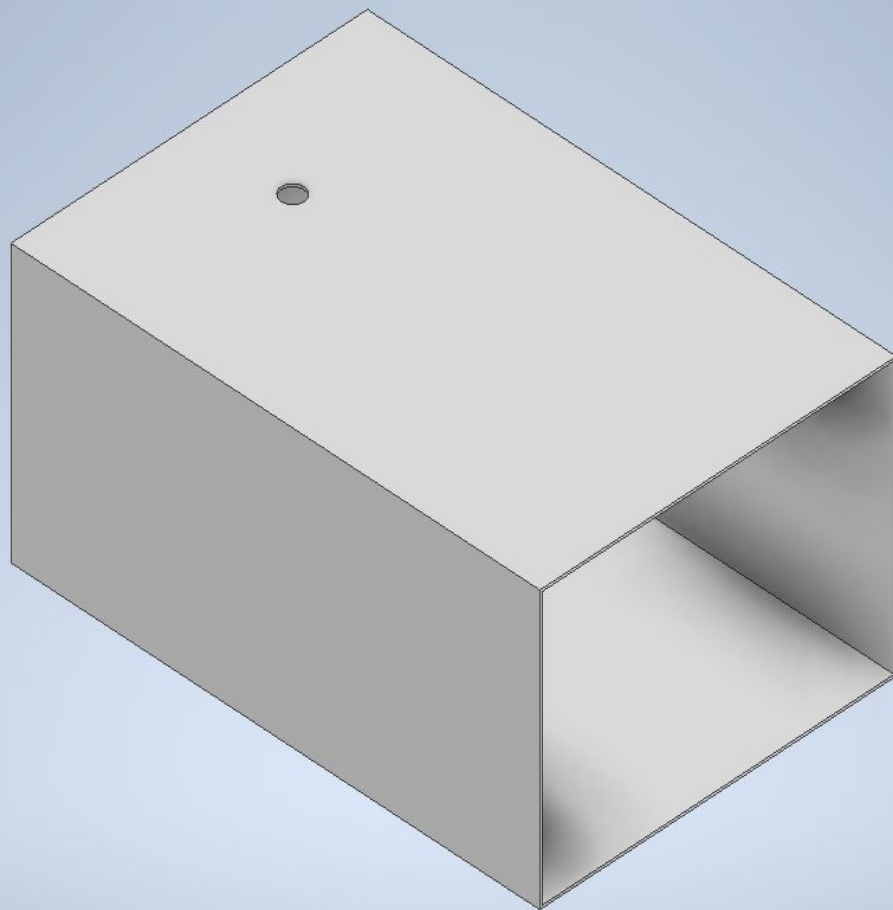
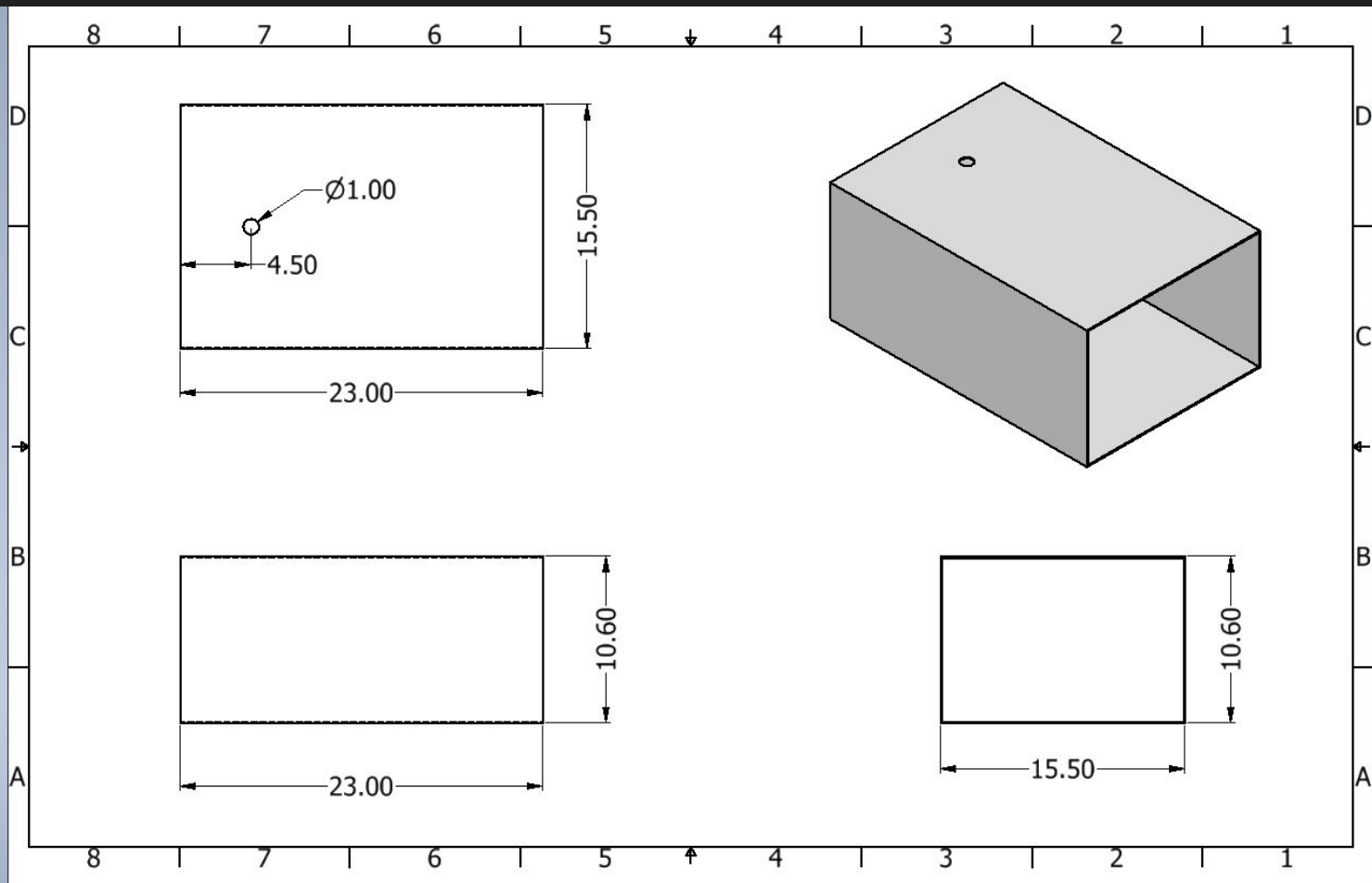


