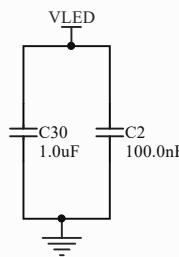
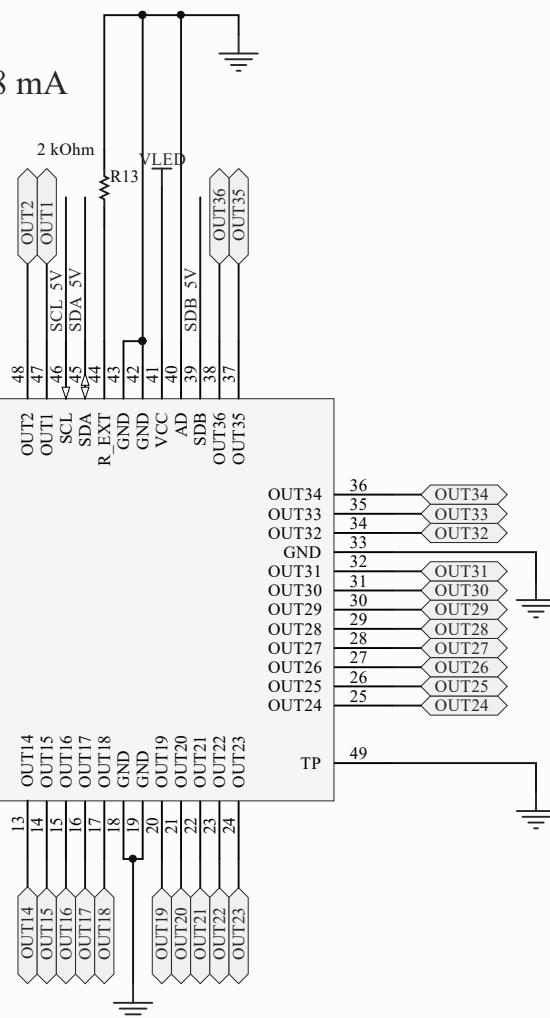
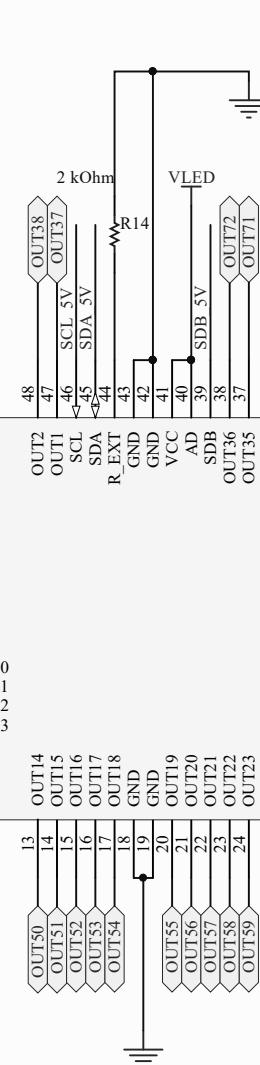
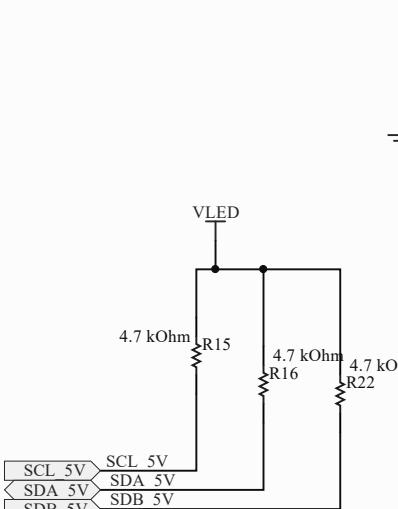
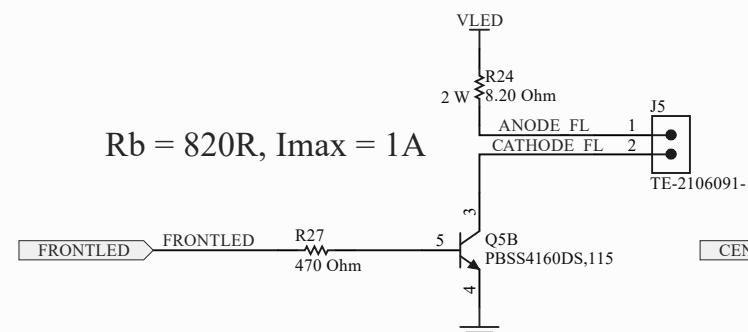


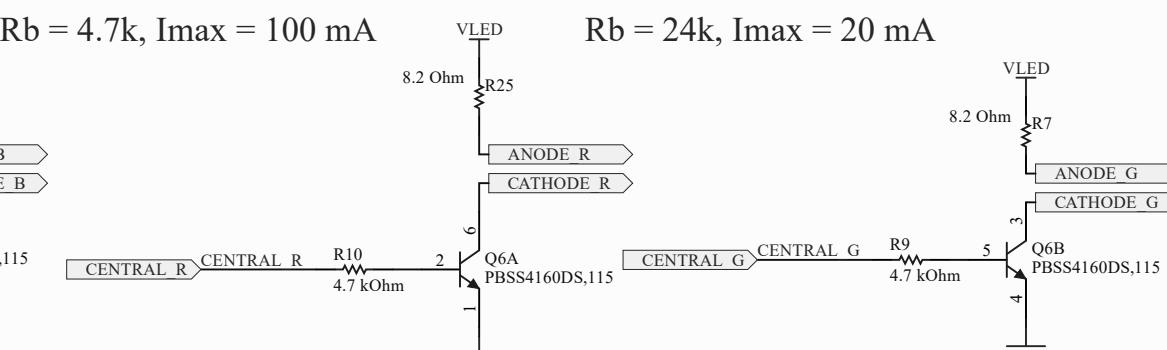
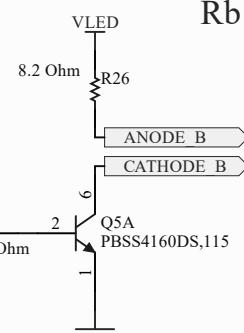
A

 $I_{max} = 38 \text{ mA}$  $I_{max} = 38 \text{ mA}$ 

B

U6
IS31FL3236-TQLS2 $R_b = 820R, I_{max} = 1\text{A}$ 

3.3V Logic inputs

 $R_b = 4.7\text{k}, I_{max} = 100 \text{ mA}$ Title **LED Drivers**

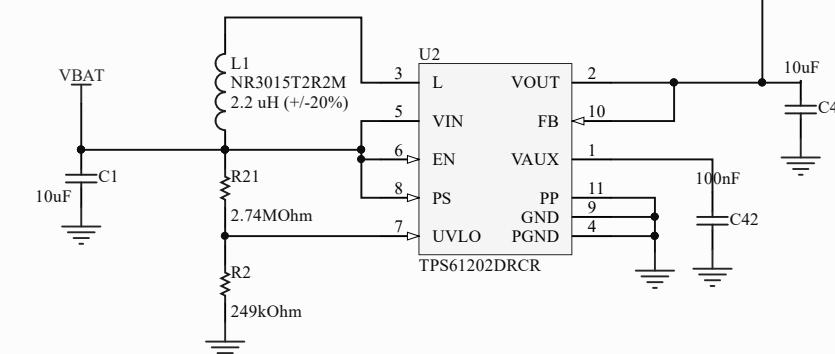
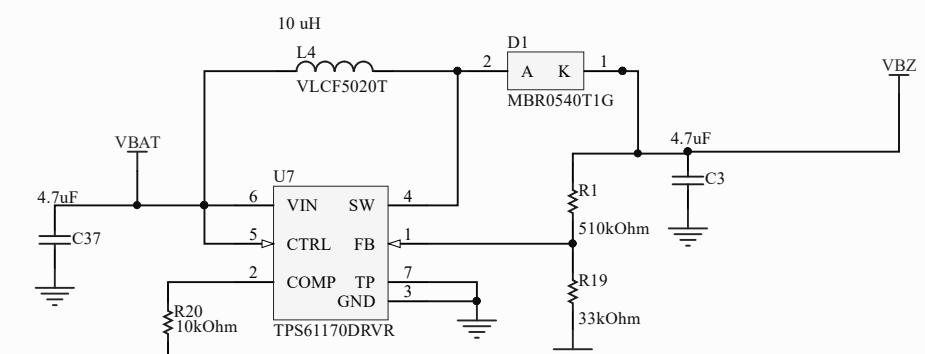
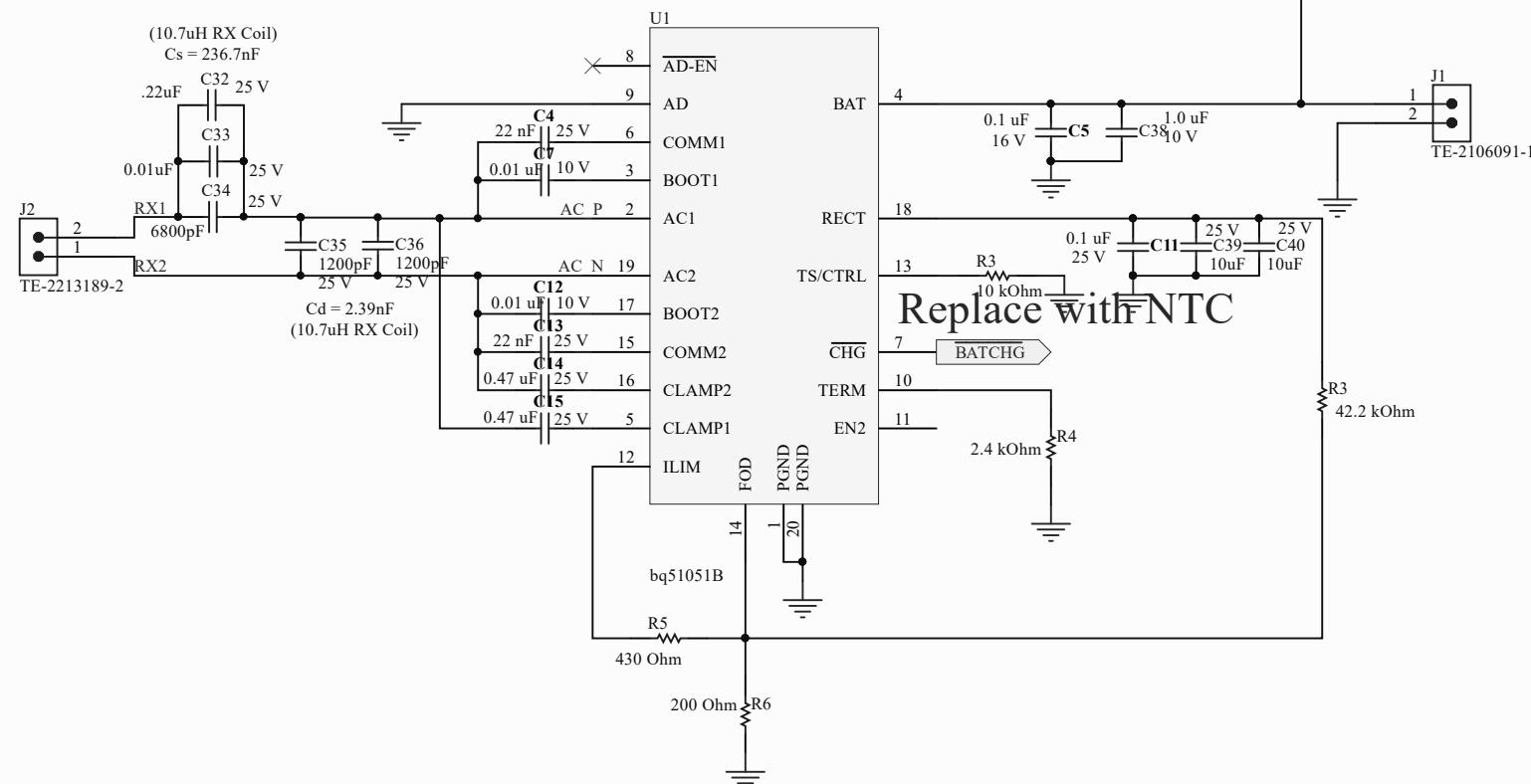
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| Date: 2015-12-21 | Time: 19:24:27 | Sheet 1 of 4 |
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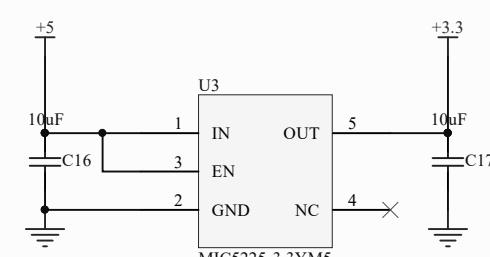
A

A

INDUCTIVE BATTERY CHARGER



BOOST



Replace with TI equivalent

3.3V REG

| Title Power | | | SmartHalo 5445 de Gaspé Montréal, QC Canada H2T 3B2 |
|--------------------|---------------------------|--------------|---|
| Size: B | Author: Sébastien Gélinas | Revision: 1 | |
| Date: 2015-12-21 | Time: 19:24:27 | Sheet 1 of 4 | |
| File: PWR.SchDoc | | | |

