

Project **thymio2-main.PrjPCB**

Part **Thymio2
PCB principal**

File : **thymio2-main.SchDoc**

Date:
24.09.2019
17:00:08

Revision: **2.3**

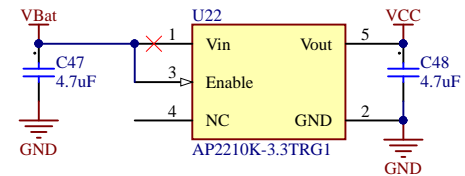
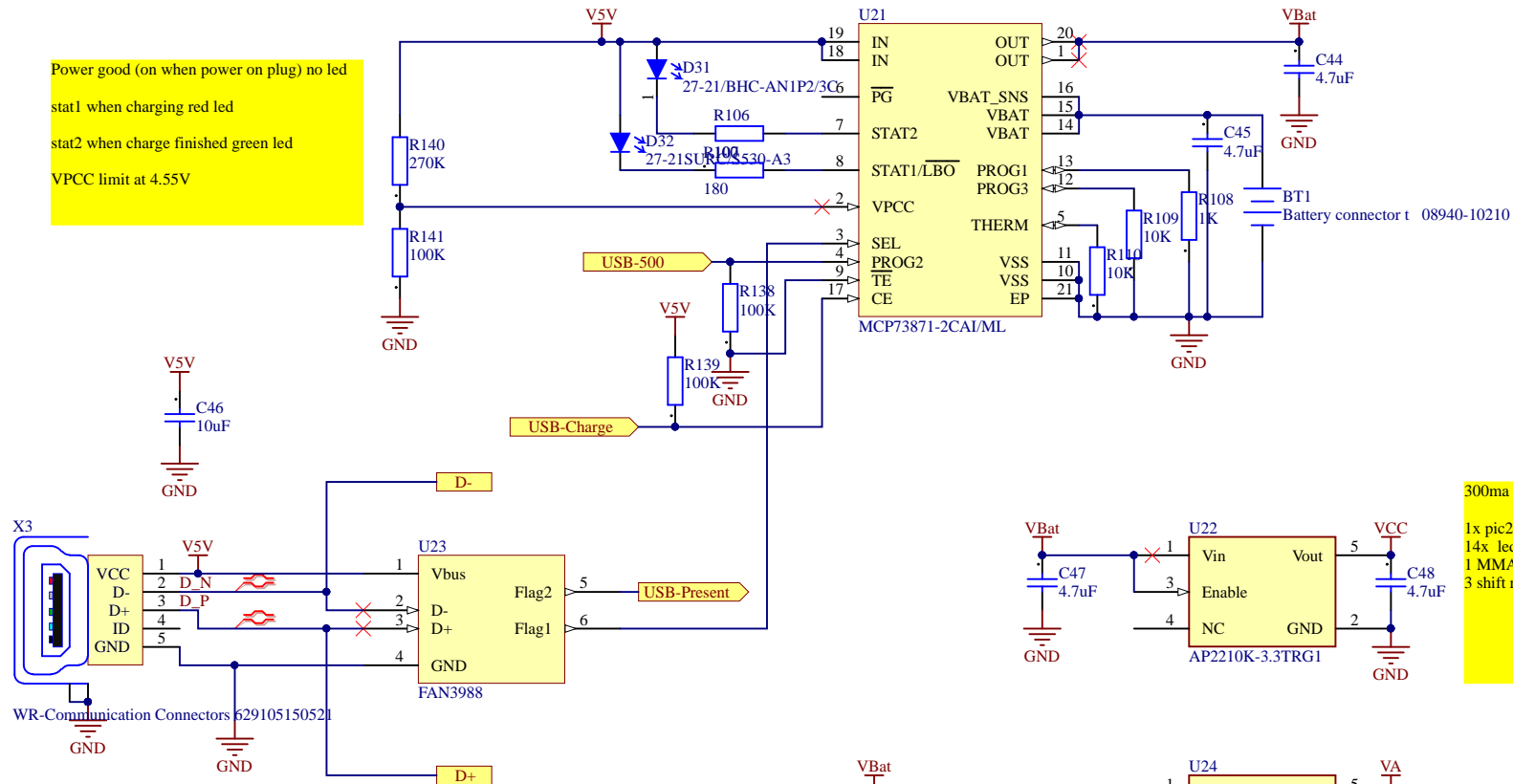
Page 1 de 9

Association Mobsya
Michael Bonani
Ch. Closel 3
CH-1020 Renens

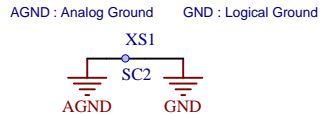
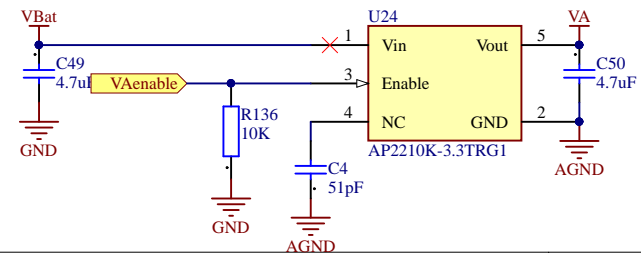
Original design LSRO

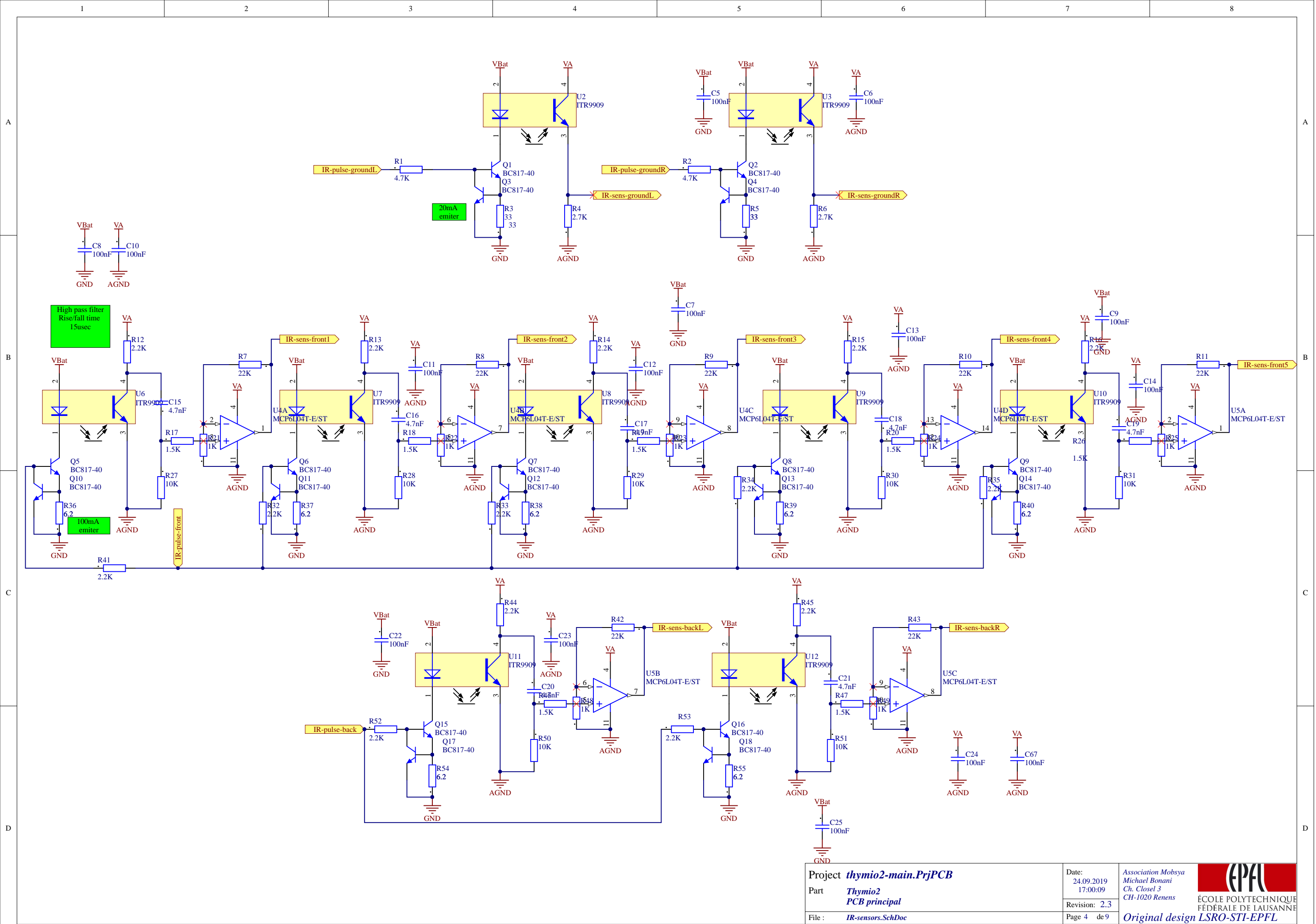


Power good (on when power on plug) no led
stat1 when charging red led
stat2 when charge finished green led
VPCC limit at 4.55V



300ma max
1x pic24F = 24 mA
14x led 16mA = 224mA
1 MMA7660 = 47uA
3 shift register 160uA = 0.48mA





Project **thymio2-main.PrjPCB**

Part **Thymio2
PCB principal**

File : **IR-sensors.SchDoc**

Date:
24.09.2019
17:00:09

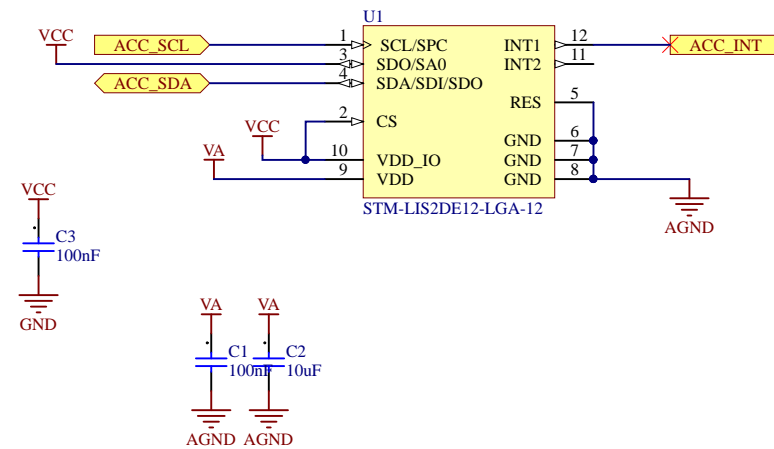
Revision: **2.3**

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Original design **LSRO-STI-EPFL**





