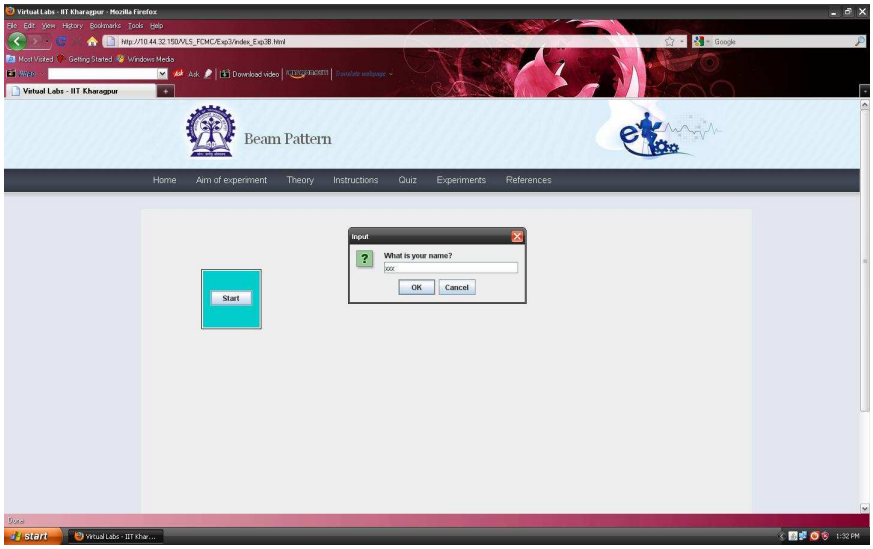
1 Instructions for Experiment 3 :-

Follow the instructions given below to perform the experiments:-

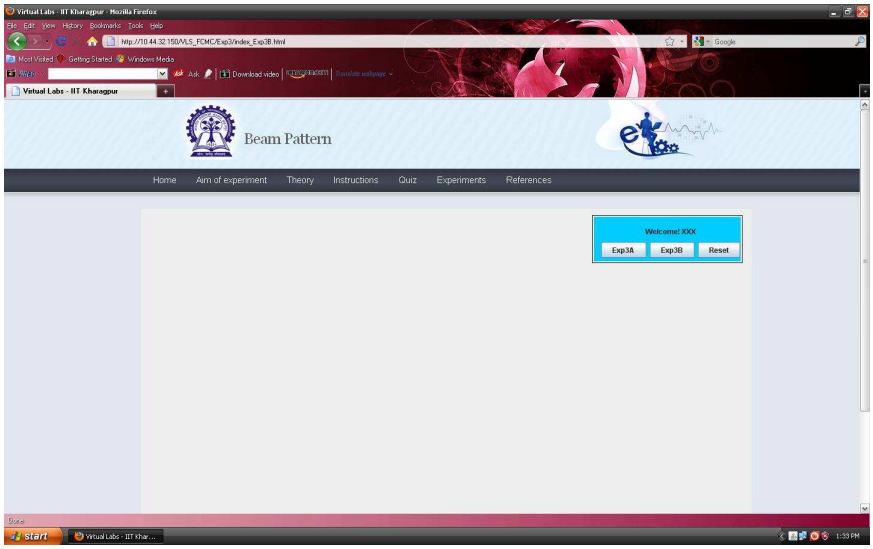
1.1 Starting the Experiment :-

- Step 1:-Click on the button START. A page appears with a dialogue box asking for your name. Enter your name and click OK.



