

## AR Drone Antenna Comparison Tests

**NOTES:**

- 1 The same brand new AR Drone 2 and its Main Board were used.
- 2 Each setup/run used the same locations.
- 3 The drone was about 13 feet off the ground.
- 4 The drone cross members straddled a small cardboard box and kept away from Main Board area.
- 5 Drone degrees is clockwise as viewing drone from the top.
- 6 Drone degrees 0 and 360 are same orientation.
- 7 An Android Nexus 7 Tablet (original model) was used.
- 8 Amped WiFi Analyzer App was used to measure RSSI (dBi).
- 9 Columns marked with "1" was tablet tilted by approx 45 degrees off vertical and the operator was standing just to the right of viewing the screen.
- 10 Columns marked with "2" was tablet tilted by approx 20 degrees off vertical and the operator was standing 3 feet away directly viewing the screen.



August 16th, 2013

Drone Rotation Degrees	External Wheel-Mast Antenna			
	dBi @ 100 Feet		dBi @ 200 Feet	
	1	2	1	2
0	65	65	67	68
45	65	60	61	62
90	70-65	70-66	69-62	67
135	65	67	67	68
180	63	62	64	64
225	63	62	66	65
270	62	62	65	65
315	64	64	69	69
360	67	64	69	69
	Average: 64 dBi		Average: 66 dBi	

August 15th, 2013

Drone Rotation Degrees	Stock built-in Antenna (Inverted F with Inductor)			
	dBi @ 100 Feet		dBi @ 200 Feet	
	1	2	1	2
0	68	69	69	72
45	69	70	70	74
90	73	73	76	84
135	76	78	80	75
180	79	85	84	80
225	69	66	70	73
270	82	87	90	93
315	65	68	67	71
360	68	68	69	72
	Average: 73 dBi		Average: 76 dBi	



August 16th, 2013

Drone Rotation Degrees	Wheel and Inverted F with Inductor			
	dBi @ 100 Feet		dBi @ 200 Feet	
	1	2	1	2
0	61	64	65	69-64
45	68-63	69	67	69-64
90	77	72	68	72
135	68-72	70-65	73-66	70-64
180	63	63	65	66
225	63	65	65	67
270	64	64	66	68
315	70-64	69-64	70	68
360	63	63	68	69

Improper / Illogical Configuration

All sorts of erratic measurement behaviour