FCC TEST REPORT

FOR

LRP electronic GmbH

Gravit Micro 2.0 2.4GHz Quadrocopter RTF

Test Model: #220702 S-2UFO

Prepared for	:	LRP electronic GmbH
Address	:	Hanfwiesenstrasse 15 73614, Schorndorf, Germany
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	April 14, 2015
Number of tested samples	:	1
Serial number	:	S-2
Date of Test	:	April 14, 2015 - May 12, 2015
Date of Report	:	May 12, 2015

FCC TEST REPORT

FCC CFR 47 PART 15 C(15.249): 2015

Report Reference No.	**:**	**LCS1504140635E**
Date of Issue.....	:	May 12, 2015
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	**:**	**LRP electronic GmbH**
Address.....	:	Hanfwiesenstrasse 15 73614, Schorndorf, Germany
Test Specification		
Standard.....	:	FCC CFR 47 PART 15 C(15.249): 2015 / RSS-210 Issue 8 / RSS-Gen Issue 3
Test Report Form No.....	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.....	**:**	**Gravit Micro 2.0 2.4GHz Quadrocopter RTF**
Trade Mark.....	:	N/A
Test Model.....	:	#220702 S-2UFO
Ratings.....	:	DC 9.0V by 6*AA batteries
Result	**:**	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Leo Lee	Danny Huang	Gavin Liang
Leo Lee/ File administrators	Danny Huang/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1504140635E	May 12, 2015 Date of issue

Test Model.....	: #220702 S-2UFO
EUT.....	: Gravit Micro 2.0 2.4GHz Quadrocopter RTF
Applicant.....	**: LRP electronic GmbH**
Address.....	: Hanfwiesenstrasse 15 73614, Schorndorf, Germany
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: Chenghai Shantou City Jiayuan Plastic Toys Co.,Ltd**
Address.....	: Gangkou Industrial Area, Chenghai District, Shantou City, Guangdong Province, China
Telephone.....	: /
Fax.....	: /
Factory.....	**: Chenghai Shantou City Jiayuan Plastic Toys Co.,Ltd**
Address.....	: Gangkou Industrial Area, Chenghai District, Shantou City, Guangdong Province, China
Telephone.....	: /
Fax.....	: /

Test Result	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Gravit Micro 2.0 2.4GHz Quadrocopter RTF
Model Number	:	#220702 S-2UFO
Hardware Version	:	LGG13625TX4
Software Version	:	LG_139_TX
Power Supply	:	DC 9.0V by 6*AA batteries
Frequency Range	:	2405.00-2475.00MHz
Modulation Technology	:	GFSK
Channel Number	:	16
Channel Spacing	:	See more details at section 1.7
Antenna Description	:	Coaxial Antenna, 3.0dBi(Max.)

1.2. Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	Certificate
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1.3. External I/O

I/O Port Description	Quantity	Cable
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1.4. Description of Test Facility

CNAS Registration Number. is L4595.
FCC Registration Number. is 899208.
Industry Canada Registration Number. is 9642A-1.
VCCI Registration Number. is C-4260 and R-3804.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001

1.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	3.10dB	(1)
		30MHz~200MHz	2.96dB	(1)
		200MHz~1000MHz	3.10dB	(1)
		1GHz~26.5GHz	4.00dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	1.63dB	(1)
Power disturbance	:	30MHz~300MHz	1.60dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.7. Description Of Test Modes

Channel List:

Channel No.	Channel Frequency (MHz)	Channel No.	Channel Frequency (MHz)
1	**2405**	**9**	**2438**
2	2419	10	2445
3	2423	11	2451
4	2426	12	2453
5	2428	13	2455
6	2430	14	2461
7	2433	15	2464
8	2434	16	**2475**

The EUT operates in the unlicensed ISM band at 2.4GHz. The following operating modes were applied for the related test items. And the new battery is used during the measurement.
The EUT received DC 9.0V power from 6*AA batteries which are new and full power. All test modes were tested, only the result of the worst case was recorded in the report.

The EUT is considered a portable unit and was set to transmit at 100% duty cycle. It was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane.

Mode of Operations	Transmitting Frequency (MHz)
GFSK	2405
	2438
	2475
For Conducted Emission	
Test Mode	N/A
For Radiated Emission	
Test Mode	TX Mode

Note: The EUT is designed to use DC 9.0V 6*AA batteries for power supply, so the conducted emission testing is not applicable.

Worst-case mode and channel used for 9kHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be TX-2405MHz.

2. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10: 2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd..

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.205, 15.207, 15.209 and 15.249 under the FCC Rules Part 15 Subpart C and RSS-210.

