Product: UAS
Subsystem: Airframe

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