

High Speed Electronics

Workshop 2 Marking Guide

Your report on Workshop 2 should include the following components

Colpitts Oscillator		Marks allocated	Marks awarded
An executive summary of the simulation	A summary that explains the objectives of the simulation	1	
Calculate minimum gain for start up	Calculation with equations	1	
Calculate frequency	Calculation with equations	1	
Implement and run the simulation	Choosing the correct transistor Plotting the correct output signal You must show your simulation plots to your demonstrator and include them in the report	2 3	
Compare the simulated and calculated values	A discussion comparing the two values Reasons for difference in calculated and simulated values	1 1	
Cascode Amplifier			
An executive summary of the simulation	A summary that explains the objectives of the simulation	1	
Bias and run the simulation	Correctly biasing and running the simulation You must show your simulation plots to your demonstrator and include them in the report	1	
S-parameters	Calculate the S-parameters with equations	3	
Matching circuit	Design the matching circuit	2	
Verify the simulation	Simulate with the matching circuit and verify using new S-parameters	3	