2.3. General Test Procedures

2.3.1 Conducted Emissions(N/A)

According to the requirements in Section 6.2 of ANSI C63.10: 2013, AC power-line conducted emissions shall be measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table and the turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10: 2013

3. CONNECTION DIAGRAM OF TEST SYSTEM

3.1. Justification

The system was configured for testing in a continuous transmit condition.

3.2. EUT Exercise Software

N/A

3.3. Special Accessories

N/A

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§15.203	RSS-Gen	Antenna Requirement	Compliant
§15.207(a)	RSS-Gen	Conduction Emissions	N/A
§15.205(a), §15.209(a), §15.249(a), §15.249(c)	RSS-210 (A2.9&A8.4)	Radiated Emissions Measurement	Compliant
§15.249	RSS-210(A8.5)	Band Edges Measurement	Compliant
§15.249, §15.215	RSS-210	20 dB Bandwidth	Compliant

5. ANTENNA REQUIREMENT

5.1. Standard Applicable

According to §15.203 & RSS-Gen, An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2. Antenna Connected Construction

The antenna used for transmitting is permanently attached and no consideration of replacement. Please see EUT photo for details.

Result: Compliance.

6. RADIATED EMISSION MEASUREMENT

6.1. Standard Applicable

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.
20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) and 15.249 limit in the table below has to be followed.

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

6.2. Instruments Setting

The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1000KHz / 1000KHz for peak

6.3. Test Procedure

1) Configure the EUT according to ANSI C63.10: 2013. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.

2) Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.

3) The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.

4) For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.

5) Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.

6) For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.

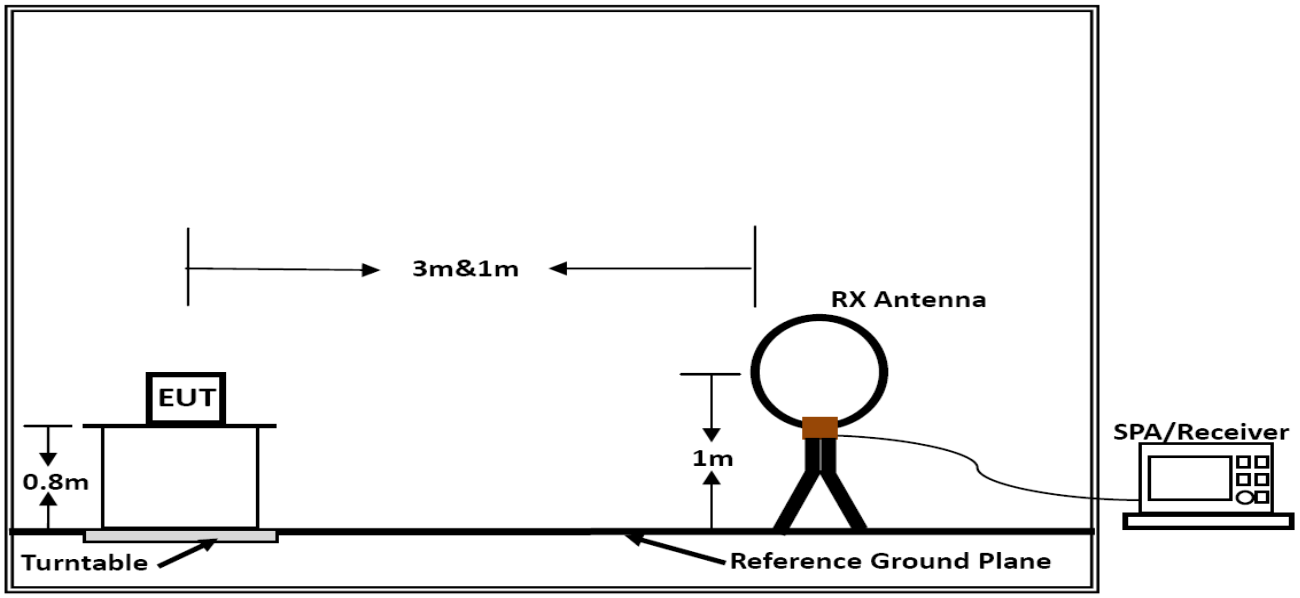
7) When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

8) If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.

