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Weekly Report #1 – Project Proposal Revision and Plans for this Week

Goals

Finished a comprehensive research proposal providing background information for this project, underlining allocated tasks such as receiver architecture and radio frequency wave reconstruction, and addressing technical issues that will likely arise when constructing and testing the AMRUPT receiver system. For this week, work towards obtaining accurate and reliable in-phase and quadrature measurements from the CC1310.

Problem

The CC1310 does correctly refresh accurate In-phase and Quadrature information on the console. The system needs accurate I/Q values at this stage to determine the phase differences of incoming signals.

General Approach

Discuss the final product of the Research Proposal during the weekly meeting. Conduct a group debugging of the I/Q extraction code on the CC1310 during the week. Consult with Dr. Kan and consulting researchers on the specific coding functions on the CC1310 and on their ideas on obtaining the right RF switch, antennas, and other necessary components. Also, address to Dr. Kan whether the CC1310 has a sufficient sampling rate for RF wave reconstruction.

Code-level problems and solutions, and empirical testing

Please see the Winter Break report on the most recent issues/code in regard to the above problem.

Please Note

Please note that work on the proposal was being done until Friday afternoon. This took up all the available time during the week that this report covers.