MicroNet Digital Core Design
Project Continuation

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1.0 Introduction

This report is written to show my recommendation for the project continuation for the MicroNet Digital Core project. The following information will support my opinion of the project continuation. Below is a time that shows what still needs to be accomplished for the project.

2.0 Continuation Support

Woodward will continue to support this project until the modules have been released to production and released for customers to purchase. Because the project was slightly pushed back it still needs to go through the entire test plans for validation. This testing will include EMC testing that will not be done in the department (Woodward has a separate department that does all EMC testing). Once the modules have gone through all of the testing and the data has been collected and processed for circuit variation, the project team will have a chance to make modifications to the circuit design, if needed, for a second design turn on the module’s printed circuit board.

The project has been a wonderful experience for me to learn the design process and to use my design skills to produce a portion of a quality product.

2.1 Detailed Test Result

The digital core circuitry will go through a series of tests. White-box testing and black-box testing will be completed at all extremes of the specifications and some will be beyond the written specifications (such as temperature testing will be tested at the written specifications plus/minus 10 degrees Celsius or 20 degrees Celsius). The circuitry also has additional circuitry installed for the development boards to allow four corners testing with all voltage rails at both extremes. All of the engineering requirements that were completed from the first semester will be tested for functionality. Testing will also verify that the timing margins, signal integrity, simulations and circuit analysis are accurate. With all of the testing that is going to happen it will take the majority of the second semester. If there is enough time, I would like to add more testing in my schedule to see how the digital core will react in the standard EMC tests that Woodward has to pass for specific certifications on the MicroNet system (UL, CSA, LVD, etc…). All test report will be loaded into the Woodward WPDS database for internal distribution.

2.2 Future Projects

The Woodward MicroNet digital core circuitry has been created with the idea that it will be reused for multiple types of Input/Output modules; because of this there will be multiple modules that will need to be redesigned as soon as this High Density Discrete I/O module is complete. An electrical engineer will do most of this work and the tasks will be to implement other types of I/O circuitry to the core digital circuitry that I designed in this project.
3.0 Contact Information

The following people have created this report. If you have any questions regarding this report please contact them.
Name: Matt Heath
Phone (work): 970.498.3338
Email (work): mheath@woodward.com