Electronic Packaging

End Evaluation Report

Group Project

PROJECT TITLE:- Development of 2 in 1 Sensor Module

Group Members:

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1. Problem Statement:-

The main objective of this project is to develop a miniaturized 2 in 1 sensor which contains a photo sensor and thermal sensor which can detect light and temperature respectively .

2. Objectives

The main objective of this project is to design a sensor that is used to detect optical light falling on it. This project is to develop a sensor module in a single system with miniaturized form.

Optical Sensor:-

Optical sensors have the ability to detect light, typically at a specific range of the electromagnetic spectrum (ultraviolet, visible, and infrared).

Sensor module:

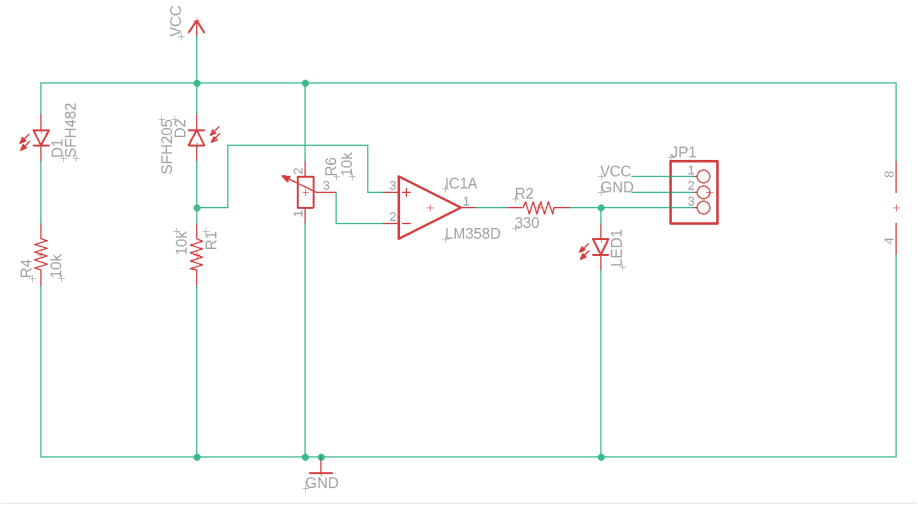


Fig. 1:- Sensor module

Fig. 1 depicts the sensor module which we have designed.

Amplifier module:

An amplifier is an electronic device that increases the voltage, current, or power of a signal.

