

A series of experimental investigations will be conducted regarding the operational maturity of a new unconventional compact coaxial transmitter technology. This technology uses a Marx voltage multiplier circuit to generate high voltage pulses that are coupled directly onto a dipole antenna. The initial experimental characterization phase will be followed by an engineering development effort that will require intermittent field validation testing. The transmitter will be operated in the single shot mode although it will occasionally be operated at pulses repetition frequencies of up to 20 Hz for on the order of a few seconds. The transmitter is intended for use as an expendable pod for the purposes of wideband radar-type and materials sensing applications. The characteristics of the emissions will be monitored by an array of sensitive free-field sensors connected to a centralized data acquisition, analysis, and archival system.