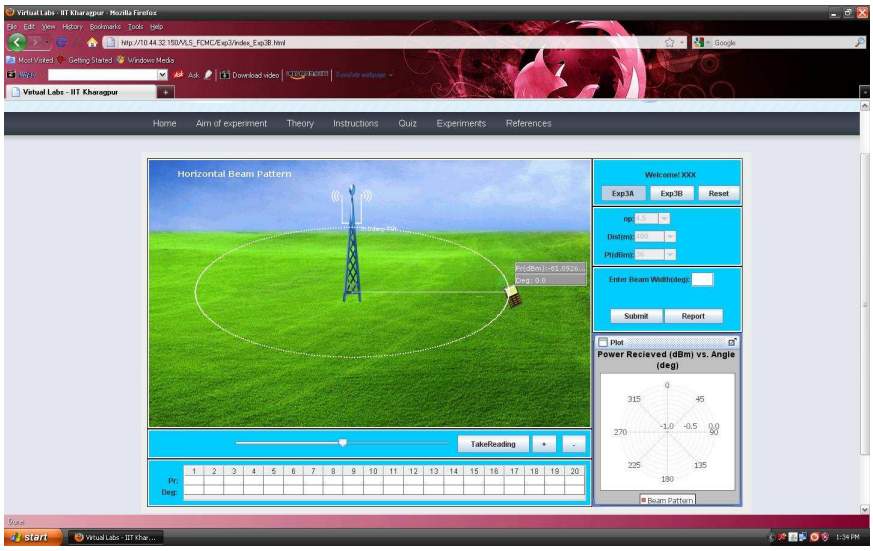
1.2 Performing the experiment 3A:-

- Step 2:-Choose the experiment you want to perform by clicking on the button EXPT 3A or EXPT 3B.

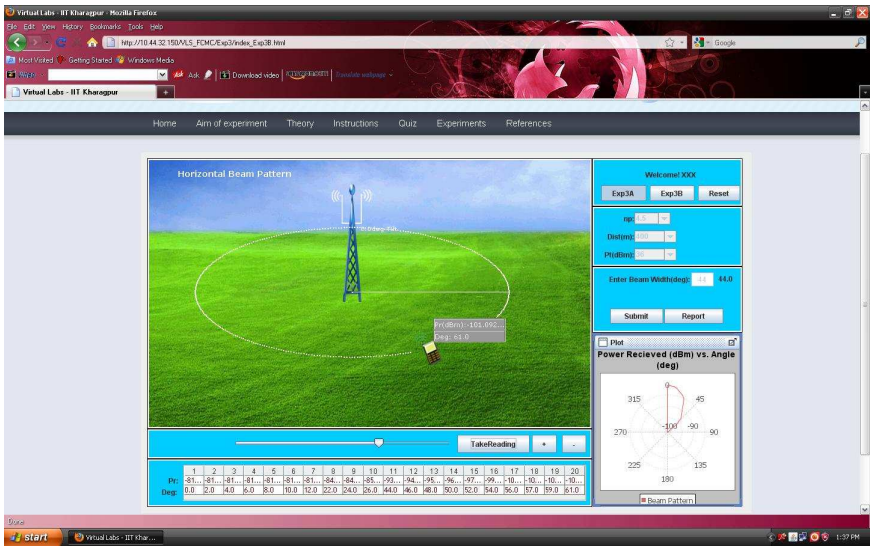


- Step 3:-Place the mobile at different locations from the base station by adjusting the slider. You can also use the buttons + and - to change the position of the mobile.

- Step 4:-Record the values at different positions of the mobile by clicking on the button TAKE READING. Take 20 readings.

