APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
China Industries Ltd T/A Wow! Stuff

Sonar Copter
Model No.: TX-1014

FCC ID: YCR-TX-1014H

Prepared for	:	China Industries Ltd T/A Wow! Stuff
Address	:	Creative Industries Centre, Wolverhampton Science Park, Wolverhampton, WV10 9TG UK
Prepared by	:	ACCURATE TECHNOLOGY CO., LTD
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Report Number	:	ATE20151295
Date of Test	:	Jun 15-27, 2015
Date of Report	:	Jun 29, 2015

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Test Report Certification

Applicant	:	China Industries Ltd T/A Wow! Stuff
Address	:	Creative Industries Centre, Wolverhampton Science Park, Wolverhampton, WV10 9TG UK
Manufacturer	:	China Industries Ltd T/A Wow! Stuff
Address	:	Creative Industries Centre, Wolverhampton Science Park, Wolverhampton, WV10 9TG UK
Product	:	Sonar Copter
Model No.	:	TX-1014
Trade Name	:	Wow! Stuff

Measurement Procedure Used:

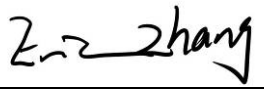
FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013

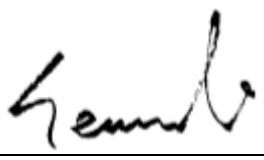
The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.249 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Jun 15-27, 2015
Date of Report: Jun 29, 2015

Prepared by : 
(Eric Zhang, Engineer)

Approved & Authorized Signer : 
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Sonar Copter
Model Number	:	TX-1014
Power Supply	:	6V DC (batteries 4×)
Operate Frequency	:	2407-2473MHz
Antenna Gain	:	0dBi
Antenna type	:	Wire Antenna
Applicant	:	China Industries Ltd T/A Wow! Stuff
Address	:	Creative Industries Centre, Wolverhampton Science Park, Wolverhampton, WV10 9TG UK
Manufacturer	:	China Industries Ltd T/A Wow! Stuff
Address	:	Creative Industries Centre, Wolverhampton Science Park, Wolverhampton, WV10 9TG UK
Date of sample received	:	Jun 15, 2015
Date of Test	:	Jun 15-27, 2015

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen Listed by FCC The Registration Number is 752051 Listed by Industry Canada The Registration Number is 5077A-2 Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.4.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2015	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2015	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2015	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 11, 2015	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2015	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2015	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2015	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2015	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 11, 2015	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 11, 2015	One Year

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2407MHz
Middle Channel: 2440MHz
High Channel: 2473MHz

3.2.Configuration and peripherals

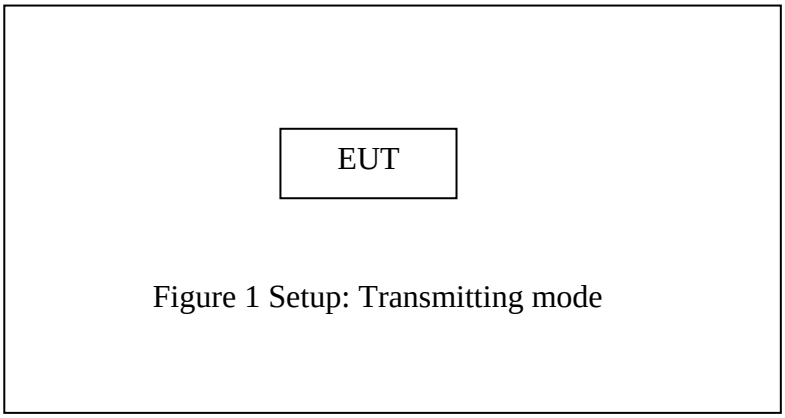


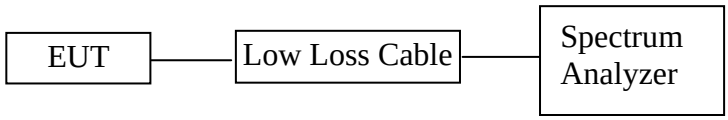
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.215(c)	20dB Bandwidth	Compliant
Section 15.249(d)	Band Edge Compliance Test	Compliant
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	N/A
Section 15.203	Antenna Requirement	Compliant

5. 20DB BANDWIDTH MEASUREMENT

5.1.Block Diagram of Test Setup



5.2.The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

5.3.Operating Condition of EUT

5.3.1.Setup the EUT and simulator as shown as Section 5.1.

