

E157 Lecture 9 Day Plan

Clarification re filter order and number of energy storage elements

Any questions before quiz

Quiz + Team Quiz + Talk through solution

Lab practice discussion – designing a filter while using a live Smith Chart

Parasitics discussion – amplifiers have shunt C, and vias have series L

Manipulations for calculating band edge and rolloff in a Butterworth

Design a 3rd order Butterworth and compare to <https://www-users.cs.york.ac.uk/~fisher/lcfilter/>

Check-in, office hours

Order	R_S	C_1 a_1	L_2 a_2	C_3 a_3	L_4 a_4	C_5 a_5	L_6 a_6	C_7 a_7
1	1.0	2.0000						
2	1.0	1.4142	1.4142					
3	1.0	1.0000	2.0000	1.0000				
4	1.0	0.7654	1.8478	1.8478	0.7654			
5	1.0	0.6180	1.6180	2.0000	1.6180	0.6180		
6	1.0	0.5176	1.4142	1.9319	1.9319	1.4142	0.5176	
7	1.0	0.4450	1.2470	1.8019	2.0000	1.8019	1.2470	0.4450