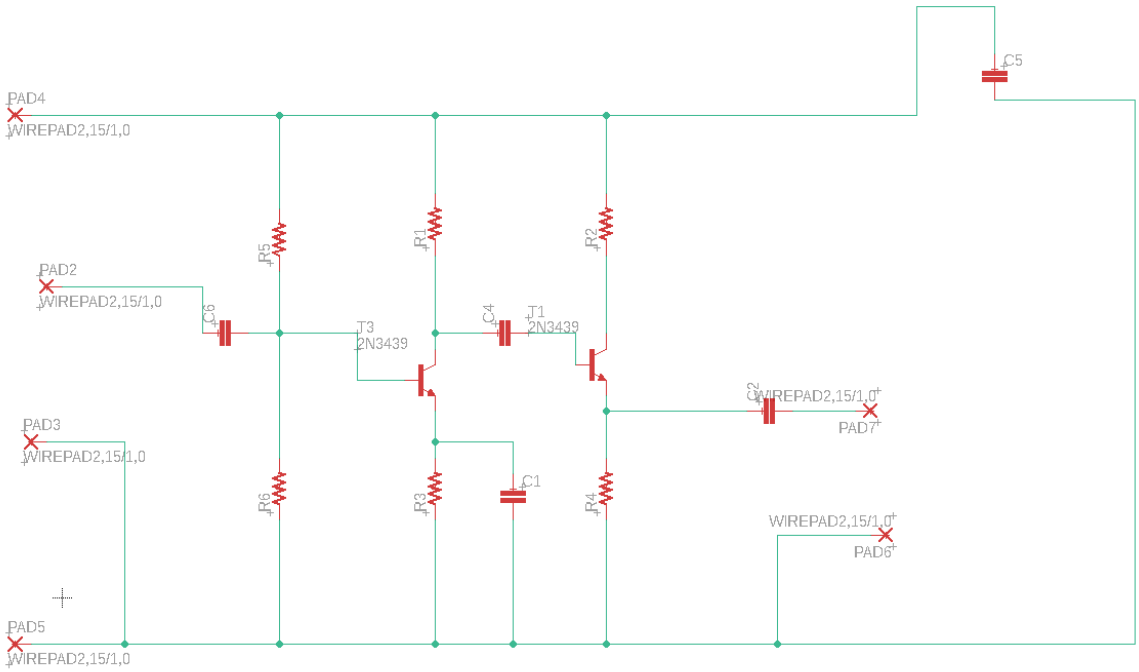


Fig 2:- Amplifier Module

Converter Module:-

An analog-to-digital converter (ADC) is used to convert an analog signal such as voltage to a digital form.

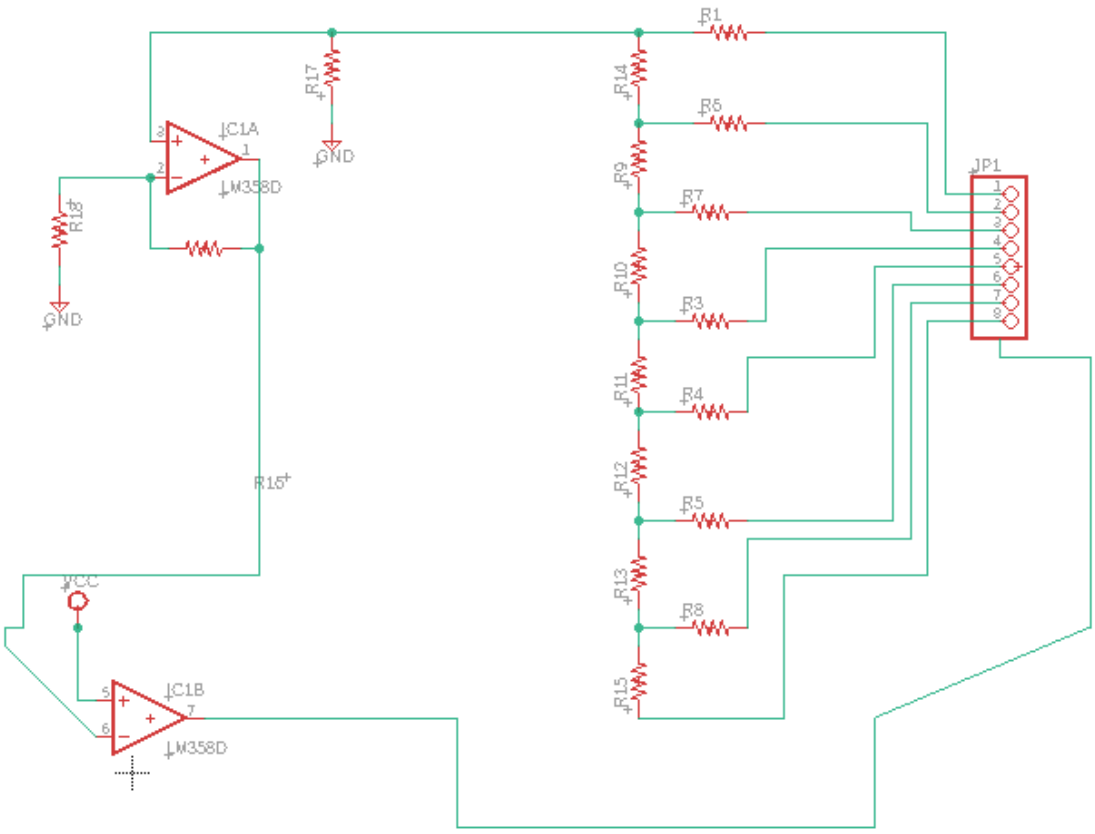


Fig 3:- A/D converter

Seven Segment Display:-

Display module is used to display the power density of a laser.

