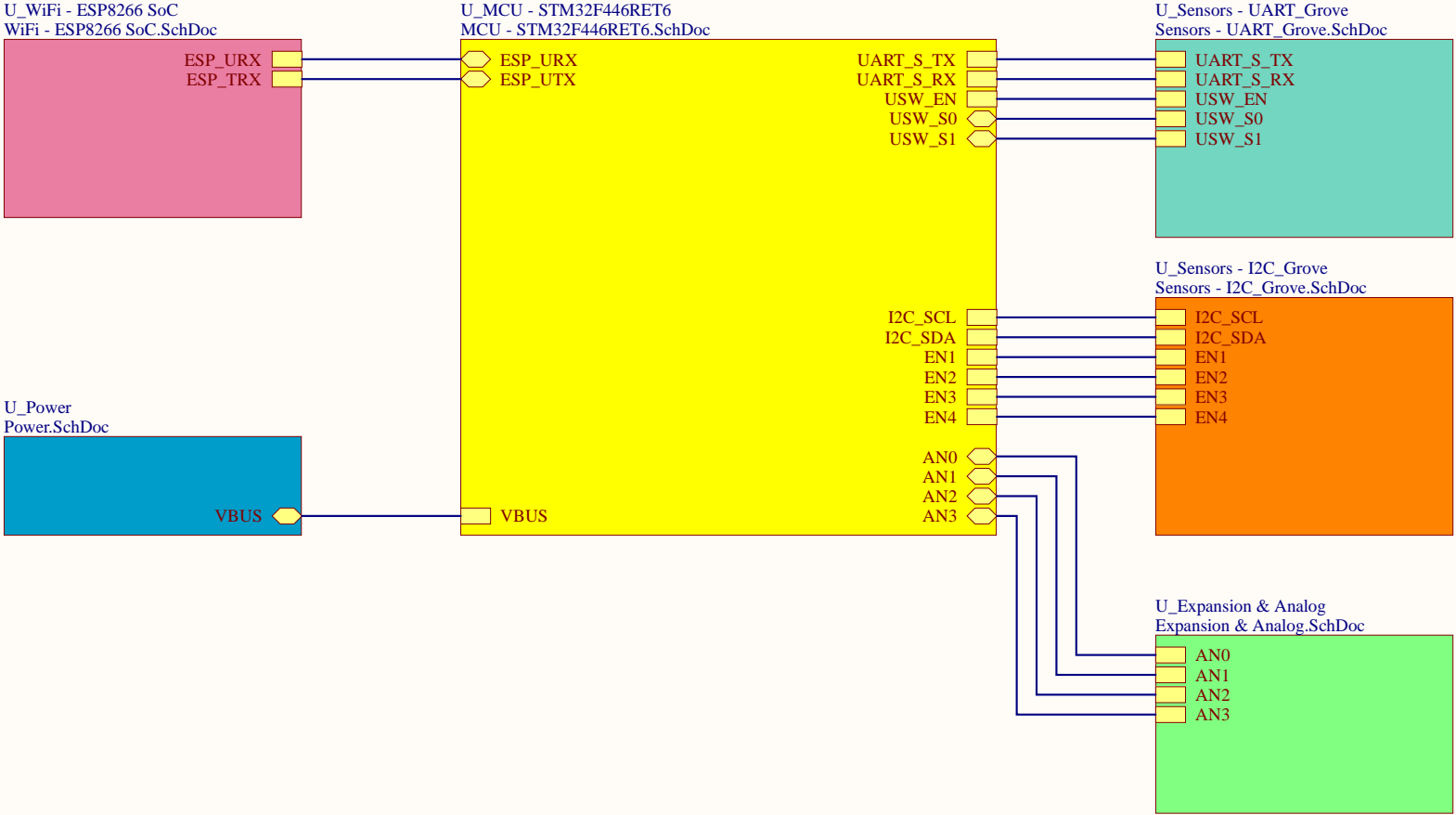
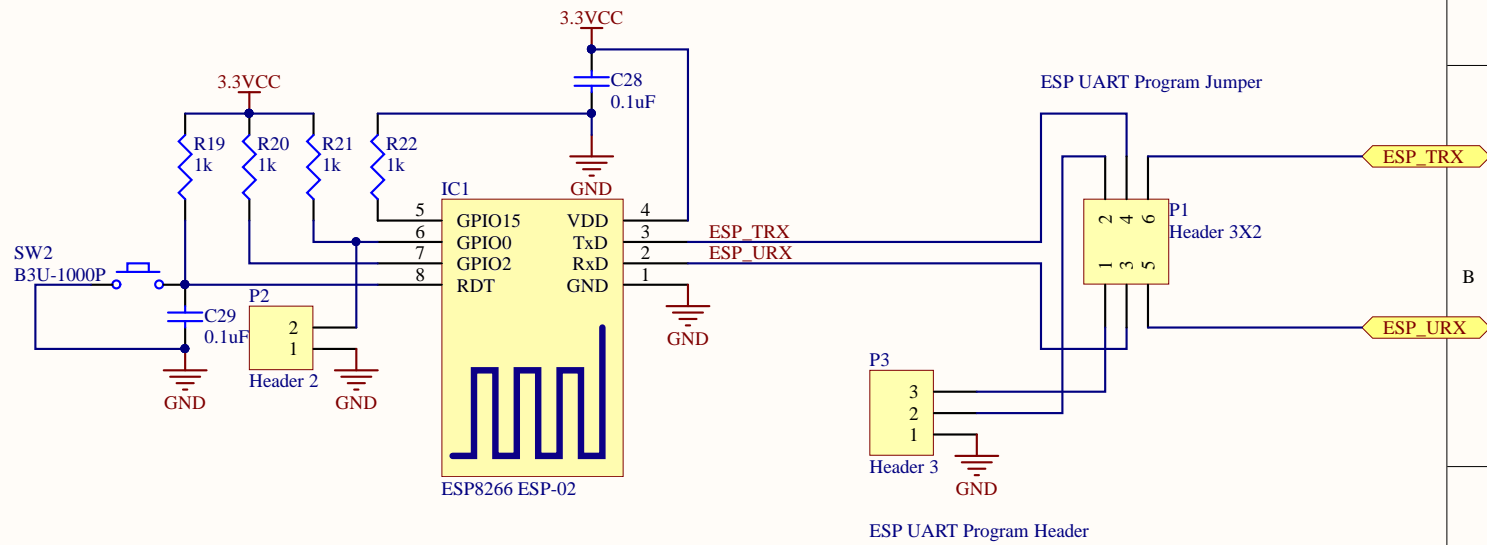