Project **thymio2-main.PrjPCB**

Part **Thymio2
PCB principal**

File : **accelerometer.SchDoc**

Date:
24.09.2019
17:00:09

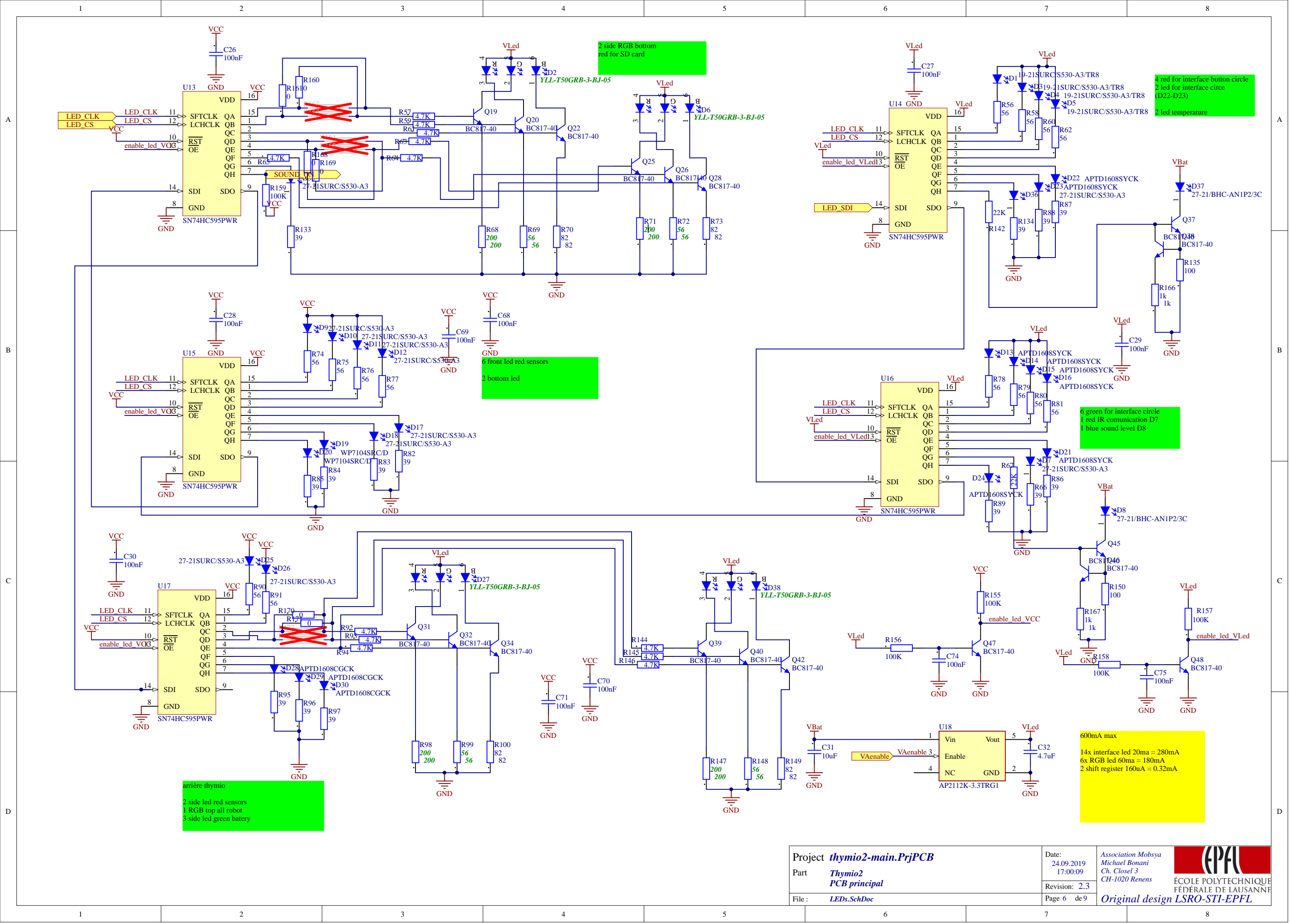
Revision: **2.3**

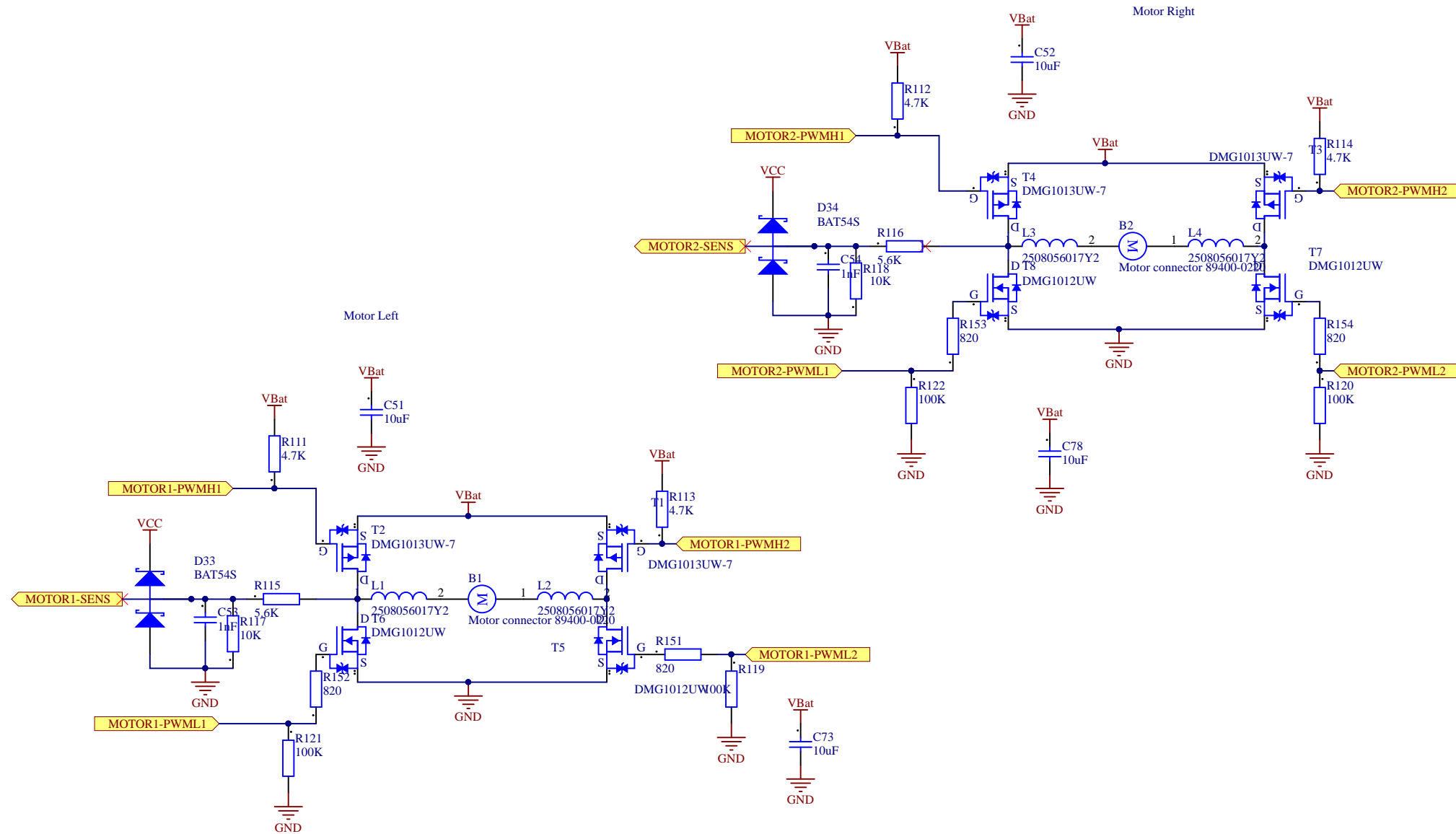
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Original design LSRO



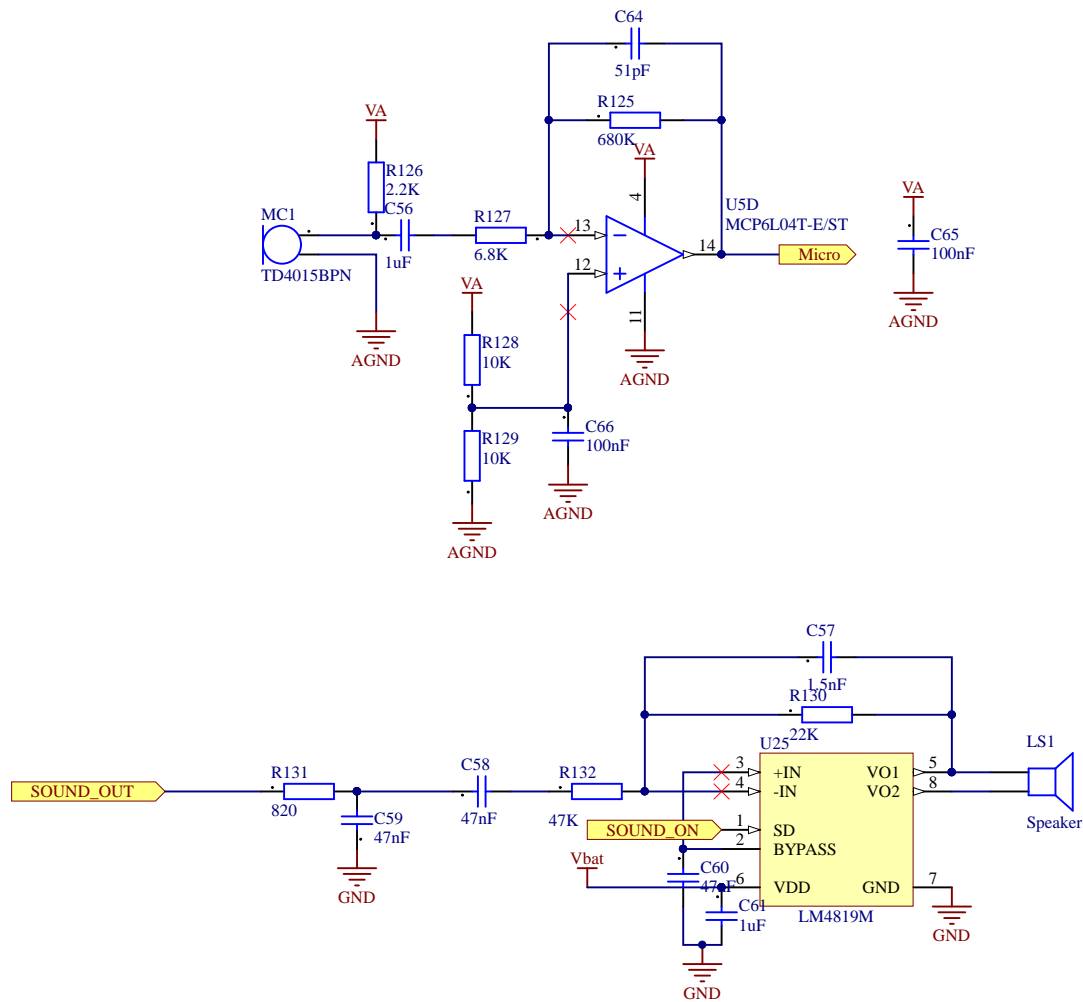


Project **thymio2-main.PrjPCB**Part **Thymio2
PCB principal**File : **motor.SchDoc**Date:
24.09.2019
17:00:10Revision: **2.3**