smarthalo

A

A

B

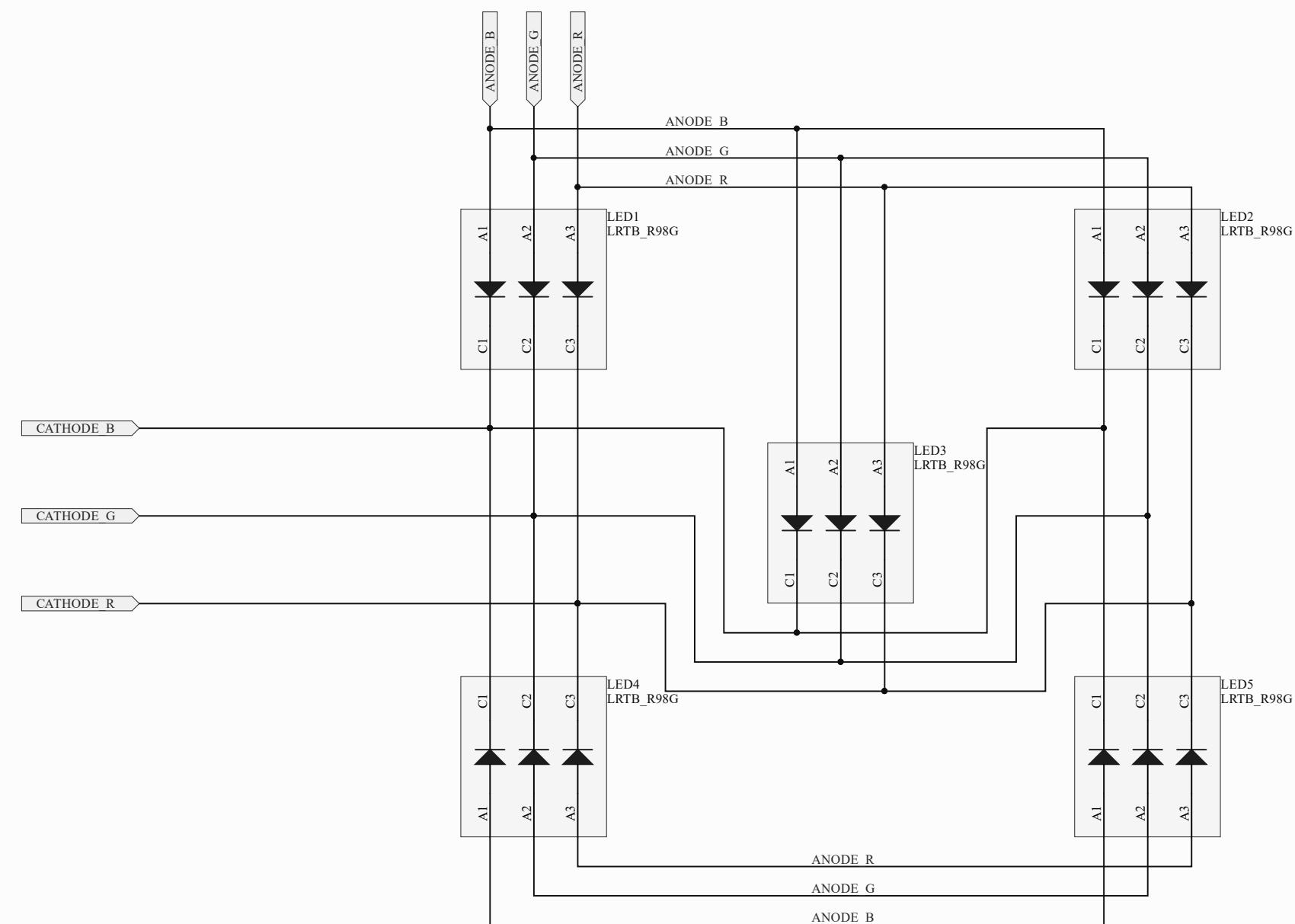
B

C

C

D

D



A

A

B

B

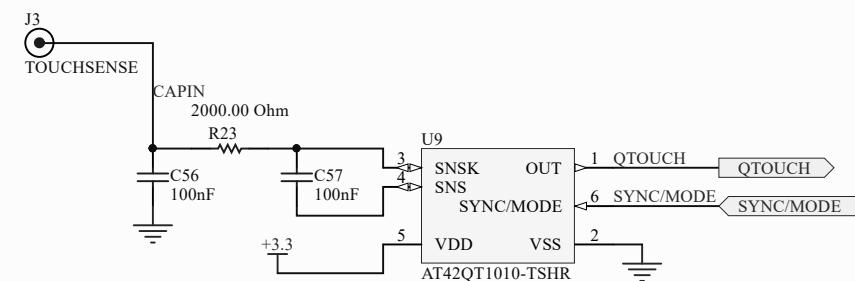
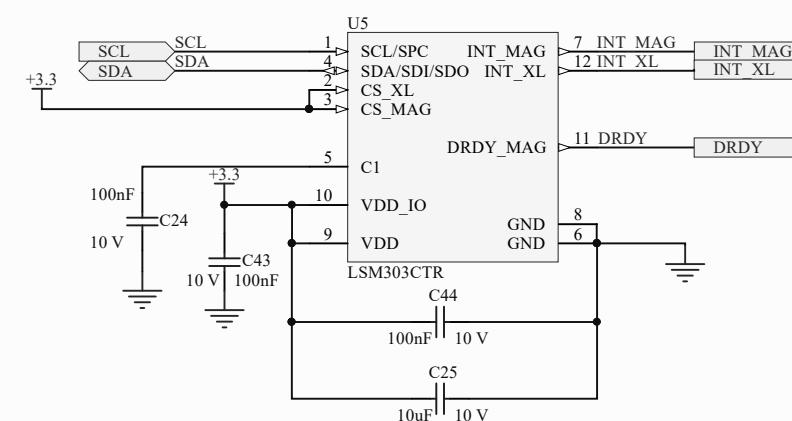
C

C

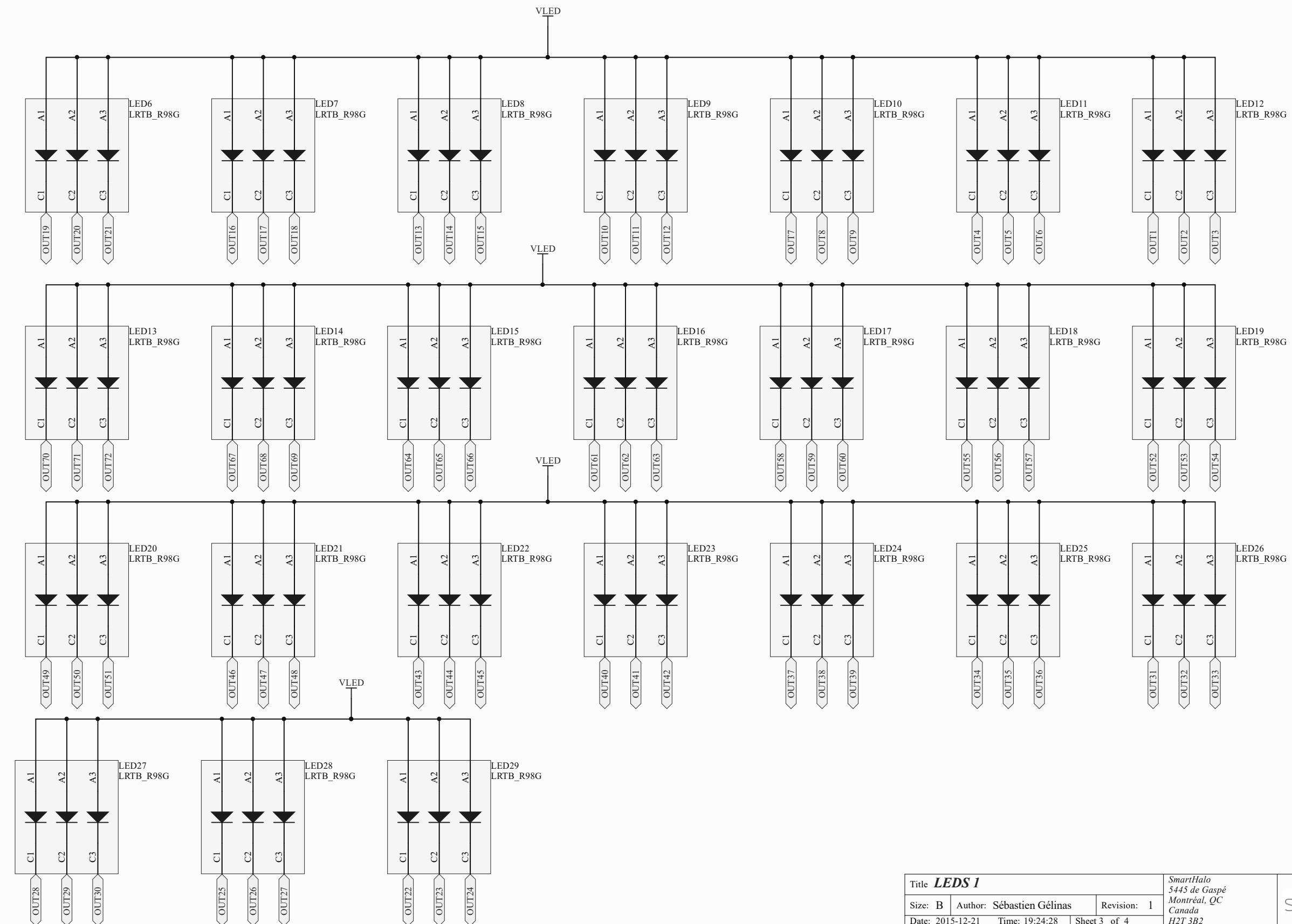
D

D

**Array de pad dispersés sur le PCB
Connexion via canal plastique vers la lentille externe**



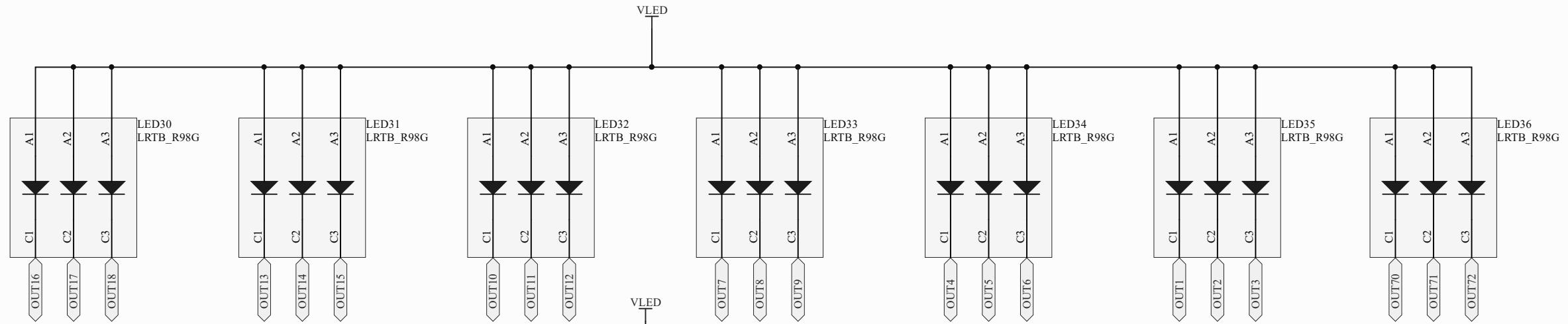
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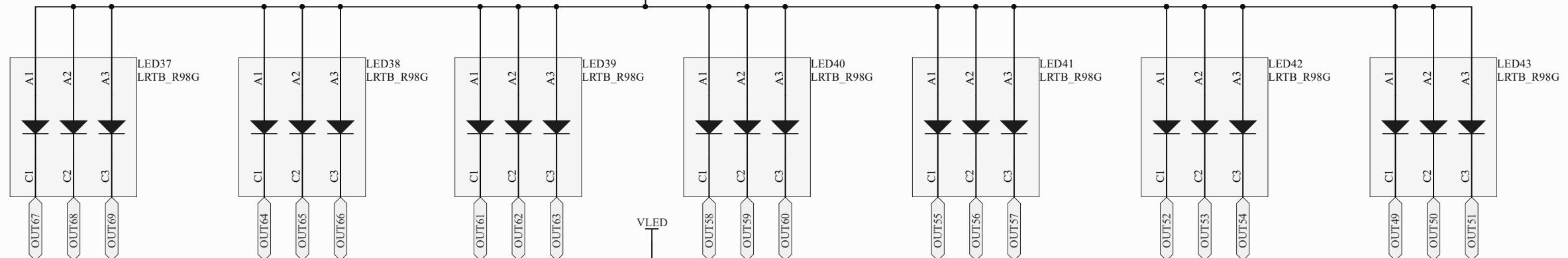
| Title LEDS 1 | | | SmartHalo 5445 de Gaspé Montréal, QC Canada H2T 3B2 |
|---------------------|---------------------------|--------------|---|
| Size: B | Author: Sébastien Gélinas | Revision: 1 | |
| Date: 2015-12-21 | Time: 19:24:28 | Sheet 3 of 4 | |
| File: LEDS1.SchDoc | | | |