SunLeaf System Overview



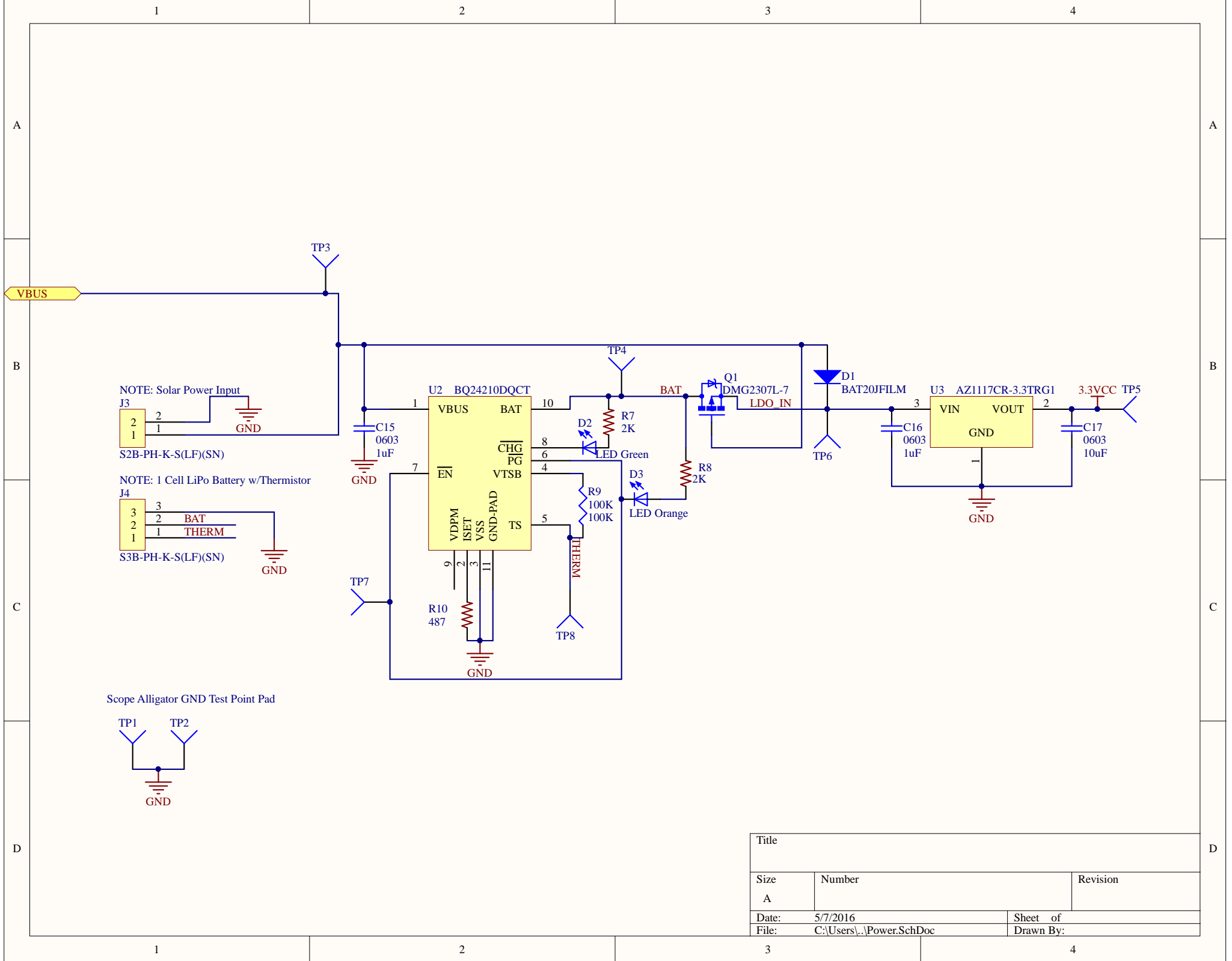
Title		
Size	Number	Revision
A		
Date:	5/7/2016	Sheet of
File:	C:\Users\...\System.SchDoc	Drawn By:



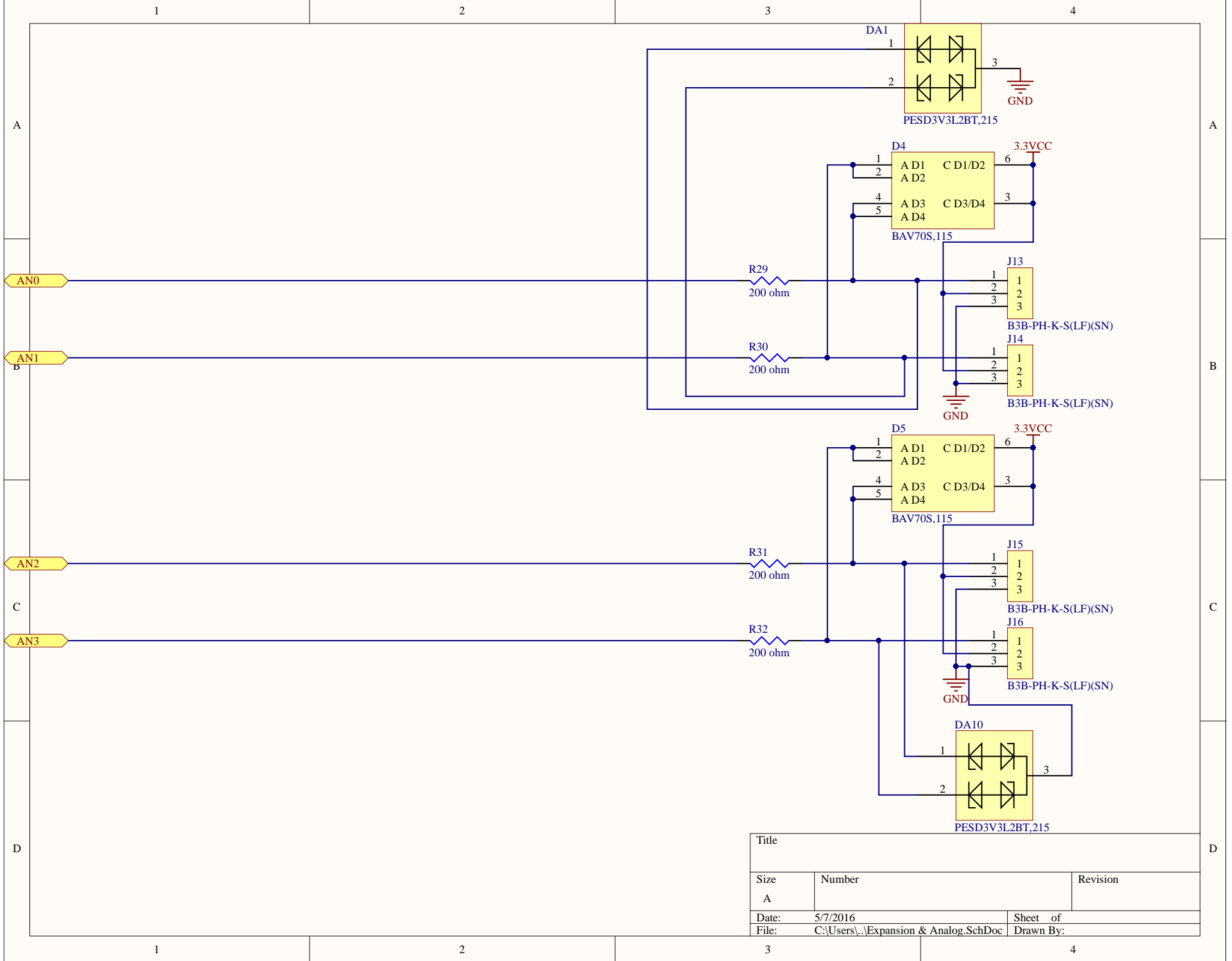
Title		
Size	Number	Revision
A		
Date:	5/7/2016	Sheet of
File:	C:\Users\...\WiFi - ESP8266 SoC.SchDoc	Drawn By:



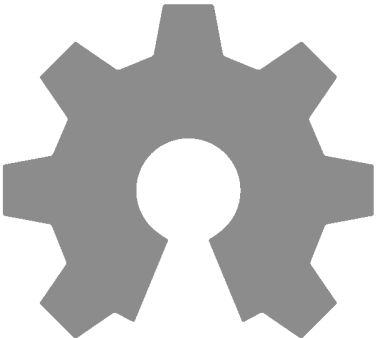
Title		
Size A	Number	Revision
Date:	5/7/2016	Sheet of
File:	C:\Users\...\Sensors - UART Grove.SchDoc	Drawn By:



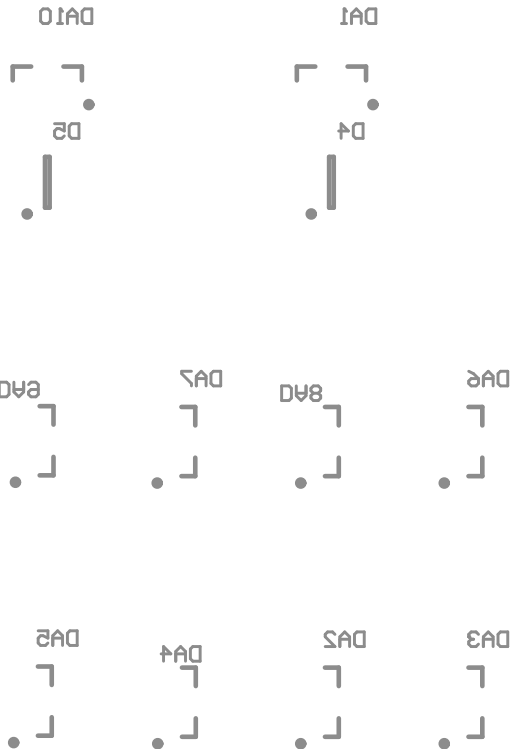
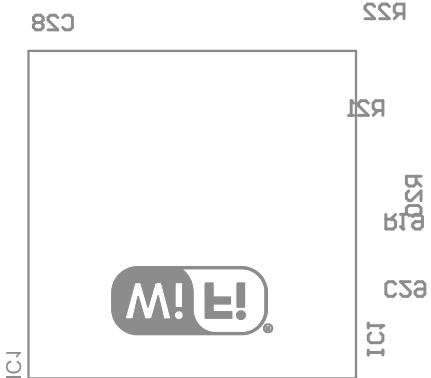
Title		
Size	Number	Revision
A		
Date:	5/7/2016	Sheet of
File:	C:\Users\...\Power.SchDoc	Drawn By:



Title		
Size	Number	Revision
A		
Date:	5/7/2016	Sheet of
File:	C:\Users\...\Expansion & Analog.SchDoc	Drawn By:



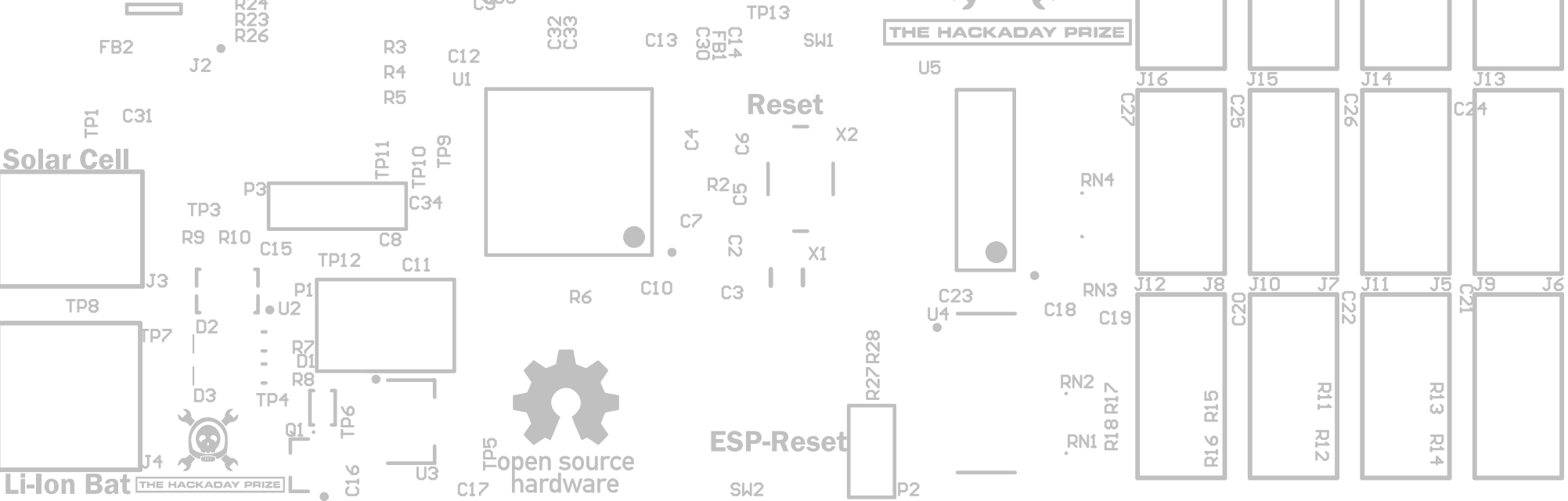