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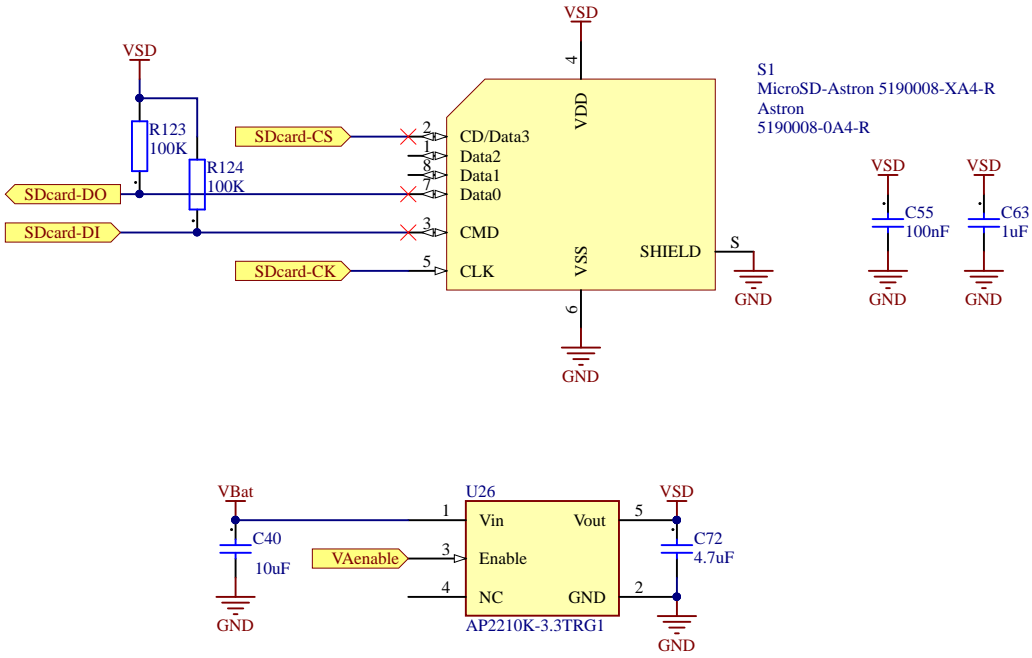
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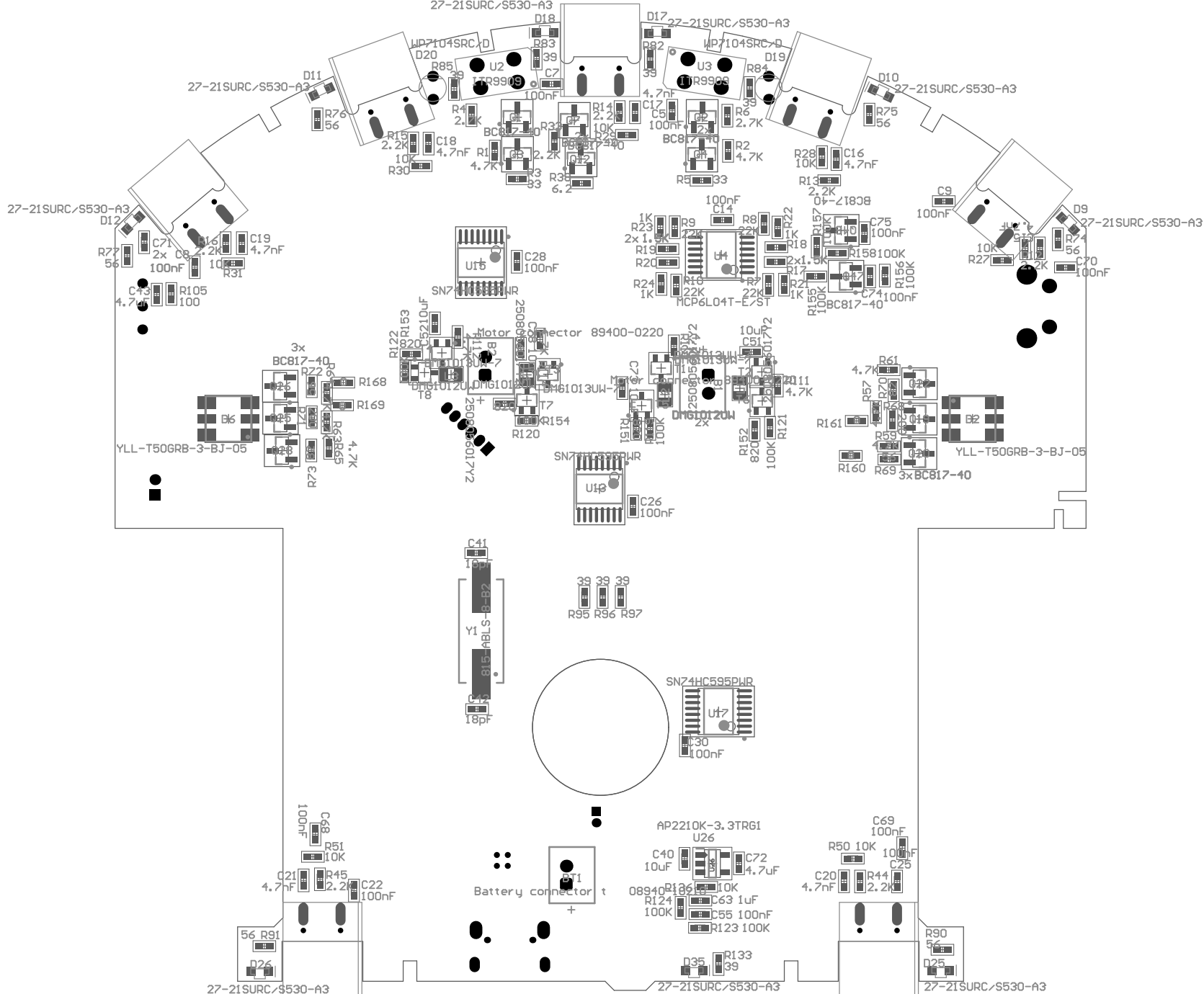
Project **thymio2-main.PrjPCB**Part **Thymio2
PCB principal**File : **sound.SchDoc**Date:
24.09.2019
17:00:10Revision: **2.3**

