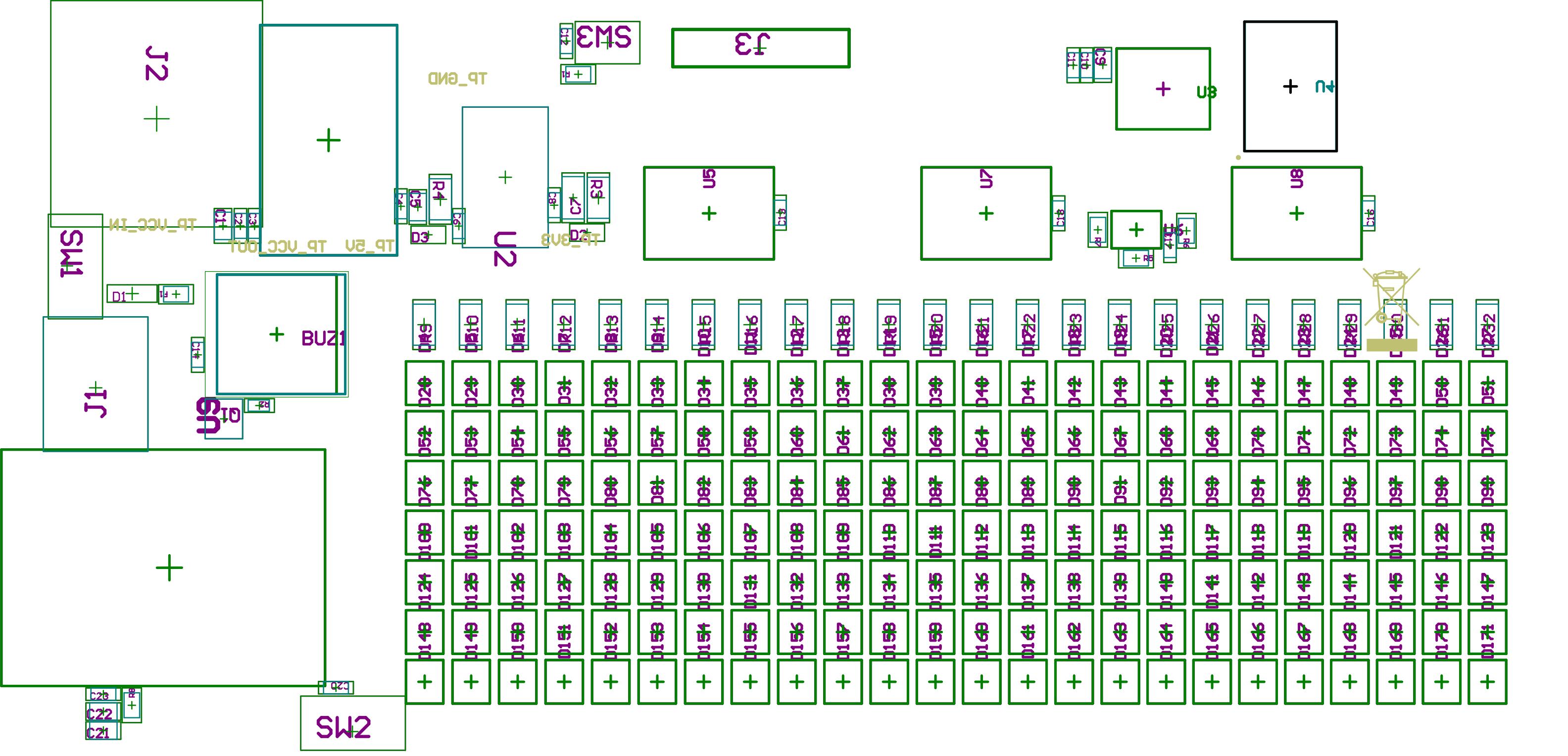


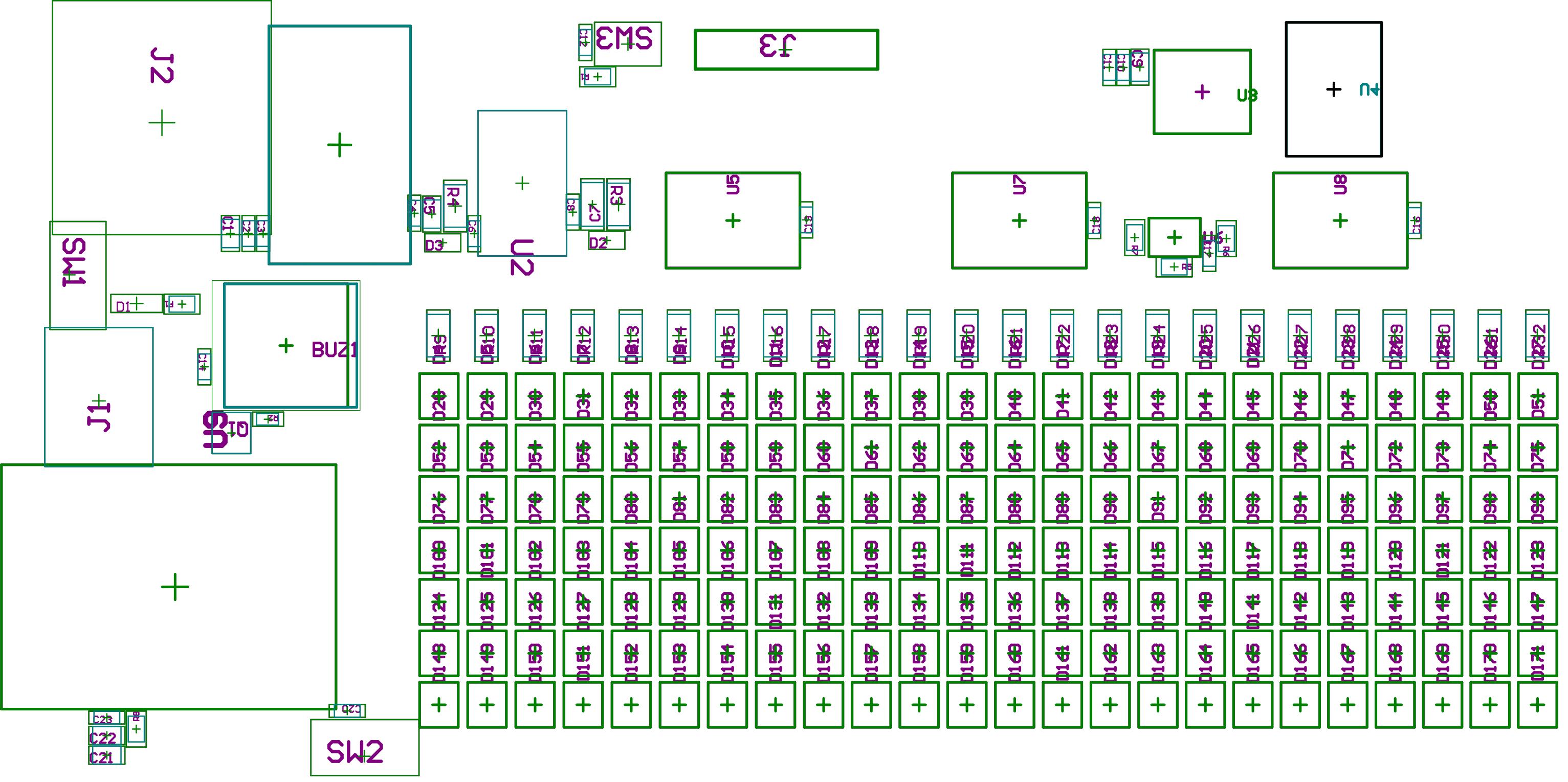


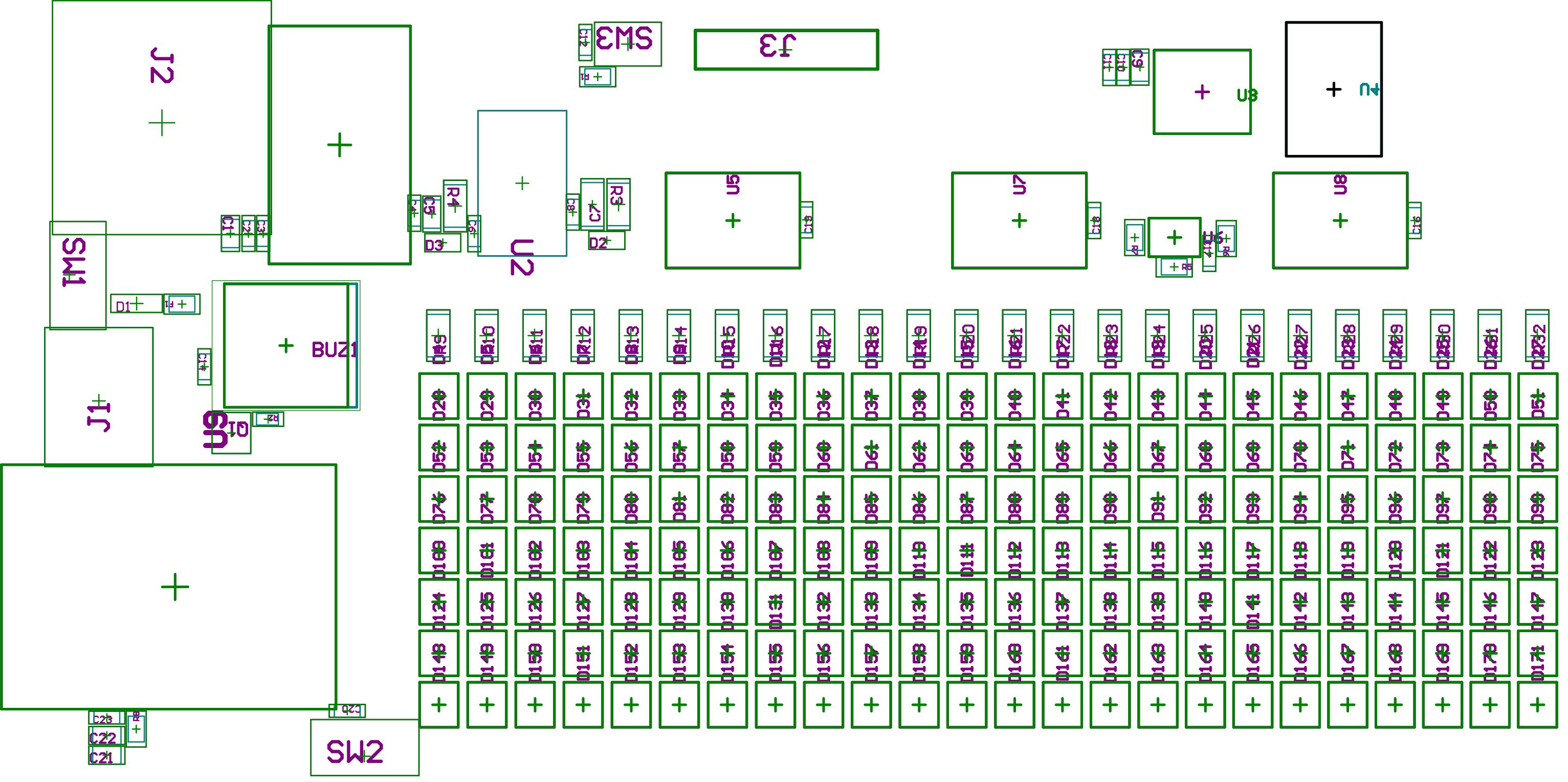