1p5

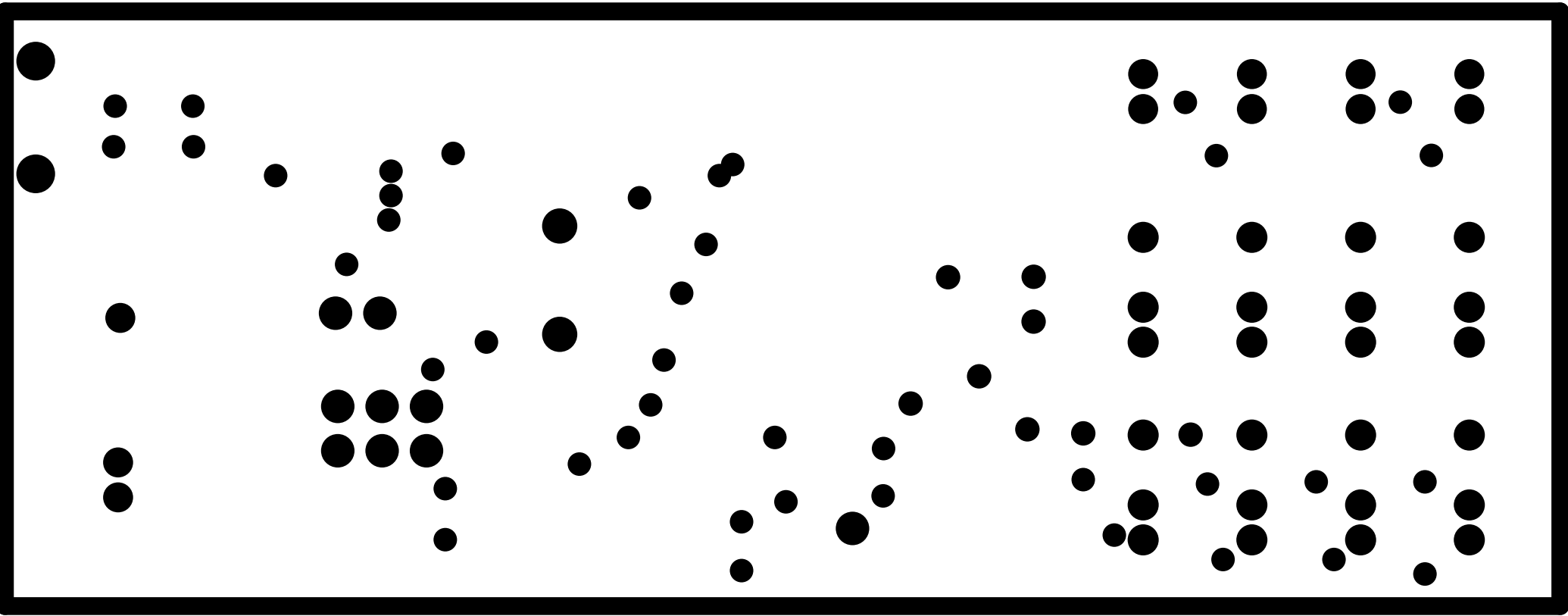


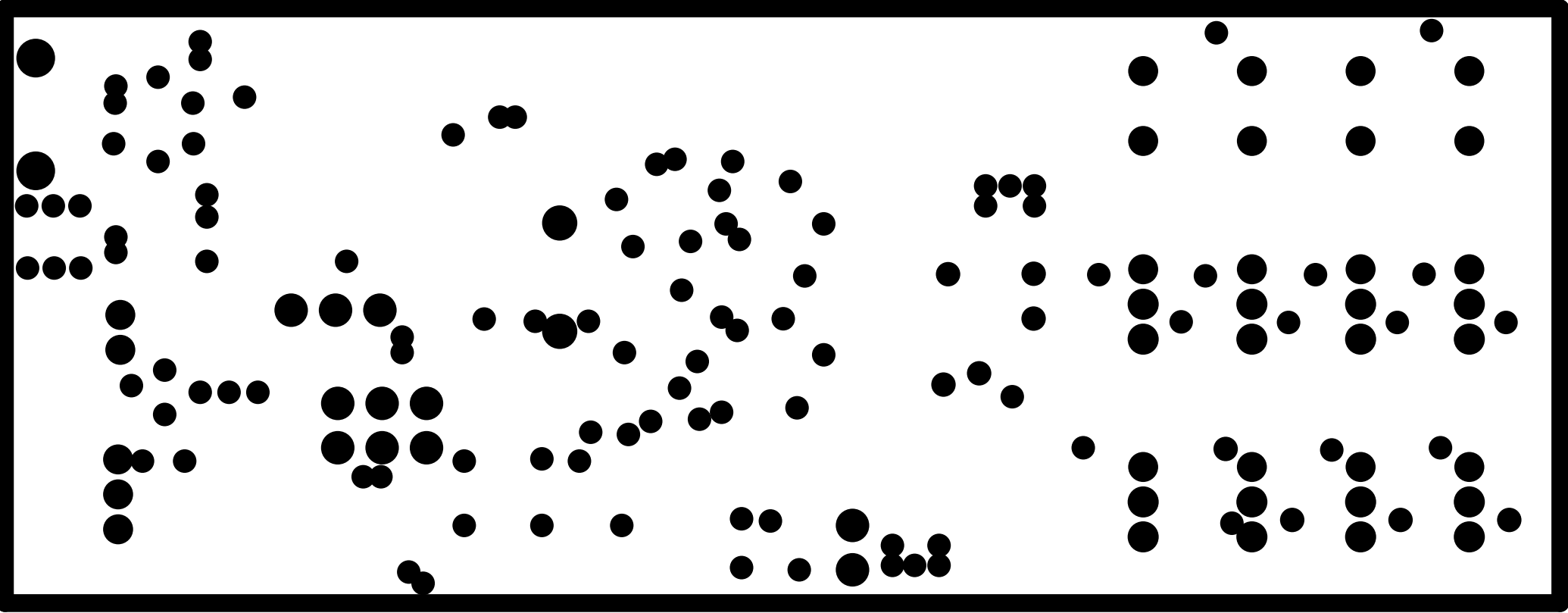
J1

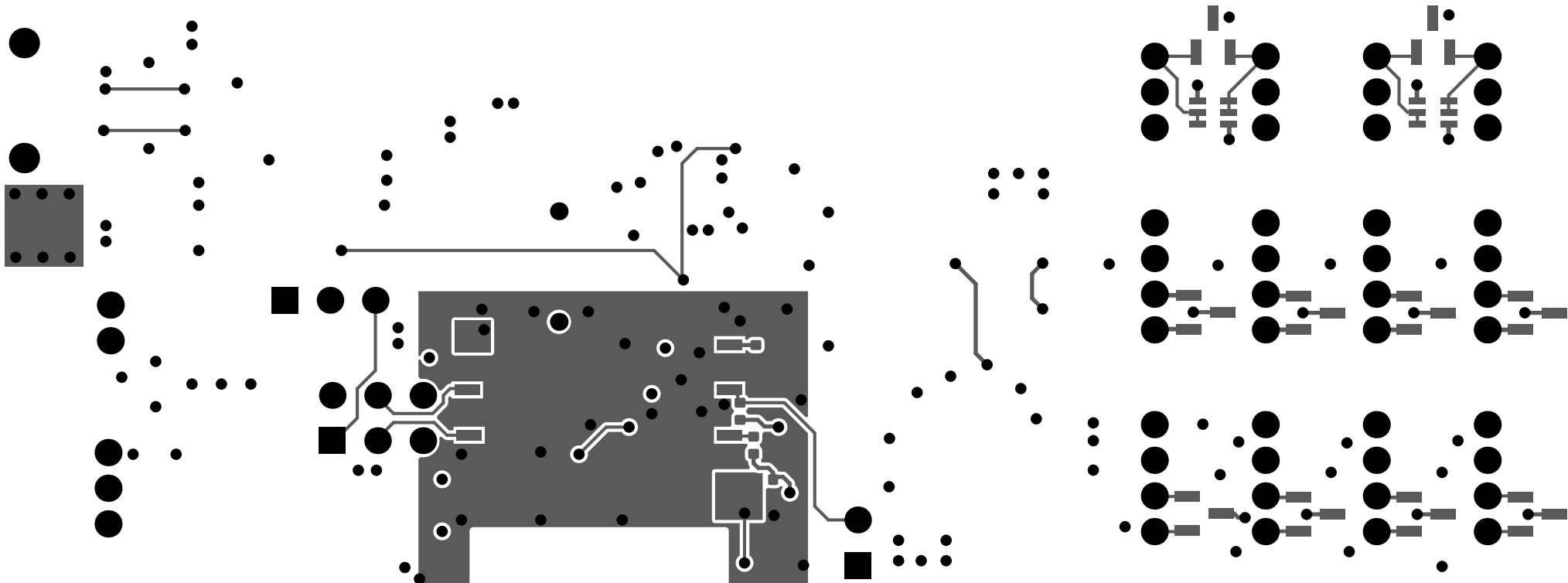