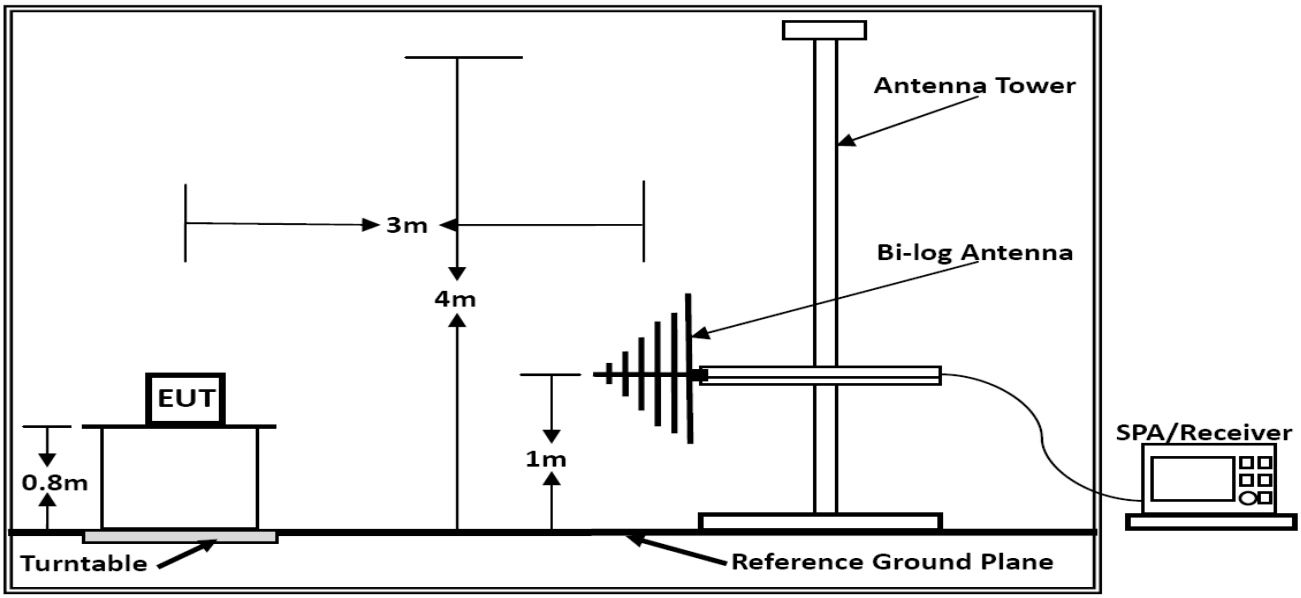
9) For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

10) In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

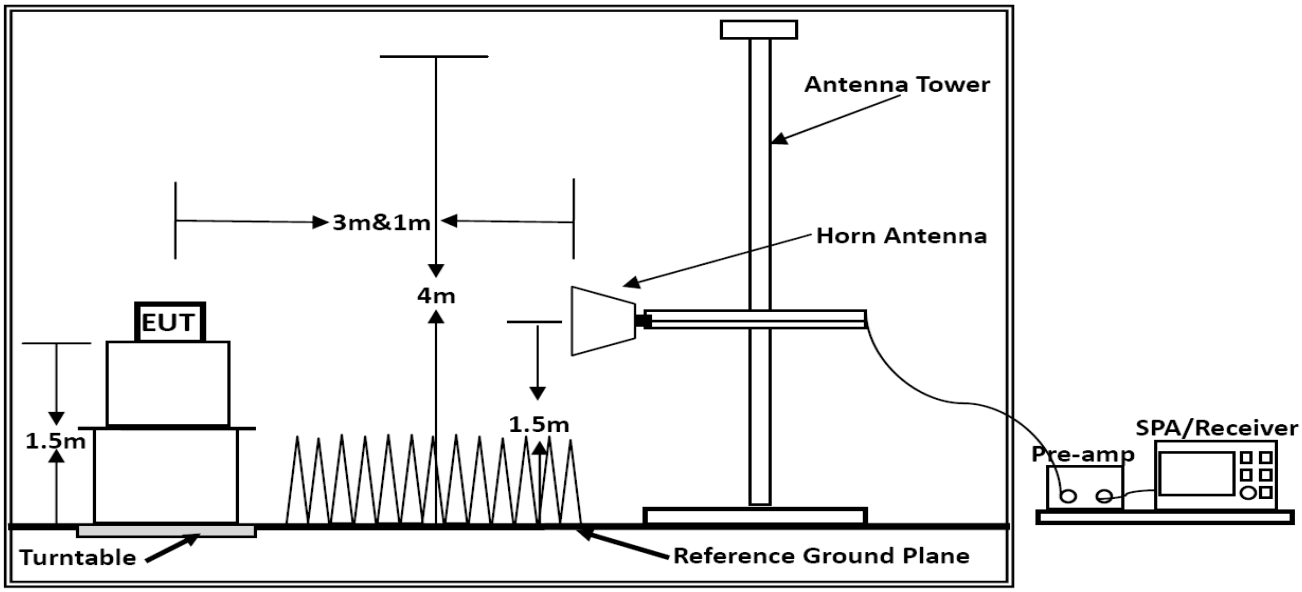
6.4. Block Diagram of Test Setup



Below 30MHz



Below 1GHz



Above 1GHz

6.5. Test Results

Results of Radiated Emissions (9kHz~30MHz)