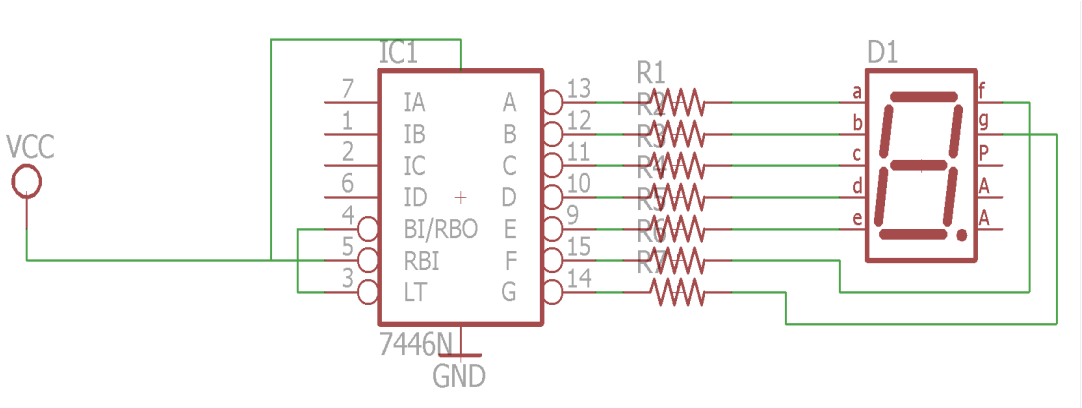


Fig 4:- seven segment display

4. Results if any

Result of Amplifier