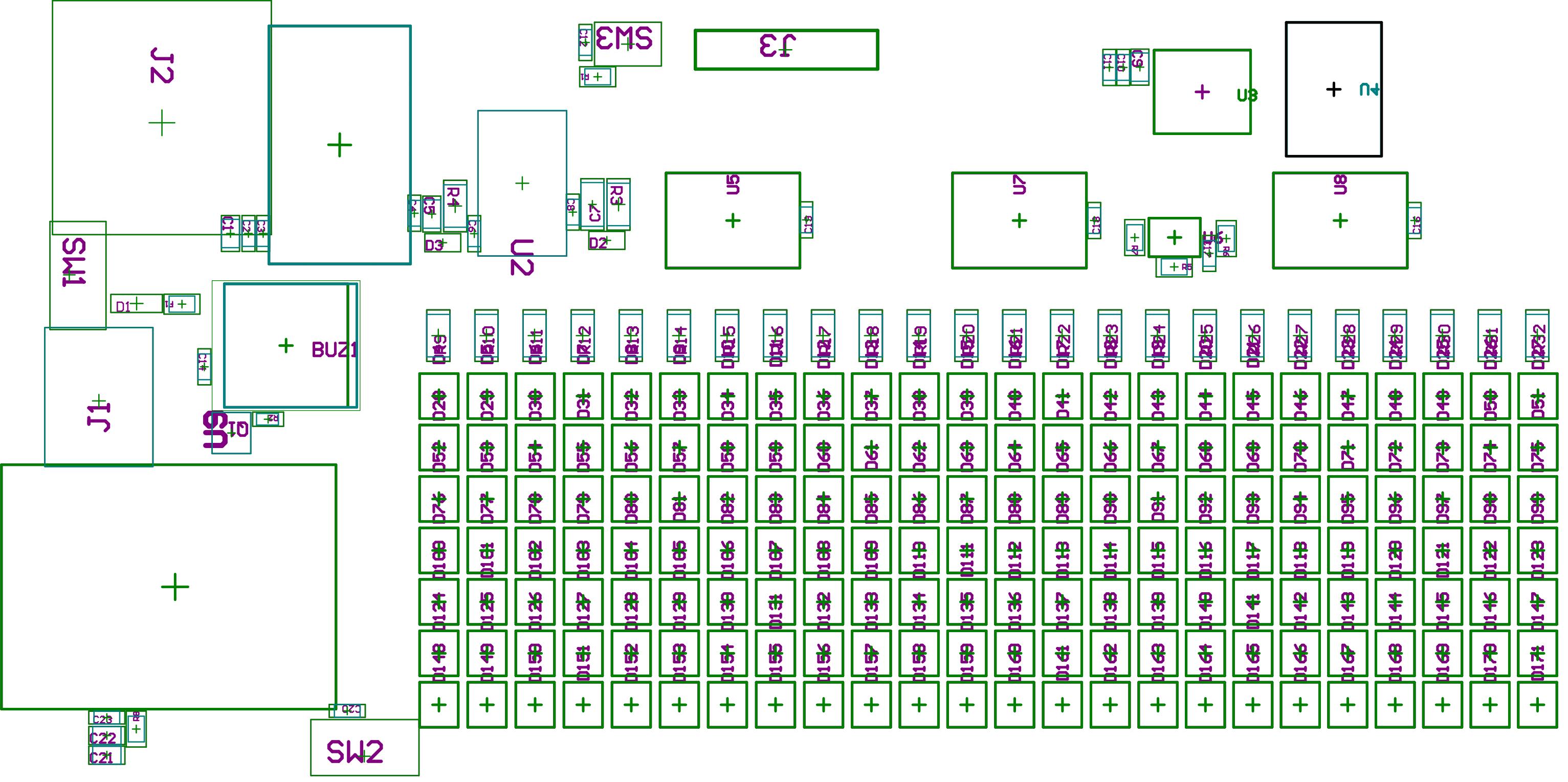
A green checkmark icon followed by the text "RoHS".