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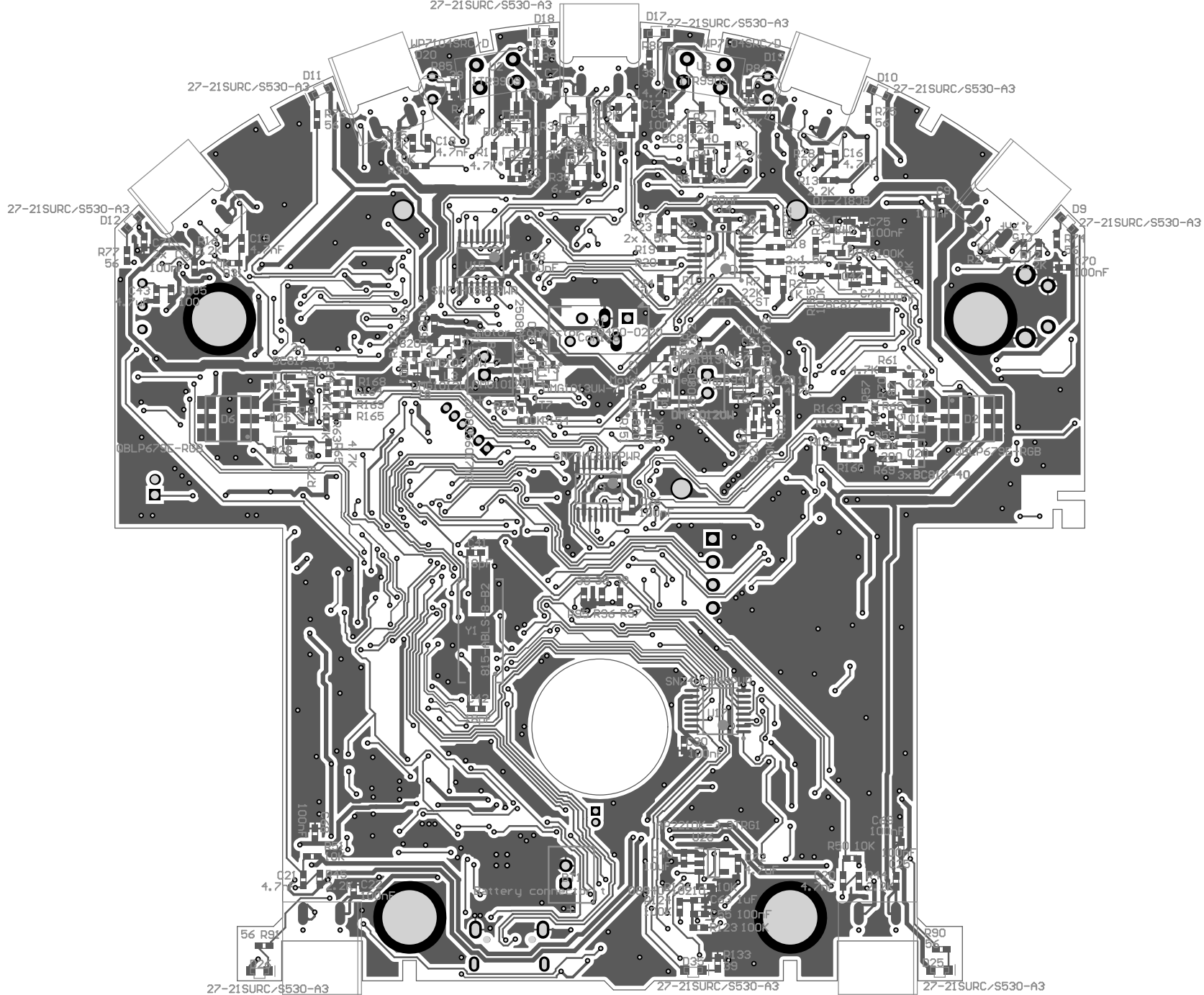
Association Mobsya
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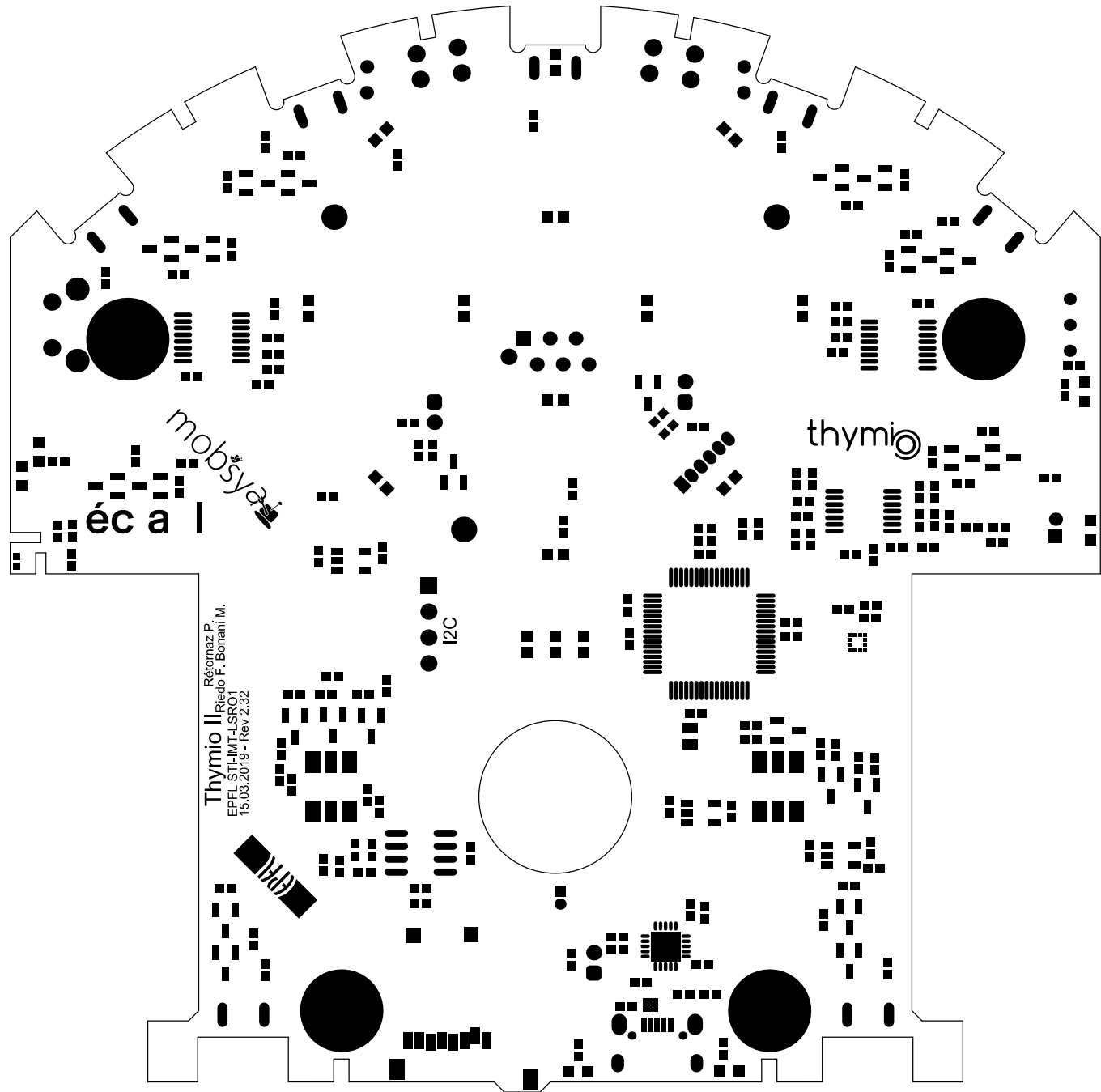
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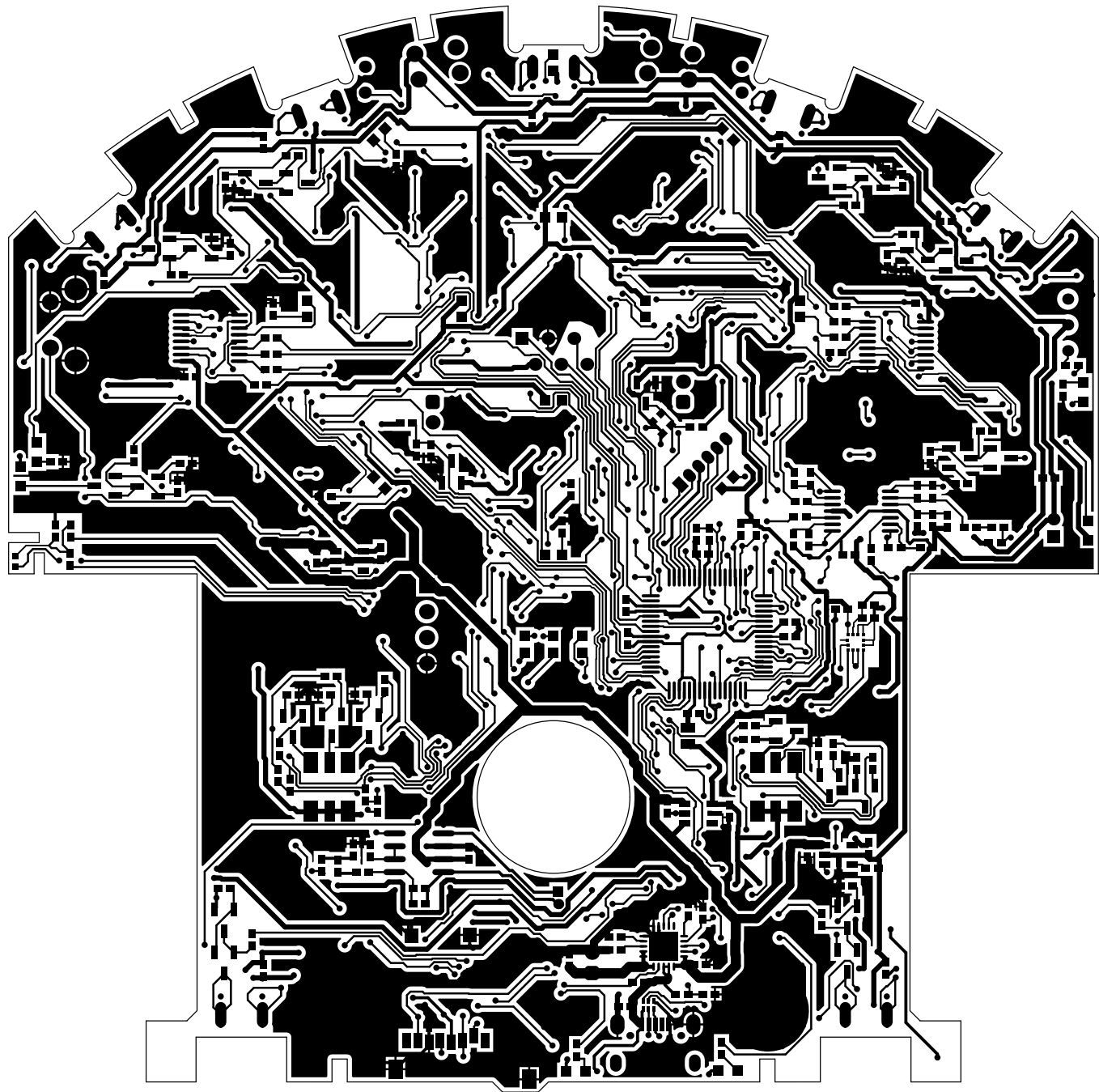


