

EE 311
Assignment 08

March 20, 2017
Due: March 29, 2017

Design and implement a low pass *Chebyshev* filter to meet the following specifications:

Sample Frequency : 11025

Pass band edge : 0 to 1,800 Hz

Pass band ripple : 0.01

Stop band edge : 2,300 Hz to $fs/2$

Stop band ripple : 0.02

Implement this filter on the ARM Discovery board.

Turn in the following:

1. Cover sheet with the assignment number, your name, the date turned in, and your filter order.
2. A signed verification sheet showing that you implemented this filter correctly.
The sheet must be signed by Blandford, Randall, or Cron
3. Your complete commented C code which implements the filter and shows the second order sections
4. The frequency vs. amplitude plot for the filter over the whole frequency band.
5. Blow up plots of frequency vs. amplitude that show that your filter meets the specifications.
6. The MATLAB code used to design the filter.

Verification Sheet
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I verify that _____ implemented a low pass _____ filter that meets the following specifications:

Sample Frequency : 11025
Pass band edge : 1800 Hz
Pass band ripple : 0.01
Stop band edge : 2300 Hz
Stop band ripple : 0.02

Signed by Blandford, Randall, or Cron

Note any exceptions:
