



FCC - TEST REPORT

Report Number	: 68.940.16.007.01	Date of Issue: <u>June 16, 2016</u>
Model	: 668-A4, 668-A3, 668-A7, 668-A8, 668-Q7, 668-Q8, 668-R8	
Product Type	: REMOTE CONTROL FOR RC DRONE QUADCOPTER	
Applicant	: Shantou Yuxiang Toys Technology co., Ltd	
Address	: SUNSHINE INDUSTRIAL ZONE XIA GUI PU COMMUNITY, LONGHU DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA.	
Production Facility	: Shantou Yuxiang Toys Technology co., Ltd	
Address	: SUNSHINE INDUSTRIAL ZONE XIA GUI PU COMMUNITY, LONGHU DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA	
Test Result	: <input checked="" type="checkbox"/> Positive <input type="checkbox"/> Negative	
Total pages	: <u>34</u>	

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch is a subcontractor to TÜV SÜD Product Service GmbH according to the principles outlined in ISO 17025.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval

1 Table of Contents

1 Table of Contents.....	2
2 Details about the Test Laboratory.....	3
3 Description of the Equipment Under Test	4
4 Summary of Test Standards.....	5
5 Summary of Test Results.....	6
6 General Remarks	7
7 Test setups	8
8 Systems test configuration	9
9 Technical Requirement.....	10
9.1 Field strength of emissions and restricted bands	10
9.2 20dB Bandwidth	21
9.3 Out of band emissions	24
10 Test equipment list.....	33
11 System Measurement Uncertainty	34



2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
Shenzhen City, 518052,
P. R. China

FCC Registration Number: 502708

Telephone: 86 755 8828 6998
Fax: 86 755 828 5299

Test Site 2:

Company name: Dongguan Precise Testing Service Co., Ltd.
Building D, Baoding Technology Park, Guangming Road 2, Dongcheng
District, Dongguan, Guangdong, China.

FCC Registration Number: 371540

Remark: All test items were performed at Site 2.



3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product: REMOTE CONTROL FOR RC DRONE QUADCOPTER

Model no.: 668-A4

FCC ID: 2AHTI668-A4

Rating Voltage: 3.0VDC (Supplied by 2*1.5VDC size "AA" batteries)

RF Transmission Frequency: 2405 – 2475MHz

No. of Operated Channel: 6 (2405MHz, 2441MHz, 2433MHz, 2460MHz, 2465MHz, 2475MHz)

Modulation: GFSK

Antenna Type: Integrated Antenna

Antenna Gain: 0dBi

Description of the EUT: NIL

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2015 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators



5 Summary of Test Results

Technical Requirements					
FCC Part 15 Subpart C					
Test Condition	Pages	Test Site	Test Result		
			Pass	Fail	N/A
15.207 Conducted emission AC power port	---	Site 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
§15.205(a), §15.209(a), §15.249(a), §15.249(c) Field strength of emissions and Restricted bands	11	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC §15.215(c) 20dB bandwidth	20	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§15.249(d) Out of band emissions	24	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§15.203 Antenna requirement	See note 1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remark 1: N/A – Not Applicable.

Note 1: The EUT uses an integral antenna, which gain is -1.0dBi. According to §15.203, it is considered sufficiently to comply with the provisions of this section.



6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2AHTI668-A4 complies with Section 15.205, 15.209, 15.249 of the FCC Part 15, Subpart C Rules.

All models are identical with model: 668-A4 except model name and color, so full testing was applied on 668-A4, the other models were deemed to fulfill the EMC test requirement without further testing.

SUMMARY:

All tests according to the regulations cited on page 5 were

- Performed

- **Not** Performed

The Equipment under Test

- **Fulfills** the general approval requirements.

- **Does not** fulfill the general approval requirements.

Sample Received Date: June 01, 2016

Testing Start Date: June 01, 2016

Testing End Date: June 16, 2016

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

A handwritten signature in blue ink, appearing to read "Phoebe Hu".

Phoebe Hu
EMC Project Manager

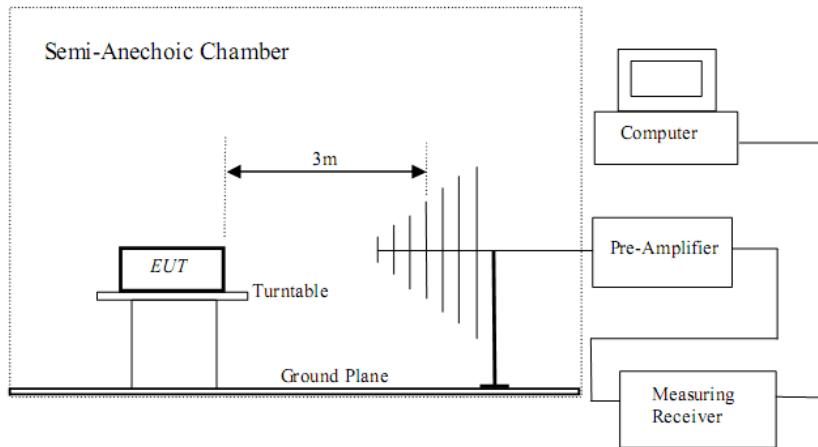
Prepared by:

A handwritten signature in blue ink, appearing to read "Aaron Lai".

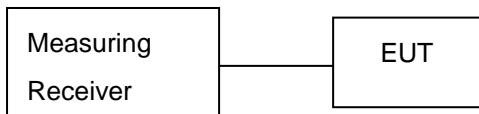
Aaron Lai
EMC Project Engineer

7 Test setups

7.1 Radiated test setups



7.2 Conducted RF test setups





8 Systems test configuration

Auxiliary Equipment Used during Test:

Name	Model No	S/N	Manufacturer	FCC
--	--	--	--	--

Test software which used to control the EUT in continues transmitting mode

9 Technical Requirement

9.1 Field strength of emissions and restricted bands

Test Method

- 1: The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2: The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
- 3: The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4: For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5: Use the following spectrum analyzer settings According to C63.10:

For Above 1GHz

Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW \geq RBW for peak measurement and VBW = 10Hz for average
measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Below 1GHz

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 KHz, VBW \geq RBW for peak measurement, Sweep = auto, Detector function
= peak, Trace = max hold.


Note:

- 1: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
- 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).
- 4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

Limits

According to §15.249 (a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

According to §15.249 (c), Field strength limits are specified at a distance of 3 meters.

According to §15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

According to §15.205 and Unwanted emissions falling into restricted bands in §15.205 (a) Table 3 shall comply with the limits specified in §15.209.

Field strength of emissions and Restricted bands

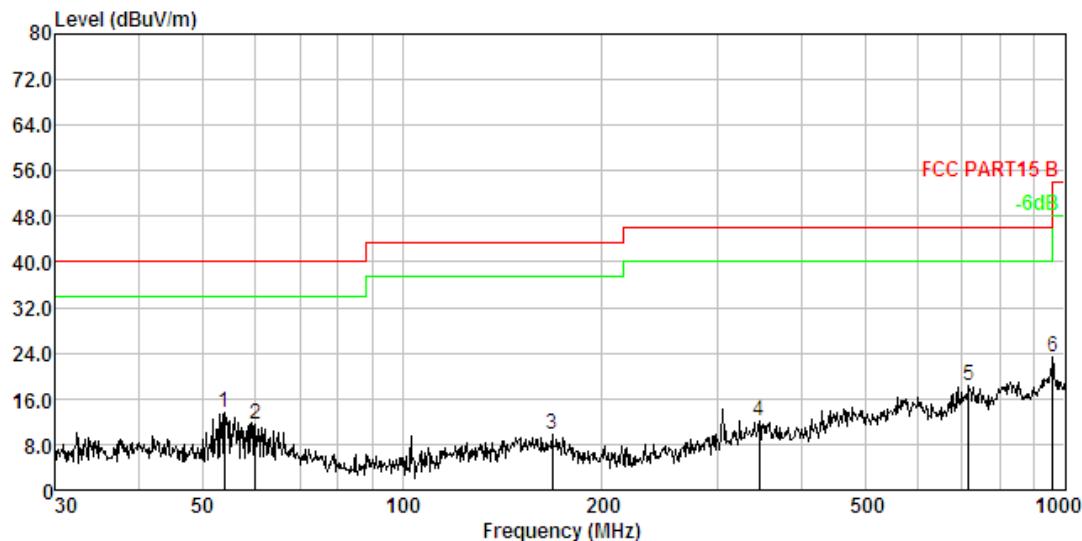
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	53.882	1.59	11.98	30.06	30.17	13.46	40.00	-26.54	Peak
2.	60.069	1.68	12.17	27.75	30.21	11.39	40.00	-28.61	Peak
3.	168.414	2.62	13.42	24.40	30.57	9.87	43.50	-33.63	Peak
4.	345.595	3.27	14.18	25.41	30.82	12.04	46.00	-33.96	Peak
5.	716.682	3.93	20.45	24.94	31.07	18.25	46.00	-27.75	Peak
6.	958.794	4.19	23.43	26.78	31.18	23.22	46.00	-22.78	Peak

Field strength of emissions and Restricted bands

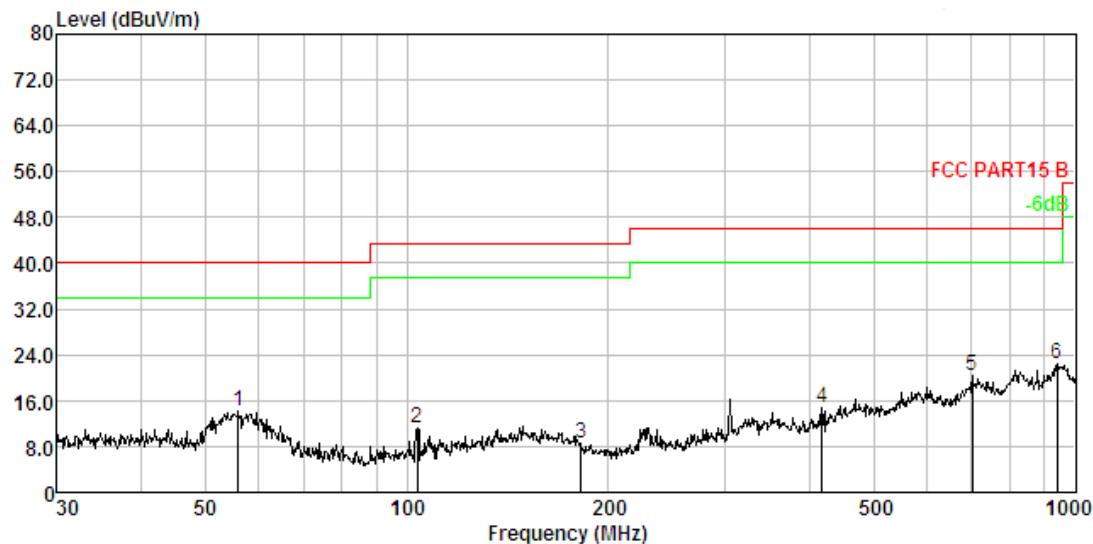
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	56.001	1.62	11.96	30.65	30.19	14.04	40.00	-25.96	Peak
2.	103.806	2.18	10.57	28.81	30.40	11.16	43.50	-32.34	Peak
3.	182.559	2.69	12.09	24.36	30.60	8.54	43.50	-34.96	Peak
4.	417.641	3.44	15.66	26.42	30.89	14.63	46.00	-31.37	Peak
5.	701.761	3.91	20.17	27.21	31.07	20.22	46.00	-25.78	Peak
6.	938.833	4.17	23.22	26.08	31.17	22.30	46.00	-23.70	Peak

