

# Milestone Review Flysheet

PDR, CDR, FRR

<b>Institution Name</b>	University of California, Davis
-------------------------	---------------------------------

<b>Milestone</b>	PDR
------------------	-----

Vehicle Properties	
Diameter (in)	6
Length (in)	77.88
Gross Liftoff Weight (lb)	32.1
Launch Lug/button Size	pending
Motor Retention	Slimline Motor Retainer

Motor Properties	
Motor Manufacturer	Animal Motor Works
Motor Designation	L777WW
Max/Average Thrust (N/lb)	1,000.16/224.84   774.47/174.11
Total Impulse (N-sec/lb-sec)	3136.62/705.14
Mass pre/post Burn (lb)	8.15   4.27

Stability Analysis	
Center of Pressure (in from nose)	46.4
Center of Gravity (in from nose)	56.3
Static Stability Margin	1.61
Thrust-to-Weight Ratio	5.5
Rail Size (in) / Length (in)	pending

Ascent Analysis	
Rail Exit Velocity (ft/s)	pending
Max Velocity (ft/s)	603.85
Max Mach Number	0.54
Max Acceleration (ft/s^2)	206.09
Peak Altitude (ft)	5,443

Recovery System Properties				
Drogue Parachute				
Manufacturer/Model		Fruitychutes		
Size		36" in diameter		
Altitude at Deployment (ft)		5,443		
Velocity at Deployment (ft/s)		34.095		
Terminal Velocity (ft/s)		74.06		
Recovery Harness Material		Kevlar		
Harness Size/Thickness (in)		0.5		
Recovery Harness Length (ft)		30		
Harness/Airframe Interfaces		Closed eyebolt and quick-link connector		
Kinetic Energy During Descent (ft-lb)	Section 1	Section 2	Section 3	Section 4
	622 (forward)	1256 (aft)		

Recovery System Properties				
Main Parachute				
Manufacturer/Model		Fruitychutes		
Size		84" in diameter		
Altitude at Deployment (ft)		800		
Velocity at Deployment (ft/s)		74.06		
Landing Velocity (ft/s)		17.12		
Recovery Harness Material		Kevlar		
Harness Size/Thickness (in)		0.5		
Recovery Harness Length (ft)		30		
Harness/Airframe Interfaces		Closed eyebolt and quick-link connector		
Kinetic Energy Upon Landing (ft-lb)	Section 1	Section 2	Section 3	Section 4
	17.3 (nose)	15.9 (altm.)	67.1 (aft.)	

Recovery System Properties	
Electronics/Ejection	
Altimeter(s) Make/Model	Featherweight Raven3
Redundancy Plan	2 altimeters, 4 e-matches, 4 black powder charges
Pad Stay Time (Launch Configuration)	TBD

Recovery System Properties	
Electronics/Ejection	
Rocket Locators (Make, Model)	1.2 GHz 1W LawMate, GPS, Beeper
Transmitting Frequencies	***Required by CDR***
Black Power Mass Drogue Parachute (gram)	2
Black Power Mass Main Parachute (gram)	3

# Milestone Review Flysheet

PDR, CDR, FRR

<b>Institution Name</b>	University of California, Davis	<b>Milestone</b>	PDR
-------------------------	---------------------------------	------------------	-----

## Payload/Science

Succinct Overview of Payload/Science Experiment	To gather data on atmospheric conditions as well physical data on the rockets flight. This will include rocket acceleration, velocity, flight path, solar irradiance, barometric pressure, temperature, humidity, and inertial angular rotation.
Identify Major Components	Ardupilot Mega 2.5, MPXV7002, AM2302, TSL230R, 3DR 915 MHz air module and USB ground station , KX191 CCD camera, 1.2 GHz 1W Lawmate transmitter and reciever, 11.1V LiPo battery.
Mass of Payload/Science	3 lb

## Test Plan Schedule/Status

Ejection Charge Test(s)	Christmas break
Sub-scale Test Flights	Christmas break
Full-scale Test Flights	March

## Additional Comments

--