

		ASN	2011-ESA-65-COA
		Case Status	CANCEL_CASE
		Date Created	08/21/2011
		Date Submitted	08/21/2011
Proponent Organization		Sponsor	U.S. Army Threat Systems Management Office
		Attn Of	(b) (6)
		Address	Threat Systems Management Office
		Address2	4497 Digney Rd.
		City	Redstone Arsenal
		State	AL
		Postal Code	35898
		Telephone	(256) 313-6766
		Email	(b) (6)
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	(b) (6)
		Address	Georgia Tech Research Institute, ATAS Laboratory
		Address2	7220 Richardson Road, SE
		City	Smyrna
		State	GA
		Postal Code	30080
		Telephone	(404) 407-7105
		Email	(b) (6)
Operational Description	Requested Effective Period	Beginning	
		End	
		Light out operation	No
		VFR operation	Yes
		IFR operation	No
		Day operation	Yes
		Night operation	No
		Program Executive Summary	UAS will be flown to evaluate flight performance characteristics and aerial imager quality. On board flight data recorder and telemetry will collect flight data for analysis.
		Operational Summary	<p>1. This COA application requests permission to fly the "Rover" small UAS in Class "G" airspace at or below 1,000 feet AGL. Location is 790 feet above MSL.</p> <p>Multiple flights will be made periodically during the Request Effective Period, in order to assess the performance of the UAS.</p> <p>2. Area of operation will be within a 1.38 mile East-to-West) X 0.82 mile (North-to-South) area.</p> <p>3. Area of operation is a farm near Menlo, GA and is bounded by these NorthEast (NE) and SouthWest (SW) corners:  NE corner is at Latitude 34 deg 30' 30.52" North, Longitude 85 deg 25' 36.68" West.  SW corner is at Latitude 34 deg 29' 30.41" North, Longitude 85 deg 27' 46.93" West.</p> <p>4. Launch and Recovery will be made within the area of operation. Launch and recovery area is a grass field in the center of a hay field.</p> <p>5. The flight profile will be as follows:</p> <p>A. The Pilot-in-Command (PIC) and pilot-assistant will launch the UAS under radio-control.</p> <p>B. The PIC will fly and maneuver the UAS under radio-control and/or autopilot control to evaluate aircraft and imaging system performance.</p> <p>C. The UAS will fly under 1,000 ft AGL in order for the PIC to maintain good visual contact.</p> <p>D. The pilot-assistant will stay by the PIC and act as spotter, watching for aircraft that might enter the area of operation.</p> <p>E. The aircraft will be flown within visual range of the PIC, pilot-assistant, and spotters.</p> <p>F. Flight duration typically will be no more than 15 minutes.</p>
	Location	State	GA
		County	Chattooga
		Nearest Airport	WYATT
		AOR	Georgia
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	
		Class-G	Yes
System Description		Aircraft Type	102154739 - Other
		Aircraft Type And Model Description Attachment	1
		Control Station Attachment	2
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	0
Performance Characteristics		Climb Rate (feet/Minute)	500
		Descent Rate (feet/Minute)	500

