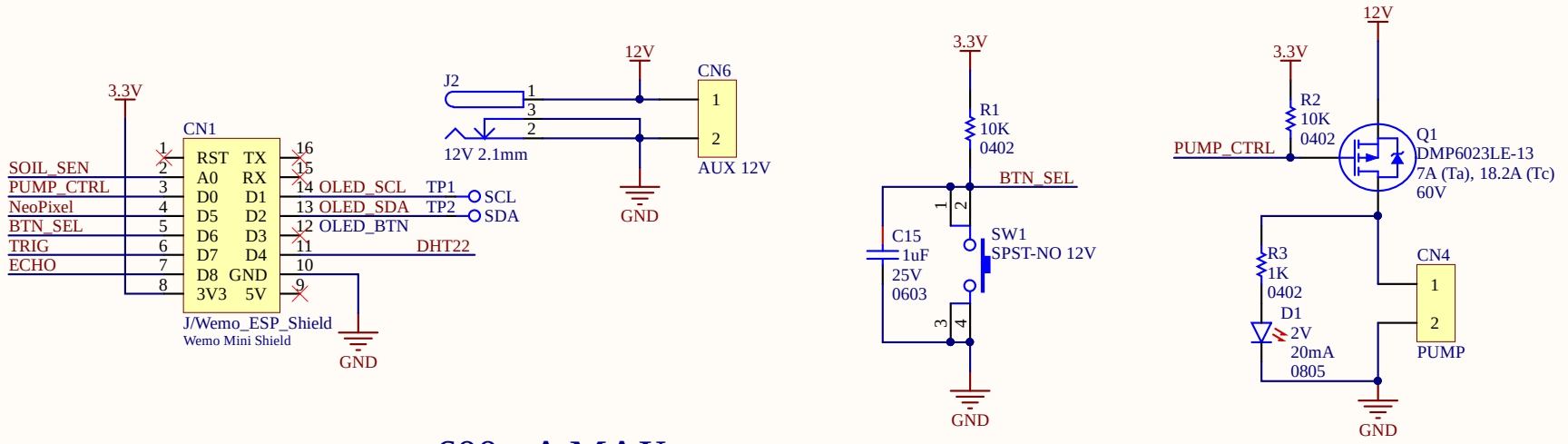
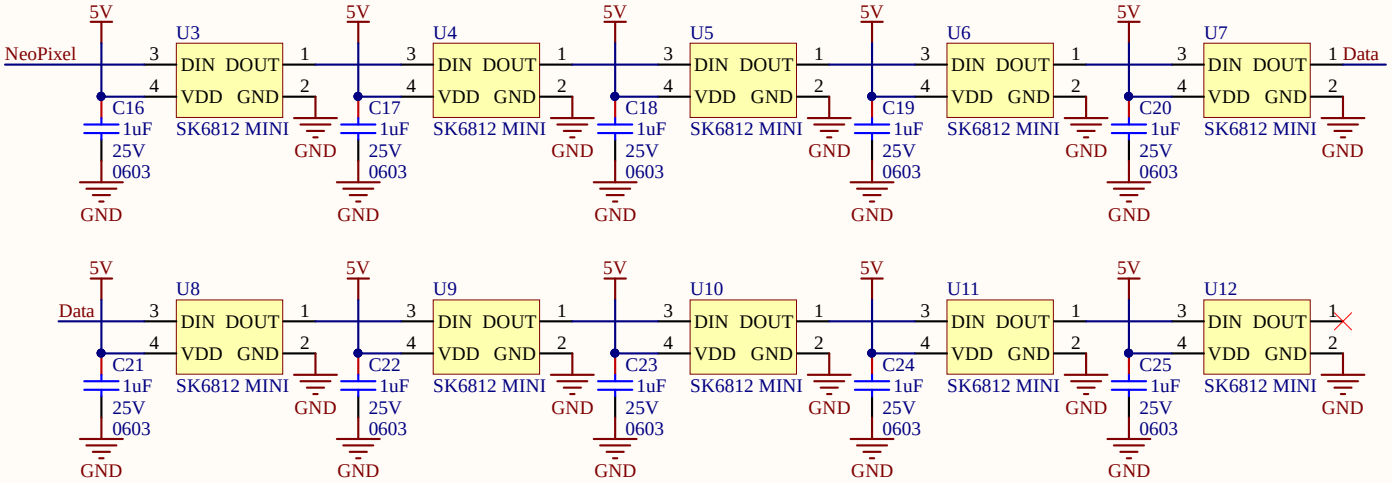
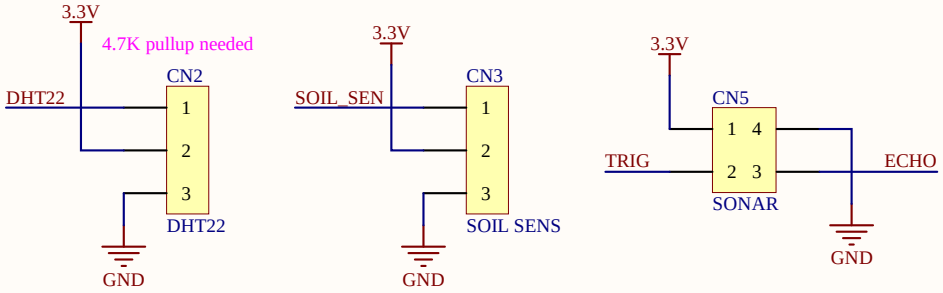