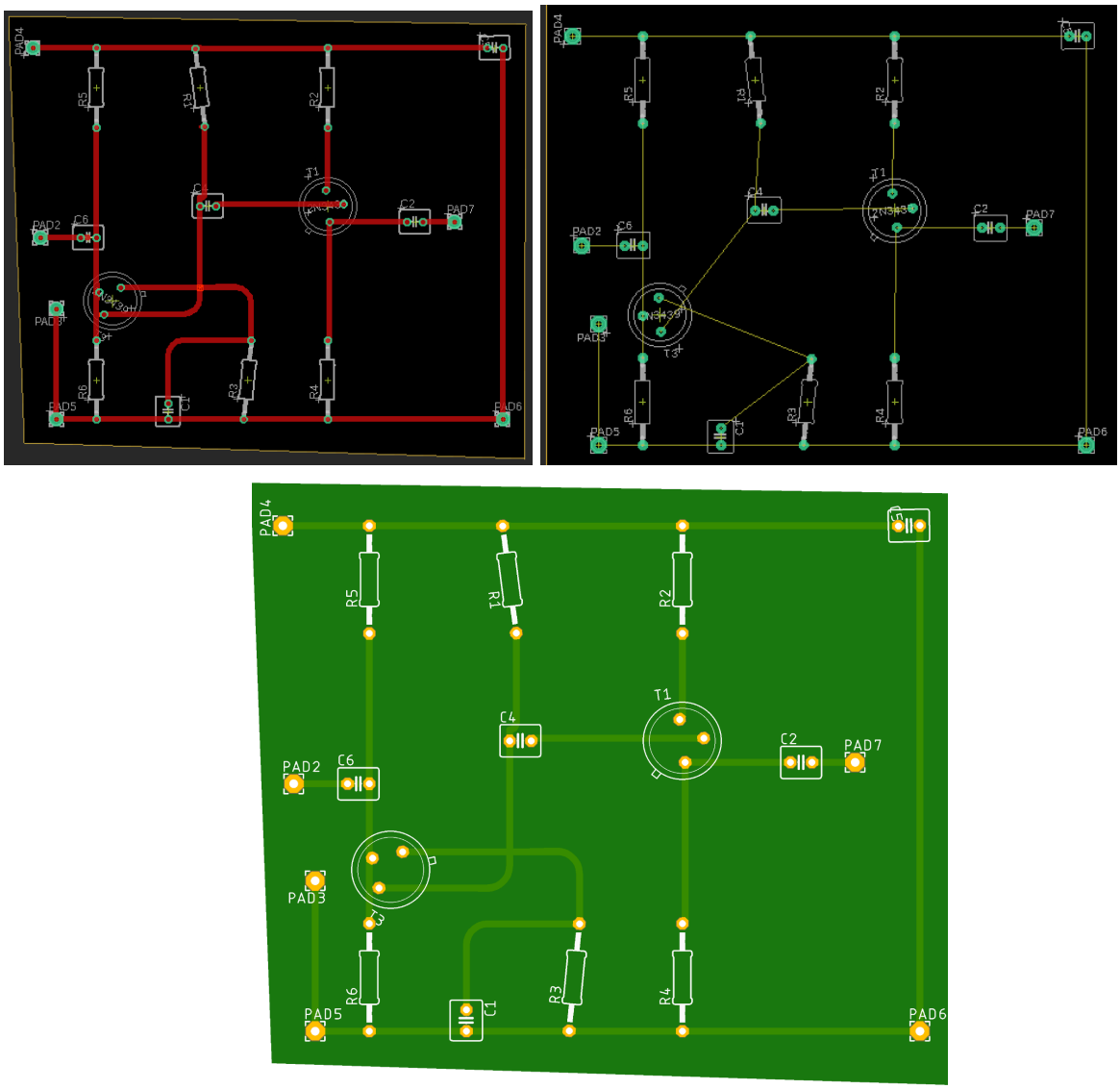


Fig 5:- Results of amplifier

Result of A/D converter

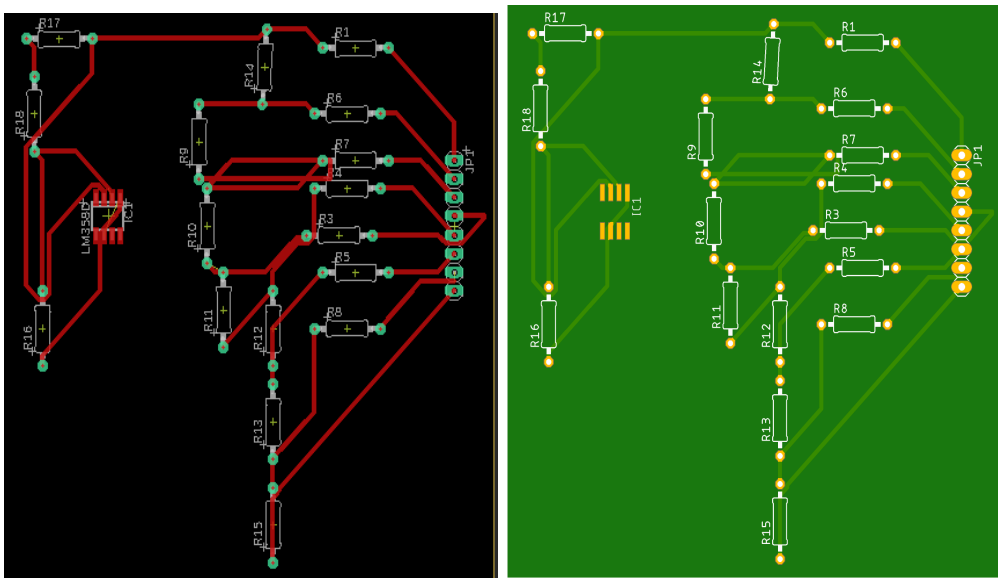


