

## **LIGHT DEPENDENT RESISTOR(LDR) BASED EVAPORIMETER SENSOR**

### **THE TEAM**

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The LDR based evaporimeter sensor uses the principle of floating. A floating PVC plastics serves as the floater,figure 1.A photo diode serves as the transmitter, transmitting light through the still well to the light dependent resistor(LDR). The PVC floater controls the amount of light reaching the light dependent resistor thus voltage output of the evaporimeter circuit. The evaporation inside the class A pan controls the movement of the floater inside the still well. The voltage output is then a direct representative of the evaporation from the Class A pan.The voltage output will be calibrated against a standard screw gauge mechanical evaporimeter sensor with a sill well inside a class A pan. This is a clear departure from most evaporimeter sensors that uses mechanical systems to measure evaporation.Figure 2 shows the circuit diagram of the sensor while figure 3 also shows the printed circuit diagram of the evaporimeter. The design has a battery monitoring circuit to monitor the battery level.This will prevent wrong data due to low battery. Figure 2 shows the circuit diagram while figure 3(a,b,c) show the printed circuit board views.This usually facilitate easy mass production of electronics boards.

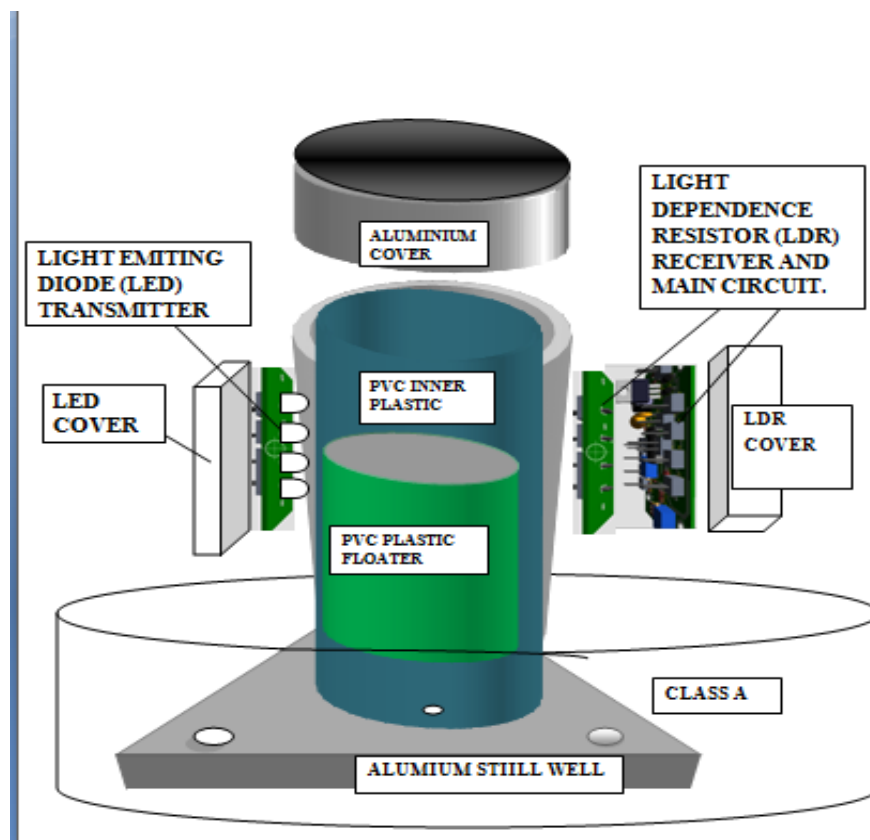


Figure 1, three dimensional illustration of a LDR based evaporimeter

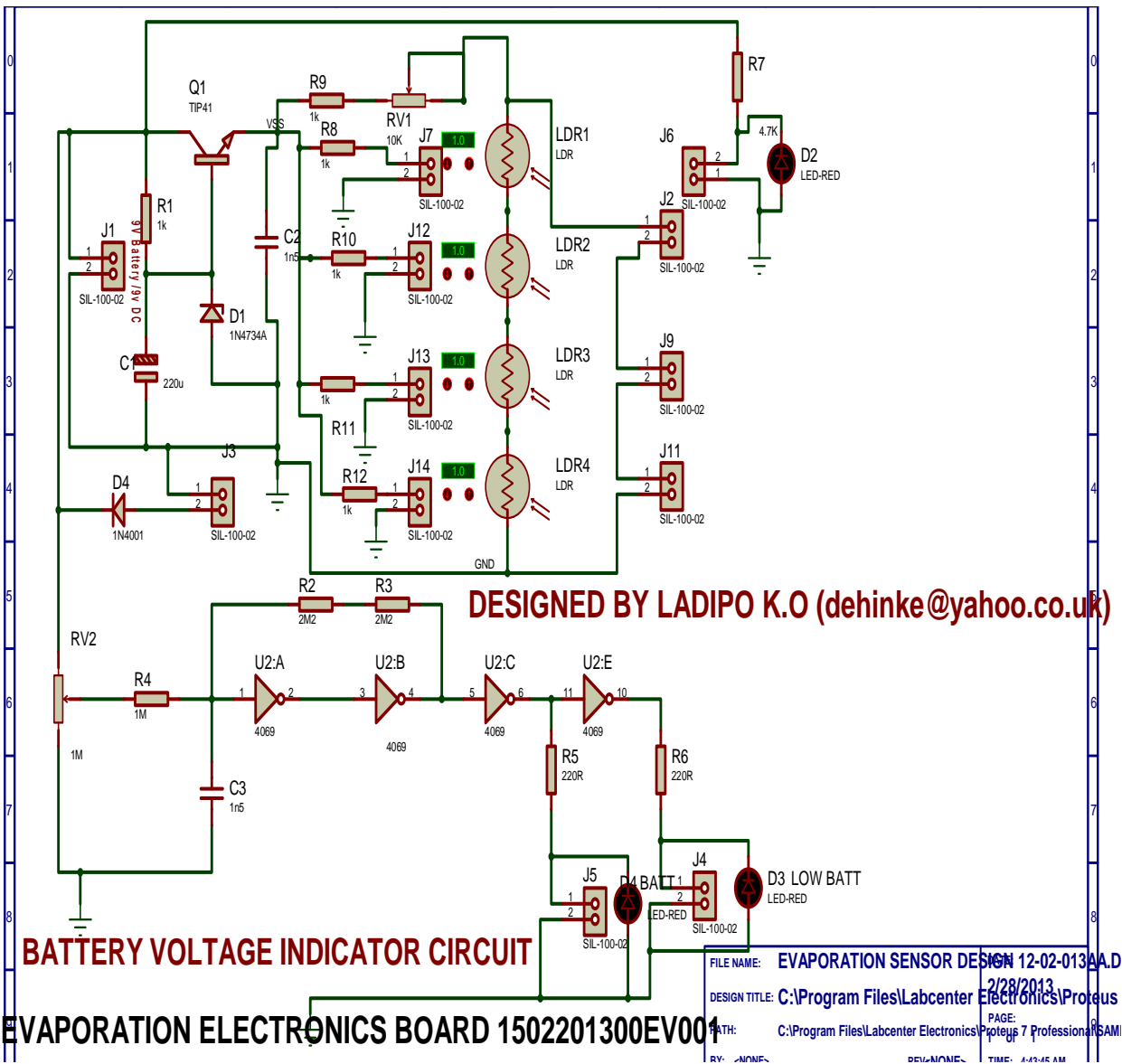
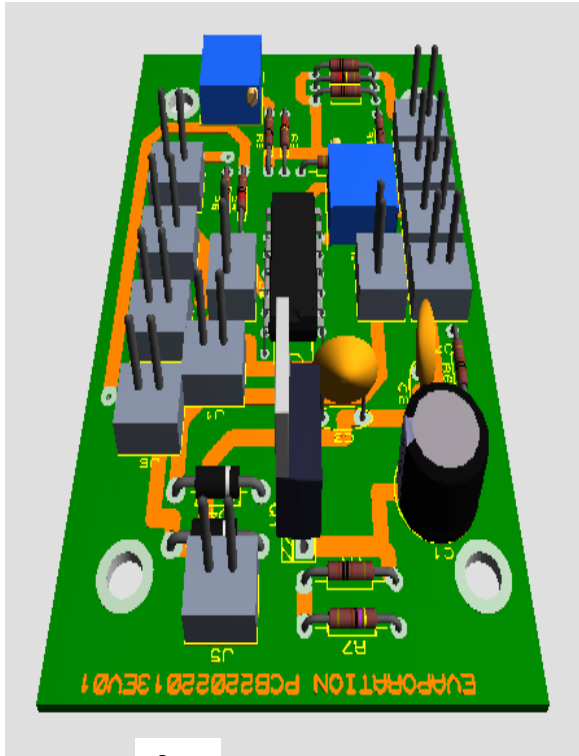
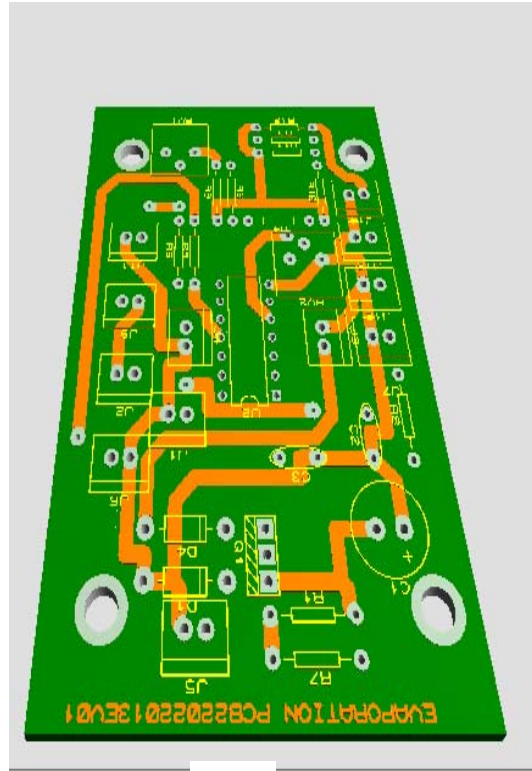


