

Milestone Review Flysheet

PDR, CDR, FRR

Institution Name	Georgia Institute of Technology
-------------------------	---------------------------------

Milestone	CDR
------------------	-----

Vehicle Properties	
Diameter (in)	5.125
Length (in)	108.5
Gross Liftoff Weight (lb)	40.7
Launch Lug/button Size	1010 button
Motor Retention	Plate

Motor Properties	
Motor Manufacturer	Aerotech
Motor Designation	1390
Max/Average Thrust (N/lb)	1,375 N
Total Impulse (N-sec/lb-sec)	3,946.5 Ns
Mass pre/post Burn (lb)	8.55 / 4.20

Stability Analysis	
Center of Pressure (in from nose)	89.4
Center of Gravity (in from nose)	71.3
Static Stability Margin	3.60
Thrust-to-Weight Ratio	7.54
Rail Size (in) / Length (in)	1.0/97

Ascent Analysis	
Rail Exit Velocity (ft/s)	60
Max Velocity (ft/s)	613.88
Max Mach Number	0.55
Max Acceleration (ft/s ²)	280
Peak Altitude (ft)	5,315

Recovery System Properties				
Drogue Parachute				
Manufacturer/Model		Legacy Hardware		
Size		48"		
Altitude at Deployment (ft)		5,315		
Velocity at Deployment (ft/s)		Approx. 0		
Terminal Velocity (ft/s)		50		
Recovery Harness Material		Nylon Webbing		
Harness Size/Thickness (in)		1		
Recovery Harness Length (ft)		15		
Harness/Airframe Interfaces		3/8" diameter steel cable		
Kinetic Energy During Descent (ft-lb)	Nose cone	Booster Section	Payload Section	Section 4
	62.56	412.6	793.6	N/A

Recovery System Properties				
Main Parachute				
Manufacturer/Model		RocketMan		
Size		144"		
Altitude at Deployment (ft)		450		
Velocity at Deployment (ft/s)		50		
Landing Velocity (ft/s)		15		
Recovery Harness Material		Nylon Webbing		
Harness Size/Thickness (in)		1		
Recovery Harness Length (ft)		30		
Harness/Airframe Interfaces		U-Bolt/ 3/8" diameter steel cable		
Kinetic Energy Upon Landing (ft-lb)	Nose Cone	Booster Section	Payload Section	Section 4
	8.12	37.13	71.4	N/A

Recovery System Properties				
Electronics/Ejection				
Altimeter(s) Make/Model		Perfect Flite Stratologgers		
Redundancy Plan		2 Altimeters will be wired independently to both the main and drouge parachutes		
Pad Stay Time (Launch Configuration)		> 2 hours		

Recovery System Properties				
Electronics/Ejection				
Rocket Locators (Make, Model)		Fastrax GPS / Xbee Pro combination		
Transmitting Frequencies		900 MHz		
Black Power Mass Drogue Parachute (gram)		3.6		
Black Power Mass Main Parachute (gram)		4.5		

Milestone Review Flysheet

PDR, CDR, FRR

Institution Name

Georgia Institute of Technology

Milestone

CDR

Payload/Science

Succinct Overview of Payload/Science Experiment	Levitate and isolate a platform from the vibrations of the rocket.
Identify Major Components	Neodymium Magnets embedded in a balsa wood platform, Solenoids, A123 batteries, Flight Computer (ARM Cortex M3), Flight Recorder (Atmega 2560).
Mass of Payload/Science	10 lb Payload 5 lb Flight Avionics

Test Plan Schedule/Status

Ejection Charge Test(s)	January 2012
Sub-scale Test Flights	Skin & Skin Fastner Subscale Test - 10 December 2011
Full-scale Test Flights	3-Mar-12

Additional Comments

--