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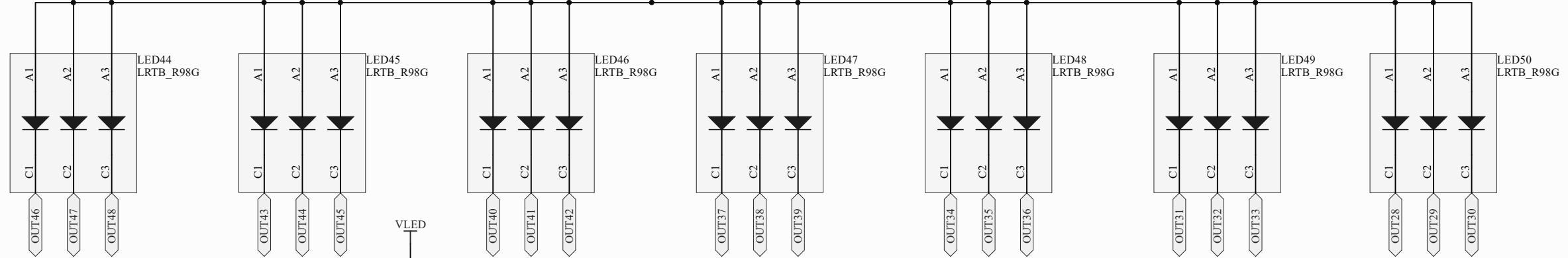
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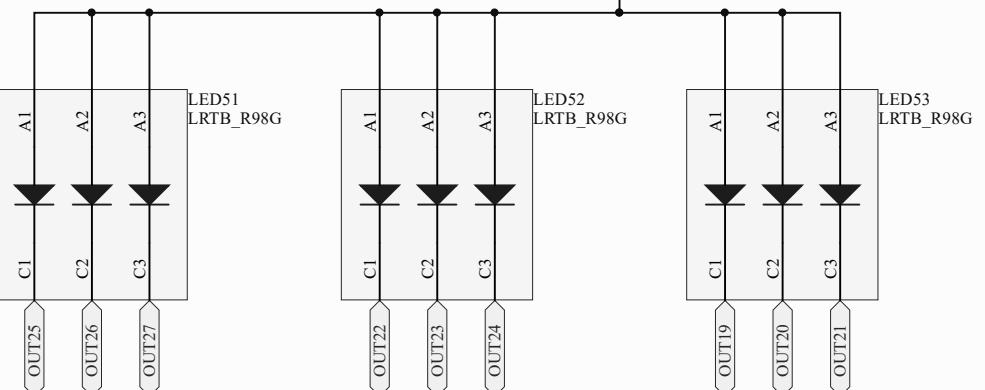
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C



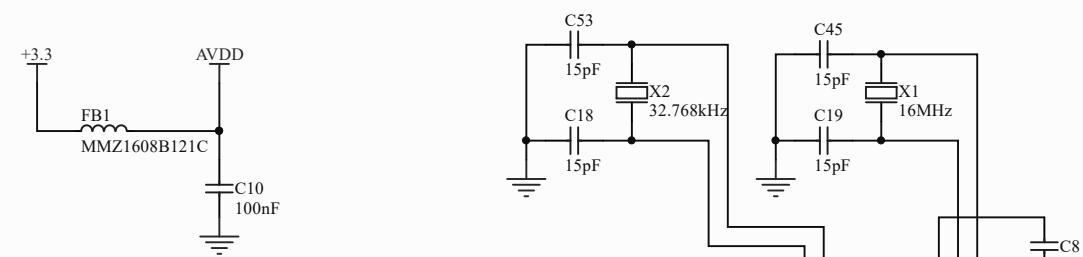
D

Title **LEDS 2**

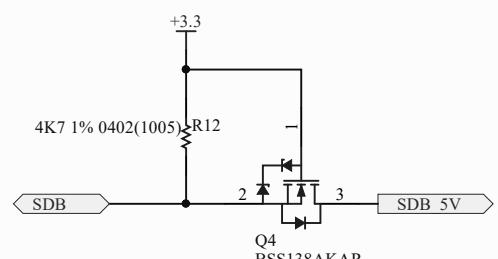
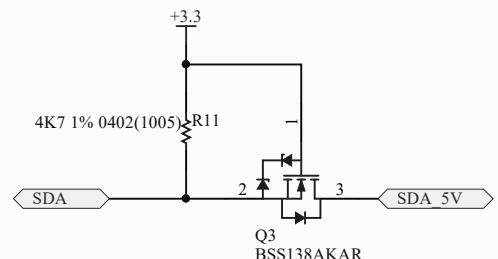
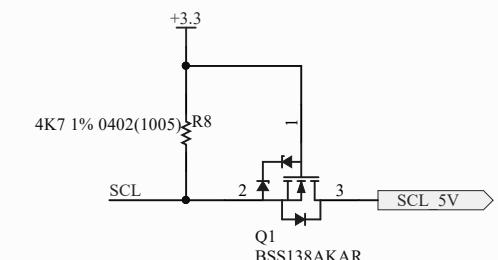
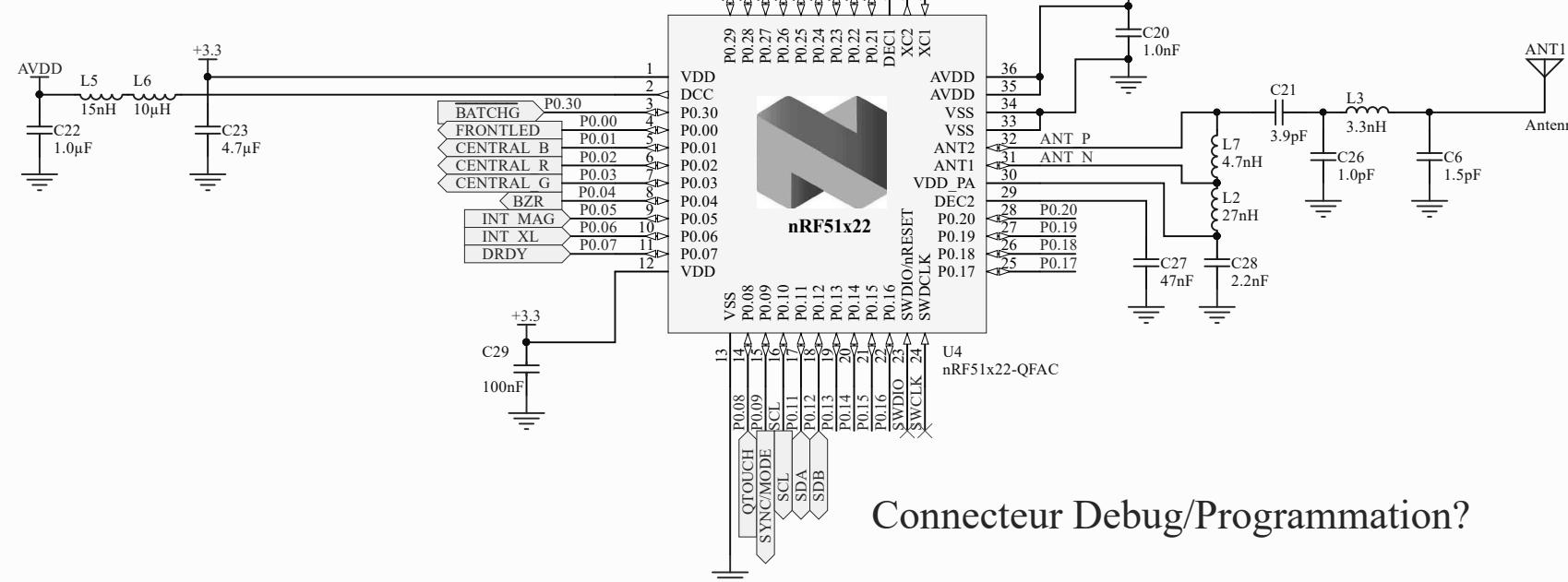
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| Size: B | Author: Sébastien Gélinas | Revision: 1 |
| Date: 2015-12-21 | Time: 19:24:28 | Sheet 4 of 4 |
| File: LEDS2.SchDoc | | SmartHalo 5445 de Gaspé Montréal, QC Canada H2T 3B2 |

