sddec18-20: High-Resolution ADC Using Delta-Sigma Architectures

Week 1 Report
January 18 - January 28

Team Members

Caleb Davidson — *Communications and Scribe Manager*
Caroline Alva — *Chief Engineer*
Joshua Rolles — *Report Manager*
Tyler Archer — *Test Lead Engineer*
Mahmoud Gshash — *Meeting Facilitator*

Summary of Progress this Report

Research and background information on how the delta-sigma ADC architecture works. Some progress was made into modeling the basic components and what their design characteristics will look like. Tried to understand why others in the field are doing what they are doing.

Pending Issues

Lack of specificity in what to research, lack of information regarding the background of the project, as well as declaring necessary design issues so we can determine how we will overcome them. We need to clean up design specifications at this point.

Plans for Upcoming Reporting Period

Research more, and divide duties so that we can start specializing our research to further benefit our group. Try to nail down what others are doing in the field, and what we should be doing for our design specifications.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Caleb Davidson	Research on Delta-Sigma Architecture and its history, created weekly status report, and fulfilled meeting duties. Basic understanding of design requirements.	4	4
Caroline Alva	Basic research into what others are doing in the field of delta-sigma architectures and trying to see what specifications they are using.	4	4
Joshua Rolles	See what implementing the design will need for design requirements. Started using design work from research to build an overall picture of the design for planning purposes.	4	4
Tyler Archer	Researched what delta-sigma ADCs do, what	4	4

	they are used for, and how they differ from other types of ADCs. researched the desired performance parameters of delta-sigma ADCs that are used to convert the analog output of a temperature sensor to a digital signal		
Mahmoud Gshash	Built up a design library of knowledge with which to reference in the future (so as to see what worked and didn't in the design choices we have). Also looked into various previous work that may be relevant (past project of a temperature sensor).	4	4