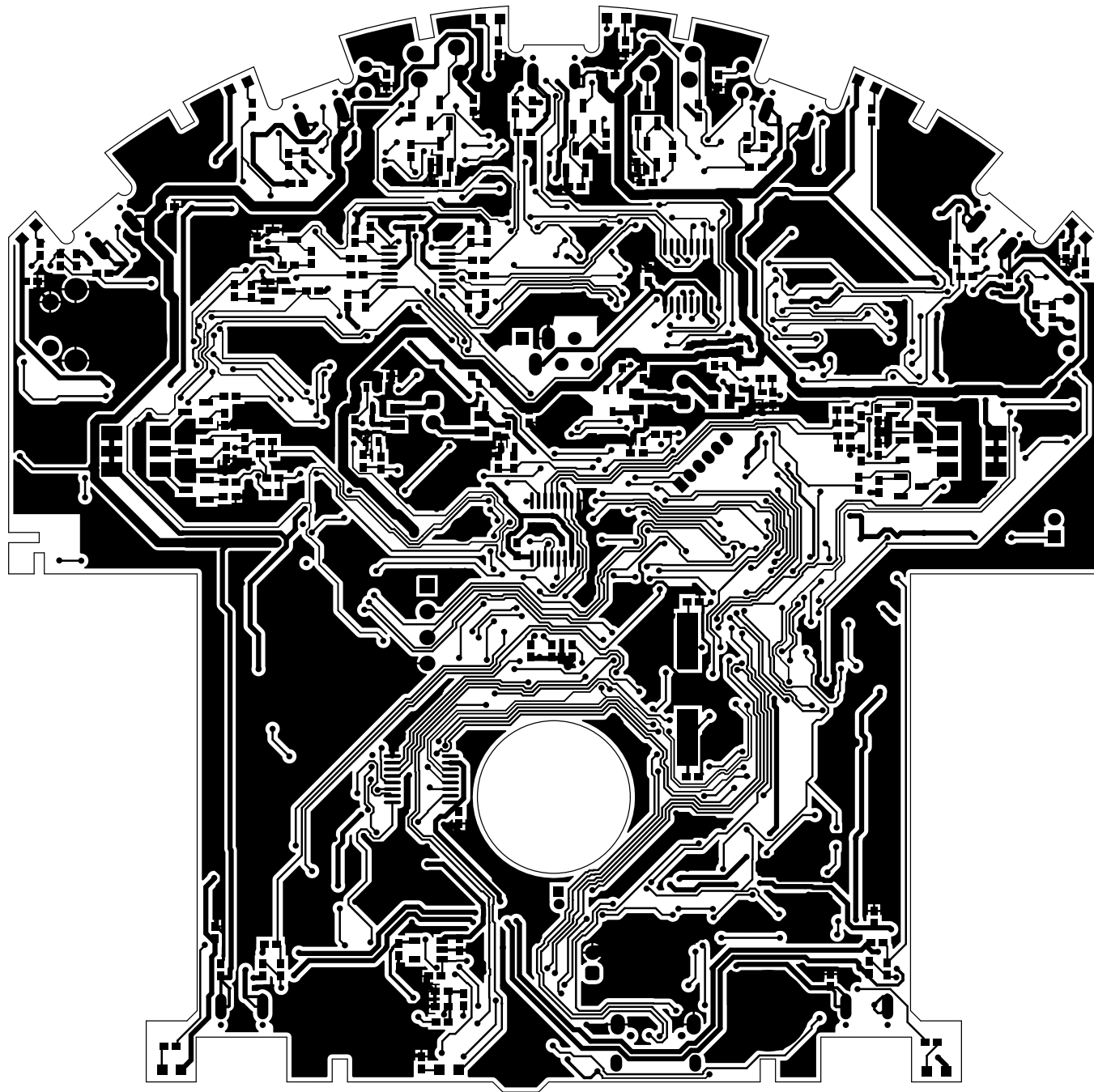


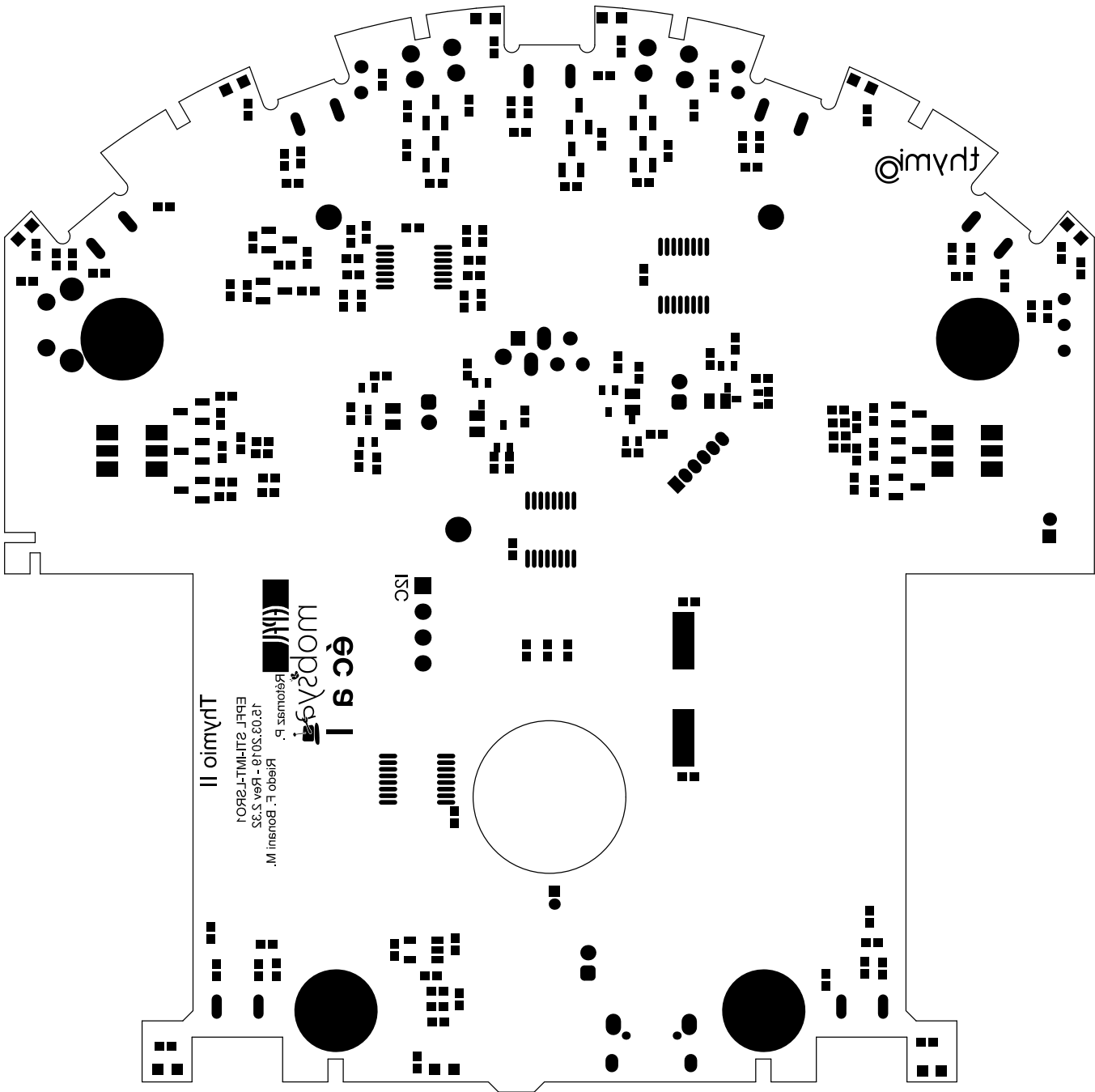




Thymio II Régnier P.
EPFL STI-IMT-LSRO1
15.03.2019 - Rev 2.32







Region 5

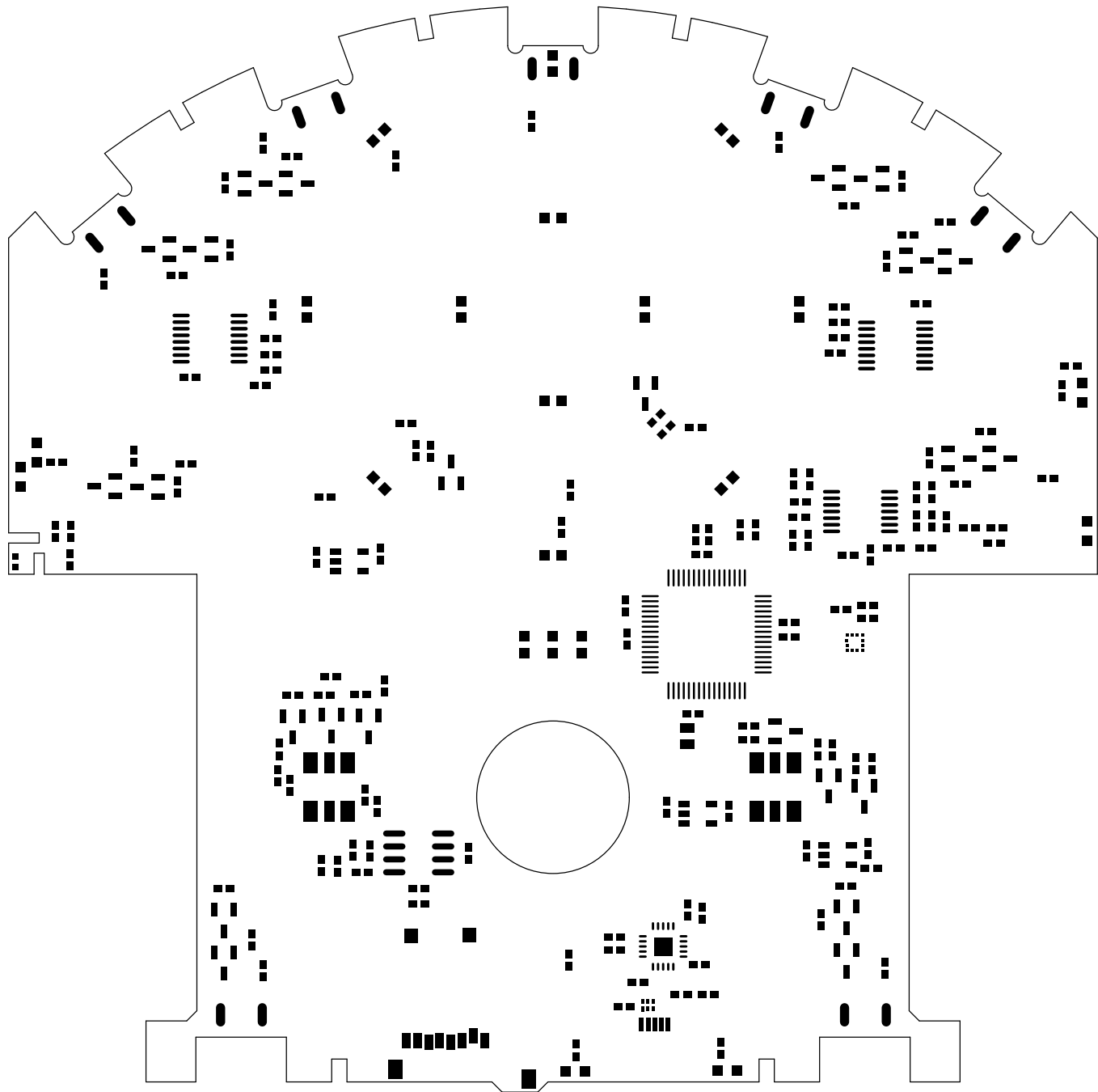
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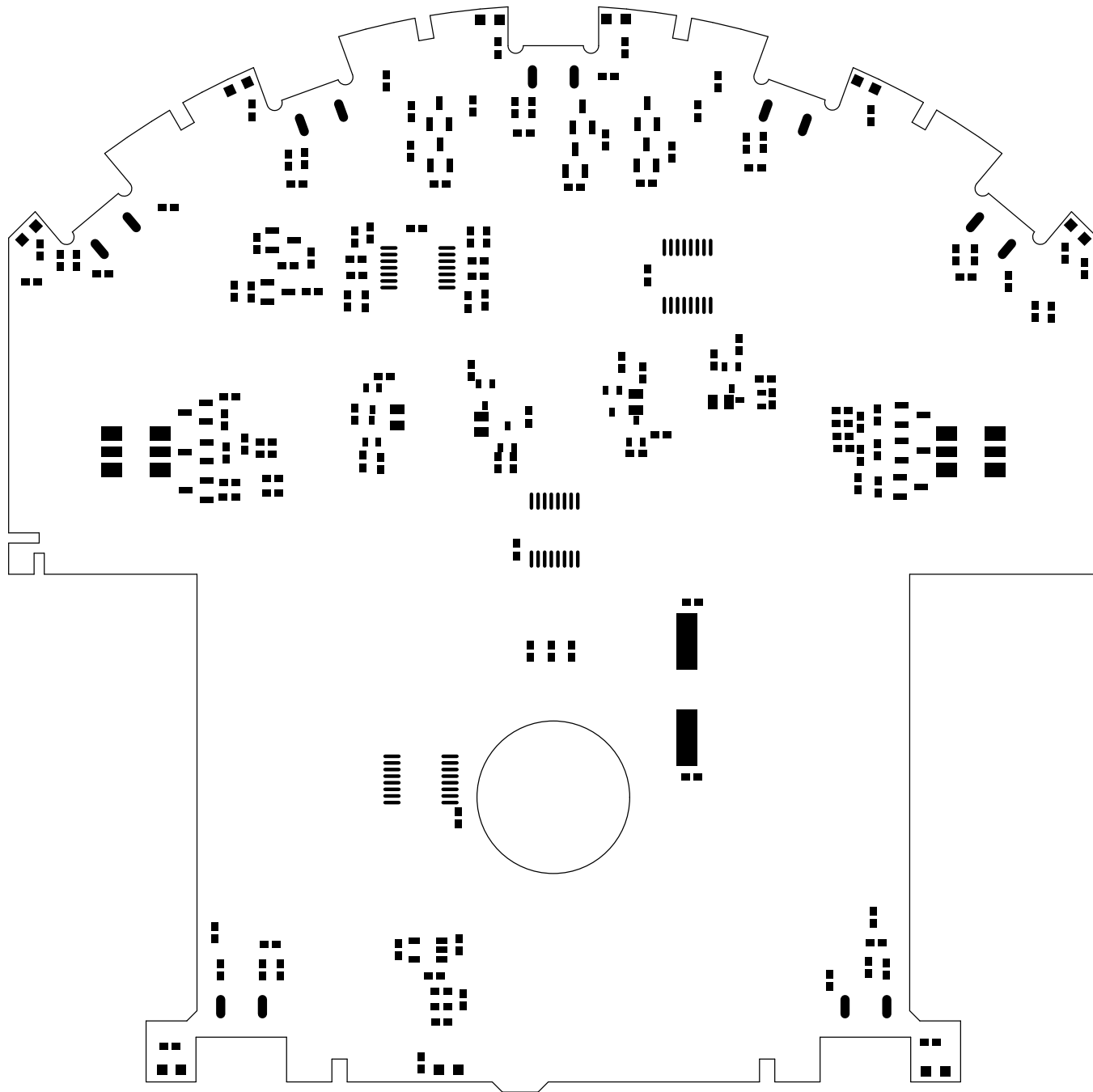
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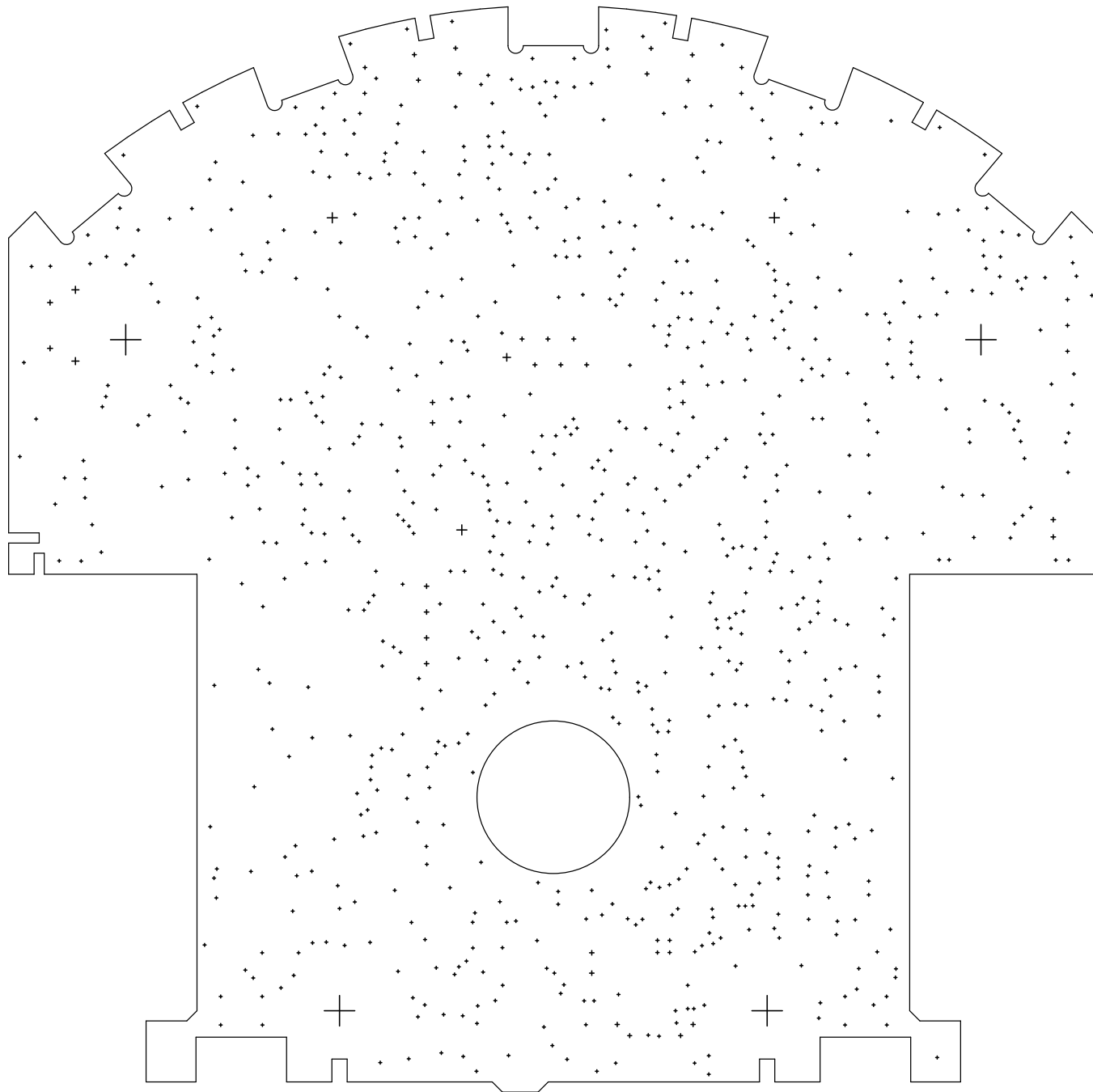
Thymus II