5.3.2.Turn on the power of all equipment.

5.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2433, 2475 MHz.

5.4.Test Procedure

5.4.1.Place the EUT on the table and set it in transmitting mode.

5.4.2.Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

5.4.3.Set RBW of spectrum analyzer to 100 kHz and VBW to300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

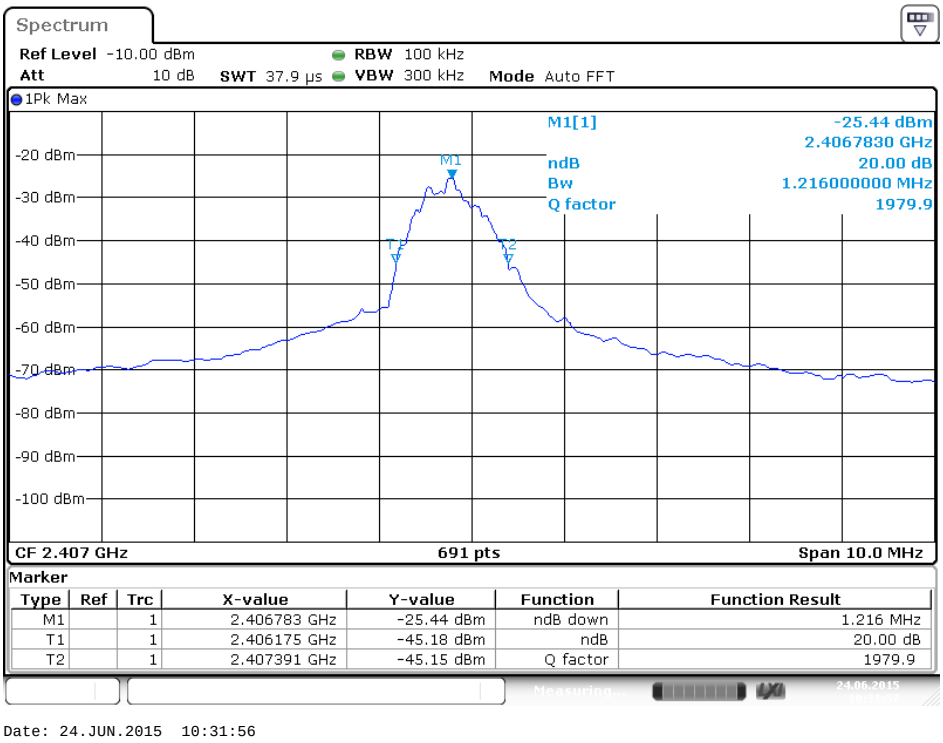
5.4.4.Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5.Test Result

Channel	Frequency(MHz)	20 dB Bandwidth(MHz)
Low	2407	1.216
Middle	2440	1.548
High	2473	1.838

The spectrum analyzer plots are attached as below.

Low channel



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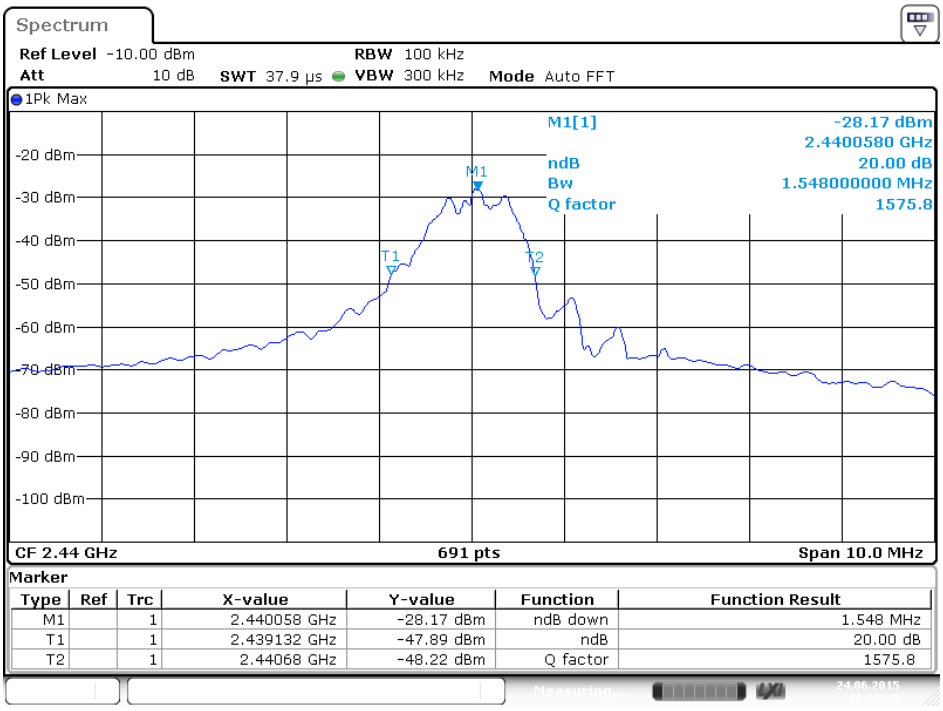
Middle channel



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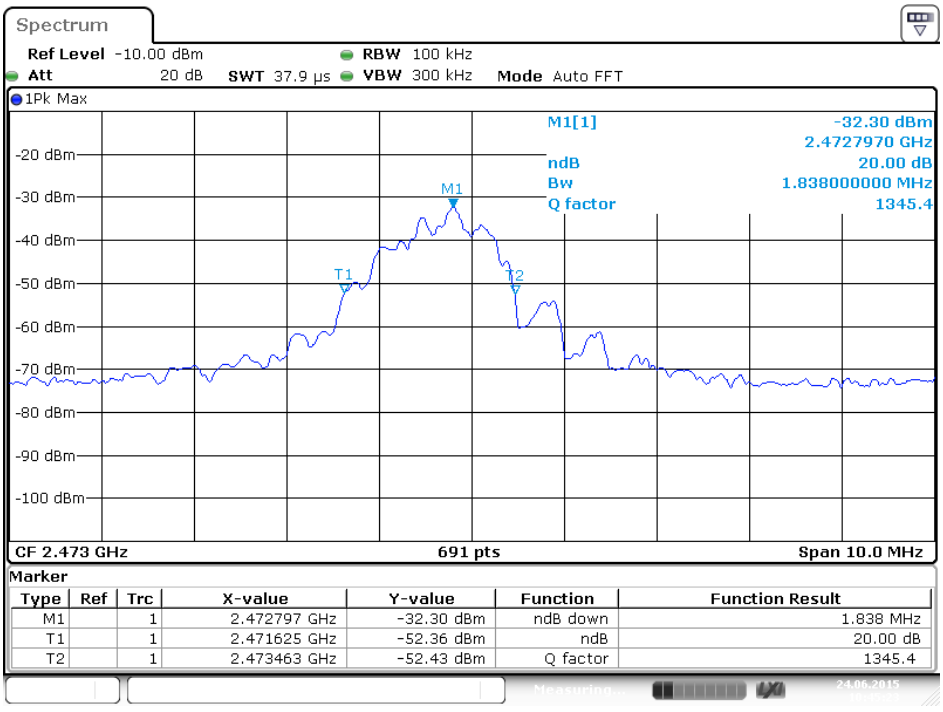
High channel