		Turn Rate (Degrees/Second)	20.0
	Cruise Speed	Maximum	45
		Minimum	20
		Approach Speed	25
	Operating Attributes	Maximum MSL	1000
		Minimum MSL	300
		Gross Takeoff Wt	10.0
		Launch/Recovery Attachment	1
Airworthiness		FAA Type Certificate	
		If No FAA Certificate (Public Aircraft Only) Attachment	2
Procedures		Lost Link/Mission Procedures Attachment	1
		Lost Communications Procedures Attachment	2
		Emergency Procedures Attachment	1
Avionics/Equip ment		Equipment Suffix Type	X
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	Yes
		TCA/MCAS	No
		ELT	No
	Transponder	Transponder	No
		On	
		Off	
		Standby	
		Ident	
		Mode S	
		Mode C	
		Transponder Retuneable in Flight	
Lights		Landing	No
		Position/Navigation	No
		Anti-collision	No
		Infrared (IR)	No
Spectrum Analysis Approval		Data Link	Yes
		Data Link Attachment	1
		Control Link(s)	No
		Control Link Attachment	0
		Operations utilizing Radio Control (R/C) frequencies as described in Title 47 CFR 95	Yes
		NTIA/FCC Authorization Attachment	0
ATC Communicati ons	Transmitter VHF Band	VHF Band	No
		Quantity	
		In-Flight Retunable	No
	Transmitter UHF Band	UHF Band	No
		Quantity	
		In-Flight Retunable	No
	Transmitter HF band	HF Band	No
		Quantity	
		In-Flight Retunable	No
	Receiver VHF Band	VHF Band	No
		Quantity	
		In-Flight Retunable	No
	Receiver UHF Band	UHF Band	No
		Quantity	
		In-Flight Retunable	No
	Receiver HF band	HF Band	No
		Quantity	
		In-Flight Retunable	No
	Guard (Emergency) Frequencies VHF Band	VHF Band	No
		Quantity	

	Guard (Emergency) Frequencies UHF Band	UHF Band	No
		Quantity	
	Instantaneous Two-Way Voice	Direct to pilot	No
		SATCOM	No
		Relay via aircraft	No
Electronic Surveillance/ Detection Capability		EO/IR	No
		Terrain detection	No
		Weather/icing detection	No
		Radar	No
		Other Attachment	0
		Electronic detection systems	No
		Electronic detection systems attachment	0
		Radar observation	No
		NAS Operational Capability Attachment	0
Visual Surveillance/ Detection Capability	Maximum Distance from UA	Vertical	1000 Feet
		Horizontal	0.25 Nautical Miles
		Airborne based (Chase Aircraft)	No
		Ground based	Yes
		Visual observation from one or more ground sites	Yes
		Forward or side looking cameras	No
		Attachment for All	1
Aircraft Performance Recording		Flight data recording	Yes
		Control station recording	No
		Voice Recording	No
Flight Aircrew Qualifications	Pilots	Private (Written)	Yes
		Private (Certified)	Yes
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	Pilot #1: (b) (6)
		DOD certified/trained	No
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	Pilot #1: (b) (6)
		Duty Time Restrictions	None
		Single UAS Control	Yes

		UAS Description	Aircraft will be controlled using manual radio-control or by Piccolo II autopilot.
		Total Numbers of UAS Controlled	1
	Observers	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
			Observer #1: (b) (6)
		Unique Trained Pilot Description	
		DOD certified/trained	No
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		DOD Certified Training Attachment	0
		Medical Certification Class (FAA or DOD equivalent)	2
			Observer #1: (b) (6)
		Currency Status	
		Duty Time Restrictions	None
		Single UAS Control	Yes
		UAS Description	Pilot-assistant will provide assistance to PIC during flight.
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	<p>This COA request is for flight test of U.S. Army owned Rover UAS. GTRI personnel have made over 25 flights of the Rover without incident in military air space. These flights have been under both manual radio control and under autopilot control. This COA is similar to 2011-ESA-16-COA with the exception of 1,000 ft AGL operation requested here and the option to include autopilot control. GTRI has extensive experience with the Piccolo II autopilot, following successful flights of the Quarter-scale Piper Cub (2010-ESA-22-COA-R) and the Rover at U.S. Army Redstone Arsenal and Ft. Benning bases. All of these flights were made without incident, injury, or property damage.</p> <p>In addition to the PIC, spotters and assistants will be present to watch for other aircraft that may approach. Spotters will be placed at the edge of the Area of Operation to ensure that the Rover UAV is kept under constant observation. Area of Operation is rural farm land with no occupied dwellings within the area. A Rover UAV-specific Pre-Flight Checklist and a Risk Management Worksheet are used to prepare for and plan for any risk contingencies associated with the Rover UAV flight test. A copy of these documents is attached.</p>