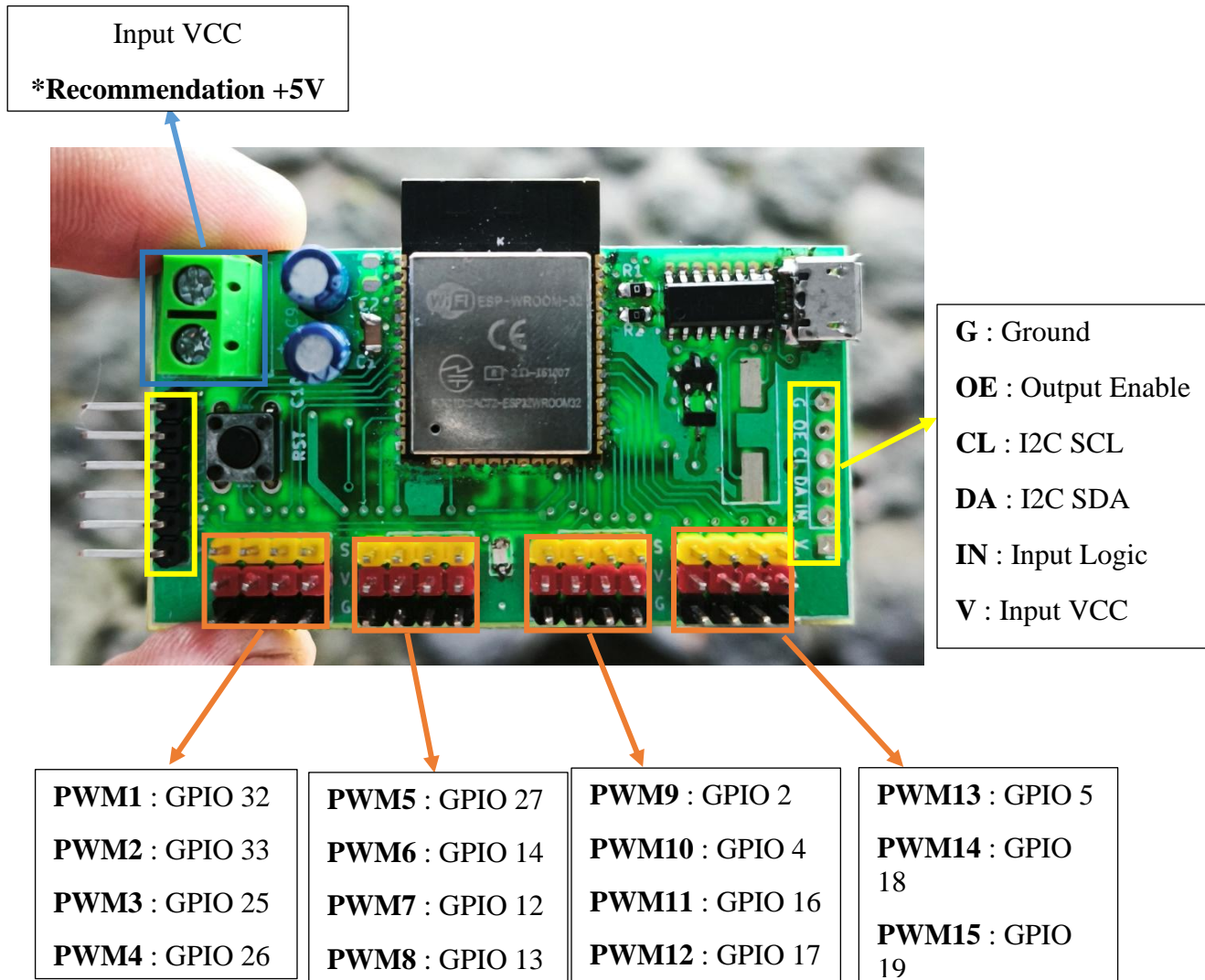# ESP32 Board With
16 Channel PWM Board

GPIO Definition

- Yellow Pin   : Output Signal PWM

- Red Pin   : Output Voltage Supply

- Black Pin   : Ground

Input VCC

*Recommendation +5V

G : Ground

OE : Output Enable

CL : I2C SCL

DA : I2C SDA

IN : Input Logic

V : Input VCC

PWM1 : GPIO 32	**PWM5** : GPIO 27	**PWM9** : GPIO 2	**PWM13** : GPIO 5
PWM2 : GPIO 33	**PWM6** : GPIO 14	**PWM10** : GPIO 4	**PWM14** : GPIO 18
PWM3 : GPIO 25	**PWM7** : GPIO 12	**PWM11** : GPIO 16	**PWM15** : GPIO 19
PWM4 : GPIO 26	**PWM8** : GPIO 13	**PWM12** : GPIO 17	

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Spesification

Symbol	Parameter	Min	Typ	Max	Unit
VCC	Supply Voltage for Output Pin	-	5	5.3	V
IN	Supply Voltage For Logic (Microcontroller)	3.3	-	5.3	V
V_{IH}	High Level Input Voltage	-	-	3.3	V
V_{IL}	Low Level Input Voltage	0	-	-	V
V_{OH}	High Level Output Voltage	-	3.3	-	V
V_{OL}	Low Level Output Voltage	0	-	-	V
Freq	Output Frequency Signal	-	-	40	Mhz

Information
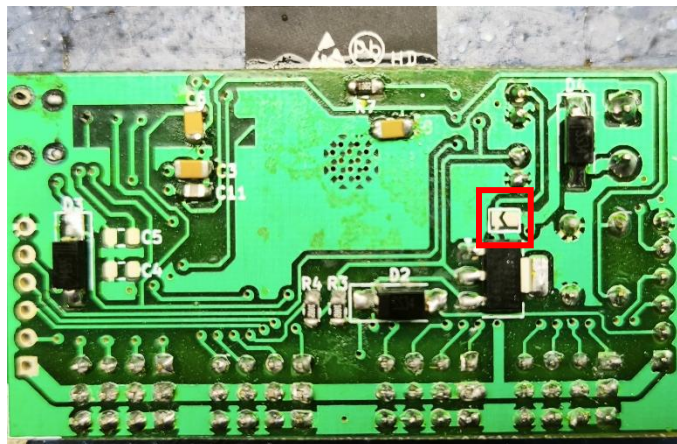
     In the red box in the picture there is a jumper pad. connected if the **VCC Input** also activates the logic supply (microcontroller). if not connected then the supply will be connected **independently**.

Example Code

```
#define PWM_1 32
#define PWM_2 33

#define FREQUENCY 5000
#define BIT_WIDTH 12

void setup(){
  Serial.begin(115200);
  ledcAttach(PWM_1, FREQUENCY, BIT_WIDTH);
  ledcAttach(PWM_2, FREQUENCY, BIT_WIDTH);
}

void loop(){
  ledcFade(PWM_1, 0, 4095, 2000);
  ledcFade(PWM_2, 0, 4095, 2000);
  delay(1000);
}
```

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