

# EP PROJECT REPORT

Group 4:

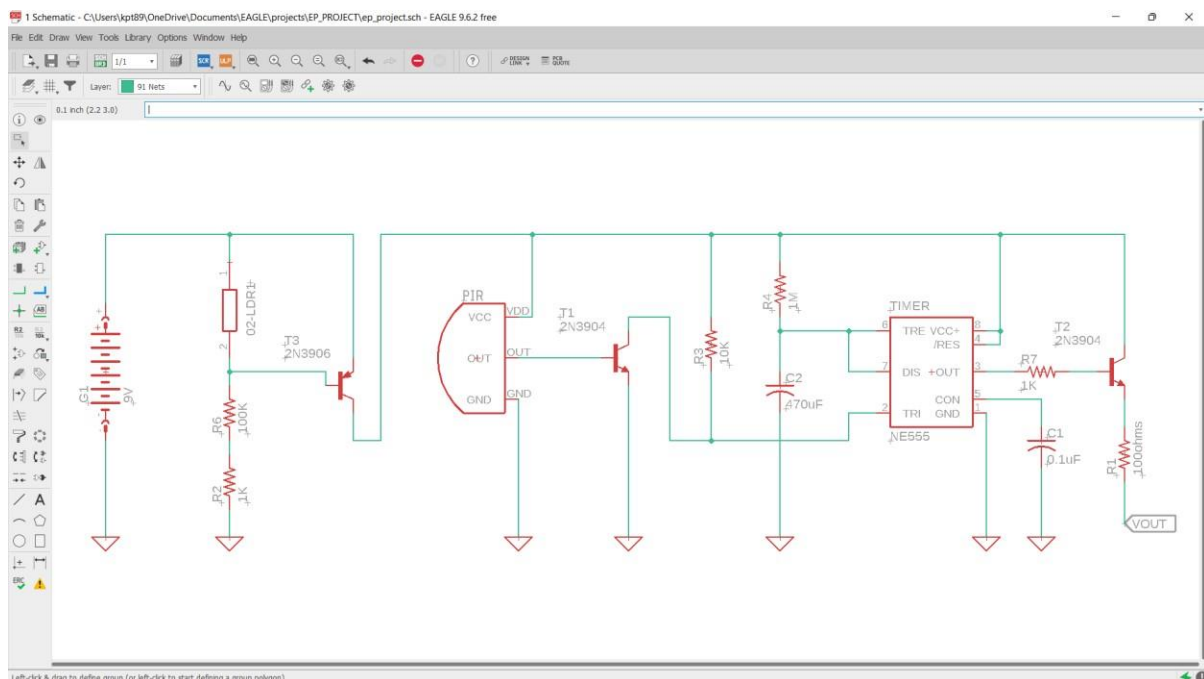
K SREENIVASULU REDDY - S20190020217

K VENKATA SESHASAI PAVAN TEJA - S20190020216

## About Project:

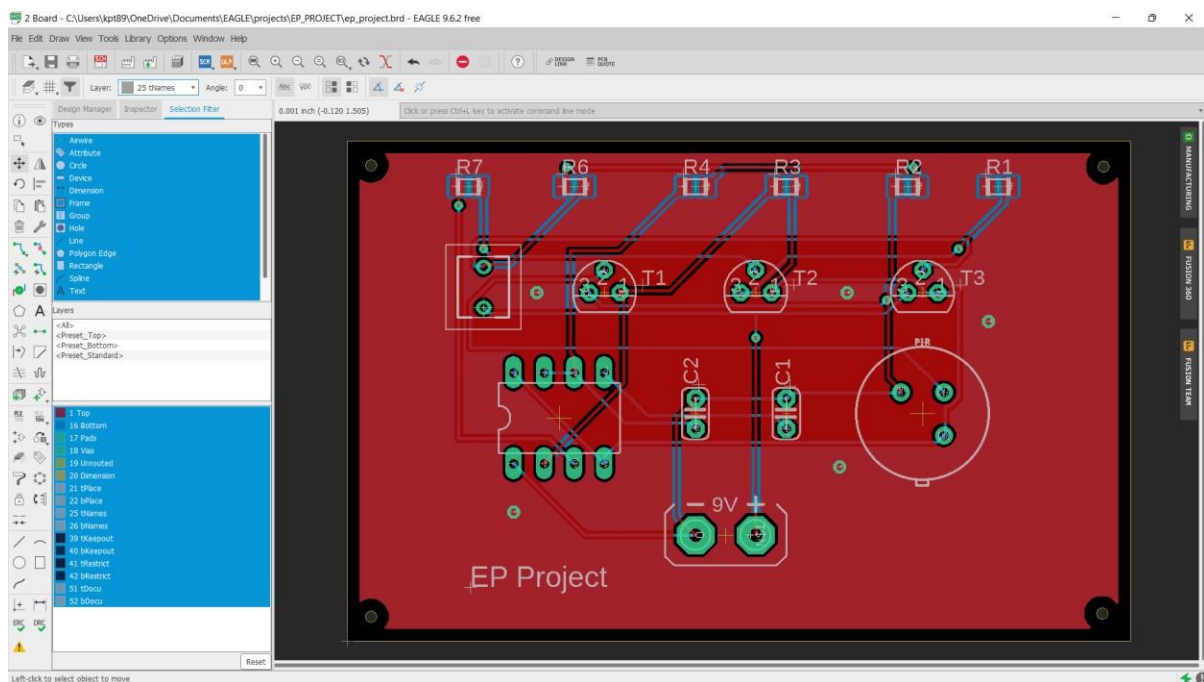
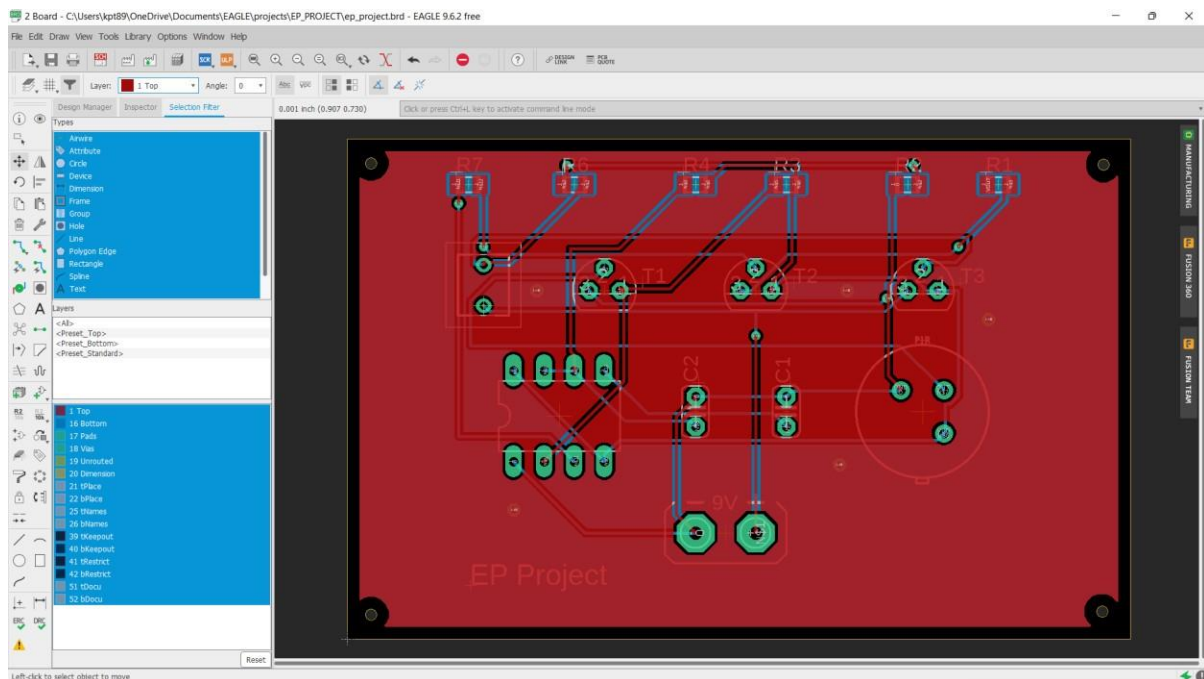
Aim of the project is to build a PCB which performs motion sensor based light system. Passive Infrared sensor is used to sense motion, almost always used to detect whether a human has moved in or out of the sensors range. These are small, inexpensive, low-power. Idea behind the project is **SMART HOUSE** project which we done earlier, where we connected all the sensors, resistors, Arduino on a bread board. Instead of bread board here we are designing a pcb which has all resistors, capacitors, sensors embedded.

