

PWM is not good to control 3 pin fan.  
A 1N4004 diode + 100 Ohms resistor + 220uF capacitor hep to reduce noise at low speed. PWW is reduced at 31Hz on board

UP & Down  
(use internal 20k pull-up resistor)

The gate resitor ...  
<https://www.baldengineer.com/7-mosfet-myths-and-misconceptions-addressed.html>

DHT11  
Temperature Range:  
0-50 °C  
Operating Voltage: 3V to 5.5V

A 10K Ohm pull-up resistor is needed between the signal line and 5V line to make sure the signal level stays high by default

Virtual ...  
Timer1  
use pin  
9 & 10  
8 & 5

12V 2A  
from AC/DC  
adaptor

I2C LCD