SunLeaf 0.1a

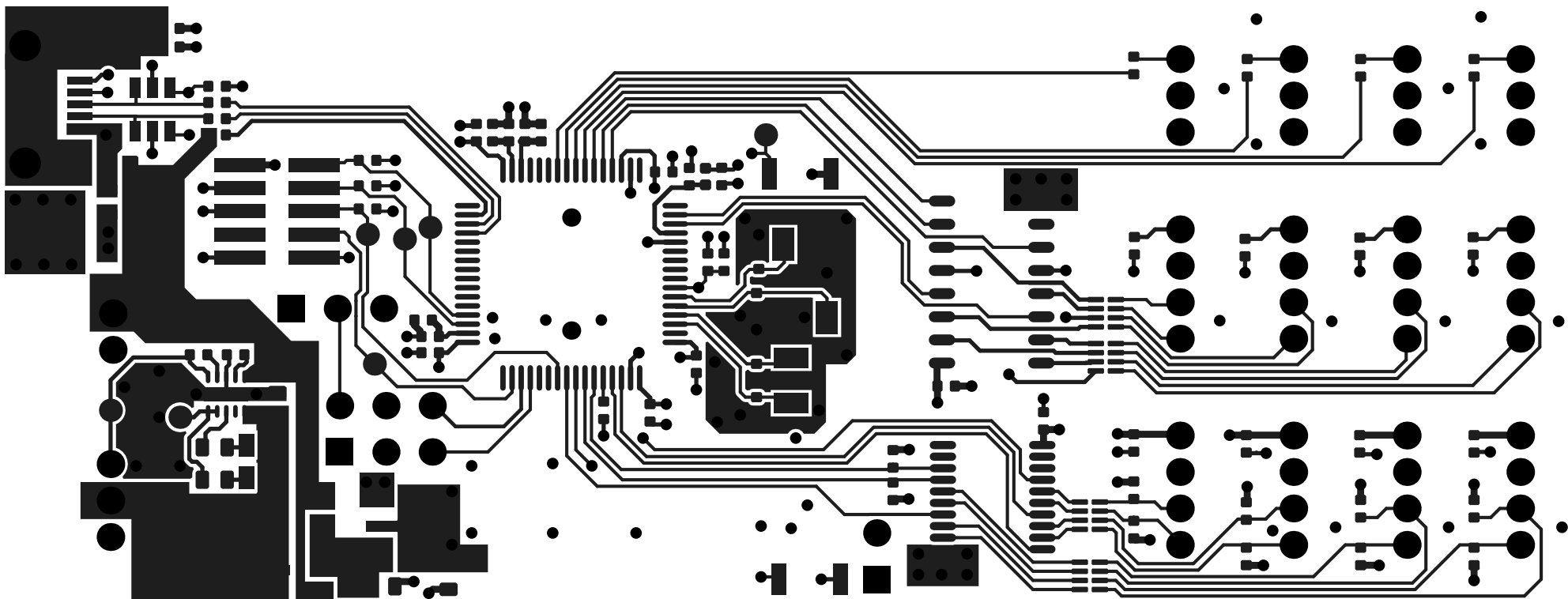
May 2016
Designed By Adam Vadala-Roth
In Collaboration with Shane Kirkbride