### Schematic Circuit:

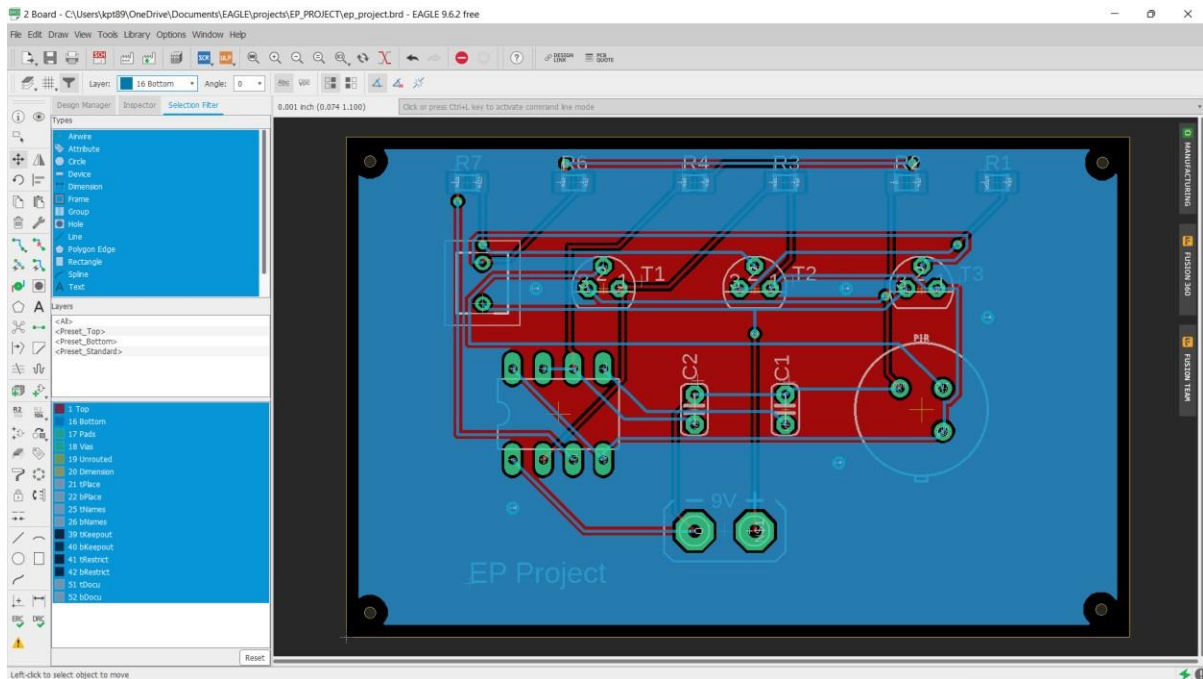


# Board Design:

## TOP LAYER

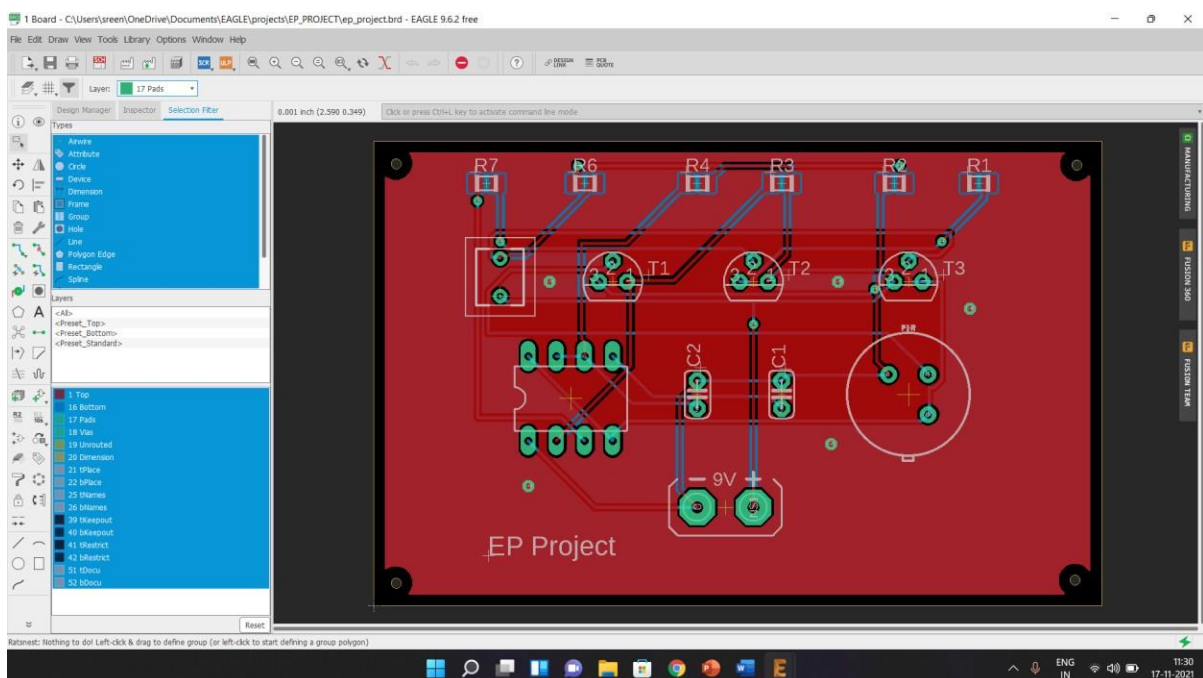


## BOTTOM LAYER

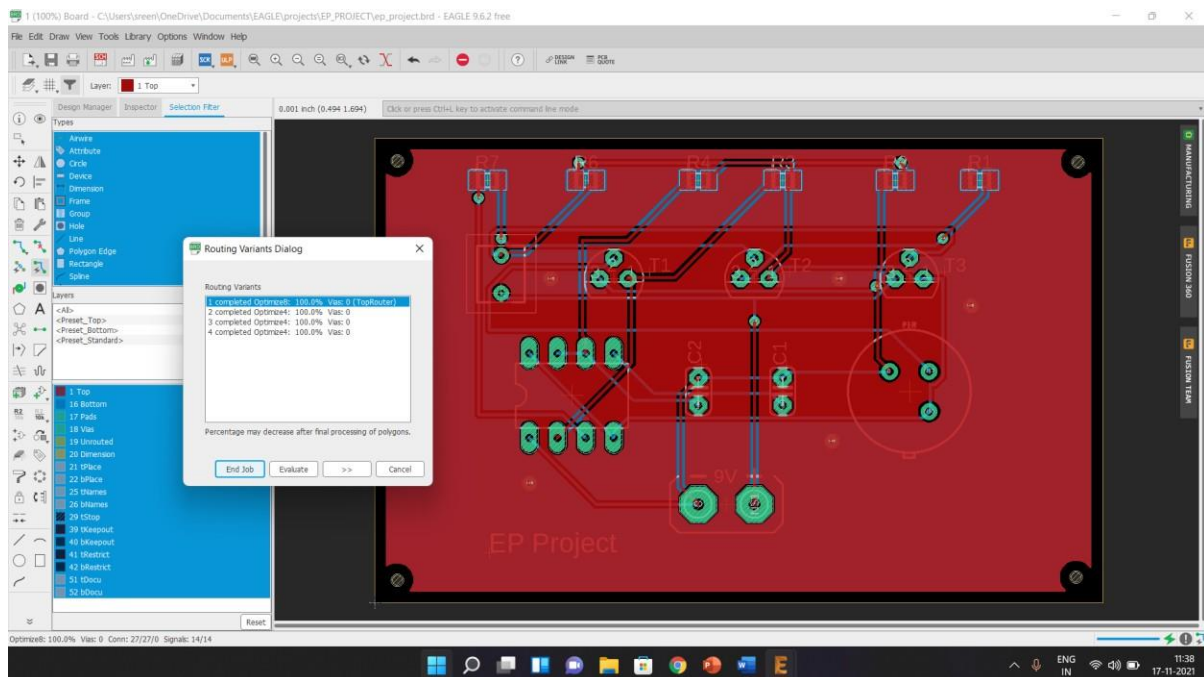


