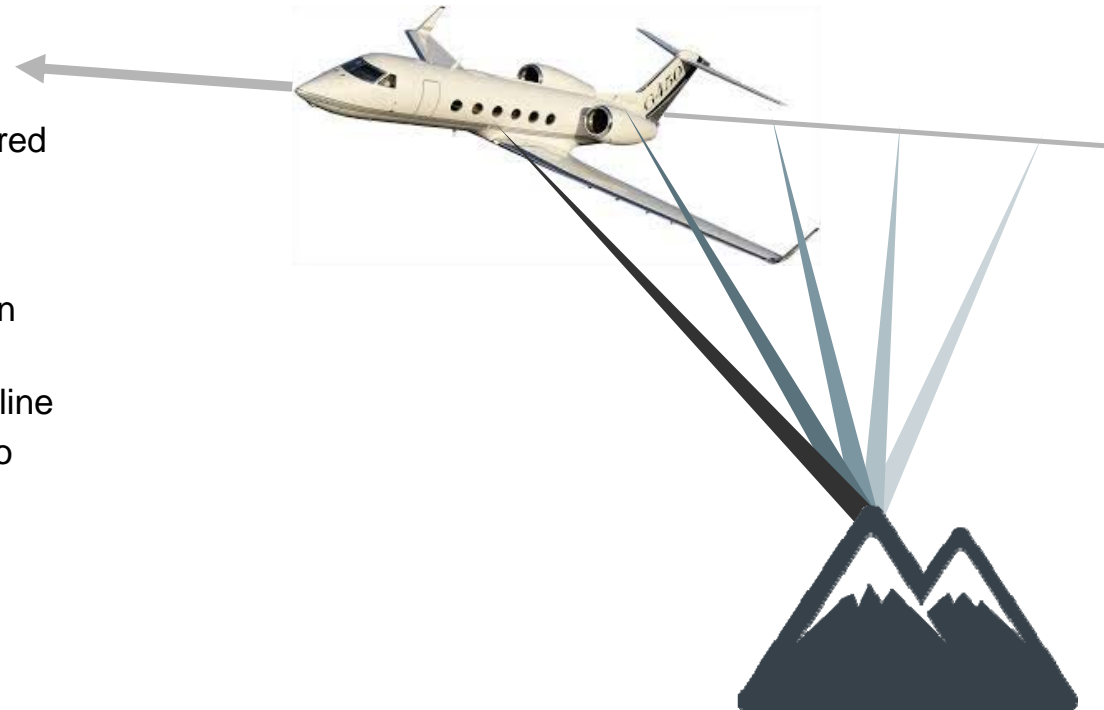


System Overview

- Raytheon HISAR system mounted on Calspan GIII
- HISAR is a SAR RADAR
 - Transmits and Receives RF to generate imagery
 - Mechanically scanned array means narrow beam steered by the system
- HISAR built on decades of experience
 - All major units are currently in operation and have been for over a decade
 - Processor is new, but is based on 40 years of product line
 - Entire system is checked out together in the lab prior to integration on aircraft
 - Test is dry-run prior to each flight.
 - Flights executed during daylight hours



Raytheon is requesting an STA to test the HISAR radar system at key locations on its flight path from New York to Los Angeles on a Non Interference Basic. The Lat and Lon and transmit radius is listed for each location on slide 3.

1. The antenna is a mechanically scanned array antenna with **ZERO** gain.
2. Stop Buzzer: Gregory Smolinski 716-990-2610: The stop buzzer person is an employee with the aircraft company. If there is any need to stop transmission, the stop buzzer (person) will be contacted. The stop buzzer has multiple methods of reaching the aircraft during the flight. The personnel on the aircraft will immediately cease transmission until cleared to continue (i.e. exiting a given region or waiting a given duration).
3. The radar system under test (SUT) has had extensive testing in the lab and is a derivative of a system that has been flying for decades. The RF output is well known, as well as spurious signals. The collective of the radar SUT and the aircraft it is flying on will have undergone an Electromagnetic Interference (EMI) test prior to flight test.

Imaging Locations (Flight Elevation 35 K ft.)

Location	Lat/Lon deg min sec	Radius Km
Fitch Beach Airport, MI	42°34'20.83" N 84°48'44.62" W	4
Downers Grove H.S., IL	41°48'24.03" N 88°0'45.52" W	21
Southern WI Regional Airport, WI	42°37'6.74" N 89°2'30.00" W	5
Wahoo DQ, Nebraska	42°15'28.68" N 97°12'7.69" W	111
Des Moines Airport, IO	41°31'56.98" N 93°39'27.20" W	3
La Junta Stockyard, CO	37°59'14.81" N 103°31'11.57" W	70
4 Corners, (NM, AZ)	36°59'56.81" N 109°2'42.48" W	54
Phantom Ranch, AZ	36°5'55.35" N 112°5'39.5" W	16
Sedona Airport, AZ	34°51'0.88" N 111°47'14.01" W	92
Hoover Dam, NV	36°0'58.27" N 114°44'14.08" W	3
Caesars Palace, NV	36°6'58.27" N 115°10'27.04" W	8

- SAR Spot/Point Imaging
- SAR Search
- Ground Moving Target Indicator (GMTI)