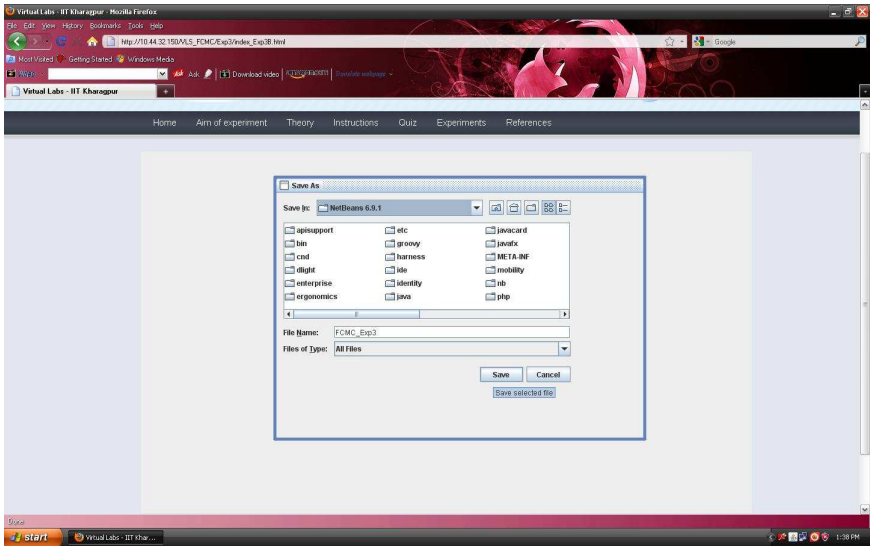


- Step 5:-You can observe the plot of power received vs angle on the RHS of the page.
- Step 6:-Now note the points where there is 3 dB fall of received power and calculate the beam-width by following the example given in procedure section.
- Step 7:-Enter your calculated value of beam-width in the box provided in the RHS of the page.
- Step 8:-Click on the button SUBMIT to verify whether your manually calculated value of beam-width matches the computed value of beam-width. The exact value of beam-width is returned.

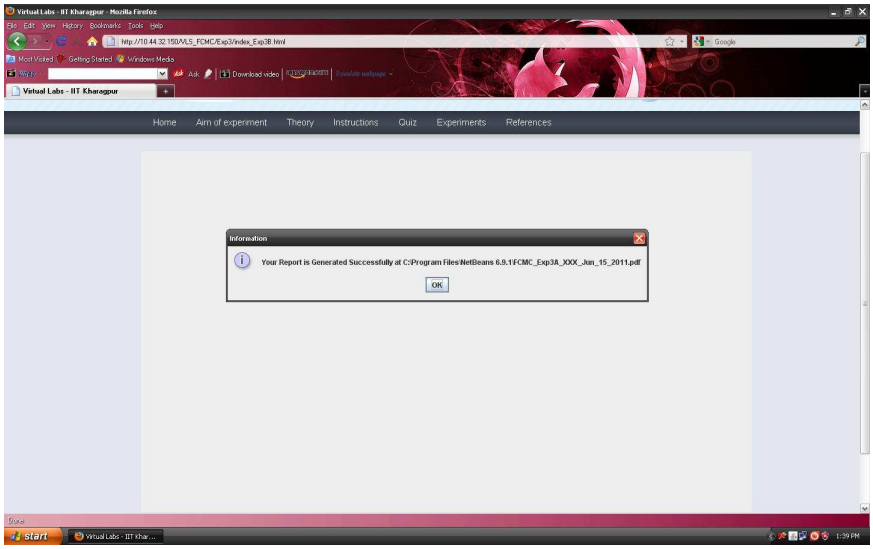


1.3 Generating the report :-

- Step 9:-Click on the button REPORT to generate the report of your experiment.
- Step 10:-Click on the button SAVE to save your report



- Step 11:-A dialogue box appears with the message that your report is successfully generated. Click on the buton OK to save your pdf report.



- Step 12:-Finally,you can view the pdf report of the experiment you have done.

