

STA REQUEST DETAILS

This STA application is designed to support airborne operations for the collection of test data relating to an airborne multispectral imaging camera system being designed by the Massachusetts Institute of Technology (MIT). The work is in conjunction with U. S. Government contract number FA 8721-10-C-0007. The device being developed (multispectral imaging camera system) is for military deployment in Afghanistan in July of 2011 as part of operation Yellow Jacket. An STA is being requested due to the urgency imposed by the intended July 2011 deployment date. The length of time requested (1-year) for the STA is to allow for any project delays and/or further development that may be required.

Testing of the device will require an aircraft to be flown within 40 km of Double Eagle II airport located near Albuquerque, NM at various altitudes to collect test data/imagery. The requested link will be used to transmit data to a temporary ground station in real time. The data link consists of the L-3 Communications Mini TCDL modem located at both the aircraft and ground station location. A directional antenna (see below) with a 12-degree half-power beam width will be used at the ground station and pointed in the direction of the aircraft during data acquisition. An omni-directional antenna will be mounted on the aircraft.

The requested communications facility must provide for high data rate transmission in the air-to-ground environment. The Mini TCDL link is necessary to efficiently transmit the large amounts of data from the multispectral imager in real time. Additionally, the Mini TCDL represents the type of radio communications technology that will likely be associated with the sensor deployment should the research result in a viable solution. Common narrow-band aircraft communications systems are not adequate for the data rate required to satisfy the research protocol.



Temporary Ground Station located at Double Eagle II Airport

The following support this request for a STA and urge that it be granted promptly.

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