

BoM Power Distribution PCB						
Component	Unit	Component ID	Link	Purpose		
1mF Capacitor	3	C1, C4, C6	1mF cap	C1 filters voltage going into U2; C4(C6) works closely with L1(L2) to stabilize output voltage		
220uF Capacitor	1	C2	220uF cap	works closely with L3 to reduce noise and stabilize output voltage		
100uF Capacitor	2	C3, C5	100uF cap	C3 filters voltage going into U1; C5 filters voltage going into U3		
0.01uF Capacitor	1	C7	0.01uF cap	filters out high-frequency noise, ensures a stable 7V supply		
1N5822 Diode	2	D1, D2	1N5822	allows current flow in one direction only, prevent reverse current to damage U1&U3		
1N5825 Diode	1	D3	1N5825	allows current flow in one direction only, prevent reverse current to damage U2		
RHEF300 Resettable fuse	2	F1, F2	RHEF300	resettable fuse for overcurrent protection, protect circuit from overload		
2 pin Screw Terminals	3	J1, J2, J5	01x02 Screw Connector	provide pins for external power connections		
2 pin Connector	2	J3, J4	01x02 female header	provide pins to connect external device such as navigation board		
100uH Inductor	2	L1, L2	100uH	L1(L2) is put between D1(D2) and C4 (C6) to help stabilize voltage output from U1(U3), smooth the voltage change		
22uH Inductor	1	L3	22uH	L2 is put between D3 and C2 to help stabilize voltage from U2, smooth the voltage change		
1kΩ Resistor	1	R1	1kΩ	helps U2 to correct output voltage		
4.9kΩ Resistor	1	R2	4.9kΩ	helps U2 to correct output voltage		
LM2576-3.3 Voltage Regulator	1	U1	LM2576-3.3	regulates voltage, step voltage down to 3.3V		
LM2678 Voltage Regulator	1	U2	LM2678	regulates voltage, step voltage down to 7V		
LM2576HVT-5 Voltage Regulator	1	U3	LM2576HVT-5	regulates voltage, step voltage down to 5V		