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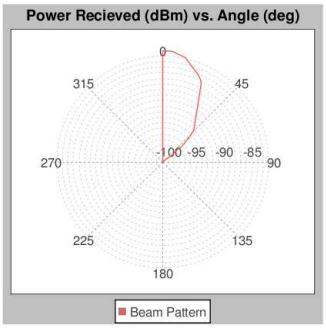
IIT Kharagpur
Date: Jun/15/2011

Exp 3A: Horizontal Beam Pattern
Name: XXX

Horizontal Beam Pattern	
Pr(dBm)	Angle(deg)
-81.09	0.0
-81.12	2.0
-81.19	4.0
-81.32	6.0
-81.49	8.0
-81.71	10.0
-81.99	12.0
-84.09	22.0
-84.66	24.0
-85.28	26.0
-93.09	44.0
-94.21	46.0
-95.37	48.0
-96.59	50.0
-97.85	52.0
-99.17	54.0
-100.53	56.0
-101.09	57.0
-101.09	59.0
-101.09	61.0
Entered BW	Actual BW
44 deg	44.0 deg



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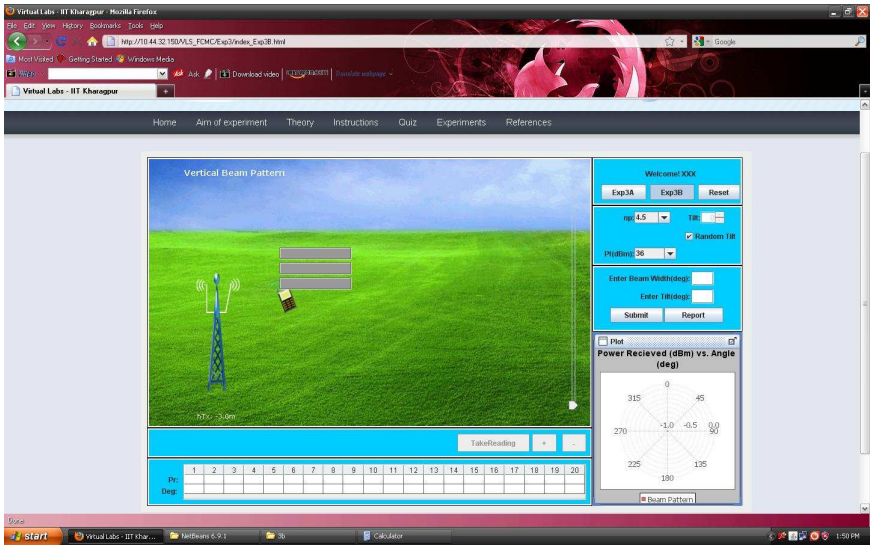
(Signature of Faculty)

- Step 13:-You can redo the entire experiment by clicking on the button RESET.

1.4 Performing the experiment 3B:-

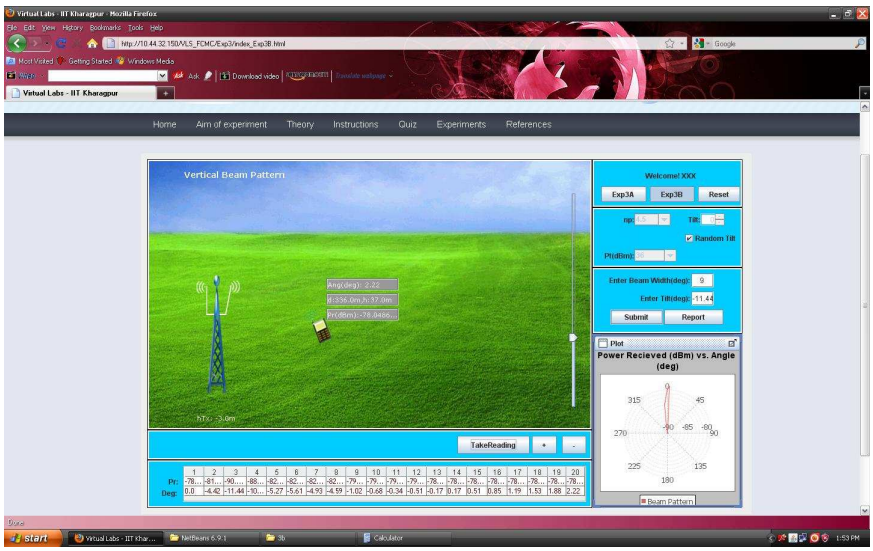
– Step 14:-Follow the Step 2 as in experiment 3A.