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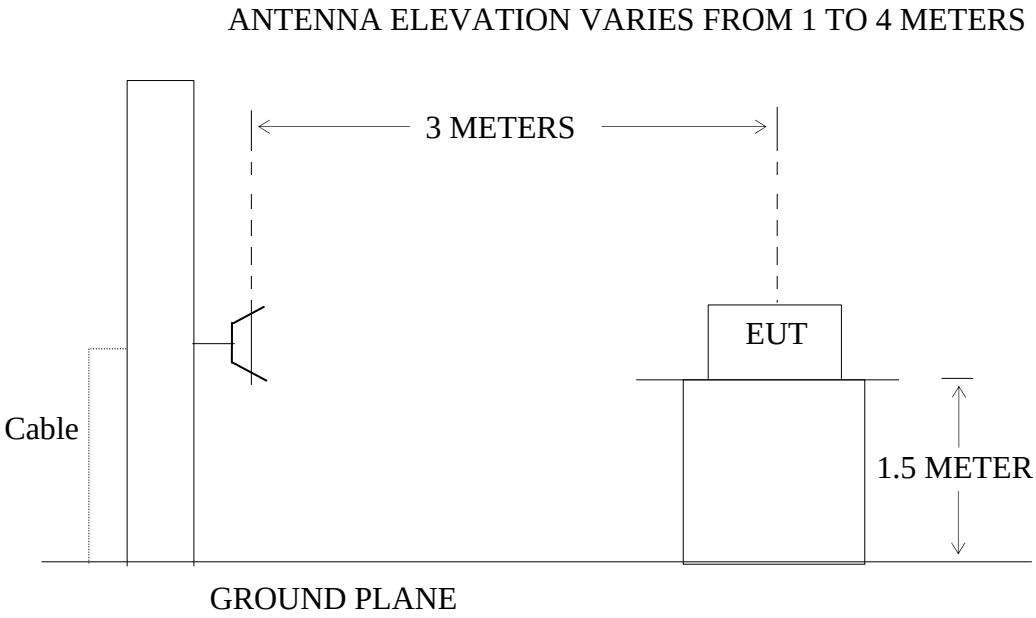
6. BAND EDGE COMPLIANCE TEST

6.1.Block Diagram of Test Setup



6.2.The Requirement For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

6.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2475 MHz..

6.5.Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

6.5.2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

6.5.3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

6.5.4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

6.5.5.The band edges was measured and recorded.

6.6.Test Result

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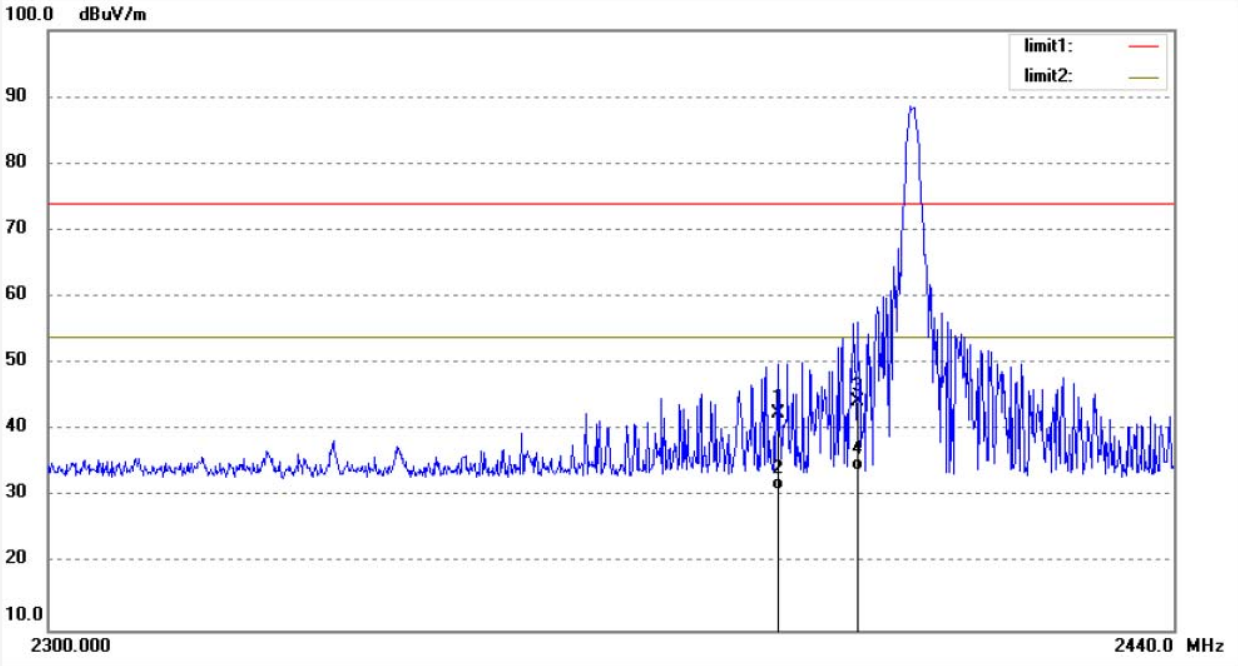
Job No.: STAR2015 #1035	Polarization: Horizontal
Standard: FCC PK	Power Source: DC 6V
Test item: Radiation Test	Date: 15/06/27/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 8/41/28
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2407MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	50.43	-8.00	42.43	74.00	-31.57	peak			
2	2390.000	39.14	-8.00	31.14	54.00	-22.86	AVG			
3	2400.000	52.22	-7.97	44.25	74.00	-29.75	peak			
4	2400.000	41.86	-7.97	33.89	54.00	-20.11	AVG			