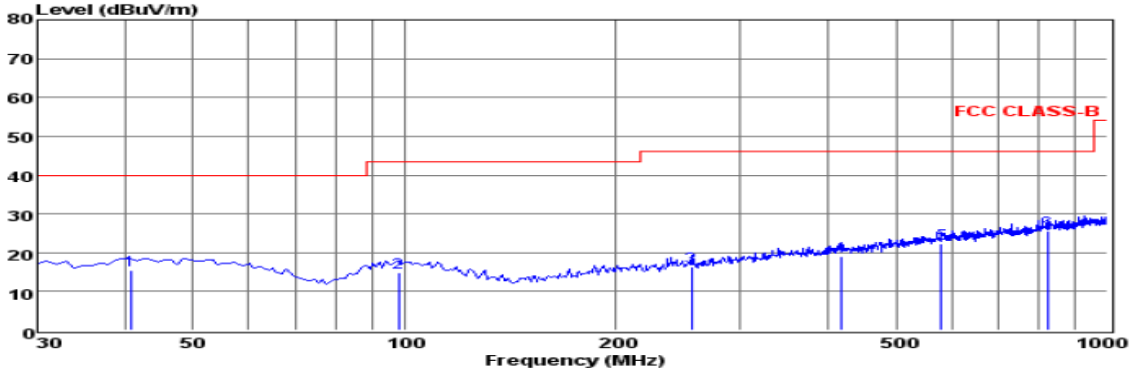
Frequency (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

Note:

The radiated emissions from 9kHz to 30MHz are at least 20dB below the official limit and no need to report.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

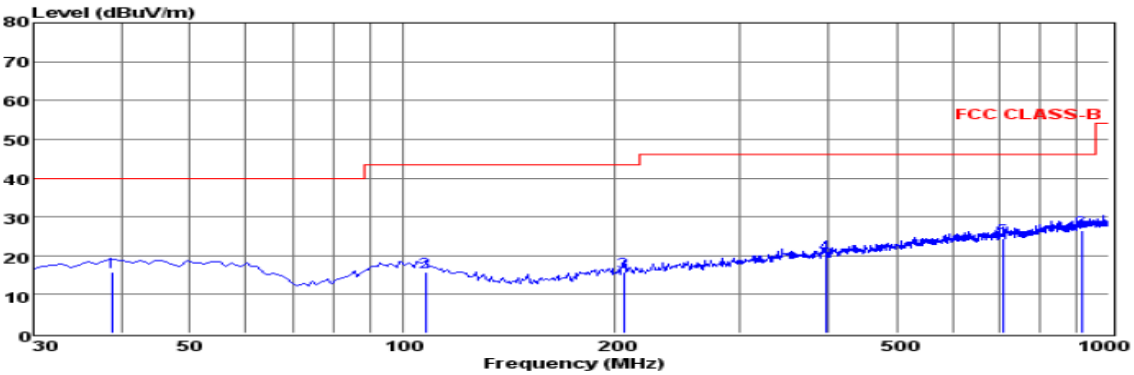
Results of Radiated Emissions (30MHz~1000MHz)



Env./Ins: 24℃/56%
EUT: Gravit Micro 2.0 2.4GHz Quadrocopter RTF
M/N: #220702 S-2UFO
Power Rating: DC 9.0V
Test Mode: TX-2405MHz
Operator: Leo
Memo:
pol: VERTICAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	40.67	1.39	0.50	13.58	15.47	40.00	-24.53	QP
2	97.90	1.24	0.61	13.03	14.88	43.50	-28.62	QP
3	256.01	3.27	1.02	12.06	16.35	46.00	-29.65	QP
4	418.00	2.25	1.32	15.43	19.00	46.00	-27.00	QP
5	579.99	2.70	1.44	18.08	22.22	46.00	-23.78	QP
6	822.49	3.35	1.83	20.29	25.47	46.00	-20.53	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported



Env./Ins: 24℃/56%
EUT: Gravit Micro 2.0 2.4GHz Quadrocopter RTF
M/N: #220702 S-2UFO
Power Rating: DC 9.0V
Test Mode: TX-2405MHz
Operator: Leo
Memo:
pol: HORIZONTAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	38.73	2.27	0.38	13.25	15.90	40.00	-24.10	QP
2	107.60	2.59	0.68	12.47	15.74	43.50	-27.76	QP
3	205.57	4.13	0.99	10.75	15.87	43.50	-27.63	QP
4	396.66	3.85	1.30	14.98	20.13	46.00	-25.87	QP
5	708.03	3.89	1.60	18.91	24.40	46.00	-21.60	QP
6	915.61	3.14	2.04	21.19	26.37	46.00	-19.63	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