smarthalo

A



Changer pour Antenne Meander ou intégrée



A

A

B

B

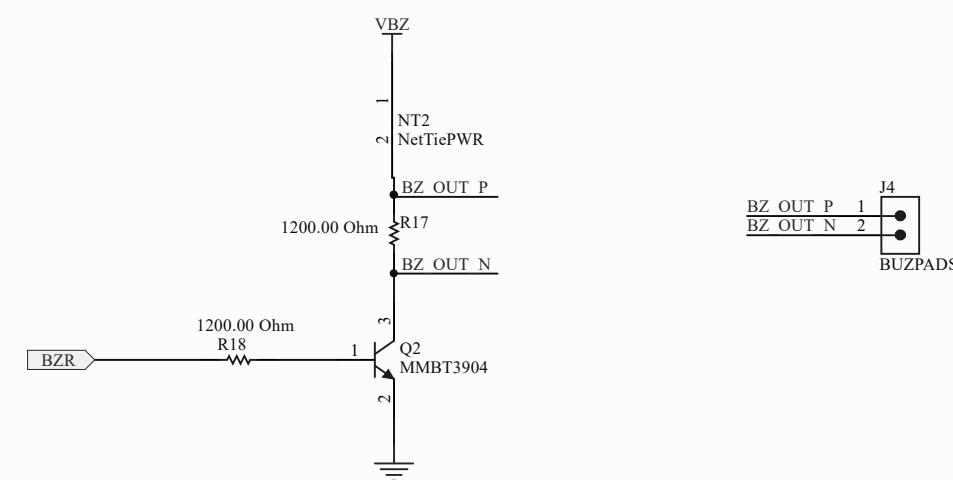
C

C

D

D

Buzzer circuit

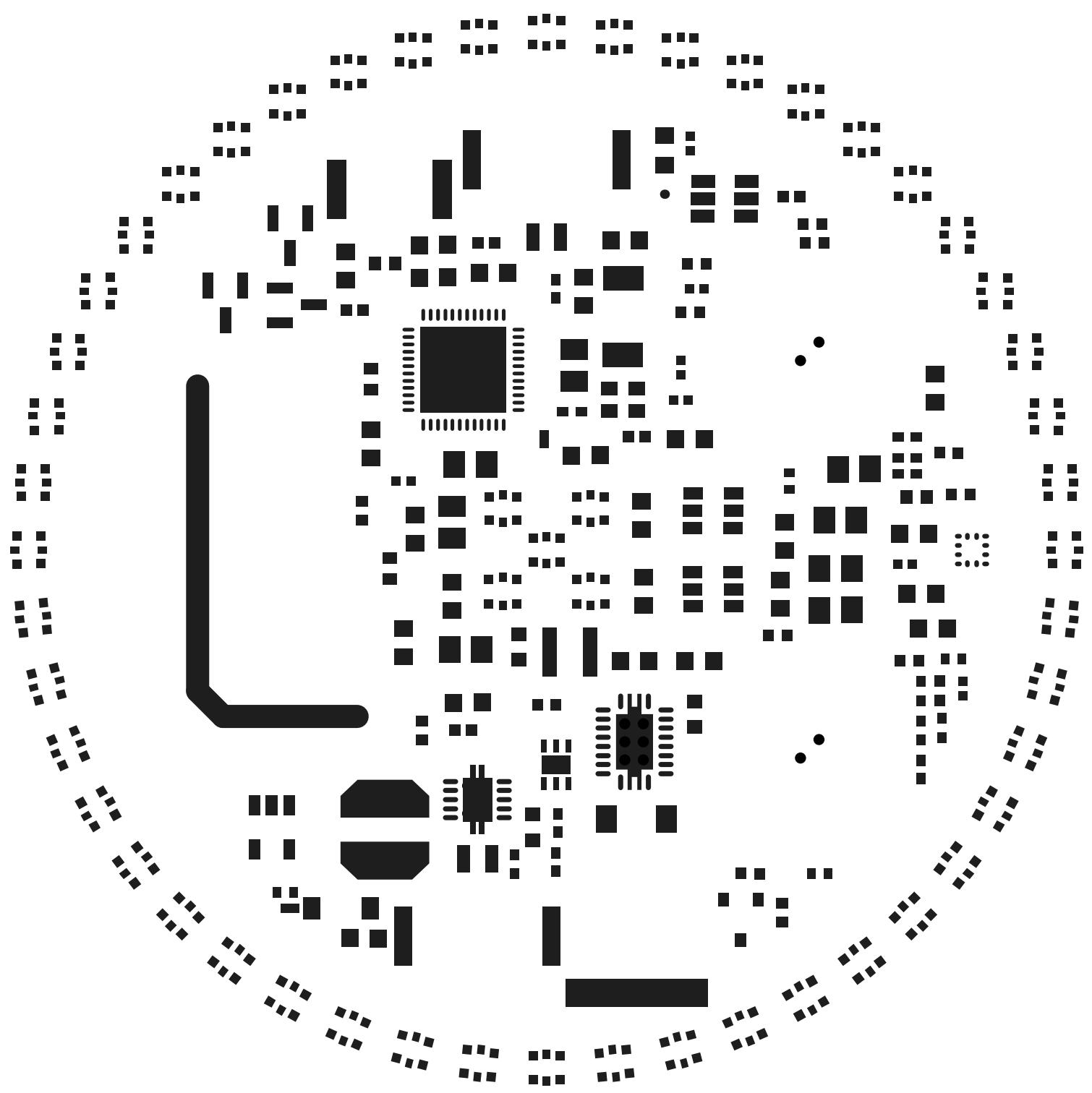


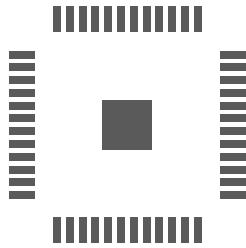
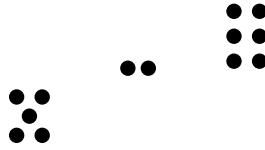
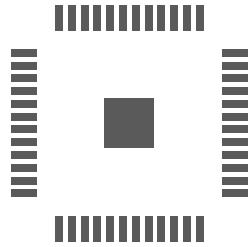
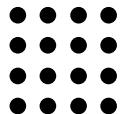
Title ***Alarm and sound***

| | | |
|--------------------|---------------------------|--------------|
| Size: B | Author: Sebastien Gelinas | Revision: 1 |
| Date: 2015-12-21 | Time: 19:24:29 | Sheet 5 of 5 |
| File: ALARM.SchDoc | | |