Field strength of emissions and Restricted bands

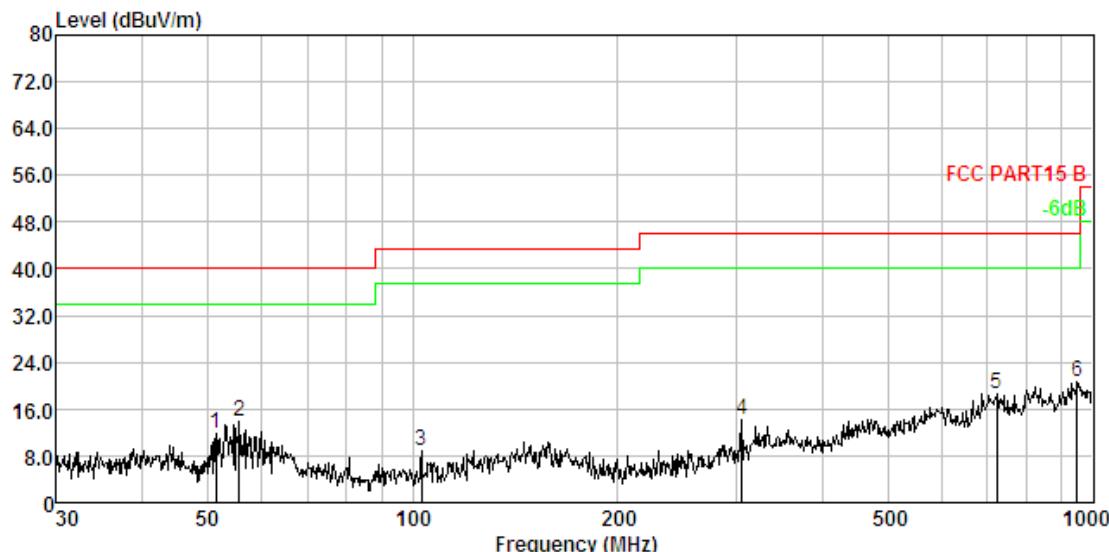
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2433MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Over Limit dB	Remark
1.	51.481	1.54	12.16	28.29	30.16	11.83	40.00	-28.17 Peak
2.	55.609	1.61	11.93	30.62	30.18	13.98	40.00	-26.02 Peak
3.	103.080	2.17	10.50	26.45	30.40	8.72	43.50	-34.78 Peak
4.	304.610	3.15	13.30	28.63	30.78	14.30	46.00	-31.70 Peak
5.	721.726	3.93	20.54	25.10	31.08	18.49	46.00	-27.51 Peak
6.	948.761	4.18	23.41	24.27	31.17	20.69	46.00	-25.31 Peak

Field strength of emissions and Restricted bands

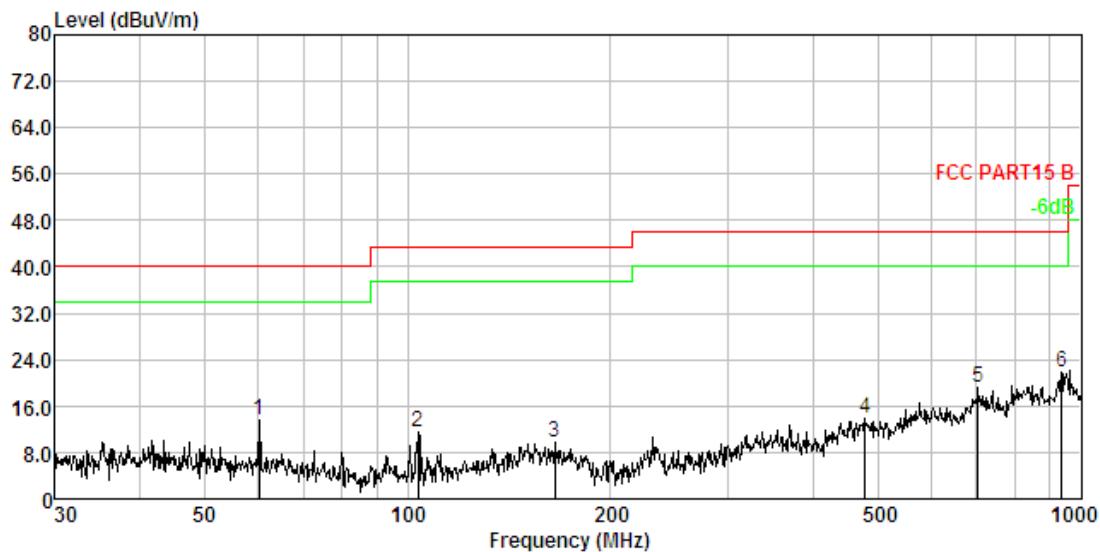
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2433MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	60.280	1.69	12.15	30.09	30.21	13.72	40.00	-26.28	Peak
2.	103.806	2.18	10.57	29.23	30.40	11.58	43.50	-31.92	Peak
3.	165.487	2.60	13.57	24.06	30.56	9.67	43.50	-33.83	Peak
4.	478.846	3.56	16.87	24.35	30.93	13.85	46.00	-32.15	Peak
5.	704.226	3.91	20.22	26.11	31.07	19.17	46.00	-26.83	Peak
6.	935.546	4.17	23.15	25.70	31.17	21.85	46.00	-24.15	Peak

Field strength of emissions and Restricted bands

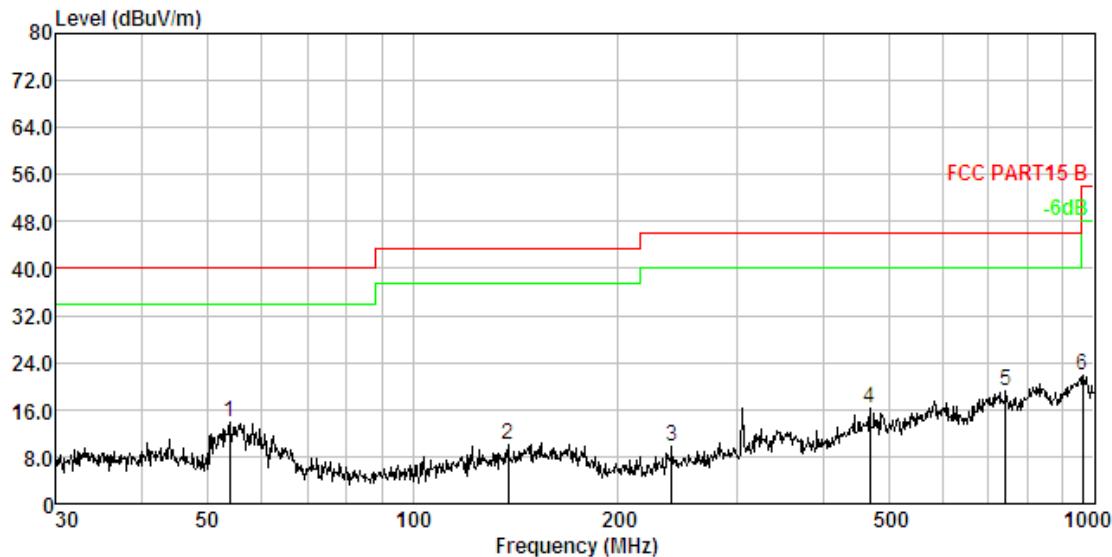
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	53.882	1.59	11.98	30.61	30.17	14.01	40.00	-25.99	Peak
2.	137.903	2.44	13.21	24.86	30.50	10.01	43.50	-33.49	Peak
3.	239.987	2.94	11.71	25.75	30.69	9.71	46.00	-36.29	Peak
4.	468.876	3.54	16.68	26.86	30.93	16.15	46.00	-29.85	Peak
5.	742.259	3.96	21.12	25.27	31.09	19.26	46.00	-26.74	Peak
6.	962.162	4.20	23.43	25.38	31.18	21.83	54.00	-32.17	Peak