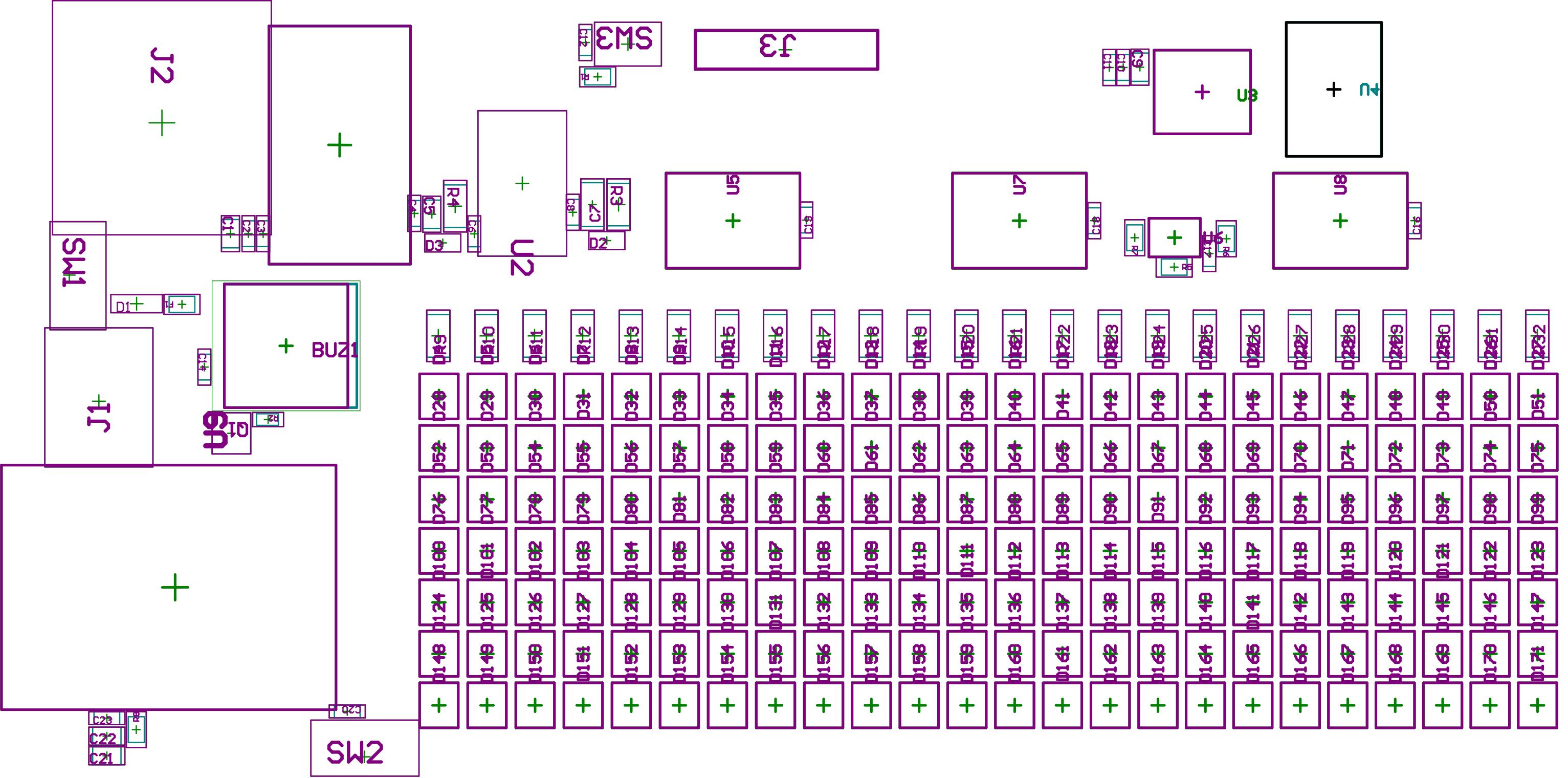


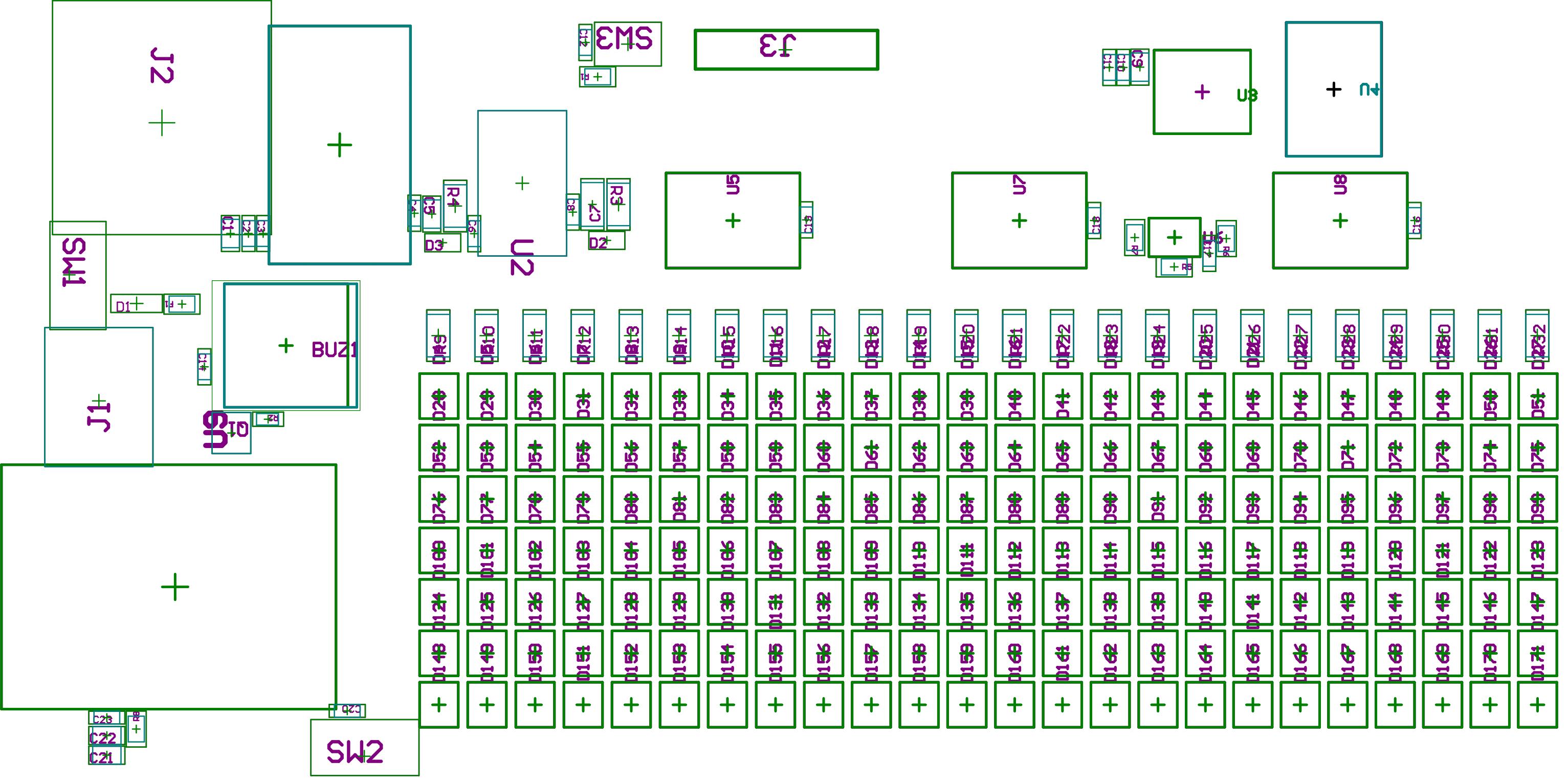


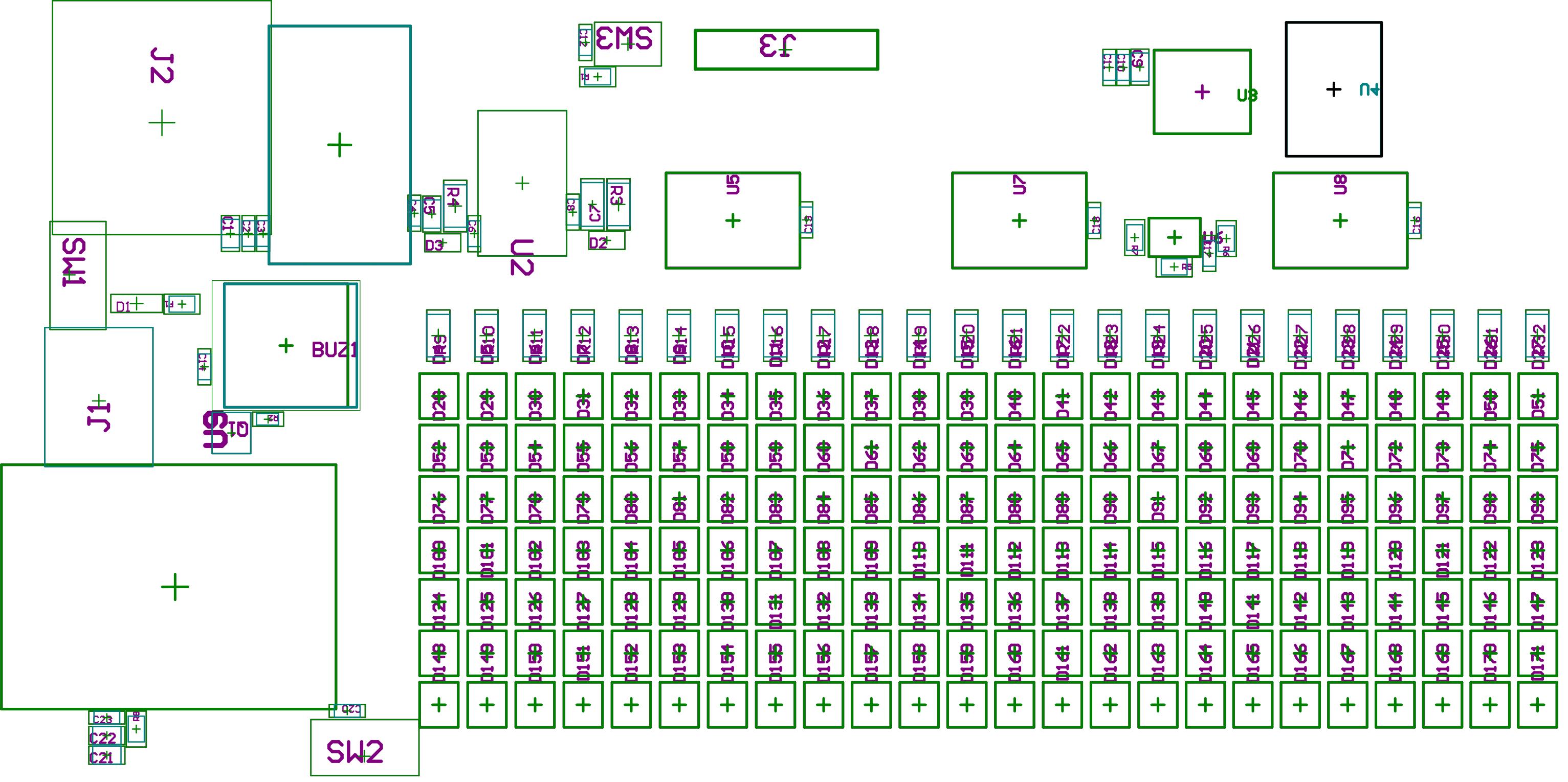


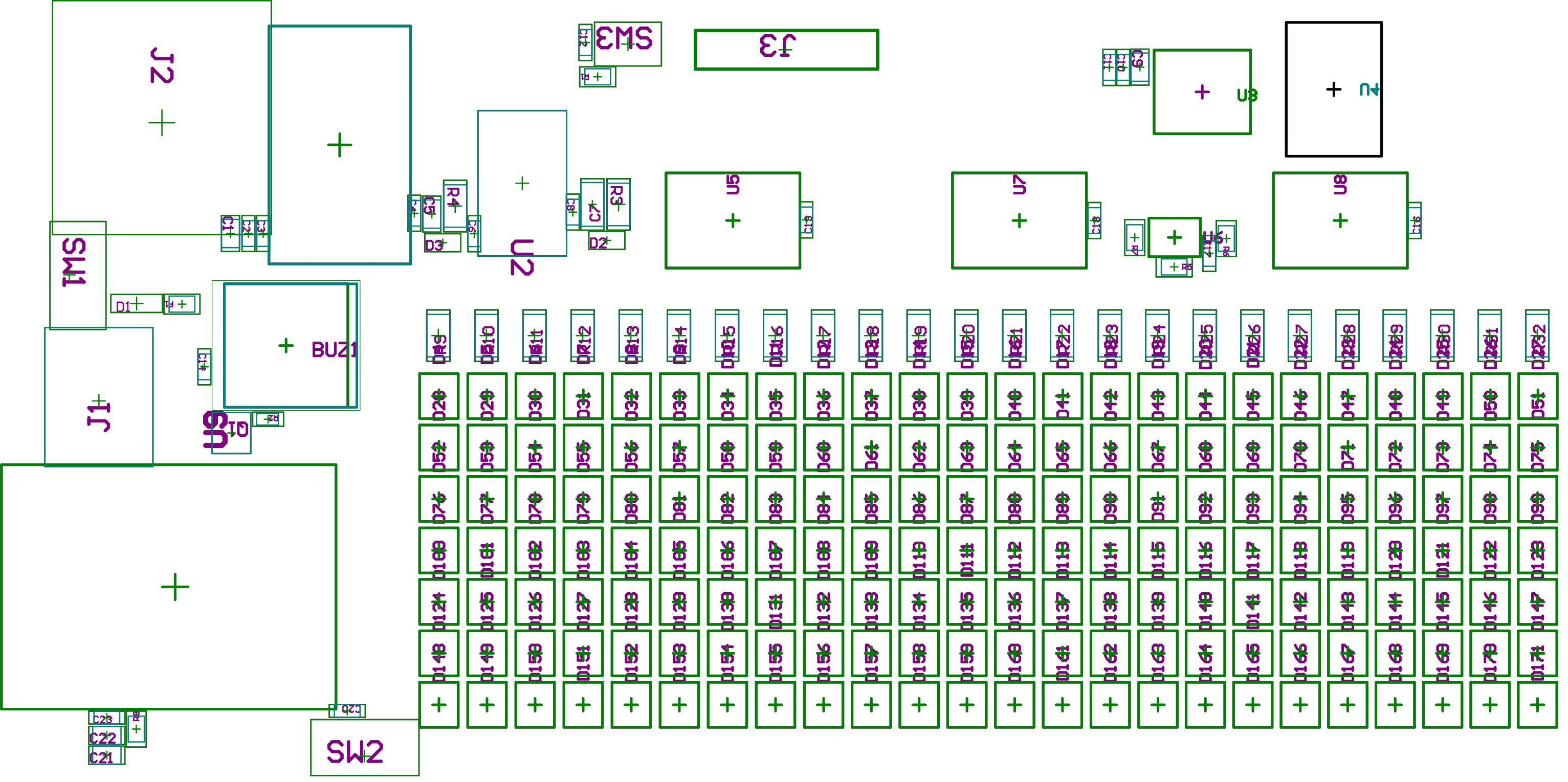


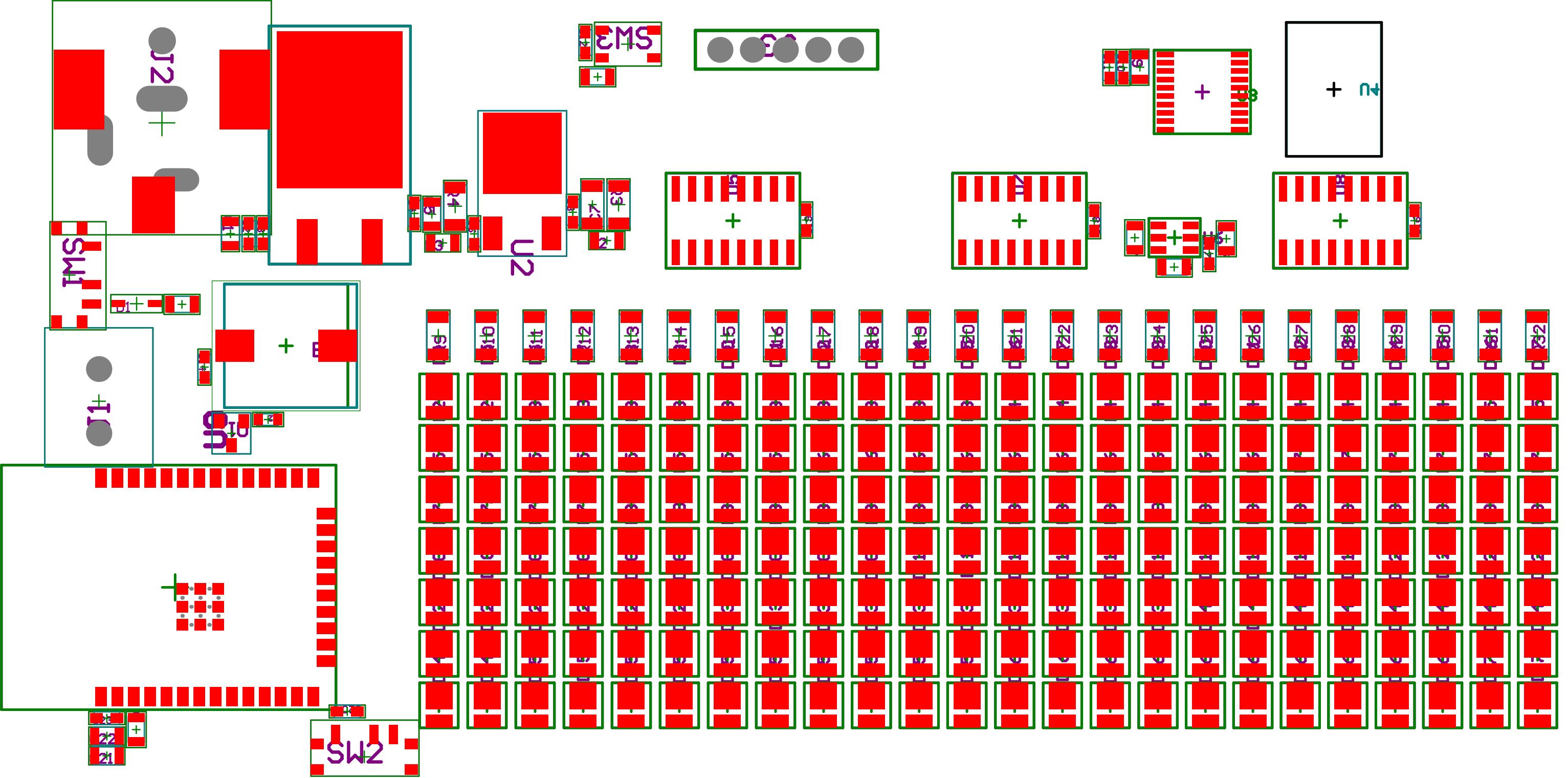


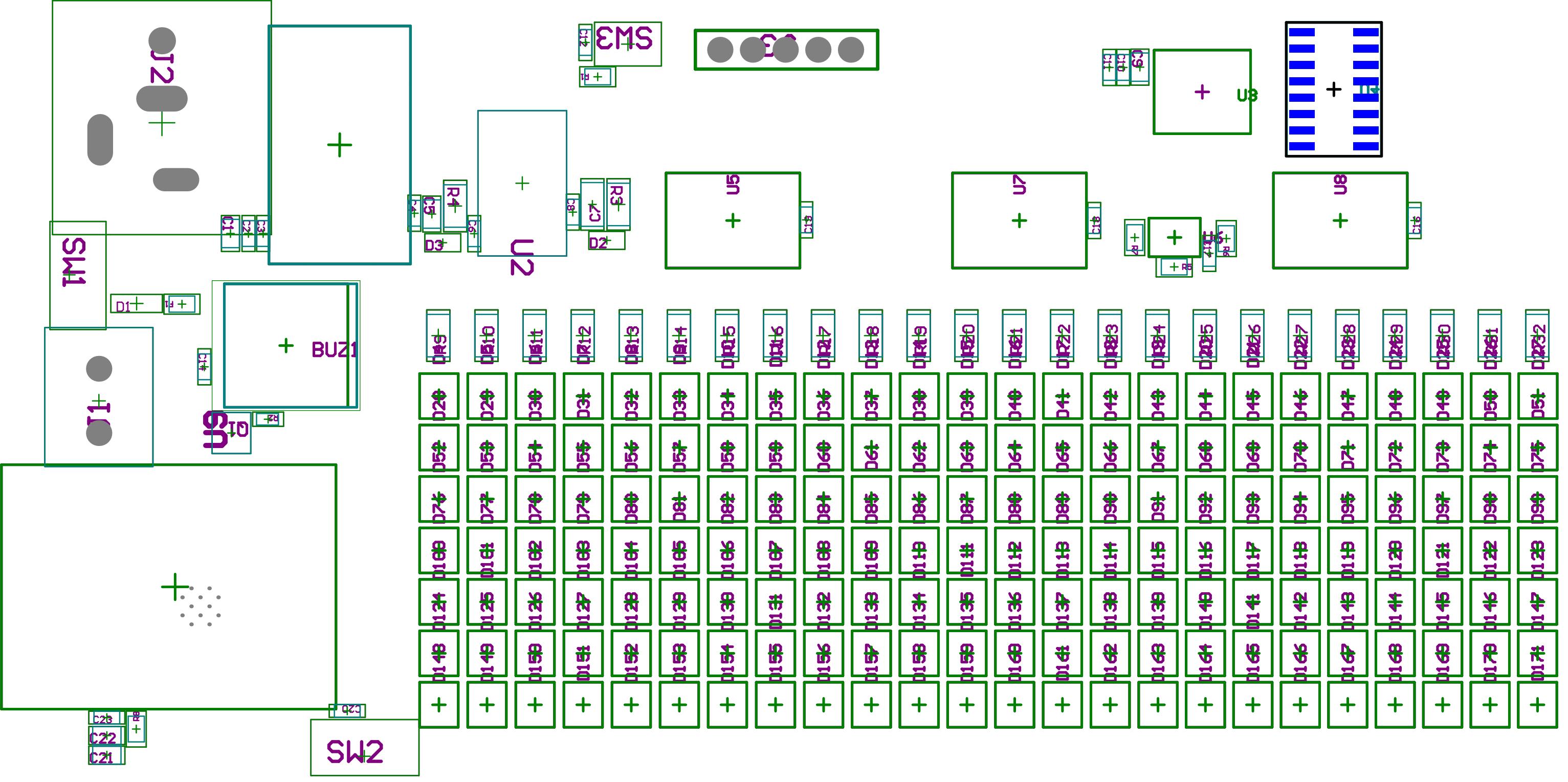


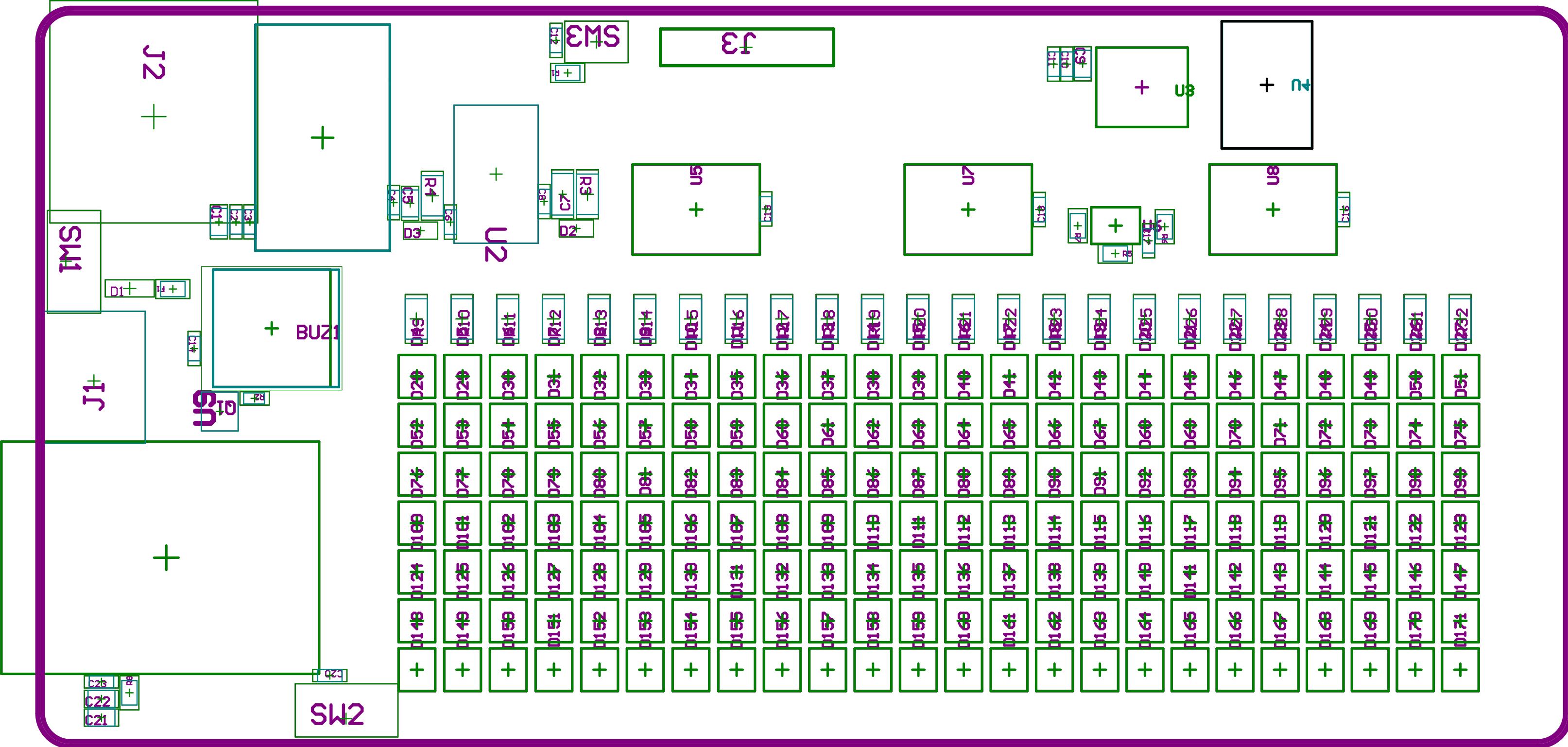


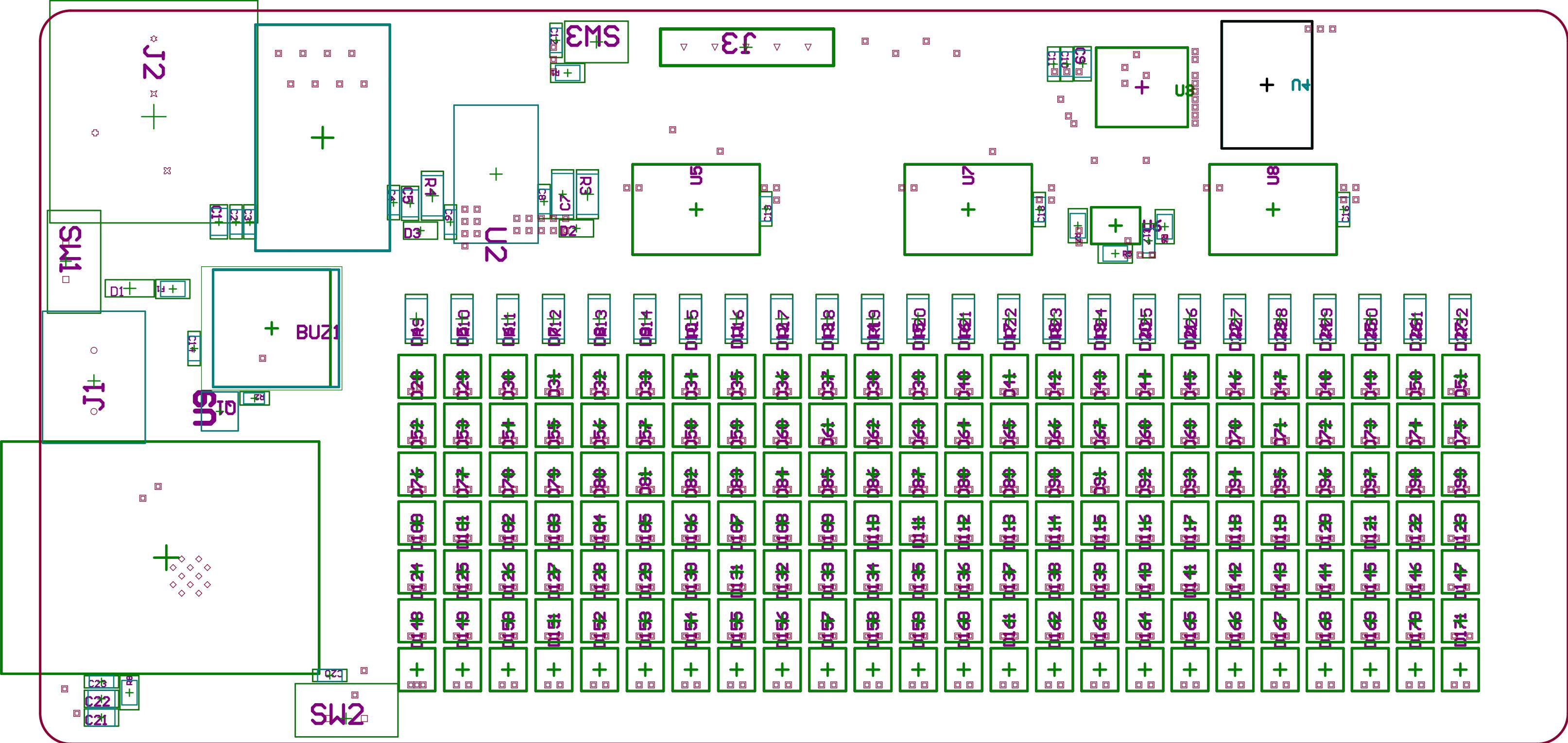


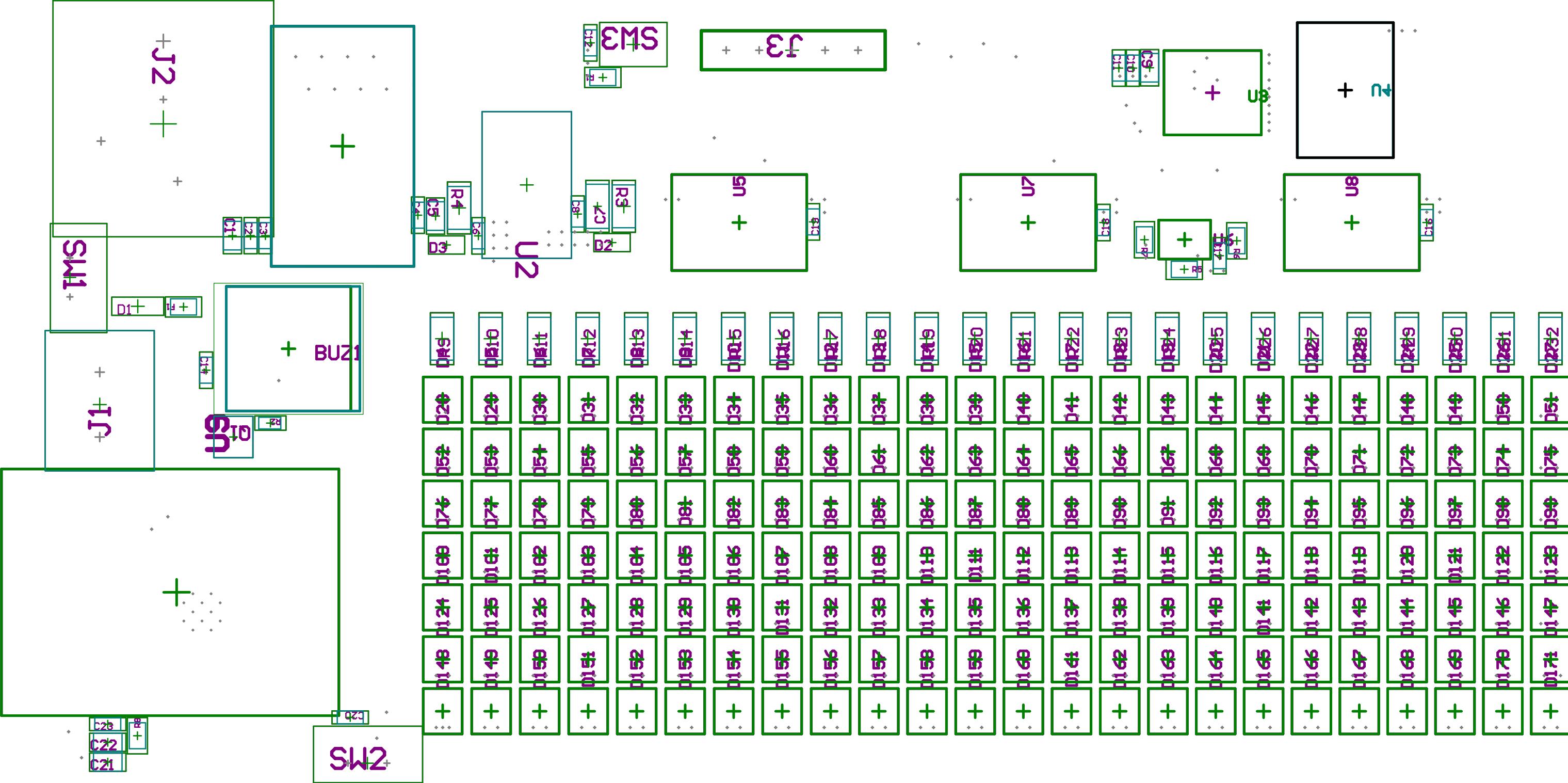












| Comment                     | Description   | Designator   | Footprint                 | LibRef                    | Quantity |
|-----------------------------|---|--|---------------------------|---------------------------|----------|
| 3M-1027-TW-5V-R             | Audio Indicator 5V<br>40mA@800Hz, 2.7kHz<br>Resonant Frequency:<br>SMD                                      | BLZ1   | BLZER_SMD                 | BLZER_5V_SMD              | 1        |
| C21A475K9DNNE               | CAP CER 1uF ±10%<br>005   | C1, C9, C21  | CAP_0805                  | CAP_CER4.7uF0805          | 3        |
| CGA32EXTR1H334W0B           | Multilayer Ceramic<br>Capacitor, 0.33uF, 50<br>V, ±10%, X7R, 0053<br>(1608 Metric)                          | C2, C8   | CAP_0603                  | CAP_CER330uF0603          | 2        |
| 00693C0496R6CTU             | CAP CER 100nF ±10%<br>0033 SMD  | C3, C4, C8, C10, C11,<br>C12, C14, C16, C17,<br>C18, C19, C23  | CAP_0603                  | CAP_CER100nF0603          | 12       |