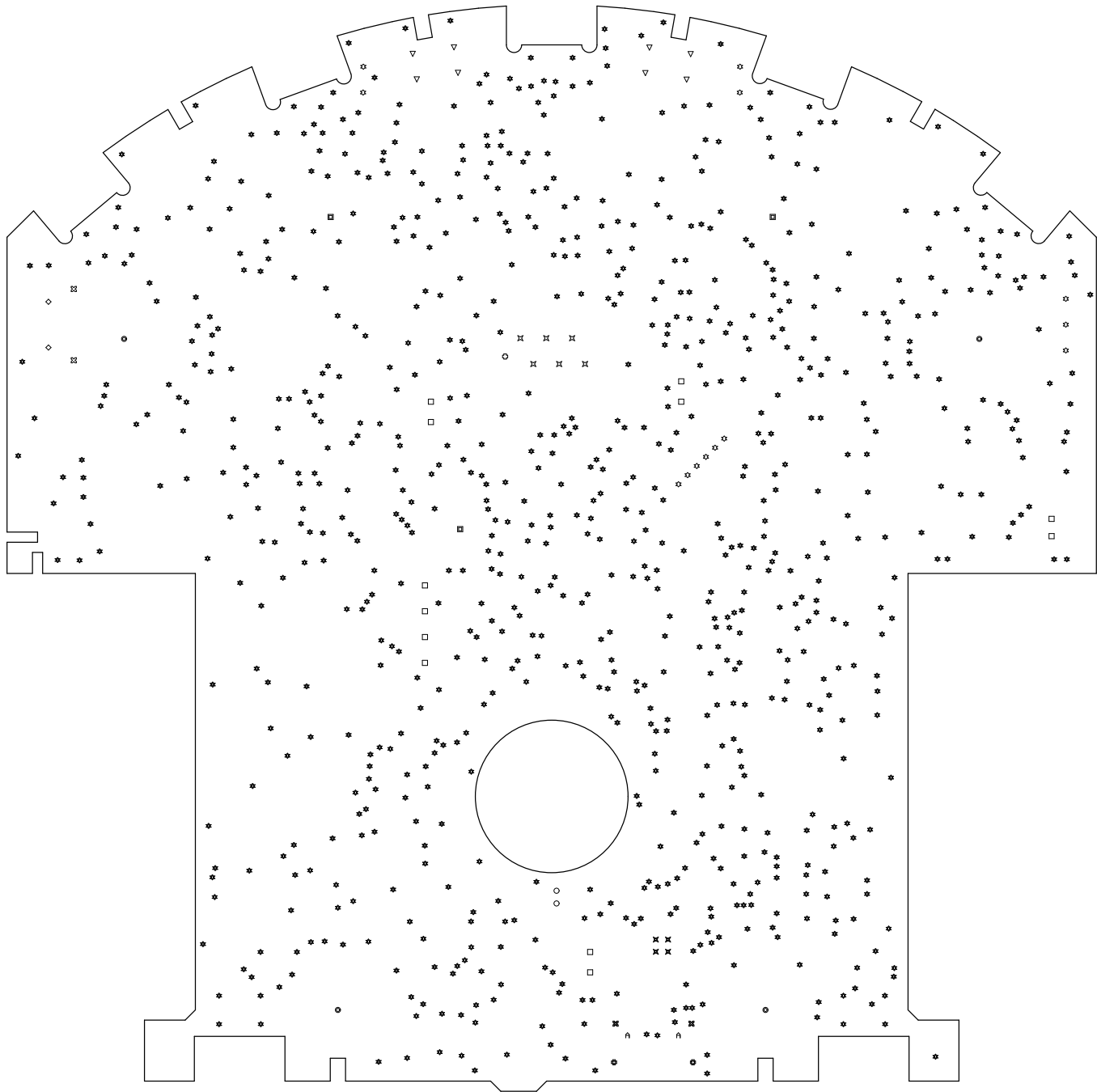
12.03.2018 - Rev. 3.35
EPRF 21/11/17-2RO1

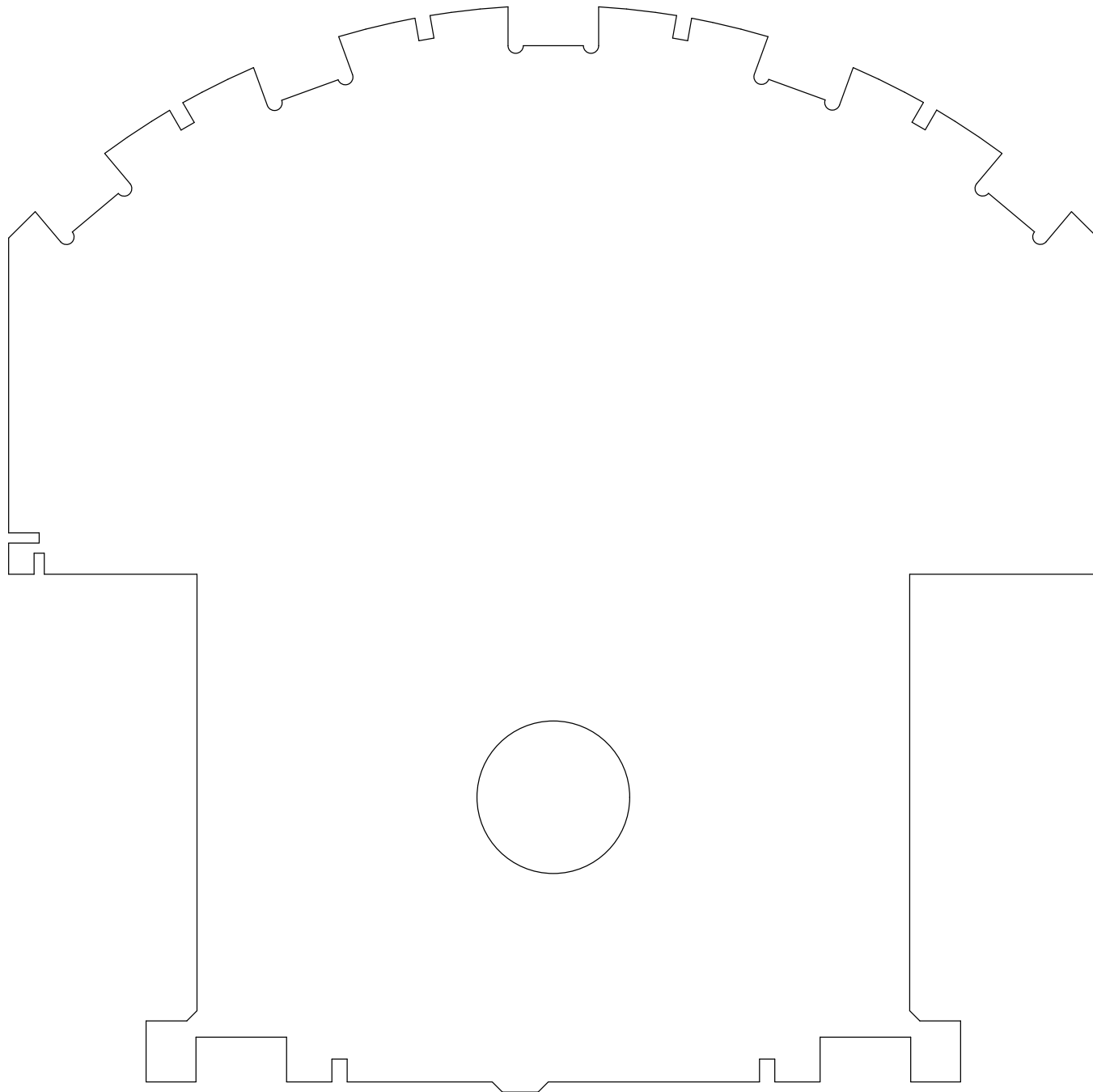
Ricco L. Pousui M.