Field strength of emissions and Restricted bands

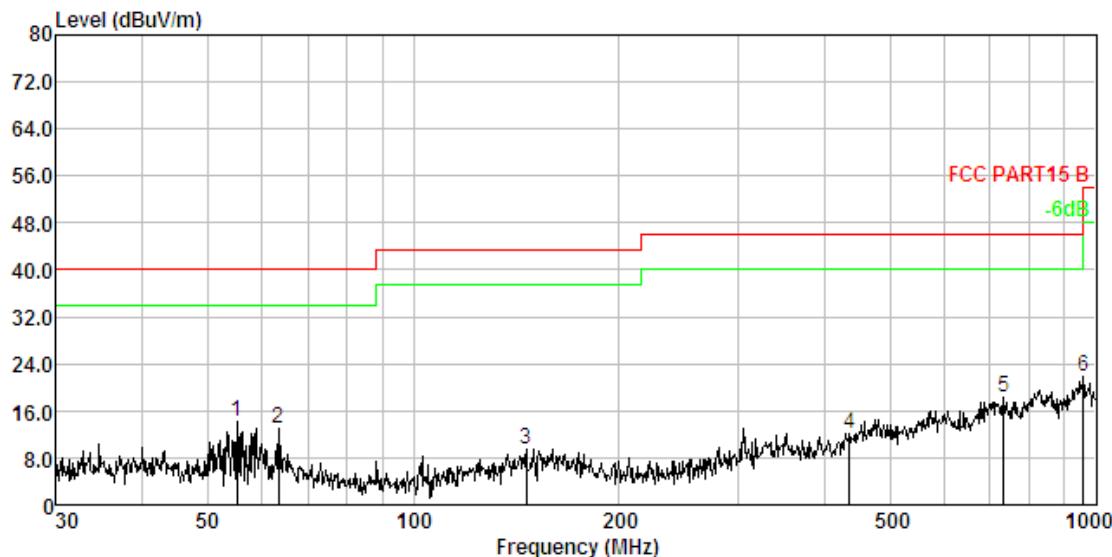
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Over Limit dBuV/m	Over Limit dB	Remark
1.	55.221	1.61	11.91	30.87	30.18	14.21	40.00	-25.79	Peak
2.	63.536	1.73	11.93	29.49	30.23	12.92	40.00	-27.08	Peak
3.	146.374	2.49	13.71	23.84	30.52	9.52	43.50	-33.98	Peak
4.	435.590	3.48	16.10	23.54	30.90	12.22	46.00	-33.78	Peak
5.	731.920	3.95	20.81	24.53	31.08	18.21	46.00	-27.79	Peak
6.	958.794	4.19	23.43	25.55	31.18	21.99	46.00	-24.01	Peak

Field strength of emissions and Restricted bands

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Horizontal

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2405.013	93.68	-9.37	84.31	114.00	-29.69	peak
2405.013	89.43	-9.37	80.06	94.00	-13.94	AVG
4810.026	47.78	3.74	51.52	74.00	-22.48	peak
4810.026	43.53	3.74	47.27	54.00	-6.73	AVG
7215.039	43.01	8.14	51.15	74.00	-22.85	peak
7215.039	38.76	8.14	46.90	54.00	-7.10	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Vertical

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2405.013	90.67	-9.37	81.30	114.00	-32.70	peak
2405.013	86.42	-9.37	77.05	94.00	-16.95	AVG
4810.026	46.44	3.74	50.18	74.00	-23.82	peak
4810.026	42.19	3.74	45.93	54.00	-8.07	AVG
7215.039	42.32	8.14	50.46	74.00	-23.54	peak
7215.039	38.07	8.14	46.21	54.00	-7.79	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark 1: According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Remark 2: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 1GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Field strength of emissions and Restricted bands

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2433MHz

Test Specification: Horizontal

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2433.016	92.12	-9.63	82.49	114.00	-31.51	peak
2433.016	87.87	-9.63	78.24	94.00	-15.76	AVG
4866.032	48.66	3.76	52.42	74.00	-21.58	peak
4866.032	44.41	3.76	48.17	54.00	-5.83	AVG
7299.048	42.16	8.17	50.33	74.00	-23.67	peak
7299.048	37.91	8.17	46.08	54.00	-7.92	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2433MHz

Test Specification: Vertical

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2433.016	90.55	-9.63	80.92	114.00	-33.08	peak
2433.016	86.30	-9.63	76.67	94.00	-17.33	AVG
4866.032	47.76	3.76	51.52	74.00	-22.48	peak
4866.032	43.51	3.76	47.27	54.00	-6.73	AVG
7299.048	42.32	8.17	50.49	74.00	-23.51	peak
7299.048	38.07	8.17	46.24	54.00	-7.76	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark 1: According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Remark 2: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 1GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Field strength of emissions and Restricted bands

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Horizontal

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2475.021	90.67	-9.63	81.04	114.00	-32.96	peak
2475.021	86.42	-9.63	76.79	94.00	-17.21	AVG
4950.042	47.52	3.76	51.28	74.00	-22.72	peak
4950.042	43.27	3.76	47.03	54.00	-6.97	AVG
7425.063	39.97	8.17	48.14	74.00	-25.86	peak
7425.063	35.72	8.17	43.89	54.00	-10.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Vertical

Remark: Above 1GHz

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
2475.021	88.84	-9.63	79.21	114.00	-34.79	peak
2475.021	84.59	-9.63	74.96	94.00	-19.04	AVG
4950.042	47.30	3.76	51.06	74.00	-22.94	peak
4950.042	43.05	3.76	46.81	54.00	-7.19	AVG
7425.063	40.54	8.17	48.71	74.00	-25.29	peak
7425.063	36.29	8.17	44.46	54.00	-9.54	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark 1: According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Remark 2: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 1GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9.2 20dB Bandwidth

Test Method

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Limits:

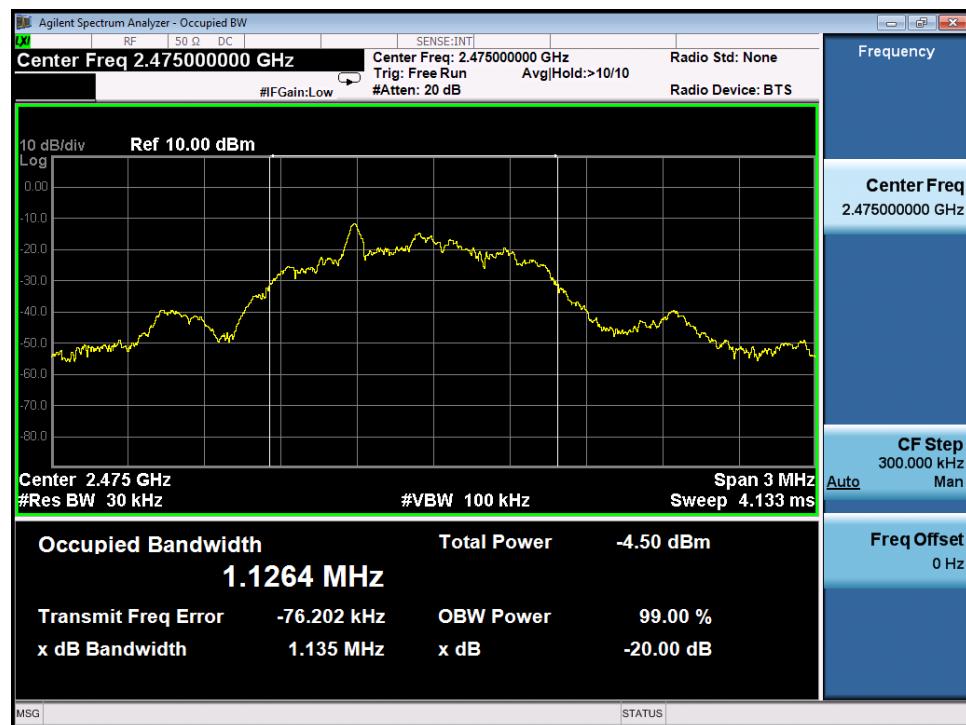
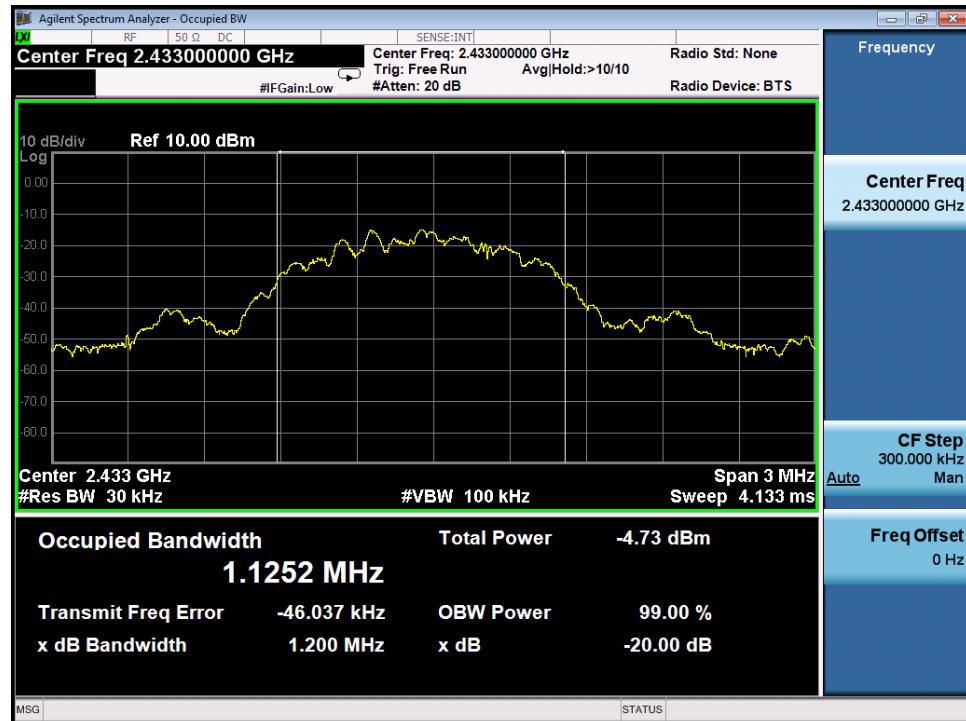
According to 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

20dB Bandwidth

Frequency MHz	20dB Bandwidth MHz	Limit kHz	Result
2405	1.104	--	Pass
2433	1.200	--	Pass
2475	1.135	--	Pass



20dB Bandwidth



9.3 Out of band emissions

Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
3. Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured, RBW = 1 MHz,
VBW \geq RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from $20\log(\text{duty cycle}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Limit:

According to §15.249(d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.



Band edge testing

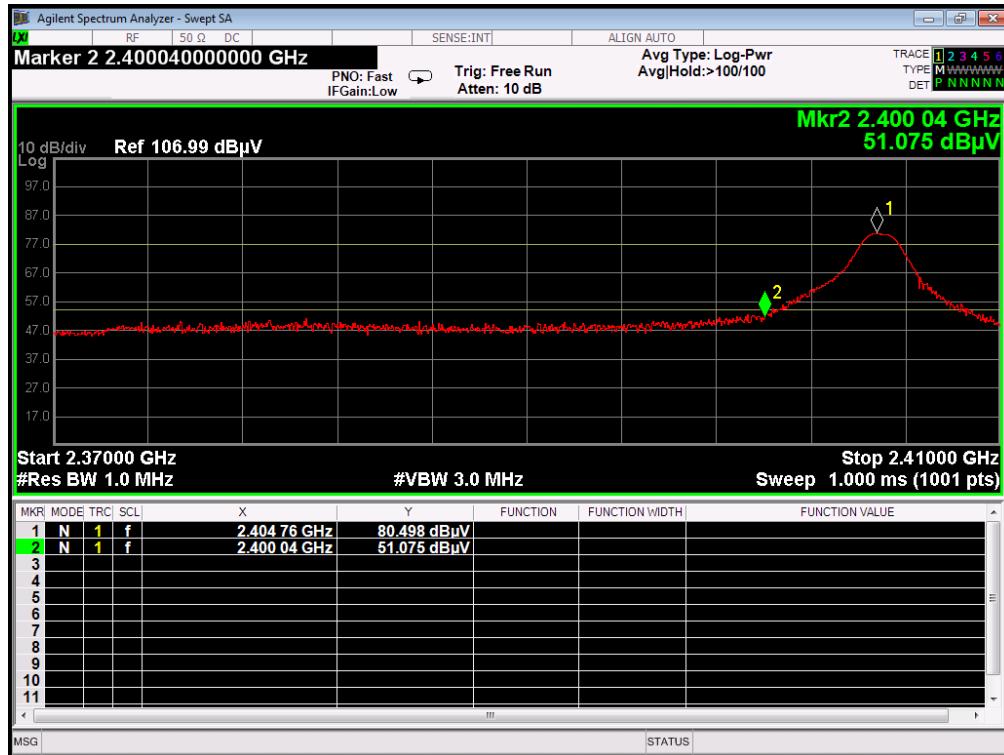
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Horizontal