| C21B105K9DNNE               | CAP CER 1uF ±10%<br>005   | C5, C22  | CAP_0805                  | CAP_CER1uF0805            | 2        |
| T491A108K010AT              | Cap Tant Solid 10uF<br>10V, CASE 10%uA, 2x2<br>1.6x1.6mm, 1000uH<br>3216-18-4 Ohm 125°C<br>T/R              | C7   | CAP_1206_TANT             | CAP_TANT10uF1206          | 1        |
| C10A228M072DNC              | Multilayer Ceramic<br>Capacitor, 22uF, 16V,<br>100%, 0053<br>(1608 Metric)                                  | C20  | CAP_0603                  | CAP_CER22uF0603           | 1        |
| 1N4148WS                    | Diode, Single, 75V,<br>150mA, 1V, 4ns   | D1   | SOD023F                   | 1N4148WS                  | 1        |
| Green0805 130° Min          |   |  |                           |                           |          |
| LTS1-C171GKT                | 5mcd Typical 12mcd<br>Water Clear Lens SMT<br>LED   | D2, D3   | LED_GREEN_0805            | LEDGREEN_0805             | 2        |
| EAHE2835WM03                | LED Uni-Color White<br>39m 6500K Chip LED<br>Pin PLCC 7/R<br>Pad Embedded T/R                               | D61, D63, D65, D64,<br>D66, D68, D77, D68,<br>D69, D70, D71, D72,<br>D73, D74, D75, D76,<br>D77, D78, D79, D80,<br>D81, D82, D83, D84,<br>D85, D86, D87, D88,<br>D89, D90, D91, D92,<br>D93, D94, D95, D96,<br>D97, D98, D99, D100,<br>D101, D102, D103,<br>D104, D105, D106,<br>D107, D108, D109,<br>D110, D111, D112,<br>D113, D114, D115, | LED_WHITE_1411_PLU<br>C2  | 6500KPLCC1411             | 168      |
| PRG21BC1ROMMRA              | Thermistor PTC 10nm<br>20% ± 10% 0805<br>Lead-Free MELF Solder<br>Pad Embedded T/R                          | F1   | FUSE_0805                 | PRG21BC1ROMMRA            | 1        |
| 2B2836-2                    | Connector, Terminal<br>Block, Wire<br>Receptacle, 2 Pos., 16-<br>30 AWG, 0.197in. CL,<br>25                 | J1   | TERMINAL                  | 2x1 TERMINAL 5mm          | 1        |
| PJ0374H-SMT-TR              | DC Power Connectors<br>Power Jacks  | J2   | JACK                      | PJ0374H-SMT-TR            | 1        |
| 6130051121                  |   | B  | Sx1 Male Header<br>2.54mm | Sx1 Male Header<br>2.54mm | 1        |
| MME7394-7-F                 | Transistor General<br>Purpose Si7NPN40<br>Vol 0.2A, Automorphic 3<br>Pin SOT-23                             | Q1   | SOT-23F                   | MME7394-7-F               | 1        |
| R03005JR-0710KL             | RES 10K OHM 5%<br>005   | R1, R8   | RES_0805                  | RES10KOHM<br>00505010     | 2        |
