From: Craig Mauldin

To: Behnam Ghaffari
Date: May 15, 2018

Subject: 0386-EX-CN-2018
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Message:

ViSAR Program Test Plan
For Radar operation in El Segundo California
1.1 Scope of this document

This document is intended to provide an overview of the proposed testing of the Video Synthetic Aperture Radar (ViSAR) system in El Segundo and Palos Verdes California.

1.2 Background

The ViSAR Radar System is millimeter wave radar that operates from 231.5 GHz to 235 GHz. The purpose of the ViSAR Program is to develop an all-weather air to ground imaging and Dismount Moving Target Indication (DMTI) millimeter radar system. The objective ViSAR Radar System will operate in an AC-130 gunship and will be used to identify and track vehicles and dismounts through fog, smoke and clouds. Additional goals of the objective ViSAR Radar System are fire control and friend or foe identification, using RF ID. The demonstration ViSAR Radar System was designed to be installed in a DC-3 aircraft, to detect moving dismounts, moving ground vehicles and produce SAR images at an update rate of at least 5 Hz through fog, smoke and clouds. The ground testing of the ViSAR system will be performed installed on the Raytheon Mobile SIL which is a 25’ trailer with equipment bays and analysis workstations.

The ViSAR hardware consists of sensor hardware mounted on a Gimbal and back-end processing hardware mounted in racks. The gimbal mounted hardware includes the: Gaussian Optical Antenna (GOA) Array, Up/Down Converter, Medium Power Amplifier (MPA), High Power Amplifier (HPA), Inertial Navigation System (INS) and a Spotting Camera. The back-end rack mounted hardware includes an X-Band Receiver/Exciter (REX) a Common Integrated Signal Processor (CISP), an Annapolis Signal Processor and a Radar Power Supply (RPS). The system transmits 50 Watts through a mechanically scanned GOA. The gimbal, and the Gimbal mounted hardware will observe the ground from the side of the aircraft.
See Attachment for location detail.