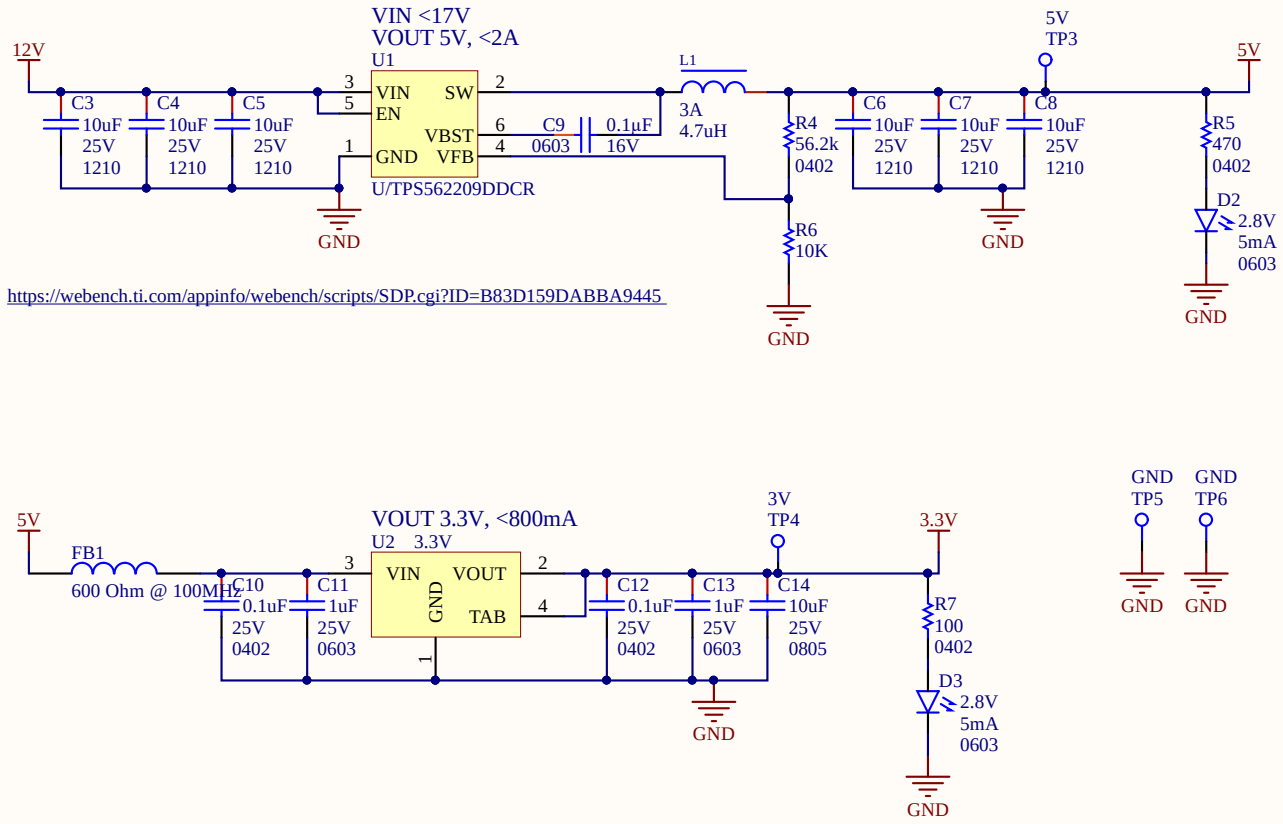


600mA MAX

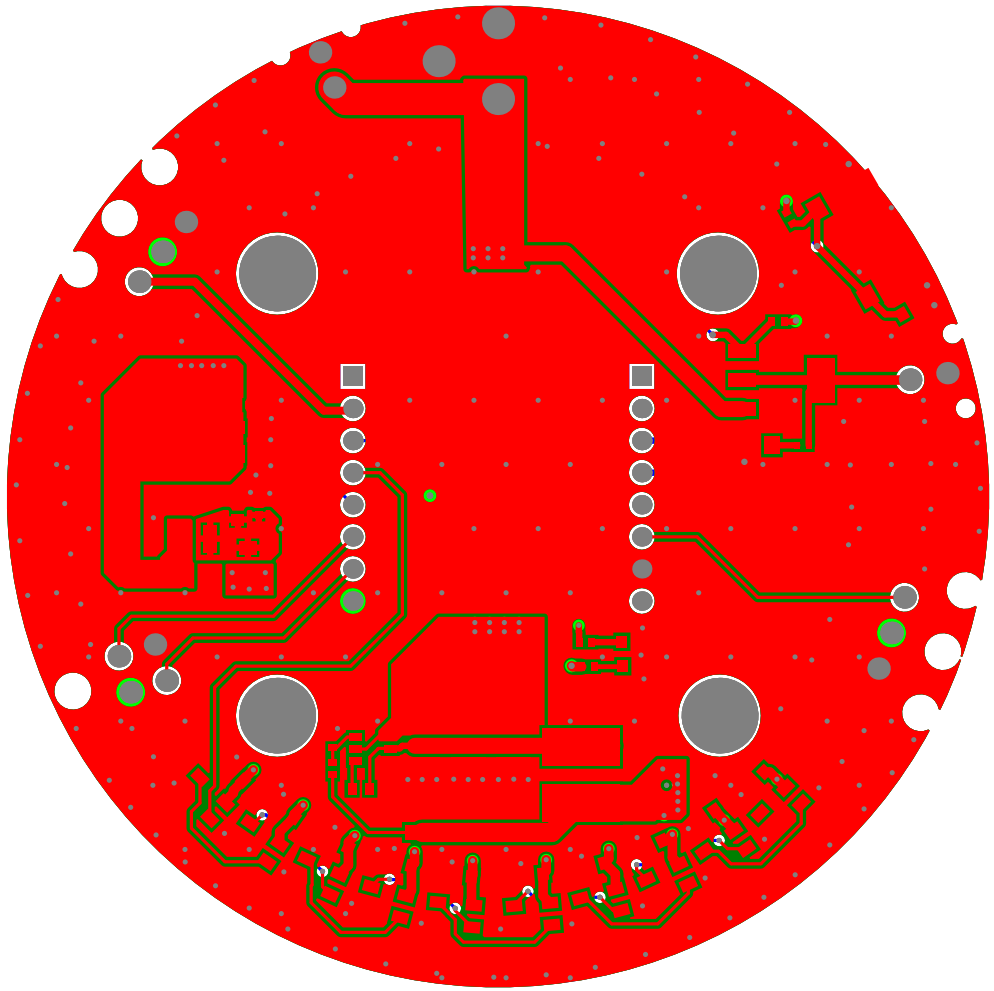