Fig 6:- Result of A/D converter

Result of 7 segment display

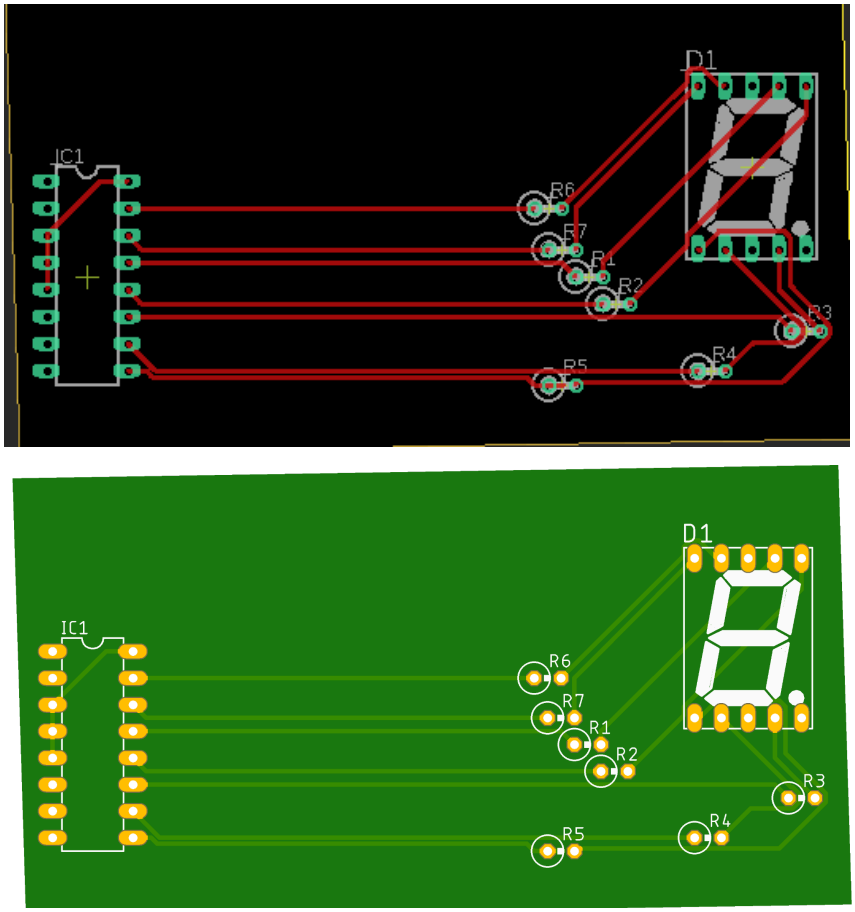
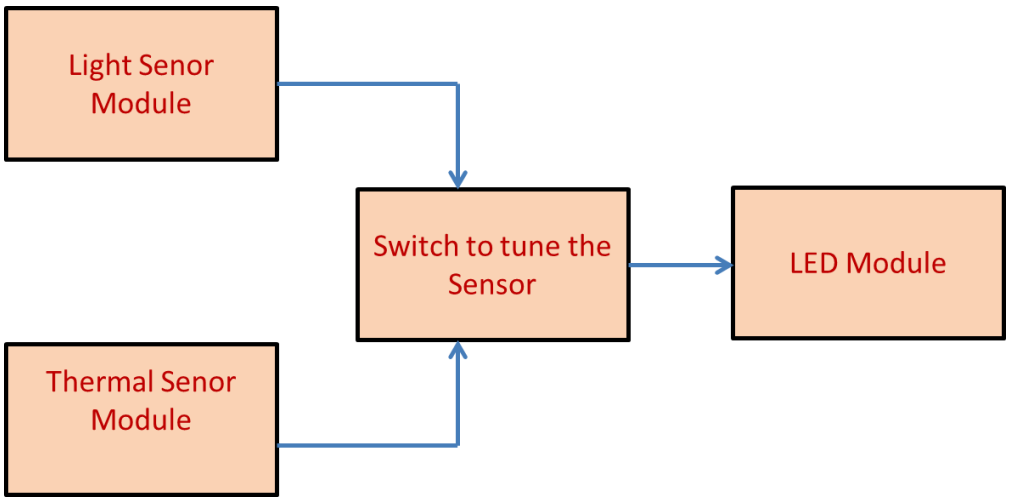


