Detailed Exhibit for STA Application
STA File Number: 0678-EX-ST-2013
STA Confirmation Number: EL639984
Correspondence Reference Number: 20876
July 17, 2013

The referenced STA application is required to support planned RF experiments in the fall of 2013. The purpose of the experiment is to characterize signals transmitted from a fixed ground based transponder to a cooperative airborne radar system. This application is only for the operation of the ground based equipment. Figure 1 shows a line diagram of the experiment configuration.

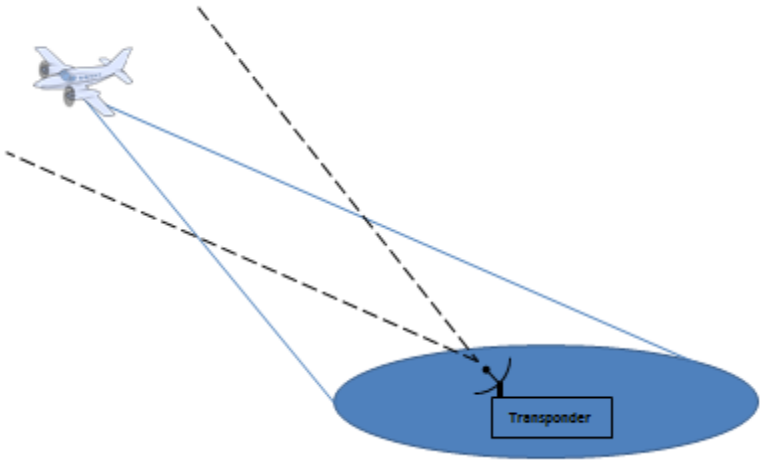

Figure 1 Line Diagram of Experiment Configuration

The airborne radar will emit pulsed RF energy via a directive antenna towards the ground based equipment. The ground received signal will be delayed and transmitted back towards the airborne radar via the ground based transponder through a directive antenna. The ground antenna has a nominal beamwidth of +/- 15° in azimuth and elevation, and will be nominally pointed up 25° above the horizon toward the airborne radar.

The transponder will have a maximum transmitter peak power of 5 Watts and an antenna gain of 15 dB, thus the ERP is 158W in the direction of the airborne radar. The signal characteristics are a pulsed waveform with up to 800 MHz of instantaneous bandwidth.