1. **TEST CASES**
   a. **Unit Test**

Test Writer: Hau Truong						
Test Case Name:		Object Following Drone Unit test #1			**Test ID#:**	Unit-T-01
Description:		Check system power, and voltages that are required to power different components on drone.			**Type:**	Black Box White Box
Tester Information						
Name of Tester:		Hau Truong			**Date:**	5/30/16
Hardware Ver:		OFD Rev1			**Time:**	1:30PM
Setup:		The provided battery for drone is 14.8V rating, but it actually varies from 10V to 16V. Use battery to provide power to the drone. Use DMM to check the input voltage, and output voltages of 5V and 9V regulator on the Drone.				
Step	**Action**	**Expected Result**	**Pass**	**Fail**	**N/A**	**Comments**
1	Power on the system using Drone Battery	Flight Controller LED - ON, ESC LEDs - BLINKING	x			
2	Check input voltage at the connector	DMM shows voltages in range of 10V to 16V	x			
3	Check 5V regulator output at J1(V+) and J2(V-)	DMM shows voltages in range of 4.6V to 5.4V	x			
4	Check output voltage at input 3 and 4 of 9V regulator	DMM shows voltages in range of 8.6V to 9.4V	x			
Overall test result:			x			

b. Installation Test

Test Writer: Hau Truong						
Test Case Name:		Object Following Drone Installation Test #1			**Test ID#:**	INSTALL-T-01
Description:		Assemble drone kits, flight controller, Edison and make all of the connections (power, motors, TX/RX). Use Multiwii software and documentation to verify results			**Type:**	Black Box White Box
Tester Information						
Name of Tester:		Hau Truong			**Date:**	5/30/16
Hardware Ver:		OFD Rev1			**Time:**	2:00PM
Setup:		Parts needed: Drone frame kit, Drone battery, flight controller, Edison and female to female wire jumpers. Software needed: Multiwii configuration.				
Step	**Action**	**Expected Result**	**Pass**	**Fail**	**N/A**	**Comments**
1	Mount flight controller on the drone body with the front of flight controller and front of drone facing the same direction.	Micro USB port side is the head of the drone. Multiwii configuration responds proportionally to drone when being tilted left and right, front and back.	x			
2	Mount Edison, 9V regulator and battery.	Edison is accessible and close to flight controller for wiring. Battery is close to input power connector.	x			
3	Connect power to drone	Flight Controller LED lights up	x			
5	Make connection TX/RX from Edison to Flight Controller	TX and RX are connected as labelled on the Flight controller and Edison	x			
6	Make connection from 9V regulator output to Edison.	Mini-breakout board LED lights up.	x			
7	Disconnect power from drone	All LEDs are off.	x			
8	Connect Flight Controller to Computer via MicroUSB	Multiwii GUI shows COM port available.	x			
9	Make appropriate connection from ECSs to flight controller.	Each LED ON when connected. D3 – Front Left D9 – Back Right D10 – Front Right D11 – Back Left	x			
10	Mount propeller in right orientation.	D3 and D9 – Clockwise Orientation D10 and D11 – Counterclockwise Orientation.	x			
Overall test result:			x			