– Step 15:-You can choose either random tilt or adjust the tilt value as given in the RHS of the page.



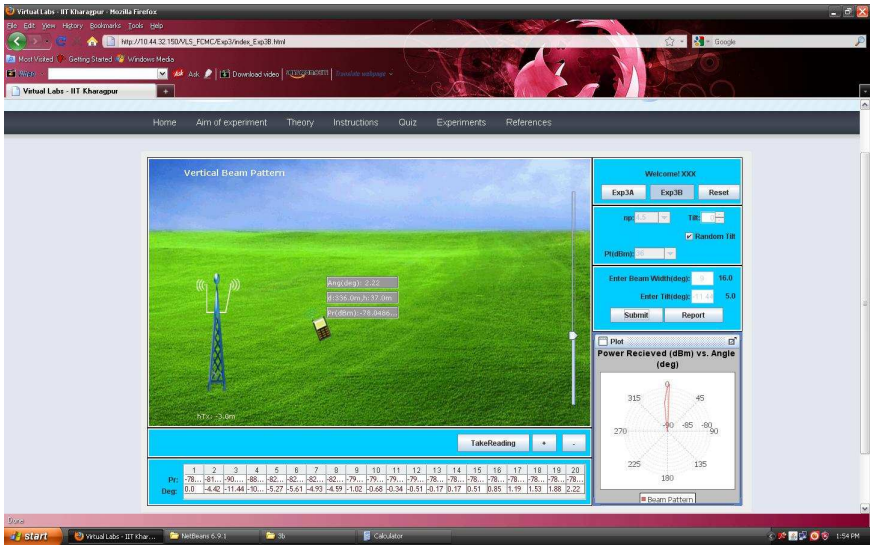
– Step 16:-Drag the mobile and place the mobile at different locations from the base stations by adjusting the slider. You can also use the buttons + and - to change the position of the mobile.

– Step 17:- Record the values at different positions of the mobile by clicking on the button TAKE READING. Take 20 readings.



– Step 18:-Now note the points where there is 3 dB fall of received power and calculate the beam-width by following the example given in procedure section. Observe the angle value at which received power is maximum.This is the tilt angle value.

– Step 19:-Enter your calculated value of beam-width and tilt in the box provided in the RHS of the page.



1.5 Generating the report :-

– Follow Steps 9 to 12 to generate the pdf report of the experiment you have done.

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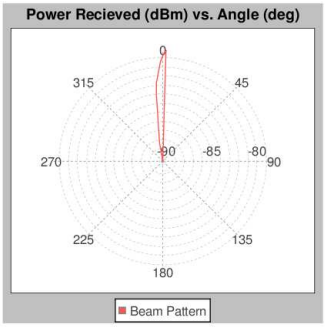
IIT Kharagpur
Date: Jun_15_2011

Exp 3B: Vertical Beam Pattern
Name: XXX

Vertical Beam Pattern (Tilt= 5.0deg)	
Pr(dBm)	Angle(deg)
-78.86	0.0
-81.85	-4.42
-90.36	-11.44
-88.41	-10.12
-82.63	-5.27
-82.96	-5.61
-82.31	-4.93
-82.0	-4.59
-79.39	-1.02
-79.2	-0.68
-79.02	-0.34
-79.11	-0.51
-78.94	-0.17
-78.78	0.17
-78.63	0.51
-78.49	0.85
-78.36	1.19
-78.25	1.53
-78.14	1.88
-78.05	2.22
Entered Value	**Actual Value**
BW: 9 deg	16.0 deg
Tilt: -11.44 deg	5.0 deg



(Signature of the Candidate)

(Signature of Faculty)

– Step 20:-You can redo the entire experiment by clicking on the button RESET.