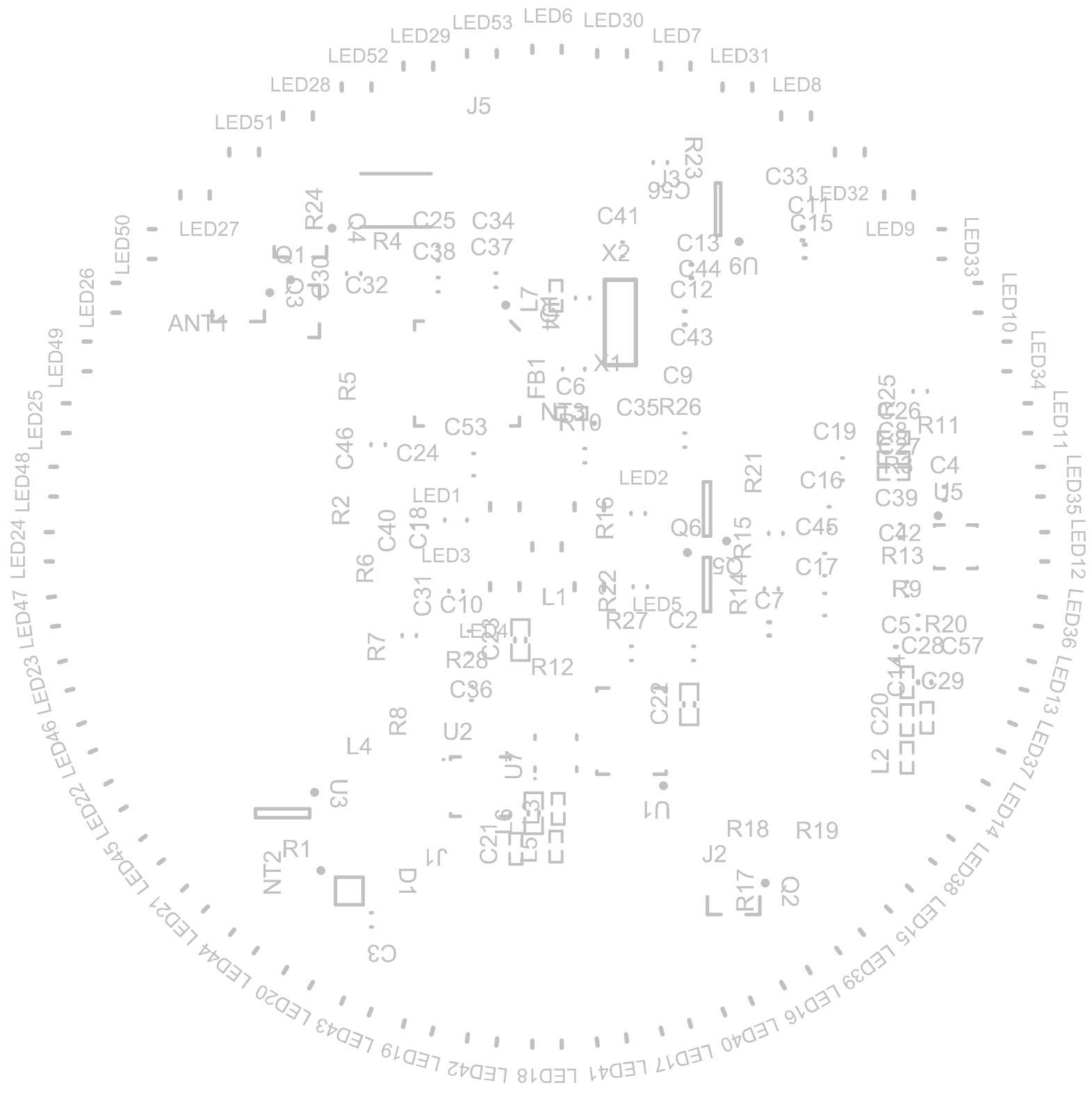
SmartHalo
5445 de Gaspé
Montréal, QC
Canada
H2T 3B2

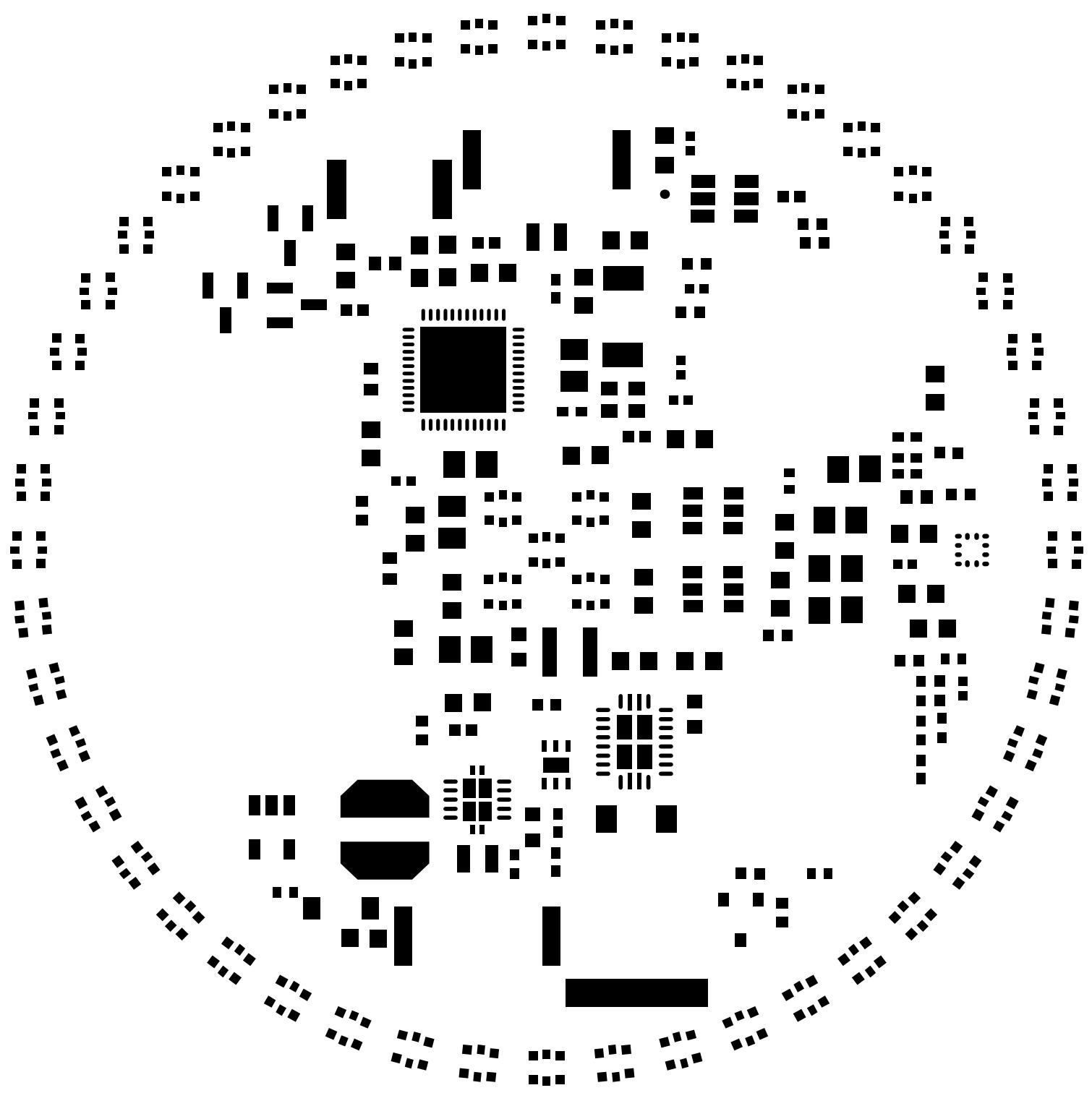
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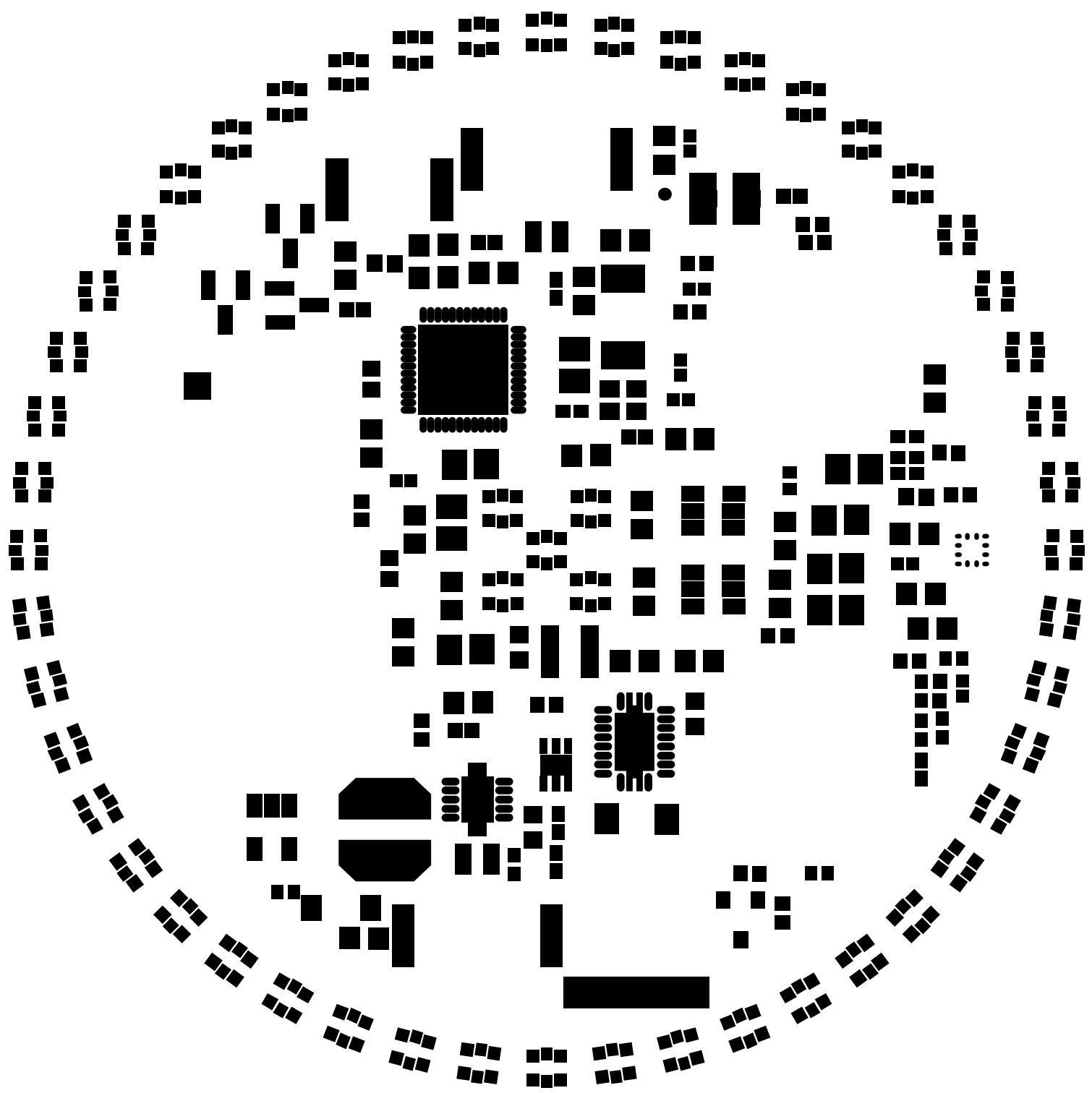


