

Specification	Unit of Measure	Threshold	Objective	Expected/ Measured Value	Performed By	Test	Traffic Light
Sub-System: Electrical							
5 Volt Rail Regulation	%	5%	1%	0.2	CG	Measure rail voltage with DVM over line and load conditions	
3.3 Volt Rail Regulation	%	5%	1%	0	CG	Measure rail voltage with DVM over line and load conditions	
PM Digital Vbatt Sensing Accuracy	%	10%	5%	0.833333333	CG	Measure Vbatt and compare with ATMEGA Debug output	
PM Digital Ibatt Sensing Accuracy	%	10%	5%	4	CG	Measure Ibatt and compare with ATMEGA Debug output	
Sub-System: Software							
Motor Controls Integration	YES/NO			YES	JR		
Joystick Integration	YES/NO			YES	JR		
Encoders Integration	YES/NO			YES	JR		
Power Management Integration	YES/NO			YES	NG		
GPS Integration	YES/NO			NO	NG		
Video Feed Integration	YES/NO			YES	JR		
Sub-System: Mechanical							
Max Payload	Lbs	>50	>100	~75	WR	added weight incrementally and confirmed operation of suspen.	
Belt intallation	Pass/Fail			PASS	WR		
Sub-System: Communication							
Video Feed Resolution	Pixels	> 320 x 240	> 1080 x 720	320x240	JR		
Frame Rate	Frames/sec	> 25	> 30	~6	JR	Although not passed, video feed is good enough to operate FPV	
Data Transfer over mesh	Mb/s	> 2	> 3				
Entire System							
Max Speed	M/s	>2.2	>6.8	2.2	NG	Obtain speed readout from motor encoders	
Communication distance	Meters	> 200	> 400	>200	SG	non LOS comms successful	
Platform Weight	Lbs	< 125	< 75	~85	WR		
Size Envelope of MARSUPIAL	inches	30 x 22	Threshold	PASS	NG		
Flat ground incline	Degrees	> 40	> 45		40 NG		
Stair incline	Degrees	> 38	> 42	FAIL	NG		
Step Obstical	Inches	> 6hx8w	> 8hx6w	PASS (thres.)	NG	MARSUPIAL was driven over pallets that met the obstical spec.	