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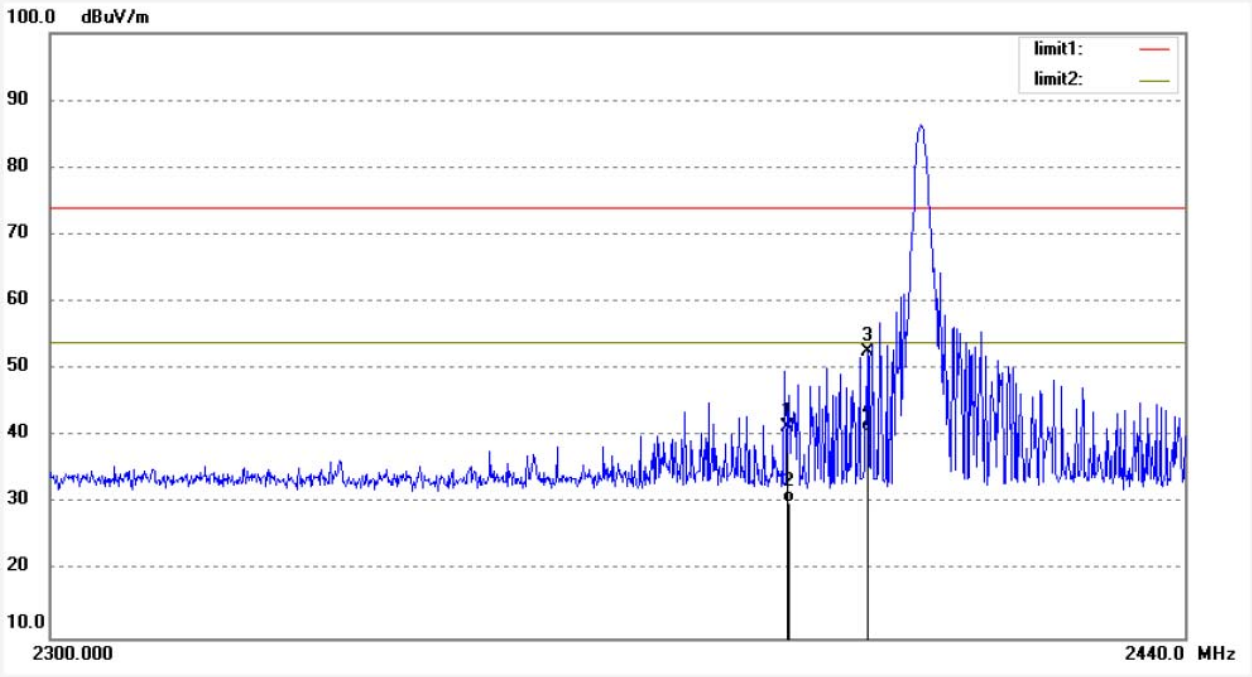
Job No.: STAR2015 #1036
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2407MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Vertical
Power Source: DC 6V
Date: 15/06/27/
Time: 8/42/24
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	49.42	-8.00	41.42	74.00	-32.58	peak			
2	2390.000	38.16	-8.00	30.16	54.00	-23.84	AVG			
3	2400.000	60.50	-7.97	52.53	74.00	-21.47	peak			
4	2400.000	48.67	-7.97	40.70	54.00	-13.30	AVG			