## Pad Layer:

Highlights the pads where Components are placed



## Auto-Router:

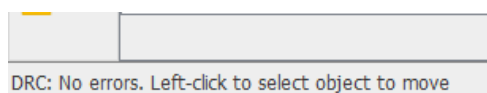


100% Optimized

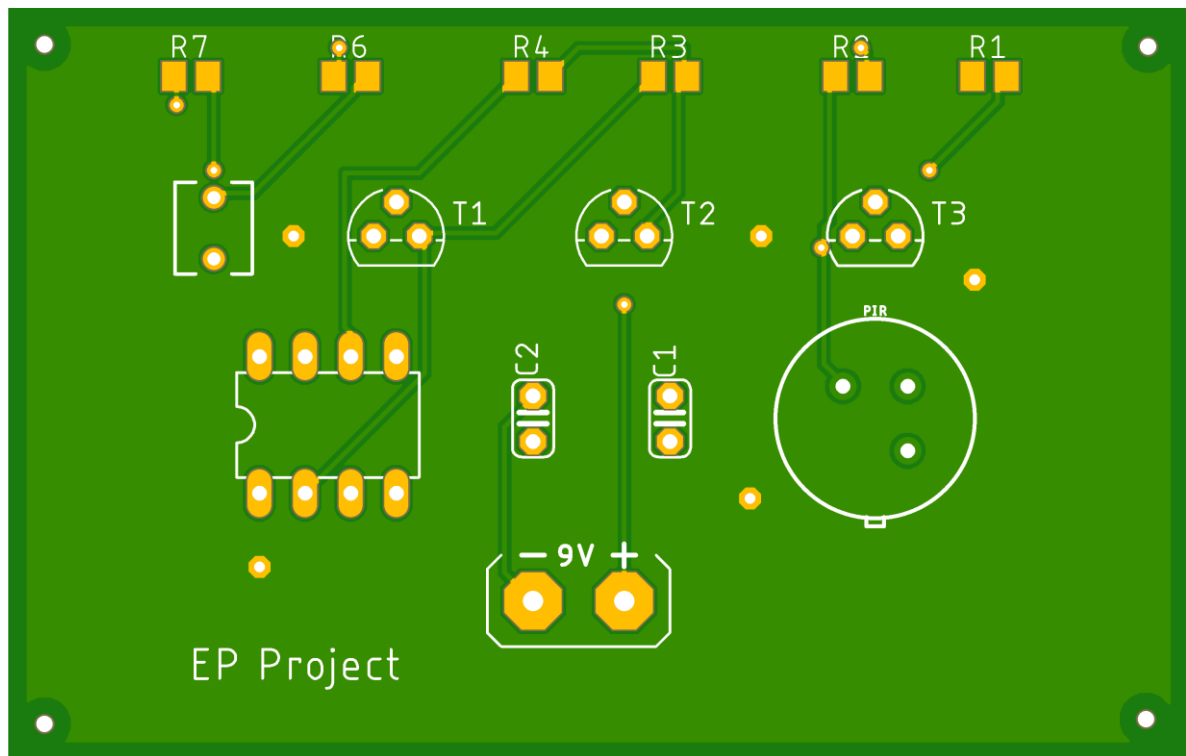
## DRC Check:

Design Rule Checking (DRC) verifies as to whether a specific design meets the constraints imposed by the process technology to be used for its manufacturing. Main Objective of DRC check is to achieve a high overall yield and reliability for the design.

