

		ASN	2011-ESA-60-COA
		Case Status	EXPIRED
		Date Created	08/11/2011
		Date Submitted	08/11/2011
Proponent Organization		Sponsor	Virginia Tech
		Attn Of	Dr. Kevin Kochersberger
		Address	Mechanical Engineering (0238)
		Address2	114 Randolph Hall
		City	Blacksburg
		State	VA
		Postal Code	24061
		Telephone	(540) 231-5589
		Email	kbk@vt.edu
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	Kevin Kochersberger
		Address	Mechanical Engineering
		Address2	114 Randolph Hall
		City	Blacksburg
		State	VA
		Postal Code	24061
		Telephone	(540) 231-5589
		Email	kbk@vt.edu
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	
		Operational Summary	
	Location	State	VA
		County	Montgomery
		Nearest Airport	RADFORD AAP
		AOR	Virginia
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	
		Class-G	Yes
System Description		Aircraft Type	102154764 - RMAX
		Aircraft Type And Model Description Attachment	0
		Control Station Attachment	1
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	0
Performance Characteristics		Climb Rate (feet/Minute)	200
		Descent Rate (feet/Minute)	200
		Turn Rate (Degrees/Second)	45.0
	Cruise Speed	Maximum	20
		Minimum	0
		Approach Speed	2
	Operating Attributes	Maximum MSL	2200
		Minimum MSL	2000
		Gross Takeoff Wt	207.0
		Launch/Recovery Attachment	1
Airworthiness		FAA Type Certificate	
		If No FAA Certificate (Public Aircraft Only) Attachment	3
Procedures		Lost Link/Mission Procedures Attachment	1
		Lost Communications Procedures Attachment	1
		Emergency Procedures Attachment	3
Avionics/Equipment		Equipment Suffix Type	X

		GPS	No
		Moving map indicator (Command Station)	No
		Tracking capability	No
		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	No
		Data Link Attachment	0
		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 Communications	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	Yes
		SATCOM	No
		Relay via aircraft	No
Electronic Surveillance/ Detection Capability			
		EO/IR	Yes
		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	200 Feet
		Horizontal	0.1 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	No
		Control station recording	No
		Voice Recording	No
Flight Aircrew Qualifications	Pilots		
		Private (Written)	Yes
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	The pilot has four years experience flying RC helicopters from 10 lbs to 200 lbs. He has logged approximately 10 hours flying the Yamaha RMAX
		DOD certified/trained	No
		Other Certified Training	No
		Trained on FAR Part 91 Requirement	Yes
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	The helicopter pilot possesses a valid 2nd class medical certificate prior to the issuance of the COA
		Duty Time Restrictions	The pilot will be restricted to flight operations that do not exceed eight hours in a 24 hour period
		Single UAS Control	Yes
		UAS Description	The pilot is responsible for operating the Yamaha RMAX during takeoff, landing and cruise flight. During some of these periods, the helicopter will be flying in the autonomous mode and the pilot will be responsible for taking manual control of the helicopter when needed.
		Total Numbers of UAS Controlled	1
	Observers	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	The observer has been briefed on aircraft identification by a licensed commercial pilot.
		DOD certified/trained	No
		Other Certified Training	No
		Trained on FAR Part 91 Requirement	Yes
		DOD Certified Training Attachment	0
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	The observer possesses a valid 2nd class medical certificate prior to the issuance of the COA
		Duty Time Restrictions	The observer will be restricted to duties that do not exceed eight hours in a 24 hour period
		Single UAS Control	Yes
		UAS Description	The observer is responsible for observing the Yamaha RMAX during takeoff, landing and cruise flight. The observer will be located within 1 m of the pilot so that voice communication is effective between the observer and pilot
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	

Flight Operations Area/Plan

Type	User Defin Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceilin	MSL Floor
DEPARTURE								

Total Map Attachment 1

Maximum	Minimum	Radius	SUA Description		
	37-11-58.00N		80-34-58.00W	2200	2000

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