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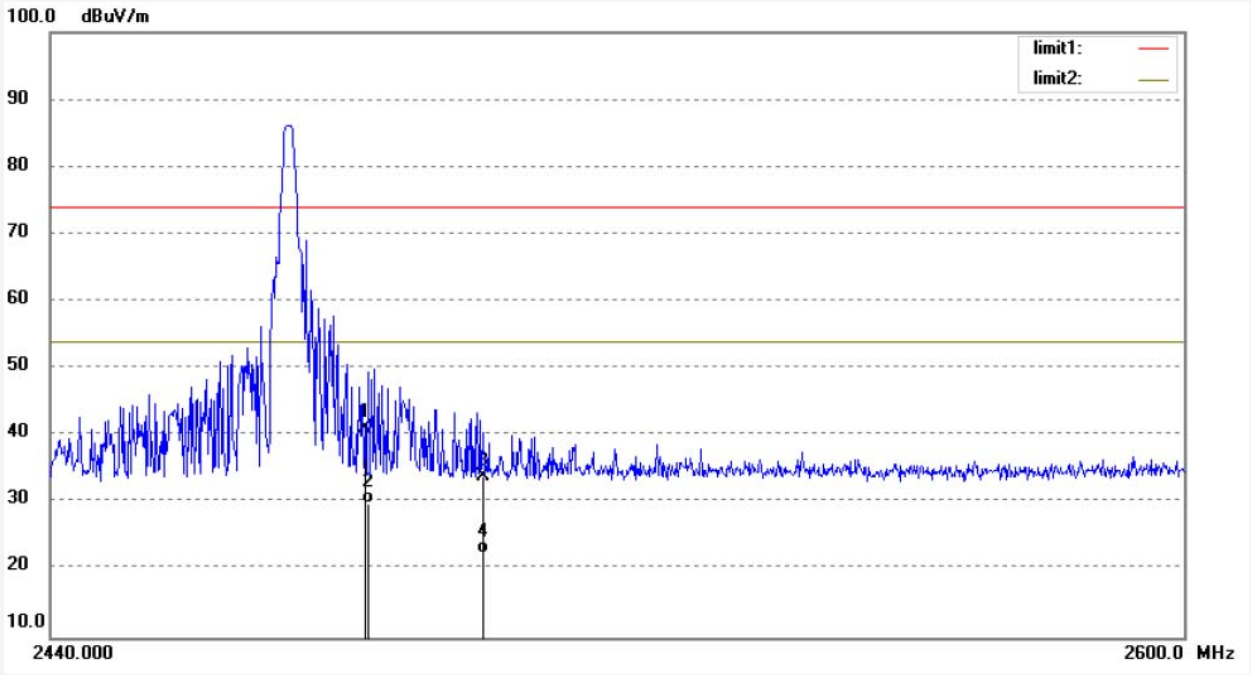
Job No.: STAR2015 #1037
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2473MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Vertical
Power Source: DC 6V
Date: 15/06/27/
Time: 8/44/45
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.84	-7.76	41.08	74.00	-32.92	peak			
2	2483.500	37.66	-7.76	29.90	54.00	-24.10	AVG			
3	2500.000	41.77	-7.71	34.06	74.00	-39.94	peak			
4	2500.000	30.20	-7.71	22.49	54.00	-31.51	AVG			