Fig 7:- Result of 7 segment display

Sample block diagram



Schematic diagram of sensor

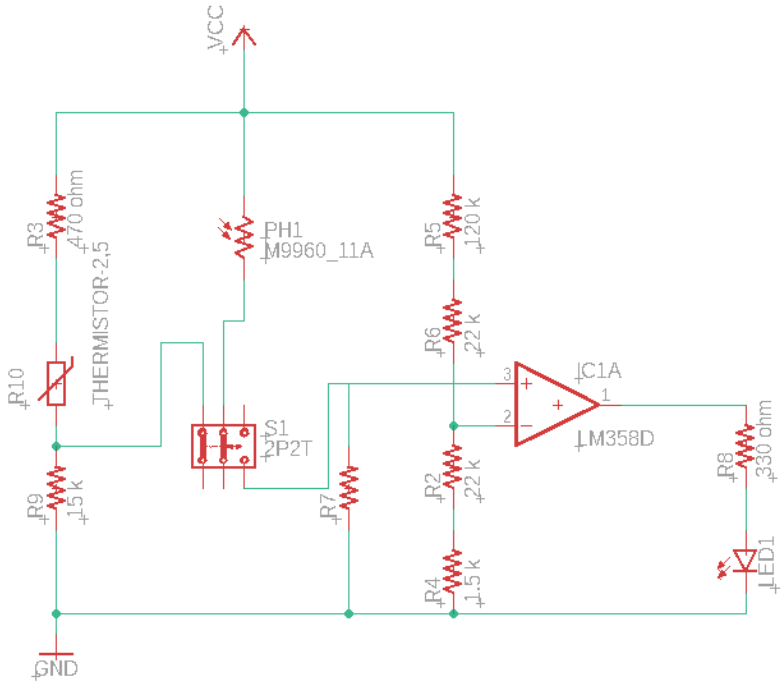
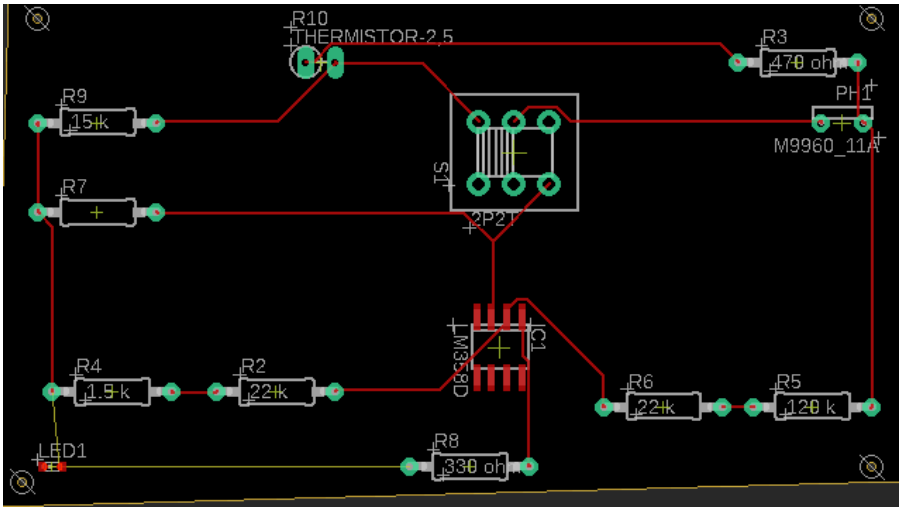