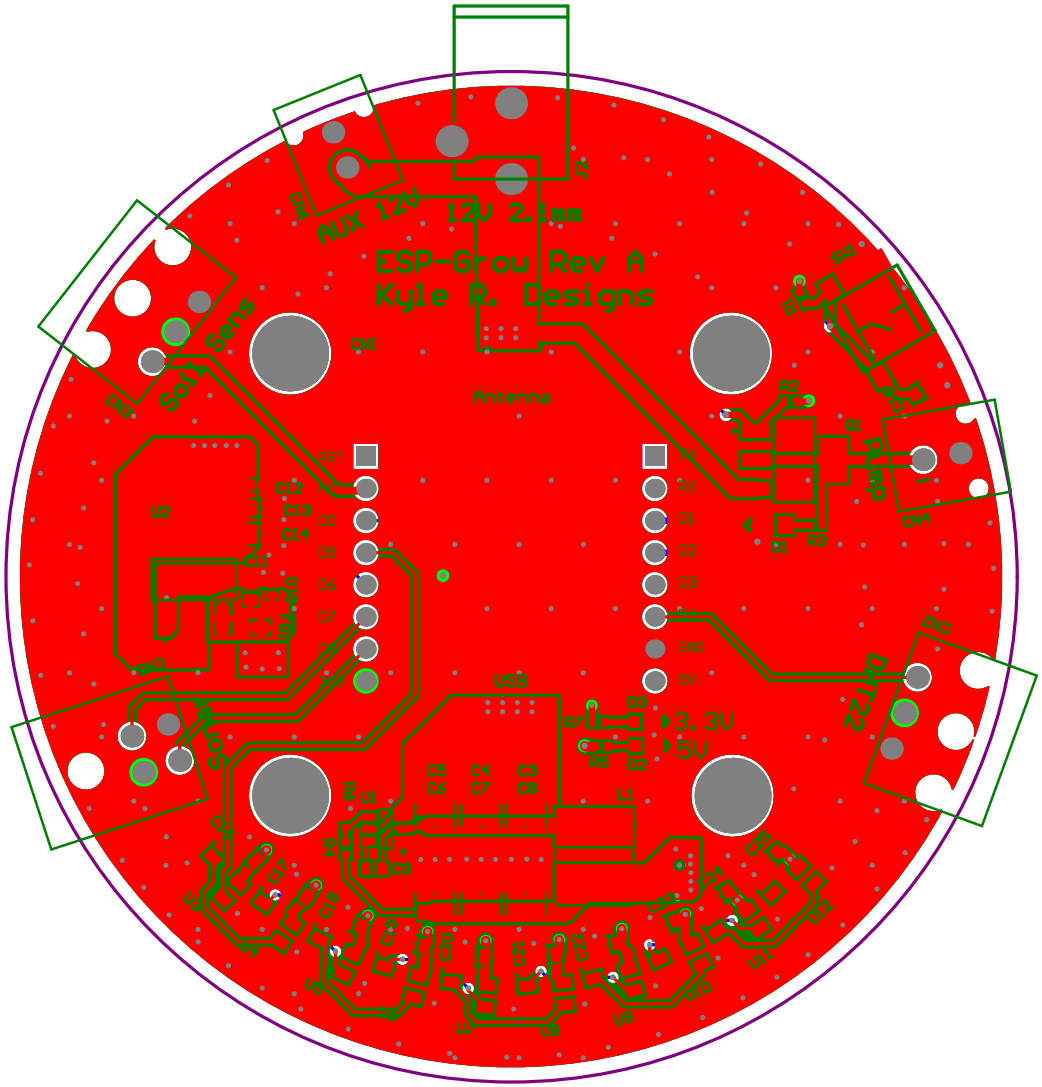
Title: ESP Grow Main		
Size: A	Number: 05/01/2019	Revision: A
Date: 5/18/2019	Sheet 1 of 2	
File: C:\Users\..\ESP_Grow_Main_Rev_A_1_Controller.SchDoc	Drawn By: Kyle R.	



Title	ESP-Grow_Rev_A_3V_5V	
Size: A	Number: 5/4/2019	Revision: A
Date: 5/18/2019	Sheet 2 of 2	
File: C:\Users\..\ESP_Grow_Main_Rev_A_2_3V_5V.SchDoc	Drawn By: Kyle R	



Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	31.50mil	3.8	
3	Top Layer	Copper	1.38mil		
4	Dielectric 2	7628	7.87mil	4.6	
5	GND	Copper	0.69mil		
6	Dielectric 1	FR-4	41.93mil	4.71	
7	Power	Copper	0.69mil		
8	Dielectric 3	7628	7.87mil	4.6	
9	Bottom Layer	Copper	1.38mil		
10	Bottom Solder	Solder Resist	31.50mil	2.7	
11	Bottom Overlay				



Line #	Name	Description	Designator	Quantity	Manufacturer 1	Manufacturer Part Number 1	Manufacturer Lifecycle 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Supplier Subtotal 1
	10uF	10uF 1210 25V	C3, C4, C5, C6, C7, C8	6	TDK	C3225JB1E106K250AA	Volume Production	Digi-Key	445-11850-1-ND		
	0.1uF	0.1uF 0603 16V	C9	1	KEMET	C0603C104K4RAC7867	Not Recommended for New Design	Digi-Key	399-1096-2-ND	0.02167	86.68
	0.1uF	0.1uF 0402 25V	C10, C12	2	Taiyo	TMK105BJ104KV-F	Unknown	Digi-Key	587-1456-1-ND	0.1	0.2
	1uF	1uF 0603 25V	C11, C13, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25	13	TDK	CGA3E1X7R1E105K080AC	Volume Production	Digi-Key	445-6931-1-ND	0.123	1.6
	10uF	10UF 25V X6R 0805	C14	1	Murata	GRM21BC81E106ME51L	Volume Production	Digi-Key	490-10503-1-ND	0.34	0.34
	J/Wemo_ESP_Shield	Wemo Mini Shield for ESP-12	CN1	1							
	DHT22	Molex Microfit 1x3 90deg Header	CN2	1	Molex	0436500304	Volume Production	Digi-Key	WM1876-ND		
	SOIL SENS	Molex Microfit 1x3 90deg Header	CN3	1	Molex	0436500304	Volume Production	Digi-Key	WM1876-ND		
	PUMP	Molex Microfit 1x2 Vert Header	CN4	1	Molex	0430450227	Volume Production	Digi-Key	WM10657-ND	0.84	0.84
	SONAR	Molex Microfit 2x2 90deg Header	CN5	1	Molex	43045-0400	Volume Production	Digi-Key	WM1814-ND	1.42	1.42
	AUX 12V	Molex Microfit 1x2 Vert Header	CN6	1	Molex	43045-0227	Volume Production	Digi-Key	WM10657-ND	0.84	0.84
	D/LEDR/0805	Red 625nm LED Indication - Discrete 2V 0805	D1	1	Wurth Electronics	150080RS75000	Volume Production	Digi-Key	732-4984-6-ND	0.17	0.17
	D/LEDB/0603		D2, D3	2	Everlight	EAST16084BA8	Unknown	Digi-Key	1080-1562-6-ND		
	600 Ohm @ 100MHz	600 OHM 0805 2.0A	FB1	1	Wurth Electronics	742792040	Volume Production	Digi-Key	732-1620-1-ND	0.22	0.22
	12V 2.1mm	2.1 mm barrel jack	J2	1	CUI	PJ-002AH	Volume Production	Digi-Key	CP-002AH-ND	0.74	0.74
	4.7uH	FIXED IND 4.7UH 3A 37.6 MOHM SMD	L1	1							
	DMP6023LE-13	MOSFET P-CH 60V 7A SOT223	Q1	1	Diodes	DMP6023LE-13	Volume Production	Digi-Key	DMP6023LE-13DICT-ND		
	10K	10K 0402	R1, R2, R6	3	Samsung	RC1005F103CS	Volume Production	Digi-Key	1276-3431-1-ND	0.02	0.2
	1K	1K 0402	R3	1	Yageo	RC0402FR-071KL	Volume Production	Digi-Key	311-1.00KLRCT-ND	0.1	0.1
	56.2K 1%	56.2K 1% 0402	R4	1	Panasonic	ERJ2RKF5622X	Volume Production	Digi-Key	P56.2KLCT-ND	0.1	0.1
	470	470 0402	R5	1	Panasonic	ERJ-2RKF4700X	Volume Production	Digi-Key	P470LCT-ND	0.1	0.1
	100	100 0402	R7	1	Yageo	RC0402FR-07100RL	Volume Production	Digi-Key	311-100LRCT-ND	0.1	0.1
	SPST-NO 12V	SWITCH TACTILE SPST-NO 0.05A 12V	SW1	1	ITT C&K	PTS645SM43SMTR92LFS	Volume Production	Digi-Key	CKN9112CT-ND	0.16	0.16
	U/TPS562209 DDCR	IC REG BUCK ADJ 2A TSOT23-6	U1	1							
	3.3V	3.3 volt fixed regulator, 800mA	U2	1	STMicroelectronics	LD1117S33TR	Volume Production	Digi-Key	497-1242-1-ND	0.42	0.42
	SK6812 MINI	Serial RGB LED SMT5050	U3, U4, U5, U6, U7, U8, U9, U10, U11, U12	10							