ACCURATE TECHNOLOGY CO., LTD.
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Site: 1# Chamber
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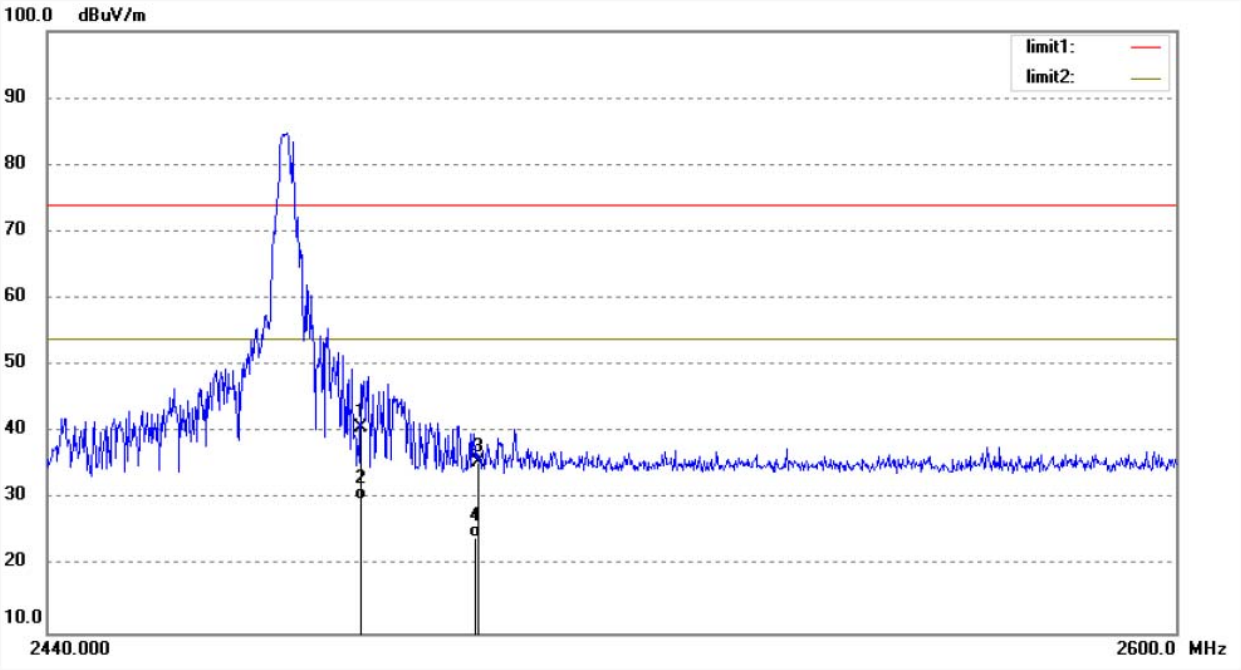
Fax:+86-0755-26503396

Job No.: STAR2015 #1038	Polarization: Horizontal
Standard: FCC PK	Power Source: DC 6V
Test item: Radiation Test	Date: 15/06/27/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 8/46/44
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2473MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.46	-7.76	40.70	74.00	-33.30	peak			
2	2483.500	37.64	-7.76	29.88	54.00	-24.12	AVG			
3	2500.000	43.34	-7.71	35.63	74.00	-38.37	peak			
4	2500.000	32.07	-7.71	24.36	54.00	-29.64	AVG			

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.
4. The average measurement was not performed when peak measured data under the limit of average detection.

7. RADIATED SPURIOUS EMISSION TEST

7.1.Block Diagram of Test Setup

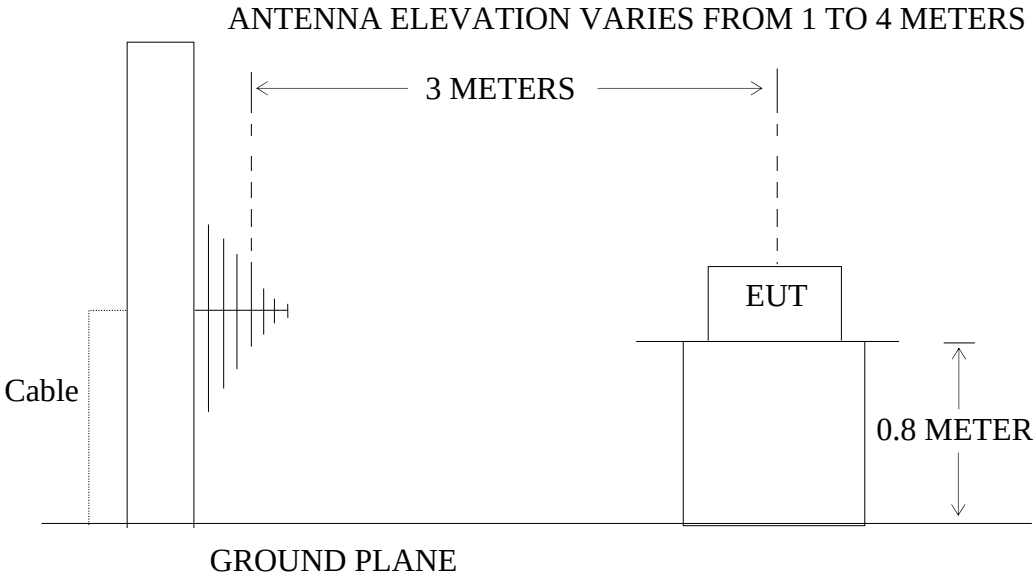
7.1.1.Block diagram of connection between the EUT and peripherals

