

Milestone Review Flysheet

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Institution	Pennsylvania State University					Milestone	CDR		
Vehicle Properties					Motor Properties				
Total Length (in)	147				Motor Manufacturer	Cesaroni			
Diameter (in)	6.079				Motor Designation	L1350			
Gross Lift Off Weigh (lb)	38.69				Max/Average Thrust (lb)	Avg: 303.4			
Airframe Material	Blue Tube 2.0				Total Impulse (lbf-s)	962			
Fin Material	G10 FR4 Fiberglass				Mass Before/After Burn	2616g/1270g			
Drag	0.628				Liftoff Thrust (lb)	340			
Stability Analysis					Ascent Analysis				
Center of Pressure (in from nose)	115				Maximum Velocity (ft/s)	675			
Center of Gravity (in from nose)	91.75				Maximum Mach Number	0.61			
Static Stability Margin	3.8				Maximum Acceleration (ft/s^2)	259			
Static Stability Margin (off launch rail)	2.65				Target Apogee (From Simulations)	5231			
Thrust-to-Weight Ratio	7.83				Stable Velocity (ft/s)	95			
Rail Size and Length (in)	1.5/144				Distance to Stable Velocity (ft)	3.5			
Rail Exit Velocity (ft/s)	75.8								
Recovery System Properties					Recovery System Properties				
Dogue Parachute					Main Parachute				
Manufacturer/Model	Fruity Chutes Elliptical				Manufacturer/Model	Fruity Chute Iris Ulra			
Size	18" Diameter				Size	72" Diameter			
Altitude at Deployment (ft)	5280				Altitude at Deployment (ft)	700			
Velocity at Deployment (ft/s)	-				Velocity at Deployment (ft/s)	95			
Terminal Velocity (ft/s)	95				Terminal Velocity (ft/s)	19.52			
Recovery Harness Material	Kevlar				Recovery Harness Material	Kevlar			
Harness Size/Thickness (in)	0.5				Harness Size/Thickness (in)	0.5			
Recovery Harness Length (ft)	30				Recovery Harness Length (ft)	40			
Harness/Airframe Interfaces		1/2" Steel Eye Bolt			Harness/Airframe Interfaces		1/2" Steel Eye Bolt		
	Forward Body	Aft Body	Section 3	Section 4		Nose/Body Tube	Avionics Bay	Booster	KIWI
Kinetic Enerfv of Each					Kinetic Enerfv of Each				