SunLeaf 0.1a

May 2016
Designed By Adam Vadala-Roth
In Collaboration with Shane Kirkbride



THE HACKADAY PRIZE

Solar Cell

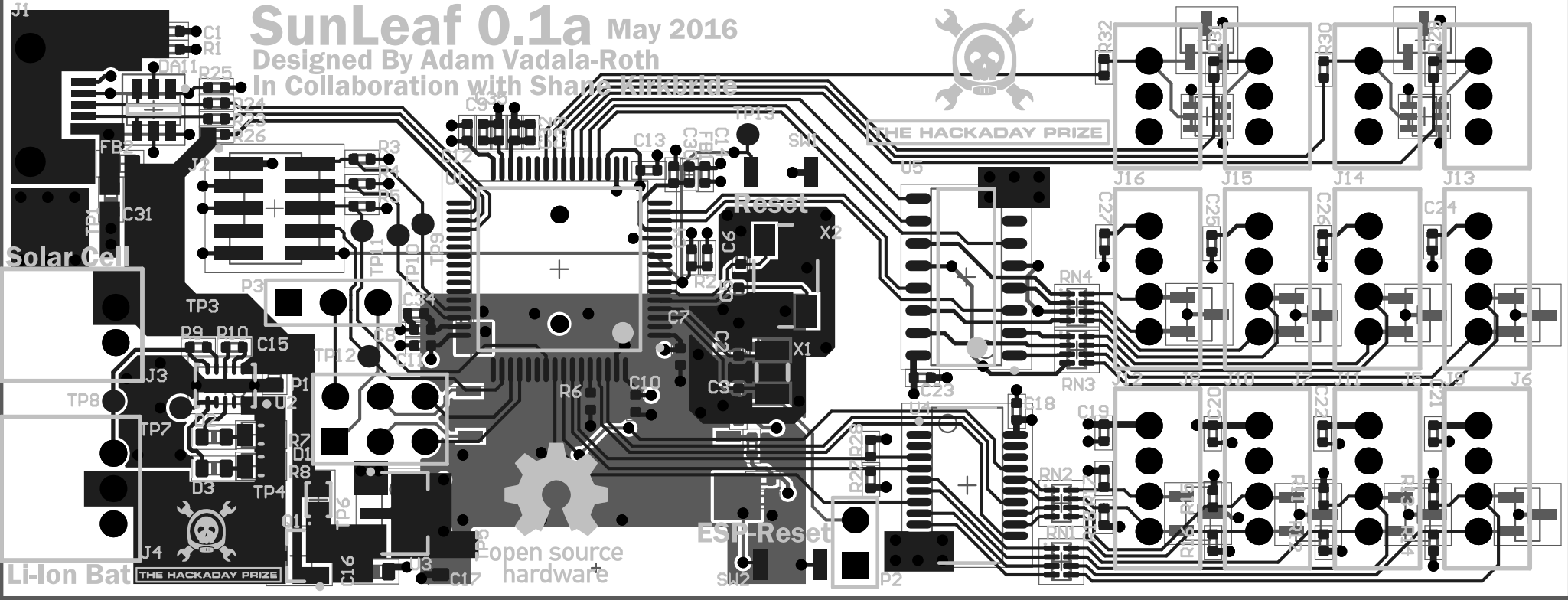
Li-Ion Bat

open source
hardware

ESP-Reset

SW2

Reset



Item #	Item Name Error:Manufacturer	#Column Name Error:Manufacturer No	Quantity	#Column Name Error:Note	Designator	Description	Footprint	Comment	LibRef
1			1		C1	CAP CER 47PF 50V NP0 0402	C0402	0402	CL05C470FB5NNNC
2			2		C2, C3	CAP CER 18PF 50V NP0 0402	C0402	18pF	CL05C180GB5NCNC
3			23		C4, C7, C10, C11, C12, C13, C14, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C33, C34, C35	CAP CER 0.1UF 10V X7R 0402	C0402	0.1uF	CL05B104JP5NNNC
4			2		C5, C6	CAP CER 9PF 50V NP0 0402	C0402	9pF	CL05C090CB5NNNC
5			2		C8, C9	CAP CER 2.2UF 6.3V X5R 0402	C0402	2.2uF	CL05A225K05NSNC
6			3		C15, C16, C17	CAP CER 1UF 25V X5R 0402, CAP CER 1UF 25V X5R 0402, CAP CER 10UF 6.3V X5R 0603	C0603	0603	CL05A105KA5NNNC, CL10A106K08NNNC
7			1		C31	CAP CER 10000PF 10V U2J 0603	C0603	0.01uF	GRM1857U1A103JA44D
8			1		C32	CAP CER 4.7UF 6.3V X5R 0402	C0402	4.7uF	CL05A475K05NRNC
9			1		D1	DIODE SCHOTTKY 23V 1A SOD323	BAT20JFILM - DIOM1712X11N	BAT20JFILM	BAT20JFILM
10			1		D2	LED GREEN CLEAR 0603 SMD	LED0603_GREEN	LED Green	LTST-C191KGKT
11			1		D3	LED ORANGE CLEAR 0603 SMD	LED0603_ORANGE	LED Orange	LTST-C191KFKT
12			2		D4, D5	DIODE ARRAY GP 100V 250MA 6TSSOP	BAV70S	BAV70S, 115	BAV70S
13			10		DA1, DA2, DA3, DA4, DA5, DA6, DA7, DA8, DA9, DA10	TVS DIODE 3.3VWM 28VC SOT23	SOT95P230X110-3N	PESD3V3L2BT,215	PESD3V3L2BT,215
14			1		DA11	TVS DIODE 5VWM SOT23-6	ESDA6V1BC6	ESDA6V1BC6	ESDA6V1BC6
15			1		FB1	FERRITE BEAD 600 OHM 0402 1LN	BLM15HG601SN1D	BLM15HG601SN1D	BLM15HG601SN1D
16			1		FB2	FERRITE BEAD 30 OHM 0603 1LN	MI0603K300R-10	MI0603K300R-10	MI0603K300R-10
17			1		IC1	ESP8266 ESP-02	ESP8266 ESP-02	ESP8266 ESP-02	ESP8266 ESP-02
18			1		J1	Micro USB Jack B	DX4R005J91R5100	DX4R005J91R5100	DX4R005J91R5100
19			1		J2	20021121-00010C4LF ARM Cortex JTAG	FTSH-105-XX-X-DV	20021121-00010C4LF	20021121-00010C4LF
20			1		J3	CONN HEADER PH SIDE 2POS 2MM	S2B-PH-K-S(LF)(SN)	S2B-PH-K-S(LF)(SN)	S2B-PH-K-S(LF)(SN)
21			1		J4	CONN HEADER PH SIDE 2POS 2MM	S3B-PH-K-S(LF)(SN)	S3B-PH-K-S(LF)(SN)	S3B-PH-K-S(LF)(SN)
22			8		J5, J6, J7, J8, J9, J10, J11, J12	CONN HEADER PH TOP 4POS 2MM	B4B-PH-K-S(LF)(SN)	B4B-PH-K-S LF SN	B4B-PH-K-S LF SN