****Note: Pre-scan all mode and recorded the worst case results in this report (TX- 2405MHz).*

6.7. Results for Radiated Emissions (Above 1GHz)

Field Strength Of Fundamental (TX-2405MHz)						
Frequency (MHz)	Pol.	Measure Result (PK, dBuV/m)	Measure Result (AVG, dBuV/m)	Peak Limit (dBuV/m)	AVG Limit (dBuV/m)	Result
2405	H	85.27	81.96	114	94	Pass
2405	V	86.13	82.34	114	94	Pass

Freq. MHz	Reading Level dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4810.10	45.67	33.06	35.04	3.94	47.63	74	-26.37	Peak	Horizontal
4810.13	33.86	33.06	35.04	3.94	35.82	54	-18.18	Average	Horizontal
4810.11	44.79	33.06	35.04	3.94	46.75	74	-27.25	Peak	Vertical
4810.13	36.47	33.06	35.04	3.94	38.43	54	-15.57	Average	Vertical

Field Strength Of Fundamental (TX-2438MHz)						
Frequency (MHz)	Pol.	Measure Result (PK, dBuV/m)	Measure Result (AVG, dBuV/m)	Peak Limit (dBuV/m)	AVG Limit (dBuV/m)	Result
2438	H	84.06	80.73	114	94	Pass
2438	V	85.52	81.29	114	94	Pass

Freq. MHz	Reading Level dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4876.13	42.81	33.16	35.15	3.96	44.78	74	-29.22	Peak	Horizontal
4876.16	32.98	33.16	35.15	3.96	34.95	54	-19.05	Average	Horizontal
4876.13	44.75	33.16	35.15	3.96	46.72	74	-27.28	Peak	Vertical
4876.16	35.51	33.16	35.15	3.96	37.48	54	-16.52	Average	Vertical

Field Strength Of Fundamental (TX-2475MHz)						
Frequency (MHz)	Pol.	Measure Result (PK, dBuV/m)	Measure Result (AVG, dBuV/m)	Peak Limit (dBuV/m)	AVG Limit (dBuV/m)	Result
2475	H	83.63	80.16	114	94	Pass
2475	V	84.35	80.97	114	94	Pass

Freq. MHz	Reading Level dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4950.10	42.72	33.26	35.14	3.98	44.82	74	-29.18	Peak	Horizontal
4950.13	33.51	33.26	35.14	3.98	35.61	54	-18.39	Average	Horizontal
4950.10	43.30	33.26	35.14	3.98	45.40	74	-28.60	Peak	Vertical
4950.13	34.84	33.26	35.14	3.98	36.94	54	-17.06	Average	Vertical

Notes:

1. *Measuring frequencies from 9k~10th harmonic (ex. 26GHz), No emission found between lowest internal used/generated frequency to 30MHz.*
2. *Radiated emissions measured in frequency range from 9k~10th harmonic (ex. 26GHz) were made with an instrument using Peak detector mode.*
3. *No emission was be recorded above 18GHz means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*

6.8. Results for Band edge Testing (Radiated)

Only record the worst test case as following:

TX-2405MHz

Freq. MHz	Reading Level dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
2377.61	44.87	32.89	35.16	3.51	46.11	74	-27.89	Peak	Horizontal
2377.63	36.39	32.9	35.16	3.51	37.64	54	-16.36	Average	Horizontal
2390.00	48.15	32.92	35.16	3.54	49.45	74	-24.55	Peak	Horizontal
2389.99	36.25	32.92	35.16	3.54	37.55	54	-16.45	Average	Horizontal
2377.60	45.40	32.89	35.16	3.51	46.64	74	-27.36	Peak	Vertical
2377.63	34.30	32.9	35.16	3.51	35.55	54	-18.45	Average	Vertical
2390.00	46.33	32.92	35.16	3.54	47.63	74	-26.37	Peak	Vertical
2389.99	35.98	32.92	35.16	3.54	37.28	54	-16.72	Average	Vertical