Detector: Peak





Band edge testing

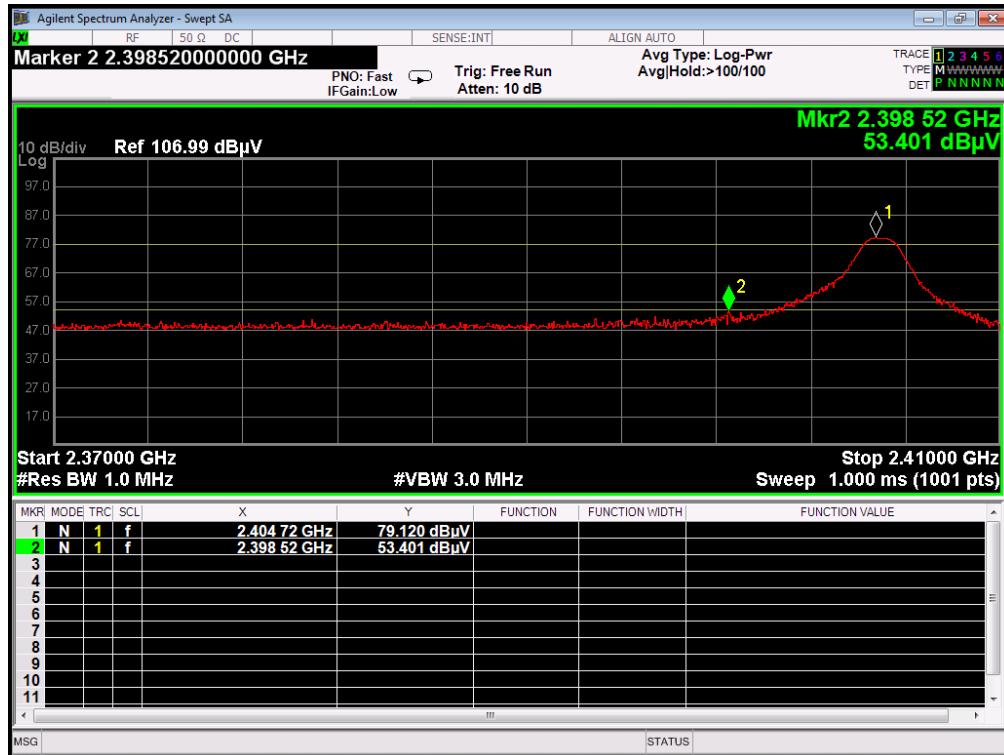
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Vertical

Detector: Peak





Band edge testing

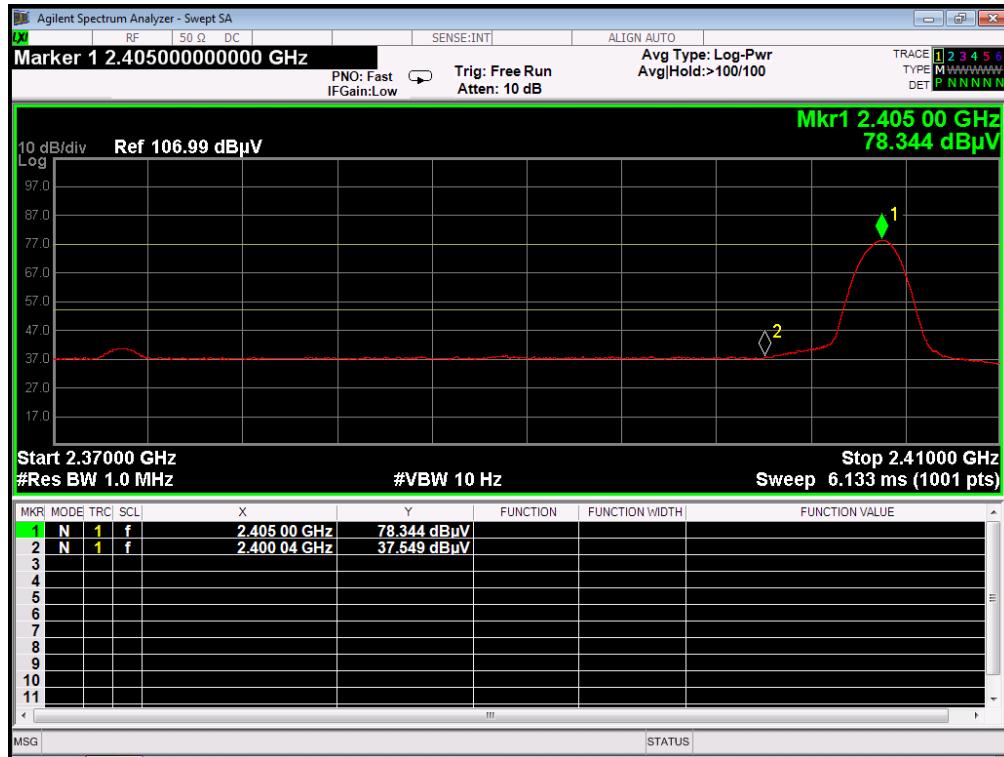
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Horizontal

