Low frequency communication over long distances may not require physical wires for connection, but it does require large, cumbersome systems. Scaling down the size of these systems disturbs the needed properties for clean communication, so a different approach is needed to maintain efficient communication while reducing the size of the package.

Overview

Our electrically small antenna is an integrated package that combines high-impedance low-noise buffer amplifiers with a 20-cm antenna. It is capable of receiving signals within the AM (530-1710 kHz) and FM (76-108 MHz) ranges. These amplifiers are the key to reducing the size of the system. This technology can be applied to other lower frequencies as well.

Functional Flow Diagram

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