

Product: UAS Subsystem: Airframe						
Market Requirements			Importance	Performance Measures	Units	
1	Capable of flight for extended period of time	9	9	1	Battery life	Minutes
2	Capable of traveling an extended distance	9	9	2	Lift-to-drag ratio	Unitless
3	Minimize flight path deviation	9	9	3	Motor/prop efficiency	Unitless
4	Components are protected	9	9	4	Airframe weight	Kilograms
5	Complies with AMA safety code	9	9	5	Average flight speed	Meters/second
6	Capable of carrying UGV and water bottle	3	9	6	Stall speed	Meters/second
7	Fast and cheap rebuild	3		7	Spiral stability eigenvalue	Unitless
8	Looks decent	1		8	Static margin	Unitless
				9	Cn,beta (yaw)	Unitless
				10	Cl,beta (roll)	Unitless
				11	Number of components that fall off the plane	Unitless
				12	Number of damaged components on landing	Unitless
				13	Number of AMA safety code violations	Unitless
				14	Lift coefficient	Unitless
				15	Storage volume	Cubic centimeters
				16	Time to rebuild	Hours
				17	Focus group ease of repair	1-10 scale
				18	Focus group coolness rating	1-10 scale
Upper Acceptable	Ideal	Lower Acceptable				
N/A	75	40				
N/A	20	5				
1	1	0.2				
50	4	0				
30	15	10				
20	10	N/A				
-0.01	-0.05	-0.1				
0.2	0.1	0				
0.15	0.1	0.05				
0	-0.1	-0.15				
0	0	0				
0	0	0				
0	0	0				
1	0.5	0.4				
12000	10000	8000				
4	0	0				
10	10	5				
10	10	5				