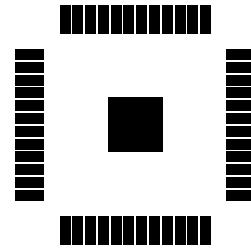
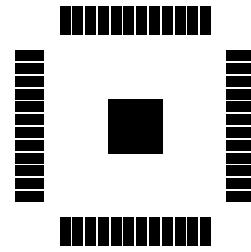
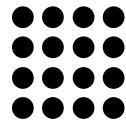


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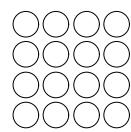








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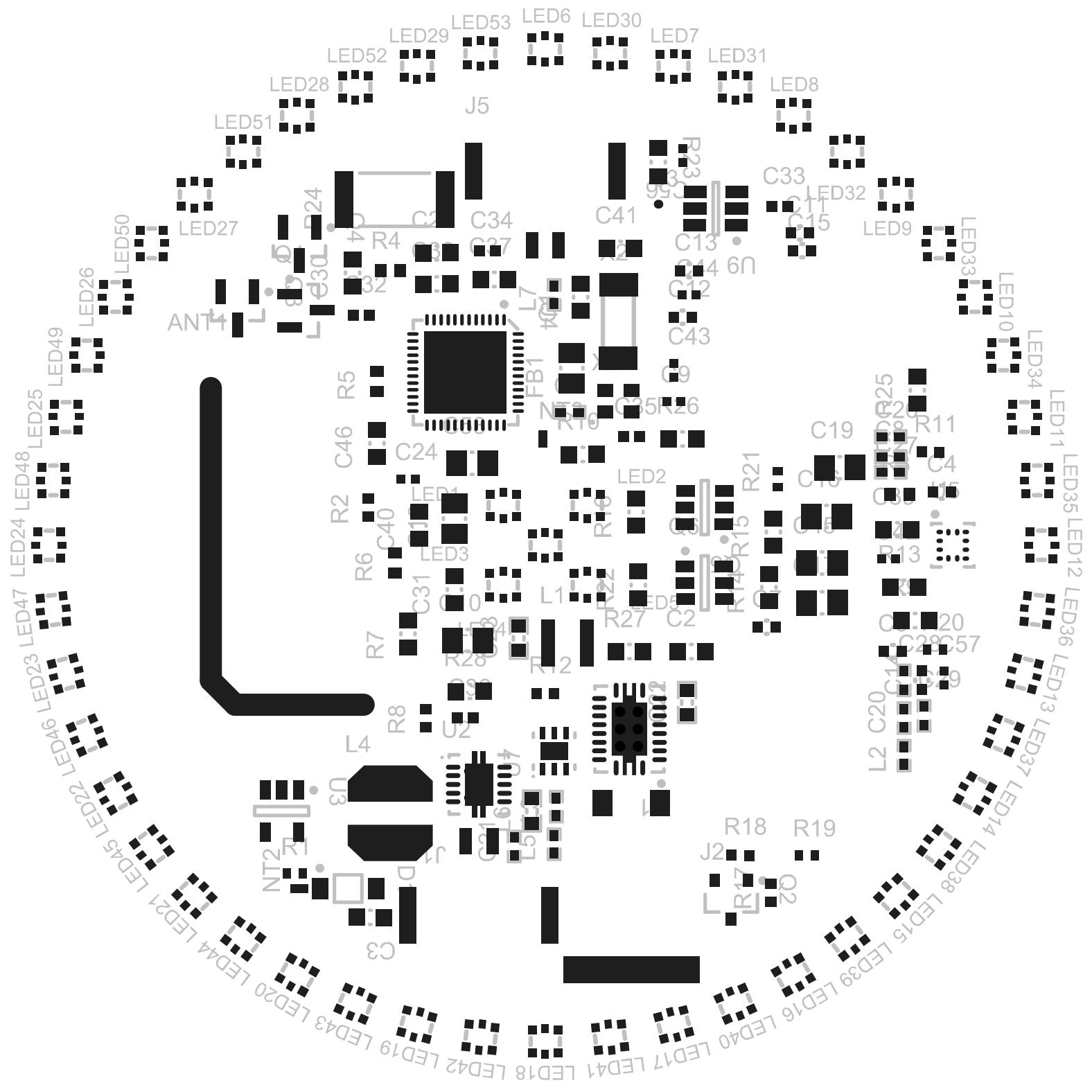
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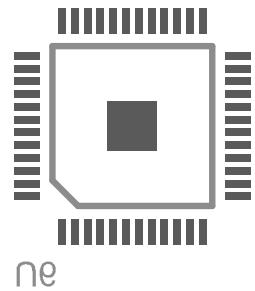
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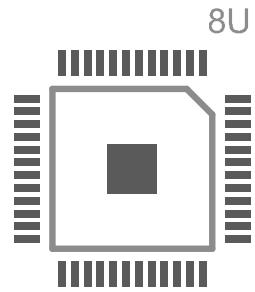
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| Item # | Quantity | Designator | Manufacturer | Manufacturer Part Num | PartNumber | Description | Comment | Case-EIA | Value |
|--------|----------|--|----------------------|-------------------------------|------------------|---|--------------------------|-----------|--|
| 1 | 8 | C1, C3, C25, C37, C38, C39, C40, C41 | | | | CAP 10uF 10V A±10% 0603 (1608 Metric) Thickness 1mm SMD | CAP 10uF 10V 0603(1608) | 0603 | 10uF, 10uF, 10uF, 4.7uF, 1.0uF, 10uF, 10uF, 10uF |
| 2 | 2 | C2, C46 | | | | Chip Cap 0603 XTR 10% | 100.0nF | | 100.0nF |
| 3 | 8 | C4, C5, C7, C11, C12, C13, C14, C15 | | | | Capacitor, Yageo, Ceramic, 0.1uF 10% 16V 0402 (1005) XTR | CC0402KRXTR7BB104 | | |
| 4 | 1 | C8 | | | | Capacitor, NP0 ±0.1pF | 1.5pF | | 1.5pF |
| 5 | 2 | C8, C29 | | | | Capacitor, XTR ±10% | 100nF | | 100nF |
| 6 | 7 | C9, C24, C42, C43, C44, C56, C57 | | | | CAP 100nF 10V A±5% 0402 (1005 Metric) Thickness 0.6mm SMD | CAP 100nF 10V 0402(1005) | 0402 | 680pF, 100pF, 100pF, 100nF, 100nF, 100nF, 100nF |
| 7 | 1 | C10 | | | | CAP 100nF 1V A±10% XTR 0805 (2012 Metric) | 100nF | 0805 | |
| 8 | 2 | C16, C17 | | | | CAP 10uF 10V A±10% 0805 (2012 Metric) Thickness 1.45mm SMD | CAP 10uF 10V 0805(2012) | 0805 | |
| 9 | 4 | C18, C19, C45, C53 | | | | CAP 15pF 1V ±5% NP0 0805 (2012 Metric) | 15pF | 0805 | |
| 10 | 1 | C20 | | | | Capacitor, XTR ±10% | 1.0uF | | 1.0nF |
| 11 | 1 | C21 | | | | Capacitor, NP0 ±0.1pF | 1.5pF | | 1.5pF |
| 12 | 1 | C22 | | | | Capacitor, XTR ±10% | 1.0uF | | 1.0uF |
| 13 | 1 | C23 | | | | Capacitor, XTR ±10% | 4.7uF | | 4.7uF |
| 14 | 1 | C26 | | | | Capacitor, NP0 ±0.1pF | 1.0pF | | 1.0pF |
| 15 | 1 | C27 | | | | Capacitor, XTR ±10% | 47nF | | 47nF |
| 16 | 1 | C28 | | | | Capacitor, XTR ±10% | 2.2nF | | 2.2nF |
| 17 | 2 | C30, C31 | | | | Capacitor, XTR ±10% | 1.0uF | | 1.0uF |
| 18 | 5 | C32, C33, C34, C35, C36 | | | | CAP 27pF 25V A±10% 0402 (1005 Metric) Thickness 0.6mm SMD | CAP 27pF 25V 0402(1005) | 0402 | 22uF, 0.01uF, 6800pF, 1200pF, 1200pF |
| 19 | 1 | D1 | On Semiconductor | | MBR0540T1G | Schottky Power Rectifier, 2-Pin SOOD-123, Pb-Free, Tape and Reel | MBR0540T1G | | |
| 20 | 1 | FB1 | | | | Ferrite bead 0805 | MM21608B121C | 0805 | |
| 21 | 1 | J1, J5 | TE | 2106091 | | 2 pos surface mount Board SMT Header | TE-2106091-1 | | |
| 22 | 1 | J2 | TE | 2213189-2 | | Assembly, IP6 Connection, 26-240 pins w/o cap | TE-2213189-2 | | |
| 23 | 1 | J4 | | | | Buzzee Probe Pins, Solder Pitch TBD | BUL29ADS | | |
| 24 | 1 | L1 | Taiyo Yuden | | NR301512R2M | SMD Power Inductor, 2.2 uH, +/20%, 3 x 3 x 1.5 mm, -25 to 120 degC Pb-Free, Tape and Reel | NR301512R2M | | |
| 25 | 1 | L2 | Murata | LQP15MN27NG02D | | High frequency chip inductor ±5% | 27nH | | 27nH |
| 26 | 1 | L3 | Murata | LQP15MN3N9B02D | | High frequency chip inductor ±5% | 30nH | | 30nH |
| 27 | 1 | L4 | | | | FIXED IND 10UH 1.1SA 237 MOHM | VLC15020T | | 10 uH |
| 28 | 1 | L5 | Taiyo Yuden | HK100515NA-T | | High frequency chip inductor ±10% | 15nH | | 15nH |
| 29 | 1 | L6 | Taiyo Yuden | LBFM1608T100K | | Chip inductor, IDC_mm = 50 mA, ±20% | 10uH | | 10uH |
