

ECE 238 - Final Project

Fall 2009

VGA Controller for Multiple Resolutions

Work on this project individually!

1. Introduction:

This project is an extension of the Lab 8, design of VGA controller to display images in the VGA monitor. As an extension of the above lab, your design should support images with different resolutions.

Your VGA controller should support the following resolutions:

1. 640x480 @ 25MHz
2. 800x600 @ 40MHz
3. 1024x768 @ 65MHz
4. 1280x1024 @ 110MHz
5. 1600x1200 @ 160MHz

2. Lab Task

- Implement a DCM (Digital Clock Manager) to get above mentioned different frequencies.
- Write the VHDL code for the VGA controller that support the above mentioned resolutions.
- Implement on the Spartan 3E board and verify the output in the monitor.
- Attach a brief report explaining your design.

Provide a section for :

1. Objective
2. Introduction
3. VHDL codes
4. Conclusion.