**Power Board**

(4-Channel) Power board)

This is a 4 channel powerboard to step down the 12v supply from the battery to smaller voltages like 5v, 9v etc required for driving the sensors.

Components used:  
7809,7805,header pins, 15 A Wires, Solder Lead.

Problems Faced:

1.While designing and selecting the component we realised that the max current ratings of a 7809 is 500Ma, and it can give out at max 1A for 10 seconds before blasting out,

Solution:

We decided to make a universal board with many regulators so that we can split up the current load on a regulator while wiring to avoid losses and also prevent burning off.

2. While making the PCB Schematic it was quite difficult to make 4 channel board .

Solution:

We used Proteus to simplify the pcb schematic and make the circuit easy to make the breadboard and used some designing techniques as specified on the web to make a simplified board.

3.Solder Burning issue- When we apply a high voltage like 12v and it draws too much current the solder might burn off easily, so to avoid this we made a thicker line for the 12v and the ground to prevent the burning.

4.Common Grounding Issue-

While testing the mosfets and some of the sensors we were not getting the desired output when the power board was used so we used a common ground to the battery and the microcontrollers and sensor which solved the problem greatly and the same was the issue with our mosfet board.