Fig 8:-Schematic diagram of sensor

Layout of sensor:-



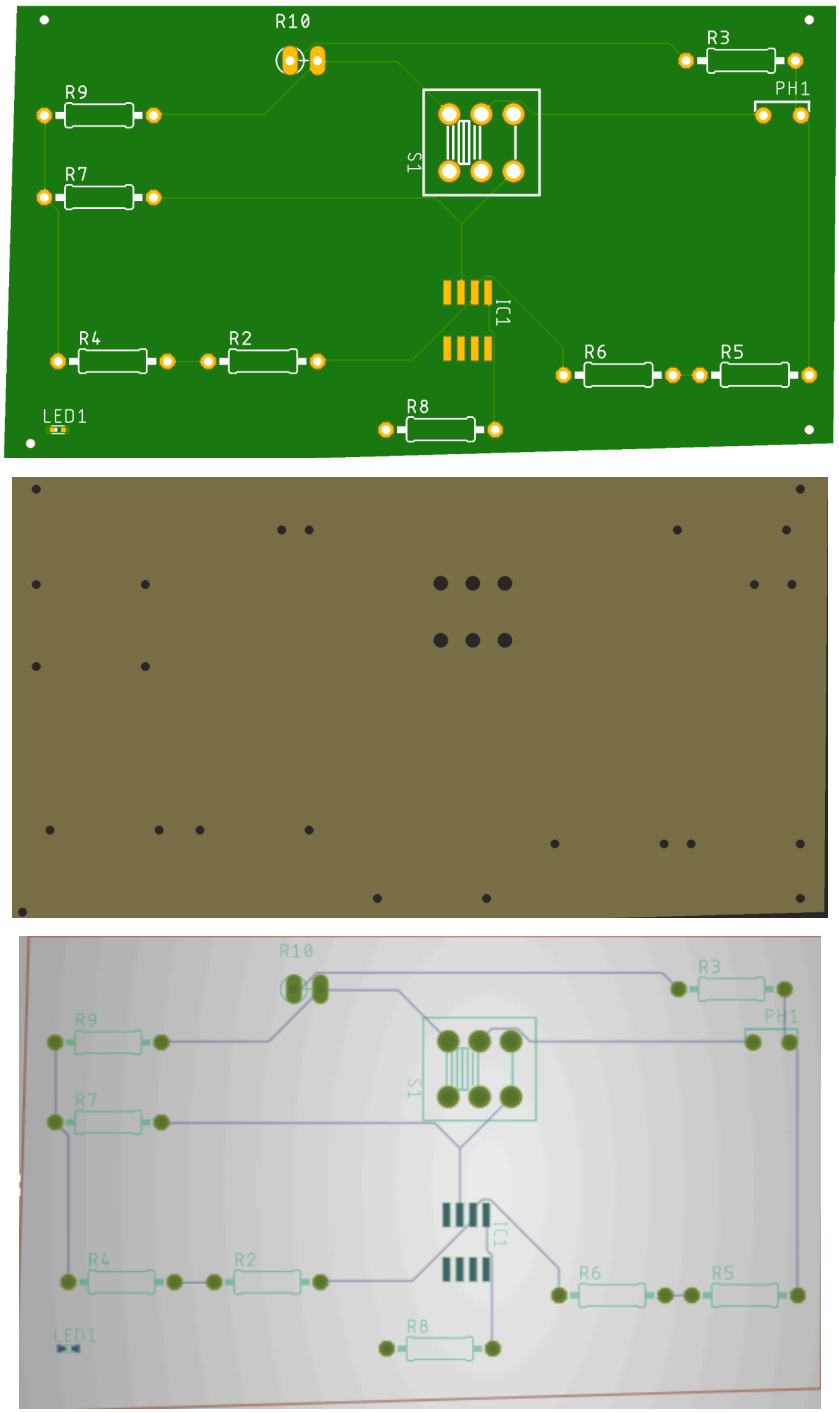


Fig 9:-layout, silkscreen, drill file and gerber file of the sensor

5. Contribution of each team member

1. **T.V.S.KALYAN - Display module and sensor module**
2. **SAI MEGHANA.T - Converter module and sensor module**
3. **SHARMILA.B - Amplifier and sensor module**

6. Problems faced

While making the schematic diagram connection problem came. Proto type time we have face connectivity problem (during soldering time).

7. Conclusion:

We have implemented a 2 in 1 sensor module which can detect light and temperature on the zero PCB board.