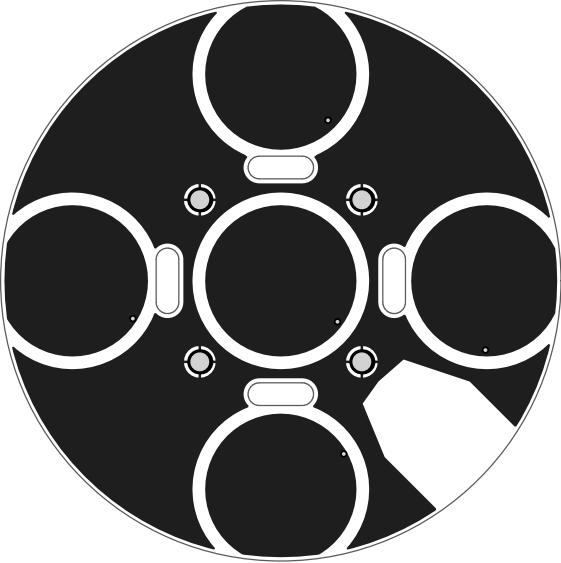


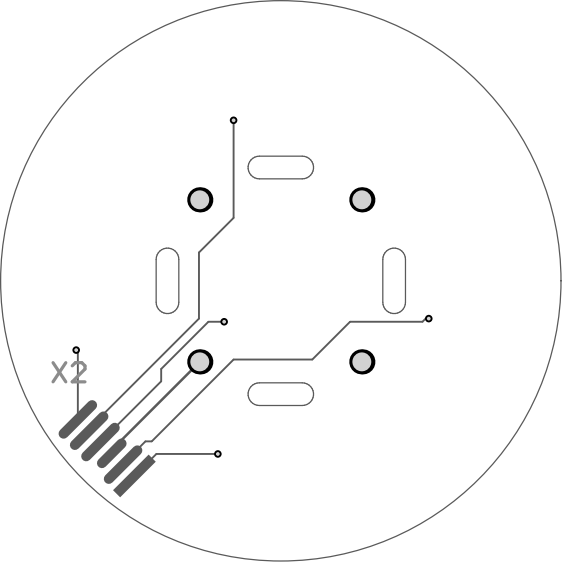


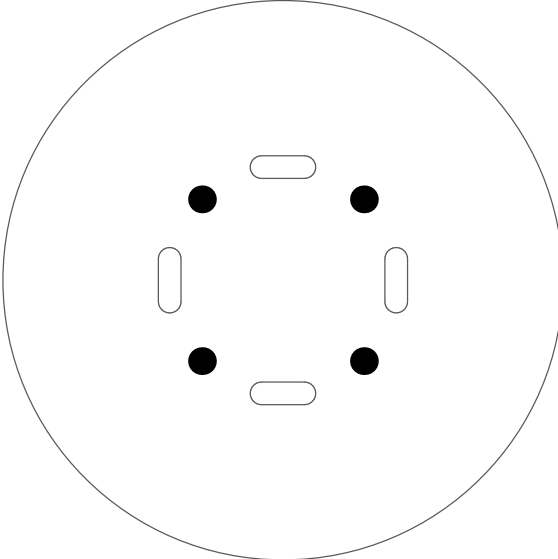


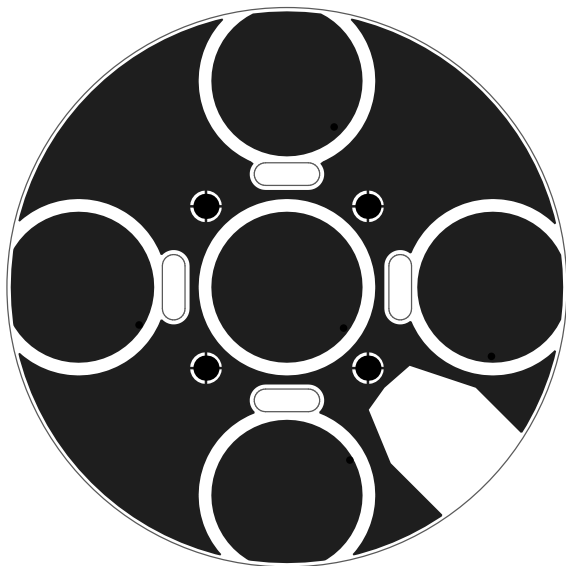


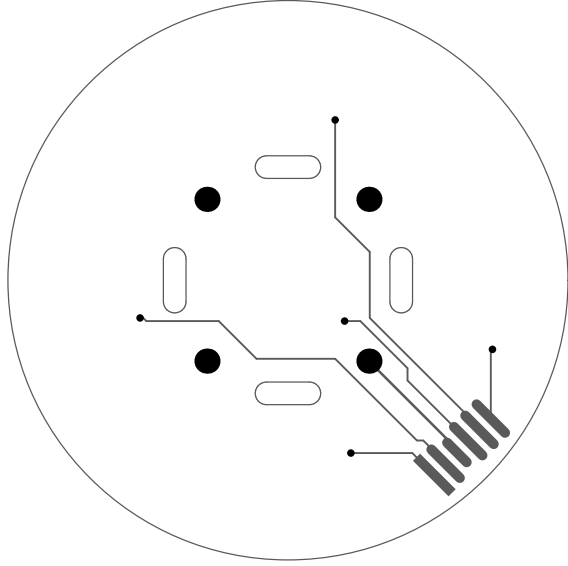


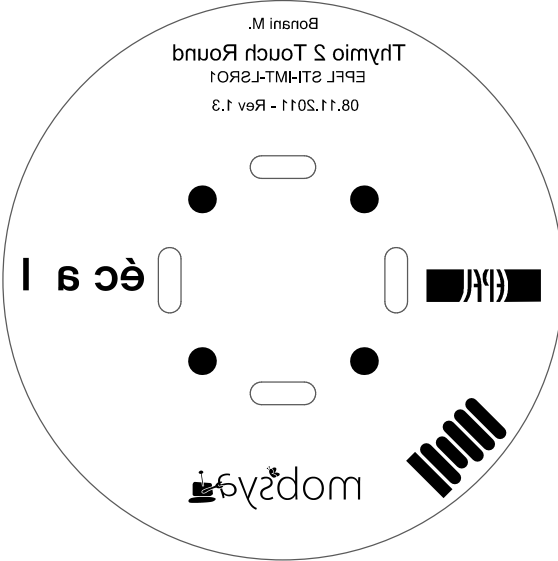


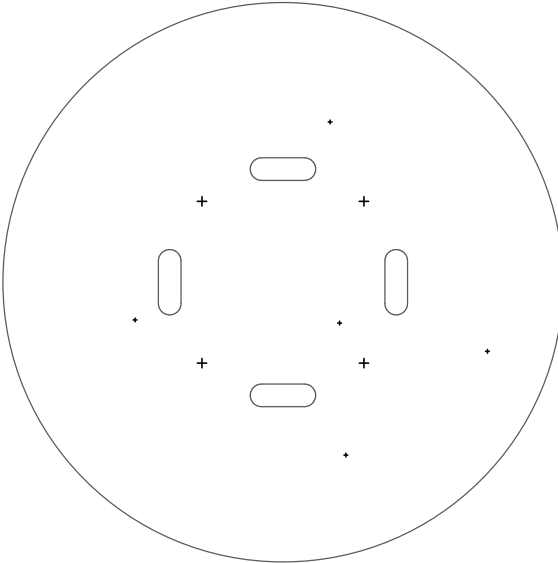


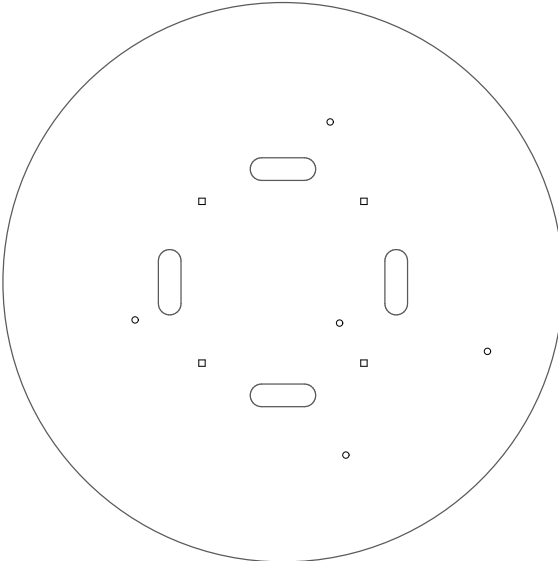


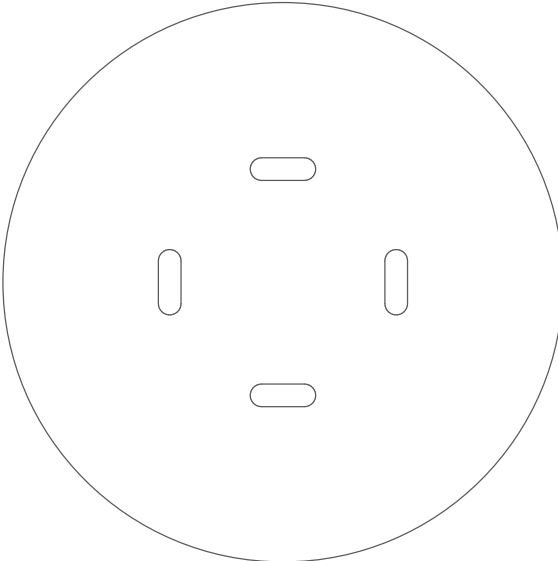




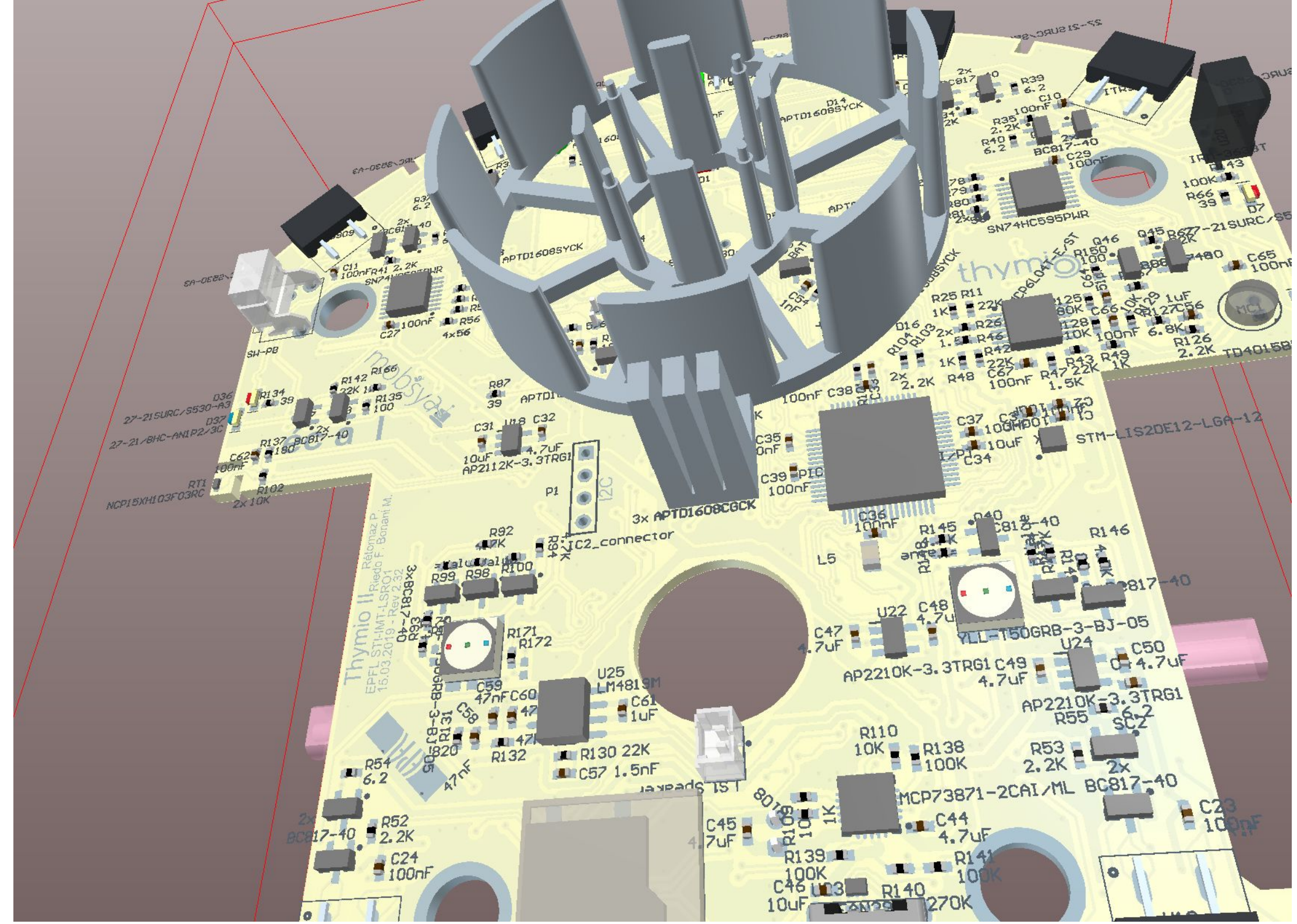












Quantity	Comment	Designator	Description	Footprint
2	Motor connector 89400-02	B1, B2	Motor, General Kind	BAT-2
1	Battery connector 1 08940	BT1	Multicell Battery	BAT-2
38	100nF	C1, C3, C5, C6, C7, C8, C9, C10, C11,	Capacitor	CAPC1005X06N
8	10uF	C2, C31, C40, C46, C51, C52, C73, C7	Capacitor	CAPC1005X06N
2	51pF	C4, C64	Capacitor	CAPC1005X06N
7	4.7nF	C15, C16, C17, C18, C19, C20, C21	Capacitor	CAPC1005X06N
9	4.7uF	C32, C43, C44, C45, C47, C48, C49, C	Capacitor	CAPC1005X06N
1	10uF X5R	C34	Capacitor	CAPC1005X06N
2	18pF	C41, C42	Capacitor	CAPC1005X06N
2	1nF	C53, C54	Capacitor	CAPC1005X06N
3	1uF	C56, C61, C63	Capacitor	CAPC1005X06N
1	1.5nF	C57	Capacitor	CAPC1005X06N
3	47nF	C58, C59, C60	Capacitor	CAPC1005X06N
4	19-21SURC/S530-A3/TR8	D1, D3, D4, D5	SMD Red 0603 2V@20ma 56 mcd	DIOC1608X06N
4	YLL-T50GRB-3-BJ-05	D2, D6, D27, D38	LED TH_3MM_20MM	QBLP679E-RGB
12	27-21SURC/S530-A3	D7, D9, D10, D11, D12, D17, D18, D2	SMD Red led right angle mount 2V	27-21 EVERLIGHT
3	27-21/BHC-AN1P2/3C	D8, D31, D37	SMD Blue led right angle mount 3.2V	27-21 Everlight Blue
8	APT D1608SYCK	D13, D14, D15, D16, D21, D22, D23,	LED standard - CMS Helios SMD Y	DIOC1608X06N
2	WP7104SRC/D	D19, D20	Red led 2V@20ma 57mcd	LED_TH_3MM_20MM
3	APT D1608CGK	D28, D29, D30	LED standard - CMS Helios SMD G	DIOC1608X06N
2	BAT54S	D33, D34	Schottky Barrier Double Diode	SOT23,N
5	2508056017Y2	L1, L2, L3, L4, L5	SMD EMI Suppression Ferrite Bead	INDC201211XL
1	Speaker	LS1	Loudspeaker	PIN2
1	TD4015BPN	MC1	Omnidirectional Back Electret Con	MICRO_TD4015BPN
36	BC817-40	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9,	NPN General-purpose Transistor	SOT23,N
18	4.7K	R1, R2, R57, R59, R61, R63, R64, R65	Resistor	RESC1005X04N
2	33	R3, R5	120, Resistor	RESC1005X04N
2	2.7K	R4, R6	Resistor	RESC1005X04N
10	22K	R7, R8, R9, R10, R11, R42, R43, R67,	120, Resistor	RESC1005X04N