Detector: AV





Band edge testing

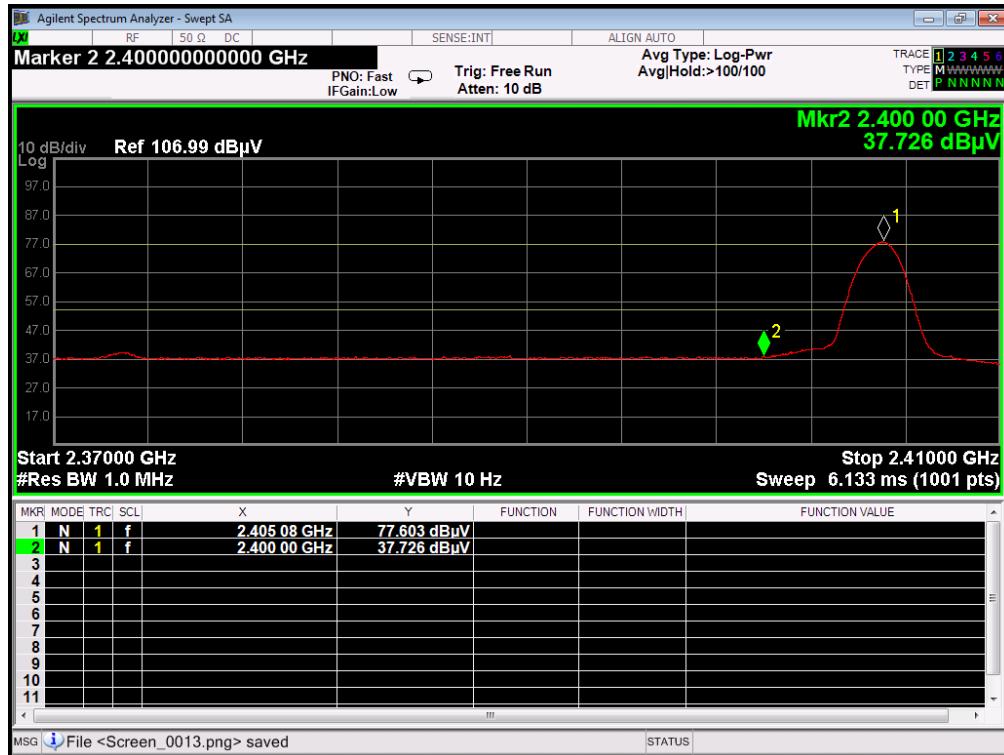
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2405MHz

Test Specification: Vertical

Detector: AV





Band edge testing

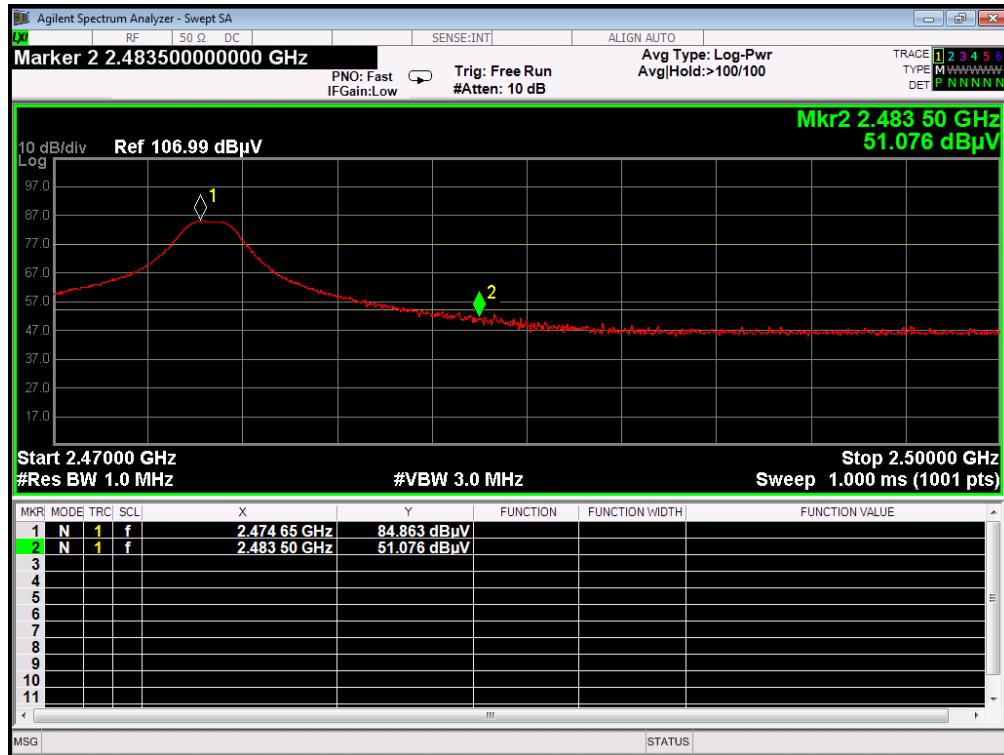
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Horizontal

Detector: Peak





Band edge testing

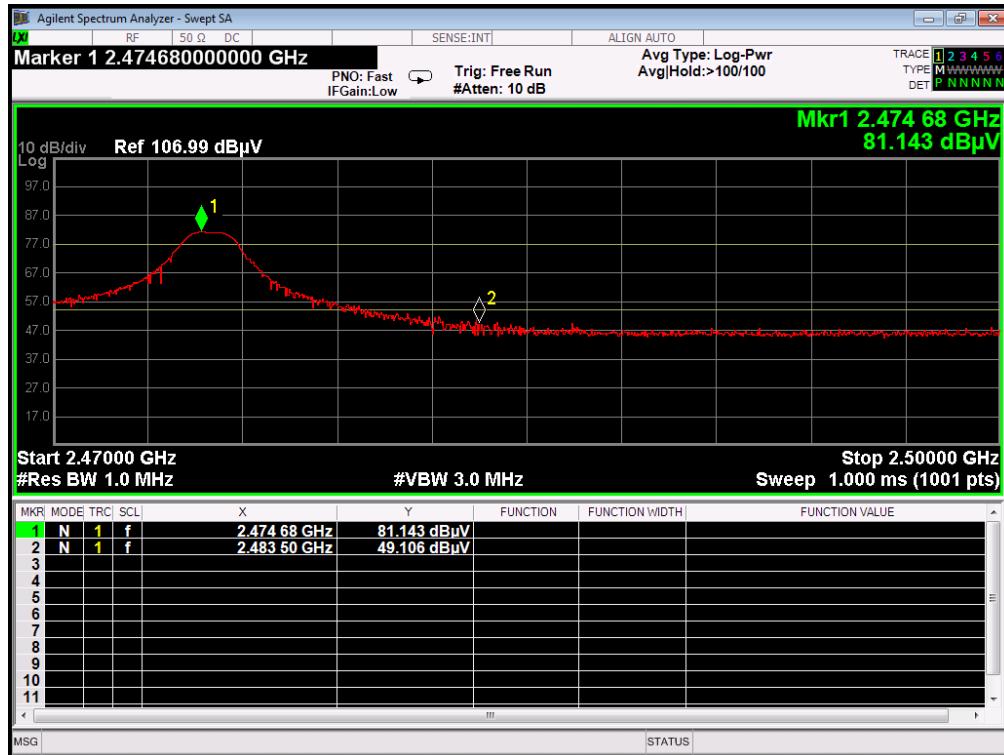
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Vertical

