Milestone Review Flysheet

Institution	AIAA OC Section

Milestone	CDR

Vehicle Properties	
Total Length (in)	101.5
Diameter (in)	4
Gross Lift Off Weigh (lb)	21.6
Airframe Material	G10 Fiberglass
Fin Material	G10 Fiberglass
Coupler Length	8"

Motor Properties	
Motor Designation	Cesaroni K555
Max/Average Thrust (lb)	125.1
Total Impulse (lbf-s)	539.7
Mass Before/After Burn	22.1 lbs/18.32 lbs
Liftoff Thrust (lb)	130
Motor Retention	AeroPack 75 mm Fiberglass Retainer

Stability Analysis	
Center of Pressure (in from nose)	72.8941
Center of Gravity (in from nose)	63.9729
Static Stability Margin	2.22
Static Stability Margin (off launch rail)	3.55882
Thrust-to-Weight Ratio	6:1
Rail Size and Length (in)	96
Rail Exit Velocity	48.28

Ascent Analysis		
Maximum Veloxity (ft/s)	661.14	ft/s
Maximum Mach Number	0.595	Mach
Maximum Acceleration (ft/s^2)	615.88	ft/s^2
Target Apogee (From Simulations)	5347	ft
Stable Velocity (ft/s)	661.14	ft/s
Distance to Stable Velocity (ft)	1453.94	ft

Recovery System Properties	
Drogue Parachute	
Manufacturer/Model	Fruity Chutes/Iris Ultra Standard
Size	18"
Altitude at Deployment (ft)	Apogee
Velocity at Deployment (ft/s)	0
Terminal Velocity (ft/s)	87.86
Recovery Harness Material	Tubular Nylon
Harness Size/Thickness (in)	1
Recovery Harness Length (ft)	21
Harness/Airframe Interfaces	Machine-closed eyebolt, U Bolt, washer, nut

Recovery System Properties	
Main Parachute	
Manufacturer/Model	Fruity Chutes/Iris Ultra Standard
Size	84"
Altitude at Deployment (ft)	700
Velocity at Deployment (ft/s)	90
Terminal Velocity (ft/s)	14.87
Recovery Harness Material	Tubrular Nylon
Harness Size/Thickness (in)	1
Recovery Harness Length (ft)	21
Harness/Airframe Interfaces	Machine-closed eyebolt, U bolt, washer, nut

Kinetic Energy of Each Section (Ft-lbs)	Section 1	Section 2	Section 3	Section 4
	338.95	731.07	1322.57	

Kinetic Energy of Each Section (Ft-lbs)	Section 1	Section 2	Section 3	Section 4
	10.51	22.66	41	

Recovery Electonics	
Altimeter(s)/Timer(s) (Make/Model)	Stratologger CF Flight Computer/RRC3 Flight Computer
Redundancy Plan	Use of primary and secondary flight computers, both different models; independent batteries
Pad Stay Time (Launch Configuration)	~2 hours

Recovery Electonics	
Rocket Locators (Make/Model)	Whistle GPS
Transmitting Frequencies	None
Black Powder Mass Drogue Chute (grams)	3.8
Black Powder Mass Main Chute (grams)	1.1

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Autonomous Ground Support Equipment (MAV Teams Only)	
Capture Mechanism	Overview
Container Mechanism	Overview
Launch Rail Mechanism	Overview ***Include Description of rail locking mechanism***
Igniter Installation Mechanism	Overview

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Payload	
Payload 1	Overview
Payload 2	Overview

Test Plans, Status, and Results	
Ejection Charge Tests	
Sub-scale Test Flights	
Full-scale Test Flights	

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Additional Comments