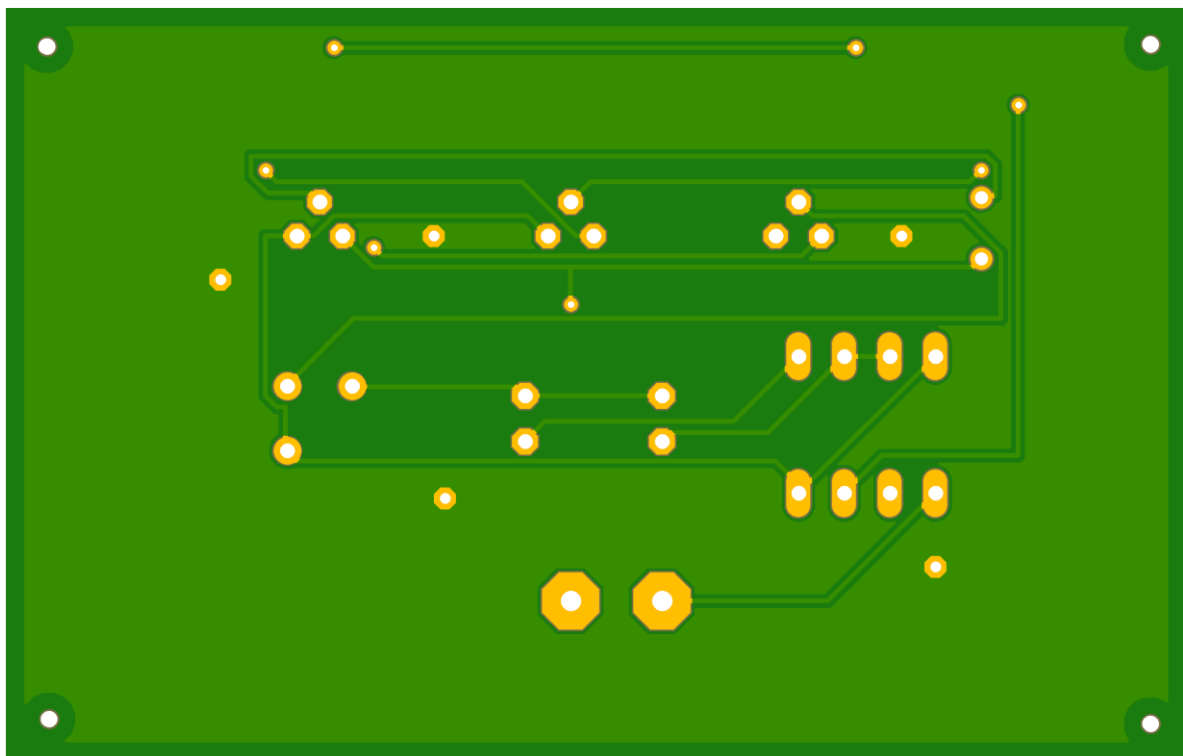
DRC Check Verified – No errors



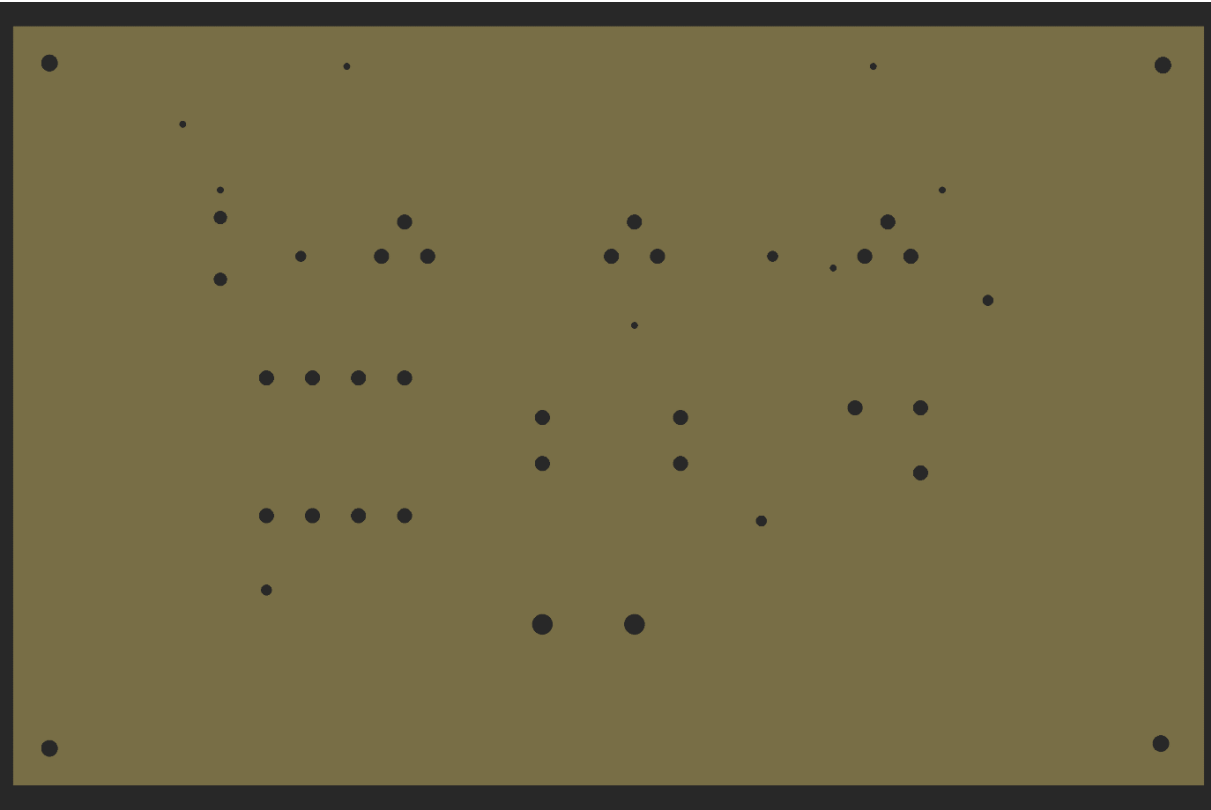
DESIGNED PCB TOP VIEW



DESIGNED PCB BOTTOM VIEW



DRILLS ON DESIGNED PCB



Design Link Order List:

2 Schematic - C:\Users\green\OneDrive\Documents\EAGLE\projects\EP\_PROJECT\ep\_project.sch - EAGLE 9.6.2 free

File Edit Draw View Tools Library Options Window Help

Layer: 91 Nets

Design Manager 0.1 inch (-6.4 4.4)

View: Parts

Project Documents 1 of 1 shown (1 selected)

Eagle: Farnell DesignLink order list for ep\_project.sch

Quantity	Value	Package	Order code	Manufacturer	Manuf. Code	Availability	Price (from)	Description
1	0.1uF	C025-024X044	169968	REMET	C0603C104HRACTU	31278	0.517	REMET - C0603C104HRACTU - CERAMIC CAPACITOR, 0.1uF, 16V, X7R, 20%, 0603
1	470uF	C025-024X044	1203718	ILLINOIS CAPACITOR	477CK010M	4988	6.0	ILLINOIS CAPACITOR - 477CK010M - ALUMINUM ELECTROLYTIC CAPACITOR 470uF
1	9V	AB9V	1650674	KEYSTONE	1294	1964	102.0	KEYSTONE - 1294 - Battery Holder, PP3 (9V) x 1, Through Hole
1	594C4607112k	TO-3	2095731	PARASONIC	EMC1602111	0	942.0	PARASONIC - EMC1602111 - PPS Sensor, PnP/PS, Digital, White, 12 m, 3 VDC, 6 VDC
1	100ohms	MO805	1652641	MULTICOMP PRO	MCMF04V4F1000A50	18160	0.761	MULTICOMP PRO - MCMF04V4F1000A50 - Through Hole Resistor, 100 ohm, MCMF04V
1	10K	MO805	1683362	NEOH - TE CONNECTIVITY	YR1810KCC	49859	18.43	NEOH - TE CONNECTIVITY - YR1810KCC - Through Hole Resistor, 10 kohm, R, 250 m
1	1M	MO805	2614373	VISHAY	HB80207C1004FC100	565	5.7	VISHAY - HB80207C1004FC100 - Through Hole Resistor, 1 Mohm, MBB, 600 mW, ±1
1	024DR1	024DR1	1652638	EXCELITAS TECH	V7935G	0	156.72	EXCELITAS TECH - V7935G - LIGHT DEPENDENT RESISTOR, 80mW
1	100K	MO805	1126841	MULTICOMP PRO	MCMF04V2F1003A10	2961	2.79	MULTICOMP PRO - MCMF04V2F1003A10 - METAL FILM RESISTOR, 100KOHM, 500mW
1	2K3906	TO92	1374372	MULTICOMP PRO	2K3906	92717	2.67	MULTICOMP PRO - 2K3906 - Bipolar (BJT) Single Transistor, High Speed Switching, PN
1	NE555	DL-08	1467742	STHROELECTRONICS	NE555H	0	16.8	STHROELECTRONICS - NE555H - IC, TIMER
2	1K	MO805	1683351	NEOH - TE CONNECTIVITY	YR1810KCC	13263	18.8	NEOH - TE CONNECTIVITY - YR1810KCC - Through Hole Resistor, 1 kohm, R, 250 m
2	2K3904	TO92	1423151	ONSEMI	2K3904TTR	0	3.14	ONSEMI - 2K3904TTR - TRANSISTOR, NPN, 40V, 40V, TO-92, FULL REEL

For detail view or new search of items please doubleclick them!

Number of PCBs: 2 Update Number of lot items: 13 With order codes: 13 In stock: 9 Add to shopping cart Save order codes Export... Help... Close

Run: designlink-order.asp: Check price and availability: 1467742

12:27 17-11-2021

## Contribution:

K Sreenivasulu Reddy (S20190020217)- Schematic Design, Gerber File, Report

K Venkata SeshaSai Pavan Teja (S20190020216)- Board Design, Libraries, PPT