

Mass and Volume Budgets

SPACECRAFT SYSTEMS	MASS without Contingency (kg)	Contingency		MASS with Contingency (kg)
		%	(kg)	
Electrical Power System (EPS)				
<i>Power Management and Distribution</i>	see XB1			see XB1
<i>Solar Arrays (conformal exterior)</i>	0.300			0.300
<i>Batteries (conformal propulsion tank corners)</i>	see XB1			see XB1
Communications System (COMM)				
<i>Ka Band Radio</i>	0.375			0.375
<i>UHF Radio</i>	see XB1			see XB1
<i>Antenna (TX+RX integrated w/solar arrays)</i>	see solar			see solar
Data Management System (DMS)				
<i>On Board Computer</i>	see XB1			see XB1
Structures & Mechanisms				
<i>Integrated with each system</i>	0.000			0.000
Attitude Determination & Control System (ADCS)				
<i>Subsystems</i>	see XB1			see XB1
Guidance, Navigation & Control System (GN&C)				
<i>Subsystems</i>	see XB1			see XB1
Propulsion System				
<i>Hybrid Trajectory Injection Motor Core</i>	3.000			3.000
<i>Hybrid Trajectory Injection Motor Fuel Tank</i>	5.000			5.000
<i>Ion Thrusters (Four Total)</i>	0.352			0.352
<i>Ion Propellant Tanks (Two Total)</i>	3.000			3.000
Thermal System				
<i>Integrated with each system</i>	0.000			0.000
Primary Payload Encoded Bit Stream				
<i>Allocated to Data System</i>	0.000			0.000
Scar for Secondary Payload (future)	0.000			0.000
CubeSat Bus	1.500			1.500
<i>Estimated Spacecraft Total Mass</i>	13.527	3.50%	0.473	14.000
Total Allowable Spacecraft Mass (kg)	14.000			14.000