| R03003JR-0710KL             | RES 100 nS CMOS0603<br>SMD  | R2   | RES_0603                  | RES100OHM0603<br>1/10W    | 1        |
| RC1206FR-07680FL            | SMD Chip Resistor,<br>690 Ohm, 1/1%, 250<br>mW, 1206, 0.02016<br>inch, Thick Film<br>General Purpose        | R3, R4   | RES_1206                  | RES680OHM1206<br>1/4W     | 2        |
| R03005FR-07490L             | RES4.7KOHM5%<br>1/8W0805  | R5, R6, R7   | RES_0805                  | RES4.7KOHM0805<br>1/8W    | 3        |
| HRS3216Q-23P92-D-<br>T1     | Fixed Resistor, Thin<br>Film 1W, 200nm,<br>200V, 0.5% TCR,<br>Surface Mount<br>Mount, 1206                  | R8, R9, R11, R12,<br>R13, R14, R15, R16,<br>R17, R18, R19, R20,<br>R21, R22, R23, R24,<br>R25, R26, R27, R28,<br>R29, R30, R31, R32  | RES_1206                  | RES20OHM1206.1W           | 24       |
| EG1215AA                    | Slide Switch, SPDT<br>0.025A, 24V, SMD  | SW1, SW2   | EG1215AA                  | EG1215AA                  | 2        |
| PTSB15SK250SMTR<br>UFS      | Micro miniature Tab<br>Actuated Tactile<br>Switch Momentary<br>S/P/S/T NO 50mA 12VDC<br>Surface Mount T/R   | SM3  | BUTTON_SMD                | 4.2mm x3.2mm<br>BUTTON    | 1        |
