

MIT Lincoln Laboratory develops RF based detection capabilities for the Department of Defense (DoD). In order to have a successful transition to the warfighter, we need to thoroughly test and evaluate our developed techniques and technologies in real operating environments from the air. The DaVinci project is an airborne subterranean void detection system that utilizes transmitted frequencies in the frequency range of 100-500 kHz. System modeling shows that the system operates successfully under a range of frequency and power levels. Previous testing was performed using remote licensed transmitters of opportunity. The frequencies of these transmitters were higher, and the locally measured powers were lower than needed for successful detection. The DaVinci program will be evaluated in September by DoD, and success of the program will be contingent on validating the system model in the field. The environment for testing has not been determined, and testing may be done at more than one site; hence the request for an experimental license at several locations.