23			4		J13, J14, J15, J16	CONN HEADER PH TOP 3POS 2MM	B3B-PH-K-S(LF)(SN)	B3B-PH-K-S(LF)(SN)	B3B-PH-K-S(LF)(SN)
24			1		P1	Header, 3-Pin, Dual row	HDR2X3	Header 3X2	Header 3X2
25			1		P2	Header, 2-Pin	HDR1X2	Header 2	Header 2
26			1		P3	Header, 3-Pin	HDR1X3	Header 3	Header 3
27			1		Q1	MOSFET P-CH 30V 2.5A SOT-23	DMG2307L-7 - SOT92P240X102-3N	DMG2307L-7	DMG2307L-7
28			1		R1	RES SMD 1M OHM 1% 1/16W 0402	R0402	1M	RC1005F105CS
29			8		R2, R3, R4, R5, R19, R20, R21, R22	RES SMD 1K OHM 1% 1/16W 0402	R0402	1k	RC1005F102CS
30			2		R6, R26	RES SMD 10K OHM 1% 1/16W 0402	R0402	10K	RC1005F103CS
31			2		R7, R8	RES SMD 2K OHM 1% 1/8W 0805	R0805	ERJ-6ENF2001V	ERJ-6ENF2001V
32			1		R9	Standin 0402	R0402	100K	Standin 0402
33			1		R10	RES SMD 487 OHM 1% 1/16W 0402	R0402	RC1005F4870CS	RC1005F4870CS
34			10		R11, R12, R13, R14, R15, R16, R17, R18, R27, R28, R23, R24	4.7k Ohm ±1% 0.063W, 1/16W Surface Mount Resistor Thick Film ±100ppm/°C 0402 (1005 Metric)	R0402	4k7	RC1005F472CS
35			2		R25	RES SMD 22 OHM 0.1% 1/16W 0402	R0402	22r	1879208-9
36			1		R25	RES SMD 47K OHM 1% 1/16W 0402	R0402	47K	RC1005F473CS
37			4		R29, R30, R31, R32	RES SMD 200 OHM 1% 1/16W 0402	R0402	200 ohm	RC1005F201CS
38			4		RN1, RN2, RN3, RN4	RES ARRAY 4 RES 200 OHM 0804	EXB-N8V201JX - CAC-50P200X100-8N	200 ohm	EXB-N8V201JX
39			2		SW1, SW2	SWITCH TACTILE SPST-NO 0.05A 12V	B3U-1000P	B3U-1000P	B3U-1000P
40			2		TP1, TP2	Socket	Alligator-TP	Test-Point	Test Point, Alligator-Style
41			11		TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13	Socket	TP-2	Test-Point	Test Point, Surface-Style
42			1		U1		STM32F446RET6 - TSQFP50P1200X1200X160-64N	STM32F446RET6 - TQFP64	STM32F446RET6
43			1		U2	IC BATT CHARGER LI-ION 10WSON (VBUS and Solar Voltaic Cell)	bq24210 - QFN50P300X200X80-10N	BQ24210DQCT	BQ24210DQCT
44			1		U3	IC REG LDO 3.3V 0.8A SOT89	AZ1117CR-3.3TRG1 - SOT89-150P410X160-3N	AZ1117CR-3.3TRG1	AZ1117CR-3.3TRG1
45			1		U4	IC EXPANDABLE 5CH I2C HUB 20SOIC	PCA9518DWR	PCA9518DWR	PCA9518DWR
46			1		U5	Dual 4-channel analog multiplexer/demultiplexer	74HC4052	74HC4052	74HC4052
47			1		X1	32.768kHz ±20ppm Crystal 9pF 70 kOhm -40°C ~ 85°C Surface Mount 2-SMD	ABS07-32.768KHZ-9-T	ABS07-32.768KHZ-9-T	ABS07-32.768KHZ-9-T
48			1		X2	8MHz ±20ppm Crystal 18pF 200 Ohm 20° C ~ 70°C Surface Mount 4SMD, No Lead (DFN, LCC)	ABM3B8.000MHZB2T	8MHz	ABM3B8.000MHZB2T