| U2804CD2T-TR                | Standard Regulator<br>Pos 5V, 1.5A-3<br>Pin 2.54mm Pitch<br>1.25W, 1.25W, 1.25W                             | U1   | DBPAKTO-263-3             | U2804CD2T-TR              | 1        |
| LD29150 Series 3.3 V        | 1.5 A Fixed Output SMT<br>Low Voltage Regulator<br>TO-252   | U2   | DBPAKTO252                | LD29150DT3R               | 1        |
| STM32F031RBT6TR             | MCU32F031 ARM<br>Core-M0+ RSC32KB<br>Flash 2.5V/3.3V/20Pin<br>TSSOP   | U3   | TSSOP20                   | STM32F031RBT6TR           | 1        |
| UUN2003ADR                  | Si3N4, 2.5V, 1000pF<br>transistor array, -40 to<br>105C 16-SOIC-40 to<br>105                                | U4   | 16-SOIC                   | UUN2003ADR                | 1        |
| IC911FTREGISTER<br>8BT16SDP | 74HC Series FV3-<br>Surface Mount<br>Shift Register - SOIC-<br>16   | U5, U7, U8   | 16-SOIC                   | 74HC595D                  | 3        |
| TMPI01NA/3K                 | ±2°C Digital<br>temperature Sensor<br>with DS2868<br>interface and alert in<br>SOT-23-6/SOT-23-55<br>to 125 | U6   | SOT-23-6                  | TMPI01NA/3K               | 1        |
| ESP32-WROOM-32E-<br>H4      | RF Trans Module Bi Trace<br>Ant SMD   | U8   | ESP32-WROOM-32E<br>H4     | ESP32-WROOM-32E<br>H4     | 1        |

## Design Rules Verification Report

Filename : C:\Users\asli\Desktop\Hardware Design\Project Files\InProgress\LED\_Matrix\L