TX-2475MHz

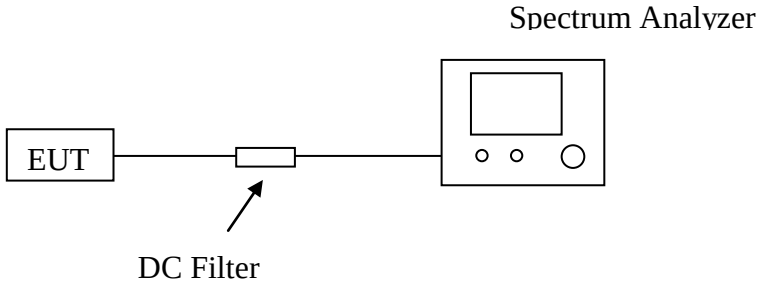
Freq. MHz	Reading Level dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
2483.50	44.03	33.06	35.18	3.6	45.51	74	-28.49	Peak	Horizontal
2483.86	33.27	33.08	35.18	3.6	34.77	54	-19.23	Average	Horizontal
2489.89	44.14	33.08	35.18	3.62	45.66	74	-28.34	Peak	Horizontal
2489.01	34.72	33.08	35.18	3.62	36.24	54	-17.76	Average	Horizontal
2483.50	44.86	33.06	35.18	3.6	46.34	74	-27.66	Peak	Vertical
2483.51	36.32	33.08	35.18	3.6	37.82	54	-16.18	Average	Vertical
2489.86	43.44	33.08	35.18	3.62	44.96	74	-29.04	Peak	Vertical
2489.89	34.56	33.08	35.18	3.62	36.08	54	-17.92	Average	Vertical

7. 20 DB BANDWIDTH MEASUREMENT

7.1. Standard Applicable

According to §15.215 & RSS-210.

7.2. Block Diagram of Test Setup



7.3. Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW ≥ 1% of the 20 dB bandwidth