17	2.2K	R12, R13, R14, R15, R16, R32, R33, R	120, Resistor	RESC1005X04N
7	1.5K	R17, R18, R19, R20, R26, R46, R47	120	RESC1005X04N
10	1K	R21, R22, R23, R24, R25, R48, R49, R	120, Resistor	RESC1005X04N
16	10K	R27, R28, R29, R30, R31, R50, R51, R	120, Resistor	RESC1005X04N
7	6.2	R36, R37, R38, R39, R40, R54, R55	120	RESC1005X04N
18	56	R56, R58, R60, R62, R69, R72, R74, R	Resistor, 56	RESC1005X04N
14	39	R66, R82, R83, R84, R85, R86, R87, R	Resistor	RESC1005X04N
4	200	R68, R71, R98, R147	200	RESC1005X04N
4	82	R70, R73, R100, R149	82	RESC1005X04N
4	100	R105, R106, R135, R150	Resistance, Resistor	RESC1005X04N
2	180	R107, R137	Resistor	RESC1005X04N
2	5.6K	R115, R116	Resistor	RESC1005X04N
15	100K	R119, R120, R121, R122, R123, R124,	Resistor	RESC1005X04N
1	680K	R125	Resistor	RESC1005X04N
1	6.8K	R127	Resistor	RESC1005X04N
5	820	R131, R151, R152, R153, R154	Resistor	RESC1005X04N
1	47K	R132	Resistor	RESC1005X04N
1	270K	R140	Resistor	RESC1005X04N
6	0	R160, R161, R168, R169, R170, R171	Resistor	RESC1005X04N
1	NCP15XH103F03RC	RT1	Thermistors - NTC 10K OHM 1% 0	RESC1005X04L
1	MicroSD-Astron 5190008-X	S1	MicroSD Card connector 5190008	Astron 5190008-XA4-R
1	SW-PB	S2	Switch	FSMRA2JH
4	DMG1013UJW-7	T1, T2, T3, T4	Transistor MOSFET 1 x P Pining :	SOT65P210X100-3N
4	DMG1012UJW	T5, T6, T7, T8	Transistor MOSFET 1 x N, Pining :	SOT65P210X100-3N
1	STM-LIS2DE12-LGA-12	U1	STM-LGA-12	STM-LGA-12
2	1TR9909	U2, U3	Everlight Opto Interrupter	1TR9909_LONG
2	MCP6L04T-EST	U4, U5	1MHz, 85 uA Quad Op Amp, 14-Pi	TSSOP-ST14,N
7	1TR9909	U6, U7, U8, U9, U10, U11, U12	Everlight Opto Interrupter	1TR9909_EDGE
5	SN74HC595PWR	U13, U14, U15, U16, U17	8-Bit Serial-Input/Serial or Prallel	Q948F-01,N
1	AP2112K-3.3TRG1	U18	300mA, Low Quiescent Current, F	SOT795P285X100-5N
1	PIC24FJ128GB106-I/PT	U19	General Purpose 16-Bit Flash Micro	TOF-P-P164,N
1	IRM-36387	U20	IR Receiver Module (38 kHz) for Re	IR-receiver
1	MCP73871-2C AI/ML	U21	Stand-Alone System Load Sharing	QFN-ML20,N
3	AP2210K-3.3TRG1	U22, U24, U26	300mA, Low Quiescent Current, F	SOT795P285X100-5N
1	FAN3988	U23	USB/Charger and Over Voltage D	MLP_1.45X1MM
1	LM4819M	U25	350mW Audio Power Amplifier with	MM08A,N
1	Con1x6	X2	1 x 6 pins connector	MHDR1X6
1	WR-Communication Conn	X3	WR-COM_USB_Micro Type B_Hor	629105150521
1	B15-ABLS-B-82	Y1	Surface Mount Quartz Crystal 8MHz	HC49/4H_SMX