University of Rhode Island Department of Electrical and Computer Engineering
ELE 435: Communication Systems

Lab 1 Report and Grading Format (Modeling an Equation and DSBSC Generation)

1 Report Format

1. Briefly explain what you did in the lab
2. Show the Results/plots, you can use excel or a snap shot or draw it by hand.
3. Matlab Code (print the code with the report and also send me the .m file, please save it as lab1_yourname.m)
4. Compare the results/plots from Matlab with the results from lab. The plots should look approximately similar, if not explain why not.
   (a) For PartI: Generate two sinusoid signals, add and plot the result when they are in phase and 180 degrees out of phase. Compare the results with the plots obtained in the lab.
   (b) For PartII: Generate a DSBC signal (equation 1 in the lab handout). And plot the result. Compare the matlab plot with Figure 1 or 4 of the lab handout. Use $\omega = 10$KHz and $\mu = 1$KHz.
   (c) Plot the spectrum of the DSBC (above) signal. Compare the matlab result with Figure 1 of the lab handout.
   (d) Pass the signal through a Low Pass Filter, with pass band edge 60KHz (as stated in T7 of part2 of the lab handout), 13KHz, 10KHz, 6KHz. Plot the results. And justify the results. (Hint: Plot the output spectrum. In matlab you can use fir1, fir2 commands for Low Pass filters, you can use any other kinds of filters too.)
5. Answer the following questions
   (a) The questions on page 8 of the handout.
   (b) Few other questions listed in the procedure.

2 Grading format

The lab will be graded for a total of 10 points. There is an option for extra credit, you will not loose any points.

1. 4 points for Steps 1.1 - 1.2
2. 3 points for Steps 1.3 - 1.4 (Matlab)

3. 3 points for Step 1.5 (for answering the questions)

4. Extra credit: what did you get from this lab (Example: low pass filter or anything, points will vary on the effort and the justification)

3 Feedback

I would appreciate if you take few minutes to answer the following questions.

1. How do you rate the lab

2. What was explained properly and what was not

3. Did you find any concepts missing

4. Feel free to write any other comments (what did you like about the lab and what you didnt, so forth)

You can work in groups but everybody should submit an individual report. The lab report is due in a week.

If you have any other questions, you can send me an email at vijay@ele.uri.edu or stop by the lab Kelly 201.