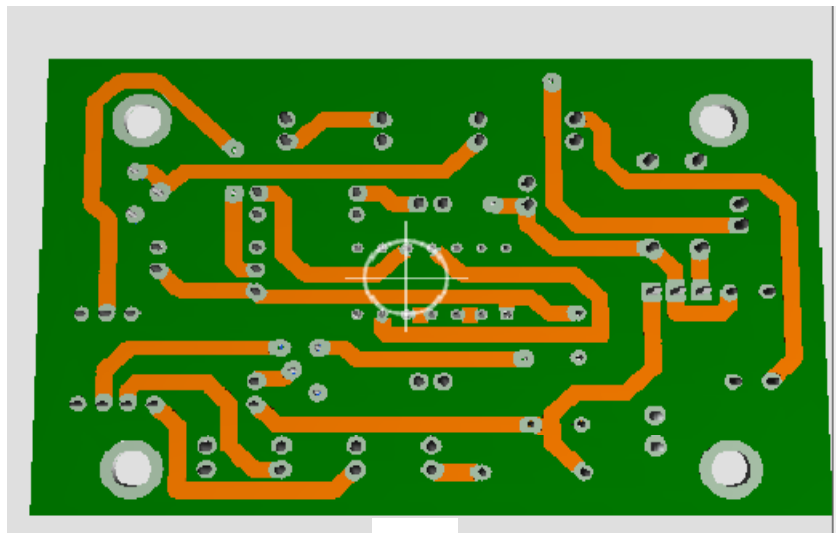
Figure2, Electronics diagram of the LDR based evaporimeter sensor