Warnings 0

Rule Violations 0

| Warnings |   |
|----------|---|
| Total    | 0 |

| Rule Violations   |   |
|---|---|
| Clearance Constraint (Gap=0.254mm) (All),(All)  | 0 |
| Short-Circuit Constraint (Allowed=No) (All),(All)   | 0 |
| Un-Routed Net Constraint ( All )  | 0 |
| Modified Polygon (Allow modified: No), (Allow shelved: No)  | 0 |
| Width Constraint (Min=0.1mm) (Max=2mm) (Preferred=0.5mm) (All)  | 0 |
| Power Plane Connect Rule(Direct Connect)(Expansion=0.508mm) (Conductor Width=0.254mm) (Air Gap=0.254mm) | 0 |
| Hole Size Constraint (Min=0.15mm) (Max=6.3mm) (All)   | 0 |
| Hole To Hole Clearance (Gap=0.2mm) (All),(All)  | 0 |
| Minimum Solder Mask Sliver (Gap=0.1mm) (All),(All)  | 0 |
| Silk To Solder Mask (Clearance=0.15mm) (IsPad),(All)  | 0 |
| Silk to Silk (Clearance=0.15mm) (All),(All)   | 0 |
| Net Antennae (Tolerance=0mm) (All)  | 0 |
| Board Clearance Constraint (Gap=0mm) (All)  | 0 |
| Height Constraint (Min=0mm) (Max=25.4mm) (Preferred=12.7mm) (All)                                       | 0 |
| Total   | 0 |

## Electrical Rules Check Report

| Class | Document | Message                                  |
|-------|----------|--|
|       |          | Successful Compile for LED_Matrix.PrjPcb |
|       |          |  |