

Milestone Review Flysheet

PDR, CDR, FRR

Institution Name	University of Central Florida
-------------------------	-------------------------------

Milestone	PDR
------------------	-----

Vehicle Properties	
Diameter (in)	4
Length (in)	78.3
Gross Liftoff Weight (lb)	12.92
Launch Lug/button Size	LRL10 rail
Motor Retention	Rear end of motor

Motor Properties	
Motor Manufacturer	CTI
Motor Designation	J210
Max/Average Thrust (N/lb)	335N, 75.38lb/210N, 47.25lb
Total Impulse (N-sec/lb-sec)	836Ns/188.10lb-s
Mass pre/post Burn (lb)	1.84, 0.881

Stability Analysis	
Center of Pressure (in from nose)	65.08
Center of Gravity (in from nose)	47.55
Static Stability Margin	4.38
Thrust-to-Weight Ratio	3.7:1
Rail Size (in) / Length (in)	1.5"/96"

Ascent Analysis	
Rail Exit Velocity (ft/s)	29.13
Max Velocity (ft/s)	420
Max Mach Number	0.38
Max Acceleration (ft/s ²)	257
Peak Altitude (ft)	3061

Recovery System Properties				
Drogue Parachute				
Manufacturer/Model		Giant Leap		
Size		24"		
Altitude at Deployment (ft)		3059		
Velocity at Deployment (ft/s)		~20ft/s depending on wind		
Terminal Velocity (ft/s)		67.4		
Recovery Harness Material		Tubular Nylon		
Harness Size/Thickness (in)		1"		
Recovery Harness Length (ft)		8'		
Harness/Airframe Interfaces		3/8" Eye bolt connected to the bottom of the electronics (avionics) bay. Then connected to a 3/8" Eye bolt above motor mount.		
Kinetic Energy During Descent (ft-lb)	Section 1	Section 2	Section 3	Section 4
	844			

Recovery System Properties				
Main Parachute				
Manufacturer/Model		RocketMan		
Size		Standard 8ft		
Altitude at Deployment (ft)		500'		
Velocity at Deployment (ft/s)		67.4		
Landing Velocity (ft/s)		16		
Recovery Harness Material		Tubular Nylon		
Harness Size/Thickness (in)		1"		
Recovery Harness Length (ft)		5'		
Harness/Airframe Interfaces		3/8" Eye bolt connected to top of electronics bay. With second connection to top covering bulkhead		
Kinetic Energy Upon Landing (ft-lb)	Section 1	Section 2	Section 3	Section 4
	47.58 (body)			

Recovery System Properties				
Electronics/Ejection				
Altimeter(s) Make/Model		AIM XTRA		
Redundancy Plan		Perfectflite Stratologger, redundant drogue ejection charges.		
Pad Stay Time (Launch Configuration)		Upwards of 7 hours		

Recovery System Properties				
Electronics/Ejection				
Rocket Locators (Make, Model)				
Transmitting Frequencies				
Black Power Mass Drogue Parachute (gram)				
Black Power Mass Main Parachute (gram)				

Milestone Review Flysheet

PDR, CDR, FRR

Institution Name

University of Central Florida

Milestone

PDR

Payload/Science

Succinct Overview of Payload/Science Experiment	Payload Container that will be jettisoned
Identify Major Components	
Mass of Payload/Science	1.28 lb

Test Plan Schedule/Status

Ejection Charge Test(s)	Ejection charges must be tested by 12/15/2014
Sub-scale Test Flights	Tested by 1/15/2015
Full-scale Test Flights	Tested by 2/28/2015

Additional Comments

--