DIY H1 Line Detection

By STARC Lab

PI : Prof. Abhirup Datta





The Dimensions

Part 1 A



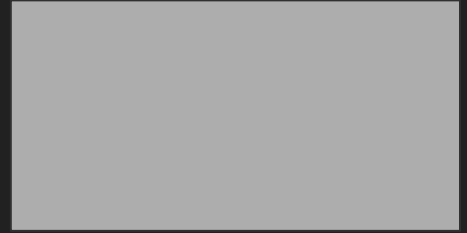
2 Rectangles of dimension
23 cm x 15.5 cm

Part 1 B



2 rectangles of dimension
23 cm x 10.6 cm

Part 1 C



1 Rectangle of Dimension
15.5 cm x 10.6 cm

1 of the rectangles will have a circular hole
with diameter 1 cm, 4.5 cm away from the
narrow edge

Assembly

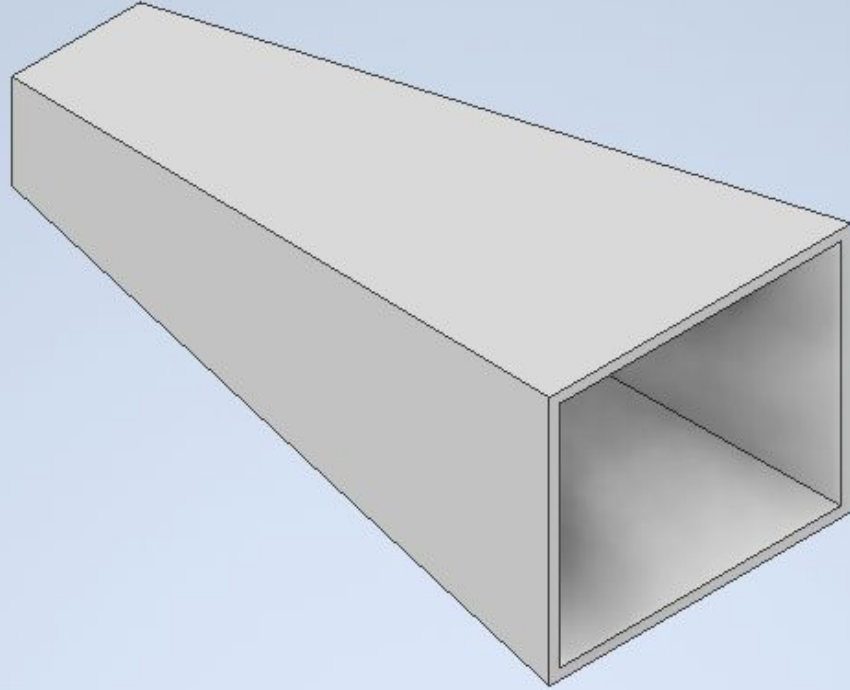
First make all the cutouts on the cardboard provided.

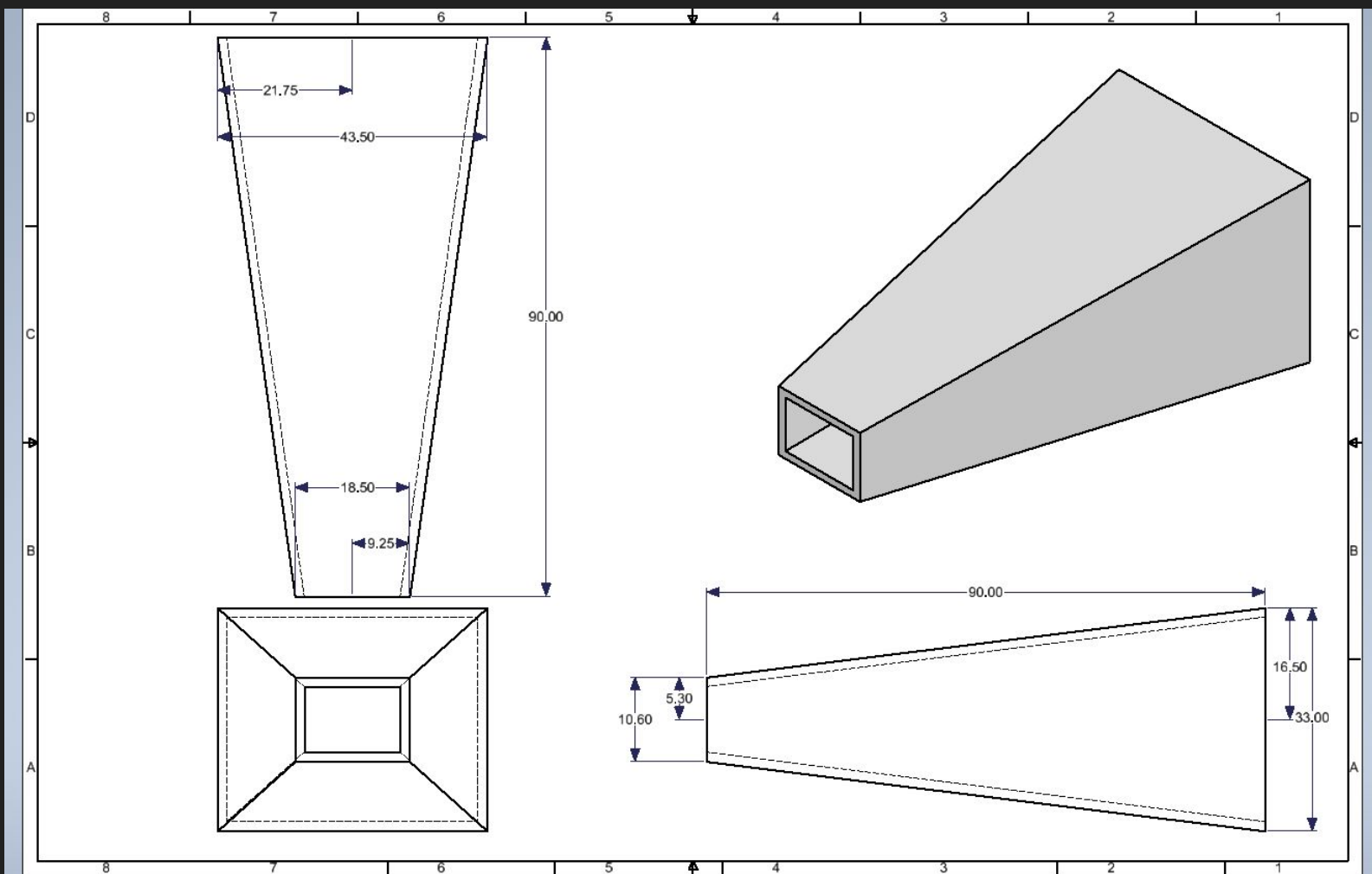
Then cover all the parts inside with aluminum foil.