3a



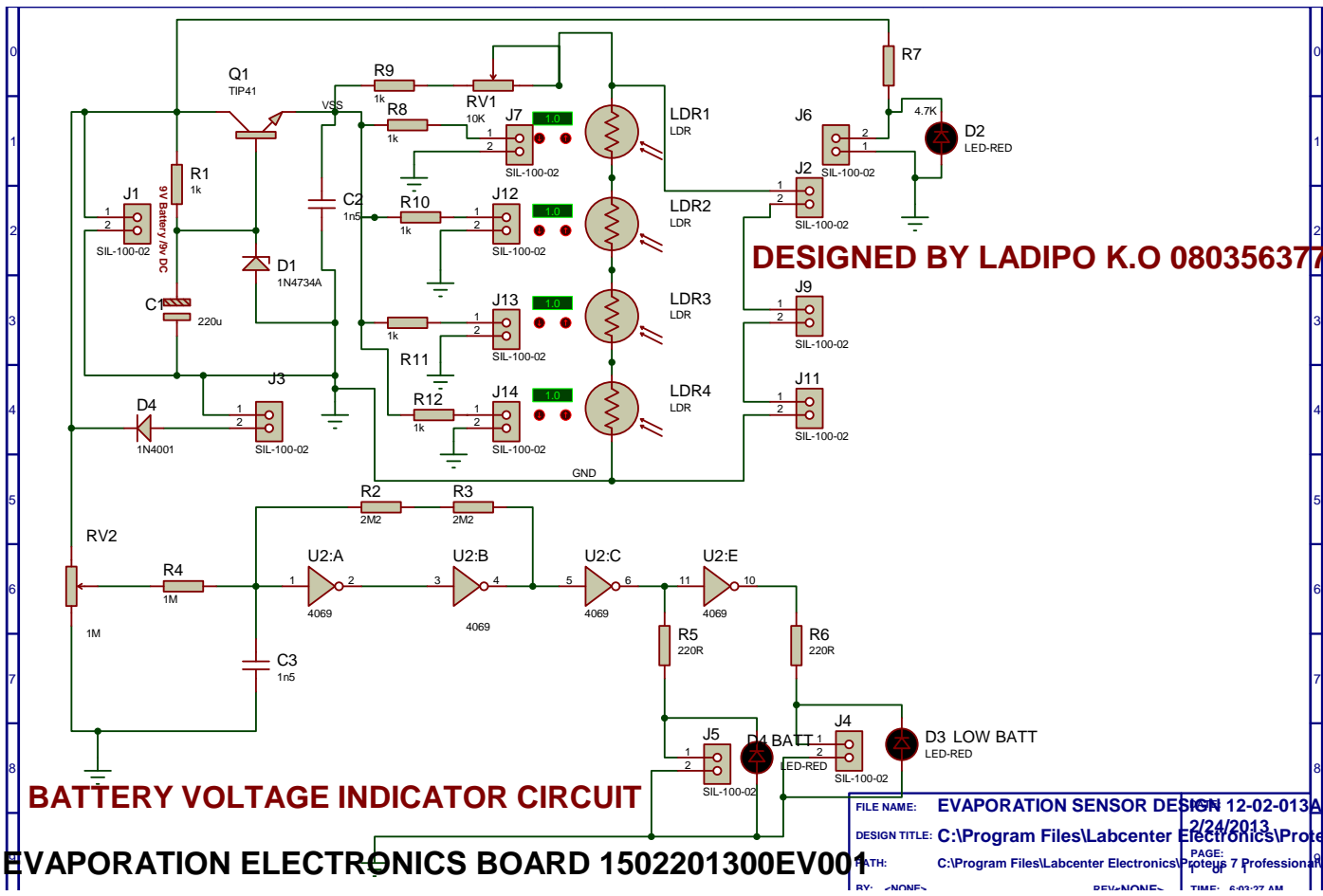
3b



3c

Figure3,Printed circuit layout of the the designed sensor,a,-with component, b-without component ,c-back view of the pcb board.





DESIGNED BY LADIPO K.O 08035637701

**BATTERY VOLTAGE INDICATOR CIRCUIT**

EVAPORATION ELECTRONICS BOARD 1502201300EV001

FILE NAME:	EVAPORATION SENSOR DESIGN 12-02-013AA.D
DESIGN TITLE:	C:\Program Files\Labcenter Electronics\Proteus
DATE:	2/24/2013
PATH:	C:\Program Files\Labcenter Electronics\Proteus 7 Professional\BAMF
RY:	NONE
REV:	NONE
TIME:	6:03:27 AM