| 30 | 1 | L7 | Murata | LQP15MN4N7B02D | | High frequency chip inductor ±5% | 4.7nH | | 4.7nH |
| 31 | 53 | LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8, LED9, LED10, LED11, LED12, LED13, LED14, LED15, LED16, LED17, LED18, LED19, LED20, LED21, LED22, LED23, LED24, LED25, LED26, LED27, LED28, LED29, LED30, LED31, LED32, LED33, LED34, LED35, LED36, LED37, LED38, LED39, LED40, LED41, LED42, LED43, LED44, LED45, LED46, LED47, LED48, LED49, LED50, LED51, LED52, LED53 | OSRAM | | IC RGB LED OSRAM | LRTB_R98G | | | |
| 32 | 3 | Q1, Q3, Q4 | NXP Semiconductors | | BSS138AKAR | Single N-Channel Trench MOSFET, 60 V, 0.2 A, -55 to 150 degC 3-Pin SOT23, Tape and Reel | BSS138AKAR | | |
| 33 | 1 | Q2 | Infineon | | MMBT3904 | NPN Silicon Switching Transistor, 40 V VCEO, 200 mA IC, SOT23, Reel, Green | MMBT3904 | | |
| 34 | 2 | Q5, Q6 | NXP Semiconductors | PBSS4160DS,115 | PBSS4160DS | TRANS 2NPN 60V 1A 6TSOP | PBSS4160DS,115 | | |
| 35 | 4 | R1, R19, R20, R21 | | | | 2M74 0.063W 1% 0402 (1005 Metric) SMD | 2M74 1% 0402(1005) | 0402 | 510kOhm |
| 36 | 1 | R2 | | | | 249K 0.063W 1% 0402 (1005 Metric) SMD | 249K 1% 0402(1005) | 0402 | 249K Ohm |
| 37 | 1 | R3 | | | | 10K 0.063W 5% 0402 (1005 Metric) SMD | 10K 5% 0402(1005) | 0402 | 10 kOhm |
| 38 | 4 | R3, R4, R5, R6 | | | | 1R6 0.063W 5% 0402 (1005 Metric) SMD | 1R6 5% 0402(1005) | 0402 | 42.2 kOhm, 1 kOhm, 430 Ohm, 200 Ohm |
| 39 | 3 | R7, R25, R26 | | | | 8R2 0.1W 5% 0603 (1608 Metric) SMD | 8.2 Ohm | 0603 | 8.2 Ohm |
| 40 | 3 | R8, R11, R12 | | | | 4K7 0.063W 1% 0402 (1005 Metric) SMD | 4K7 1% 0402(1005) | 0402 | 4700.00 Ohm |
| 41 | 6 | R9, R10, R15, R16, R22, R28 | | | | 4K7 0.063W 5% 0603 (1608 Metric) SMD | 4.7 kOhm | 0603 | 4.7 kOhm |
| 42 | 2 | R13, R14 | | | | 2K 0.1W 5% 0603 (1608 Metric) SMD | 2 kOhm | 0603 | 2 kOhm |
| 43 | 2 | R17, R18 | | | | 1K2 0.063W 5% 0402 (1005 Metric) SMD | 1K2 5% 0402(1005) | 0402 | 2000.00 Ohm |
| 44 | 1 | R23 | | | | 2K 0.1W 5% 0603 (1608 Metric) SMD | 2K 5% 0603(1608) | 0603 | 2000.00 Ohm |
| 45 | 1 | R24 | | | | 8R2 2W 5% 2512 (6432 Metric) SMD | 8.20 Ohm | 2512 | 8.20 Ohm |
| 46 | 1 | R27 | | | | 47R0 1/16W 5% 0603 (1608 Metric) SMD | 47.0 Ohm | 0603 | 47.0 Ohm |
| 47 | 1 | U1 | | | | IC WIRELESS PWR RVVR 20QFN | bq51051B | | |
| 48 | 1 | U2 | Texas Instruments | TPS61202DRCR | | Boost Voltage Converter with 0.3 to 5.5V Input and 5 V Output, -40 to 85 degC 10-Pin SON (DRC), Green (RoHS & IEC62368-1) | TPS61202DRCR | | |
| 49 | 1 | U3 | | | | IC REG LOO 3.3V 0.15A SOT23-5 | MICS225-3.3YM5 | | |
| 50 | 1 | U4 | Nordic Semiconductor | nRF51x22-QFAC | | Multi-protocol Bluetooth Low Energy, ANT and 2.4GHz proprietary system-on-chip | nRF51x22-QFAC | | |
| 51 | 1 | U5 | | | | 3D ACCELEROMETER/MAGNETOMETER | LSM303CTR | | |
| 52 | 2 | U6, U8 | ISSI | IS131FL3236-TQLS2 | | IC BOOSTER IC with 3 to 18V Input and 3 to 38V Output, -40 to 85 degC, 6-Pin SON (DRC), Green (RoHS & no StB#) | IS131FL3236-TQLS2 | | |
| 53 | 1 | U7 | Texas Instruments | TPS61170DRV | | Boost Voltage Controller with 3 to 18V Input and 3 to 38V Output, -40 to 85 degC, 6-Pin SON (DRC), Green (RoHS & no StB#) | TPS61170DRV | | |
| 54 | 1 | U9 | | | | One-channel Touch Sensor IC with Reset Timer, -40°C to +85°C, 8-Pin TQFP | A742QT1010-TSHR | | |
| 55 | 1 | X1 | | | | IC VIBRATION SENSORS | IC-VIBRATOR | | |
| 56 | 1 | X2 | Epson Toyocom | FC-135 32.768kHz ±20PPM 9.0PF | | EPSON TOYOCOM - FC-135 32.768kHz ±20PPM 9.0PF | 32.768kHz | 32.768kHz | |
| | | | | | | CRYSTAL, SM. WATCH | z | | |





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