VBW ≥ RBW

Sweep = auto

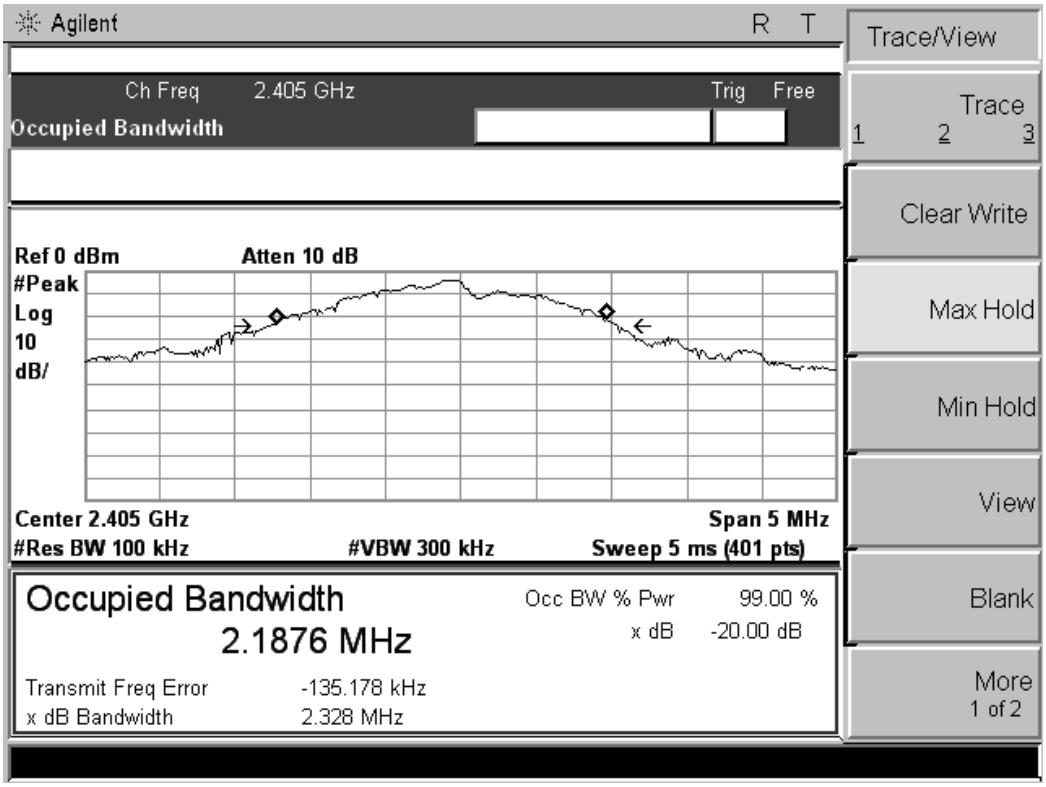
Detector function = peak

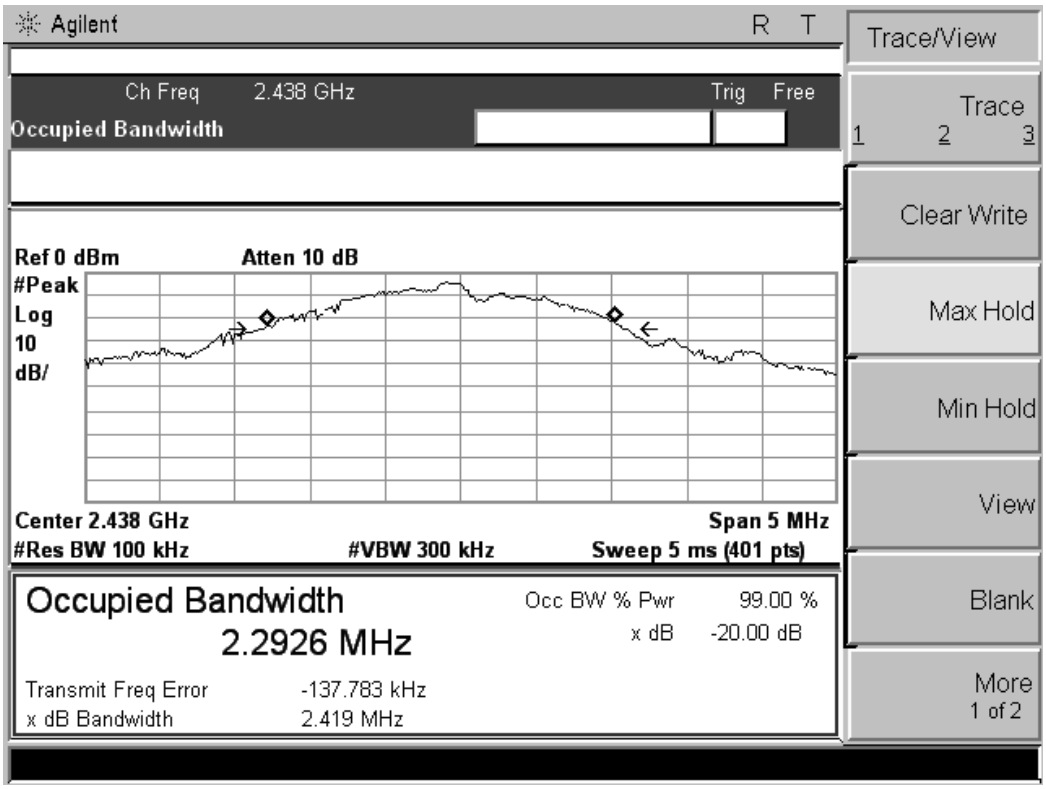
Trace = max hold

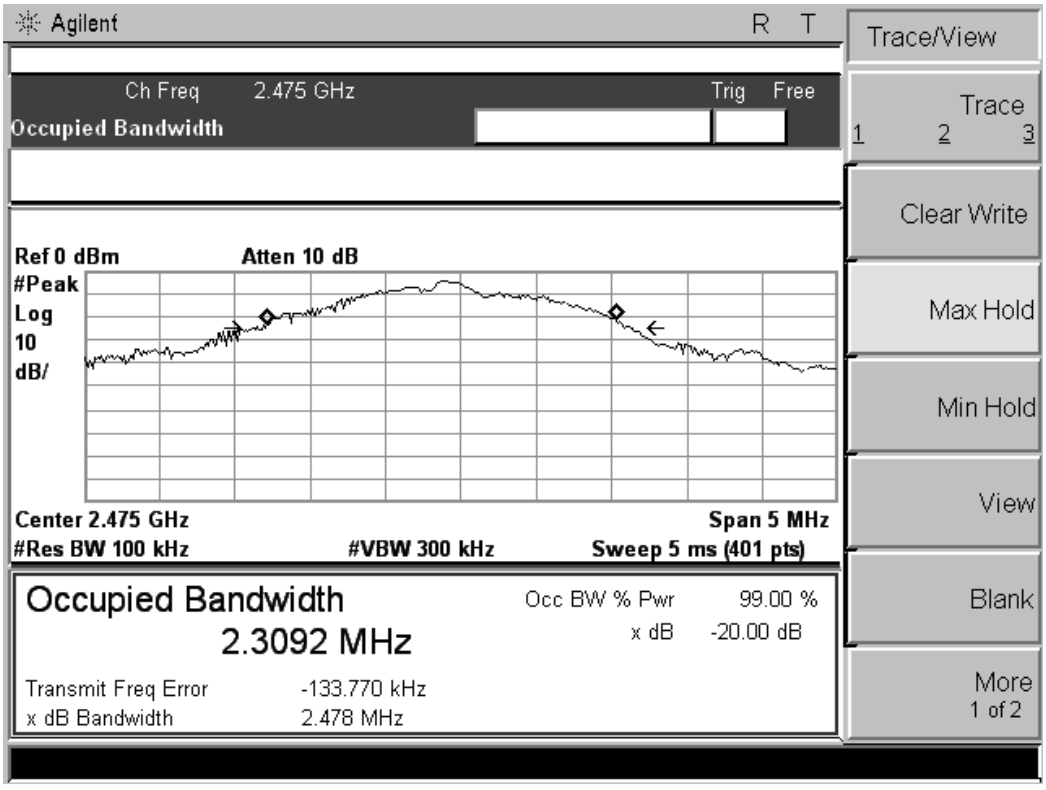
The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

