

## ## Meeting Minutes

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\*Hannah Pearson\*

\*Matt Covalt\*

\*Matt Waltz\*

\*Roy Cochran\*

\*Feng Li\*

\*Client: Idaho Scientific\*

\*November 1, 2017 3:30pm-4:15pm\*

### ### Agenda Notes/Status Report

Status: In response to questions from the client, we clarified several items from the Monthly Status Report. Specifically,

we described the type of tests we ran and the purpose thereof, which included running I/O and port accesses for the purpose of

getting deterministic results and implementing control, jump, and intensive instructions on the processor. The goal was

to obtain deterministic results, which meant running tests over and over again and comparing the results.

Data was stored and filtered in order to examine and compare peaks and timestamps.

For the data capture, we used the o-scope directly because the amplifier did not give us enough amplification.

We had a meeting with Dr. Robert Heckendorn, a computer science professor who teaches classes on machine learning and bioinformatics, to

discuss possible algorithm choices such as SVM (Support Vector Machine).

He recommended that we consider sequence matching algorithms that are used for bioinformatics and genome sequencing.

Such algorithms work by aligning adjacent sections of longer sequences and adaptations or variants thereof may be well suited to this project.

With a sequence alignment algorithm, we hope to be able to compare regions between sequences of waveform peaks distributed over time.

At this point, we are exploring multiple avenues and need to gather data and perform tests in order to determine which algorithms are best

suited to our needs.

We discussed the antenna and box design. Roy found a solution to use a small wire and a loop antenna.

For PDR, our plans are to identify one to three of the most promising algorithms, describe how we intend to capture data,

and propose a design with boot code. The client may travel to Moscow to be present at PDR, which will most likely be on or near 11/15.

\* Key Decision: Information such as test setup, explanations on why amplifier did not work, details about tests and results, and more general context are needed for the Monthly Status Report.

\* Key Decision: Test and debug the amplifier.

\* Key Decision: We need to increase the amplitude of the signal in order to get meaningful information.

\* Key Decision: The client would like to see more graphs and capture data for PDR or next Monthly Status Report.

\* Key Decision: We plan to use Linux for the bulk of processing the signal.

\* Key Decision: For PDR, the client would like to see high level block diagrams with descriptions, descriptions and how tos with our proposed PDR plans.

\* Key Decision: The client would like us to divide up the status during the meeting and have everyone comment on their work.

\* Key Decision: The client would like to see more detail in the meeting minutes, such as approvals, key decisions, more specified action items, and better grammar and spelling.

### ### Action Items

\* Client: Send us questions before the status meeting so we can have better answers for you.

\* Client: Send us requested antenna and amplifier.

\* Client: Move over to gitlab.

\* Team: Draft of acceptance test by PDR, 11/15.

\* Hannah: Wiki page.