

Comments on Project 1 Reports

1. Most of you grasped the idea that the stub needed to be a quarter wavelength and did a good job of building the blocker. You were able to build a working blocker and adjust its length, if necessary, to block the channel of interest.
2. Task breakdown needs to be more formal and specific. Imagine that you are part of a team on the job and responsibilities are well established. It may also be useful to describe your working relationship. When and how did they get the work done? Give an example of how team members were picked, how plans were developed, updated, etc.
3. Look at the materials you have included and make sure that their purpose is clear in your write up. For example, if you have included plots or calculations, you should refer to them in the text of your write up. Do not just attach them. Also, do not just state that 'calculations follow' or 'plots follow.' Refer to the information in the plots specifically and point out where to find them in the attachments.
4. All plots should have some comments on them or near them explaining what information they contain and why you think the information is correct.
5. Justify the parameters you use. For cable resistance, there is a frequency dependence to take into account. Provide specific references to information. Did your actual results correspond well to the parameters of your cable? Did you have to adjust them in some way? Usually it is hard to exactly identify the cable you are using, but the numbers fall out when you make your measurements. For example, the specific insulator can be identified from the velocity, which determines the cable length. If you use a particular reference for your information, discuss why you think you chose the appropriate source. Don't just list the url for the information and leave it at that.
6. Use 50 Ohm cable for function generator frequencies and 75 Ohm cable for CATV frequencies.
7. Did you get your results signed off in some way by TAs?
8. For the parameters you have chosen in your design (eg the length of the line between double stubs) you should investigate whether you can see any improvement by increasing or decreasing the values.
9. Discuss the apparatus used in the tests – watching the TV signal, using the spectrum analyzer, etc. What did you learn from them? How did the results you observed correspond to your theoretical predictions? For example, many of you showed perfect blocking results for both the lossless and lossy cases and, yet, some level of signal still got through. To me, this suggests that you did not use a large enough resistance per unit length. Discuss your testing procedures.
10. Discuss significant differences between the low and high frequency cases, the lossy and lossless cases. If no differences occur, discuss this too. One would expect some kind of difference. Most of you saw some differences between the low and high frequency cases but did not comment.
11. Don't use the DC resistance for the cable. This is way too small. The resistance of the cable is frequency dependent because of the skin effect. Some of you were able to calculate the resistance either from the attenuation specified by the manufacturer or from a formula. However, most reports had this wrong.
12. Do something a little imaginative with your report, design, experiment, etc. Some people had some very clever photos and diagrams.