Now glue the parts together with masking tape and glue

Ensure that there is no tape or glue on the inside cavity of the box (on top of the aluminium foil. You can put it under it to stick to the cardboard).

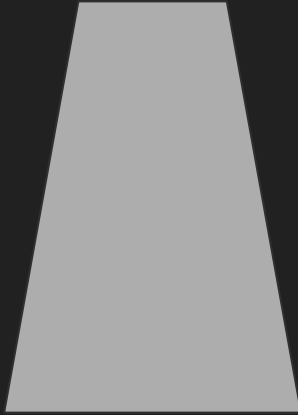
Check for conductivity using multimeter





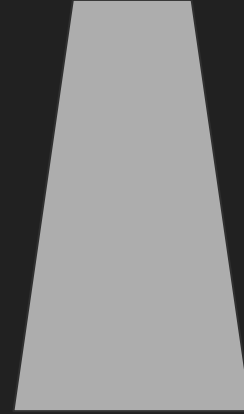
The Dimensions

Part 2 A



2 Trapezoids of dimension
23 cm x 18.5 cm with a height of 90 cm

Part 2 B



2 Trapezoids of dimension
33 cm x 10.6 cm with a height of 90 cm

Assembly

First make the cutouts on the thermocol provided

Then cover all the parts inside with aluminum foil.

Now glue the parts together with masking tape and glue.

The narrower trapezoids are between the the wider ones..

Ensure that there is no tape or glue on the inside cavity of the waveguide (on top of the aluminium foil.
You can put it under it to stick to the thermocol).

Part 3

Cut the copper wire to a length of exactly 5 cm and file one end to a narrow so that it can be soldered to the N type mount.



Final Assembly

First join the waveguide cavity and the waveguide with masking tape.

Ensure there is conductivity between the the cavity and the waveguide.

Glue the soldered feed in the hole made in the cavity.

In the end it should look something like this.



Box for Receiver Components

For this you have to make the box for the components using the acrylic parts given.

After it is made cover it with aluminium foil after placing the components in the order shown in the next slide

Receiver Chain

After making the box for the components we can place the front end components for the receiver chain whose purpose is to clean and amplify the received signals. The connection goes as follows.

LNA(Nooelec) - Green Chip
RFA