7.4. Test Results

Test Result Of 20dB Bandwidth Measurement		
Test Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
2405	2.328	Non-Specified
2438	2.419	
2475	2.478	




Agilent
R T
Trace/View
Ch Freq 2.438 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 0 dBm
Atten 10 dB
#Peak
Log
10
dB/
Max Hold
Min Hold
View
Center 2.438 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 5 ms (401 pts)
Blank
Occupied Bandwidth
2.2926 MHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error -137.783 kHz
x dB Bandwidth 2.419 MHz
More
1 of 2


Agilent
R T
Trace/View
Ch Freq 2.475 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 0 dBm
Atten 10 dB
#Peak
Log
10
dB/
Max Hold
Min Hold
View
Center 2.475 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 5 ms (401 pts)
Blank
Occupied Bandwidth
2.3092 MHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error -133.770 kHz
x dB Bandwidth 2.478 MHz
More
1 of 2

8. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal Date	Due Date
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	June 18,2014	June 17,2015
Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	9kHz~40GHz	July 16,2014	July 15,2015
LISN	MESS Tec	NNB-2/16Z	99079	9KHz-30MHz	June 18,2014	June 17,2015
LISN (Support Unit)	EMCO	3819/2NM	9703-1839	9KHz-30MHz	June 18,2014	June 17,2015
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9KHz-30MHz	June 18,2014	June 17,2015
ISN	SCHAFFNER	ISN ST08	21653	9KHz-30MHz	June 18,2014	June 17,2015
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30M-1GHz 3m	June 18,2014	June 17,2015
Amplifier	SCHAFFNER	COA9231A	18667	9kHz-2GHzz	June 18,2014	June 17,2015
Amplifier	Agilent	8449B	3008A02120	1GHz-26.5GHz	July 16,2014	July 15,2015
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz-40GHz	July 16,2014	July 15,2015
Spectrum Analyzer	Agilent	E4407B	MY41440292	9k-26.5GHz	July 16,2014	July 15,2015
MAX Signal Analyzer	Agilent	N9020A	MY50510140	20Hz~26.5GHz	Oct. 27, 2014	Oct. 26, 2015
Loop Antenna	R&S	HFH2-Z2	860004/001	9k-30MHz	June 18,2014	June 17,2015
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	30MHz-1GHz	June 10,2014	June 09,2015
Horn Antenna	EMCO	3115	6741	1GHz-18GHz	June 10,2014	June 09,2015
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz-40GHz	June 10,2014	June 09,2015
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz-1GHz	June 18,2014	June 17,2015
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz-40GHz	June 18,2014	June 17,2015
Spectrum Meter	R&S	FSP 30	100023	9kHz-30GHz	July 16,2014	July 15,2015
Power Meter	R&S	NRVS	100444	DC-40GHz	June 18,2014	June 17,2015
Power Sensor	R&S	NRV-Z51	100458	DC-30GHz	June 18,2014	June 17,2015
Power Sensor	R&S	NRV-Z32	10057	30MHz-6GHz	June 18,2014	June 17,2015
AC Power Source	HPC	HPA-500E	HPA-9100024	AC 0~300V	June 18,2014	June 17,2015
DC power Soure	GW	GPC-6030D	C671845	DC 1V-60V	June 18,2014	June 17,2015
Temp. and Humidigy Chamber	Giant Force	GTH-225-20-S	MAB0103-00	N/A	June 18,2014	June 17,2015
RF CABLE-1m	JYE Bao	RG142	CB034-1m	20MHz-7GHz	June 18,2014	June 17,2015
RF CABLE-2m	JYE Bao	RG142	CB)35-2m	20MHz-1GHz	June 18,2014	June 17,2015
Vector signal Generator	R&S	SMU200A	102098	100kHz~6GHz	June 18,2014	June 17,2015
Signal Generator	R&S	SMR40	10016	10MHz~40GHz	July 16,2014	July 15,2015
Note: All equipment through GRGT EST calibration						

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