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One of the challenges of utilizing higher frequencies in the RF spectrum, for any number of applications, is the hardware constraints of analog-to-digital converters (ADCs). Since mid-20th century, we have accepted the Nyquist-Shannon Sampling Theorem in that we need to sample a signal at twice the max frequency component in order to reconstruct it. Compressive Sampling (CS) offers a possible solution of sampling sub-Nyquist and reconstructing using convex programming techniques. There has been significant advancements in CS research and development (more notably since 2004), but still nothing to the advantage of everyday use. Not for lack of theoretical use and mathematical proof, but because of no implementation work. There has been little work on hardware in finding the realistic constraints of a working CS system used for digital signal process (DSP). Any parameters used in a system is usually assumed based on stochastic models, but not optimized towards a specific application. This thesis aims to address a minimal viable platform to implement compressive sensing if applied to a wireless sensor network (WSN), as well as address certain parameters of CS theory to be modified depending on the application.