Detector: Peak



Band edge testing

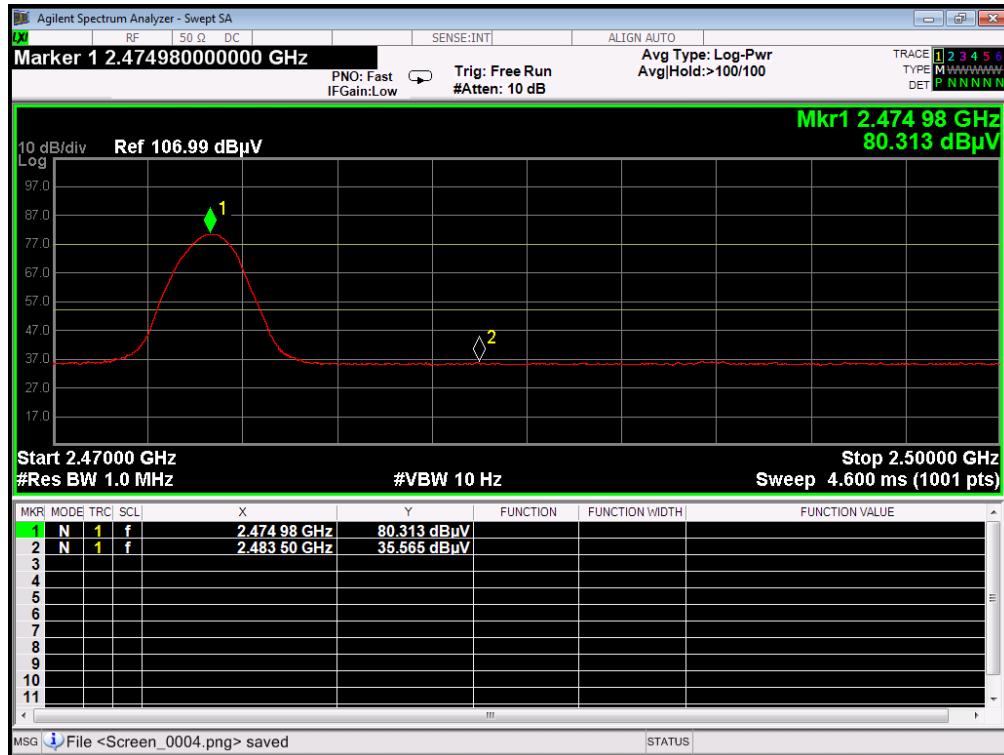
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Horizontal

Detector: AV





Band edge testing

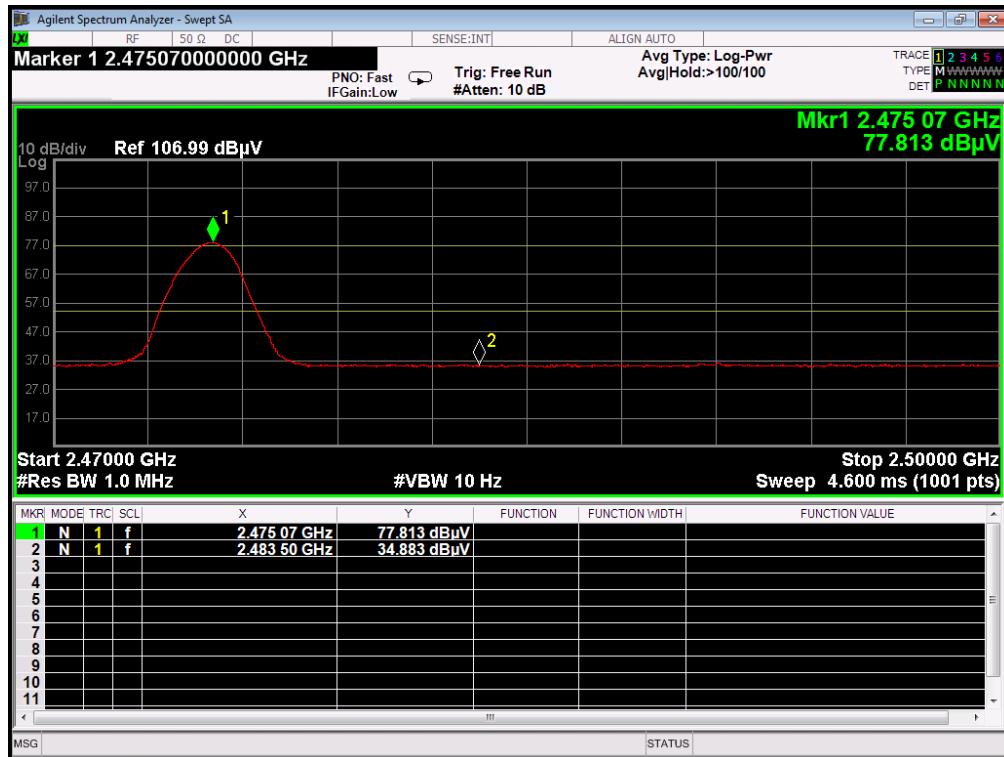
EUT: REMOTE CONTROL FOR RC DRONE QUADCOPTER

M/N: 668-A4

Operating Condition: Tx; 2475MHz

Test Specification: Vertical

Detector: AV



10 Test equipment list

List of Test Instruments

Radiated Emission Test Site					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2016	July 3, 2017
Trilog Broadband Antenna (25M-1GHz)	SCHWARZBECK	VULB9160	9160-3355	July 4, 2016	July 3, 2017
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	July 4, 2016	July 3, 2017
RF Cable	SCHWARZBECK	AK9515E	96221	July 4, 2016	July 3, 2017
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 6, 2016	June 5, 2017
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	June 6, 2016	June 5, 2017
Spectrum analyzer	Agilent	E4407B	MY46185649	June 6, 2016	June 5, 2017
Horn Antenna (1G-18GHz)	SCHWARZBECK	BBHA9120D	9120D-1246	June 6, 2016	June 5, 2017
Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	9170-181	June 6, 2016	June 5, 2017

Conducted RF tests

- 20dB bandwidth

11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty

System Measurement Uncertainty		
Items	Extended Uncertainty	
Radiated Emissions Electric field 3 m distance	---	+/- 3.8dB
Band Width	---	+/- 1.6kHz
Band Edge	---	+/- 3.8dB