Test Writer	Sabin Maharjan								
Test Case Name	Throttle Test ID 1								
Description	Communicate with MWC Flip 1.5 Flight Controller using MultiWii Serial Type:								
	Protocol (MSP) commands to set the throttle for the drone.								
Name of the Tester	Sabin Maharjan Date May 15, 2016								
Hardware Version	N/A Time 8:33 PM								
Required	- Drone								
	- Intel Edison with breakout board								
	- GPIO Board attached to Intel Edison								
	- MWC Flip 1.5 Flight Controller								
	- WIFI with SSH connection with Edison								
	- 2x Mini USB –type B connector								
	- 4 female-female pin connector								
	- Stake								
	- Rope								
Pre-Requirement	RC read and arm/disarm tests should be completed								
Setup	Connect Mini USB to Console port of the Intel Edison. Connect 4 female-female pin connector from								
	serial port (Tx, Rx, Gnd, 5v) of the Flip 1.5 Flight Controller to GPIO Board's Serial Pin heads (Rx, Tx,								
	Gnd, 5v). The blue light on Edison should be on. Red light on Flip 1.5 Controller should be on.								
	Login to Edison using root. Change directory to "Drone/src". Type "make all". The following actions								
	are done under this directory.								
	The flight controller should be configured so that yaw, pitch, roll and throttle value should be all 1000.								
	For Step 1-4, No Drone battery connection required.								
	For Step 5-8, Done battery connection is required. Remove Propellers from the motors.								
	For Step 9-10, Done battery connection is required. Add Propellers on the motors. The drone should								
	be ties to the stake with the rope and make sure no one is closer to drone than 5ft.								
	Console Command: ./drone throttle								

Step	Action	Header	Length	Code	Data	CRC	Expected Result	P/F	Comment
		3x(uint8_t)	(uint8_t)	(uint8_t)	4x(uint16_t)	(uint8_t)			
1		\$M<	16	200	1000 1000 1000	221	Value of throttle		
					1005		goes up by 5		
							when up key is		
	Key up						pressed once.		
2		\$M<	16	200	1000 1000 1000	194	Value of throttle		
					1010		goes up by 5		
							when up key is		
	Key up						pressed once.		

	\$N1~	16	200	1000 1000 1000	221	Value of throttle		
	>۱۷۱۸	10	200		221			
Vov				1002				
-						•		
down	Ć N A .	1.0	200	1000 1000 1000	24.6	'		
	ŞIVI<	16	200		216			
				1000				
-						•		
down	4					'		
	\$M<	16	200		221			
				1005		-		
Key Up								
	\$M<	16	200		194			
				1010		·		
Key Up								
	\$M<	16	200		221			
Key				1005		-		
Down						rate of 1005		
	\$M<	16	200	1000 1000 1000	216	The motors		
Key				1000		should spin at		
Down						rate of 1000		
Кеер	\$M<	16	200	1000 1000 1000	varies	The drone takes		
pressing				[1000 varies with		off from the		
key up				the key press]		ground with		
until						increase in		
drone						throttle.		
makes a								
lift off								
Keep	\$M<	16	200	1000 1000 1000	varies	The drone		
pressing				[1000 varies with		decreases the		
key				the key press]		throttle and lands		
down						on the ground.		
until								
drone								
makes a								
IIIakcs a								
	Key Down Keep pressing key up until drone makes a lift off Keep pressing key down until drone	down Key down SM< Key Up SM< Key Up SM< Key Down SM< Key Down Keep pressing key up until drone makes a lift off Keep pressing key down until drone until drone	Key down \$M< 16 Key down \$M< 16 Key Up \$M< 16 Key Up \$M< 16 Key Up \$M< 16 Key Down \$M< 16 Key Down \$M< 16 Keep pressing key up until drone makes a lift off Keep \$M< 16 Fressing key up until drone makes a lift off Keep \$M< 16 Fressing key up until drone makes a lift off Keep pressing key down until drone in the series of the	Key down \$M 16 200 Key down \$M 16 200 Key Up \$M 16 200 Key Up \$M 16 200 Key Down \$M 16 200 Key Down \$M 16 200 Keep pressing key up until drone makes a lift off \$M 16 200 Keep pressing key down until \$M 16 200	Key down \$M 16 200 1000 1000 1000 1000 1000 1000 1000 100	Key down \$M 16 200 1000 1000 1000 1000 1000 1000 1000 100	Key down SM< 16 200 1000 1000 1000 216 Value of throttle goes down by 5 when down key is pressed once. Key Up SM< 16 200 1000 1000 1000 221 The motors should spin at rate of 1005 Key Up SM< 16 200 1000 1000 1000 194 The motors should spin at rate of 1010 Key Up SM< 16 200 1000 1000 1000 194 The motors should spin at rate of 1010 Key Up SM< 16 200 1000 1000 1000 221 The motors should spin at rate of 1010 Key Down SM< 16 200 1000 1000 1000 221 The motors should spin at rate of 1005 Key Down SM< 16 200 1000 1000 1000 221 The motors should spin at rate of 1005 Key Down Key Down SM< 16 200 1000 1000 1000 221 The motors should spin at rate of 1000 Keep pressing key up until drone Mkey Down SM< 16 200 1000 1000 1000 Varies with the key press] The drone takes off from the ground with increase in throttle. The drone takes off from the ground with increase in throttle. The drone decreases the throttle and lands on the ground.	Key down SM 16 200 1000 1000 1000 1000 216 Value of throttle goes down by 5 when down key is pressed once. Key down \$M 16 200 1000 1000 1000 216 Value of throttle goes down by 5 when down key is pressed once. Key Up \$M 16 200 1000 1000 1000 21 The motors should spin at rate of 1005 Key Up \$M 16 200 1000 1000 1000 1000 200 194 The motors should spin at rate of 1010 Key Up \$M 16 200 1000 1000 1000 200 221 The motors should spin at rate of 1010 Key Down 16 200 1000 1000 1000 200 216 The motors should spin at rate of 1005 Key Down 16 200 1000 1000 1000 216 216 The motors should spin at rate of 1000 Keep pressing key up until drone M 16 200 1000 1000 1000 200 varies The drone takes off from the ground with increase in throttle. Keep pressing key M 16 200 1000 1000 1000 1000 200 varies The drone decreases the throttle and lands on the ground.