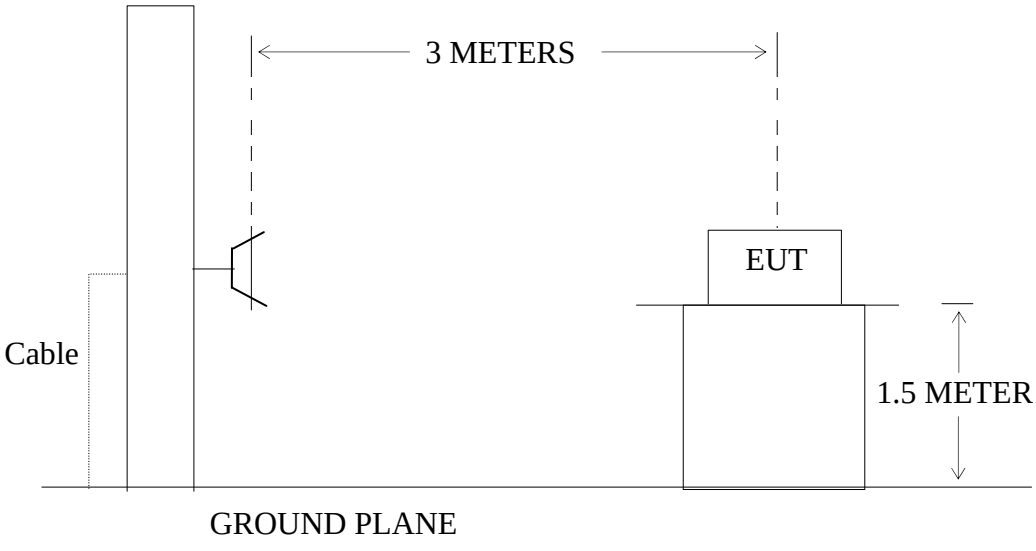
EUT

Setup: Transmitting mode

(EUT: TX-1014)

7.1.2.Semi-Anechoic Chamber Test Setup Diagram





7.2.The Limit For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

7.3.Restricted bands of operation

7.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section

15.35 apply to these measurements.

7.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.5.Operating Condition of EUT

7.5.1.Setup the EUT and simulator as shown as Section 7.1.

7.5.2.Turn on the power of all equipment.

7.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2433, 2475MHz.

7.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter(Below 1GHz) and 1.5m(above 1GHz) high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.
The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz
Peak detector above 1GHz
RBW (1 MHz), VBW (3MHz) for Peak measurement
RBW (1 MHz), VBW (10Hz) for AV measurement

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

7.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Fundamental Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2407.00	78.69	86.62	-7.96	70.73	78.66	94.00	114.00	-23.27	-35.34	Vertical
2407.00	80.11	87.16	-7.96	72.15	79.20	94.00	114.00	-21.85	-34.80	Horizontal
2440.00	82.62	90.06	-7.87	74.75	82.19	94.00	114.00	-19.25	-31.81	Vertical
2440.00	81.37	89.87	-7.87	73.50	82.00	94.00	114.00	-20.50	-32.00	Horizontal
2473.00	78.66	86.73	-7.78	70.88	78.95	94.00	114.00	-23.12	-35.05	Vertical
2473.00	81.22	88.17	-7.78	73.44	80.39	94.00	114.00	-20.56	-33.61	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.

4. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.
5. The average measurement was not performed when peak measured data under the limit of average detection.
6. The 18-25GHz emissions are not reported, because the levels are too low against the limit

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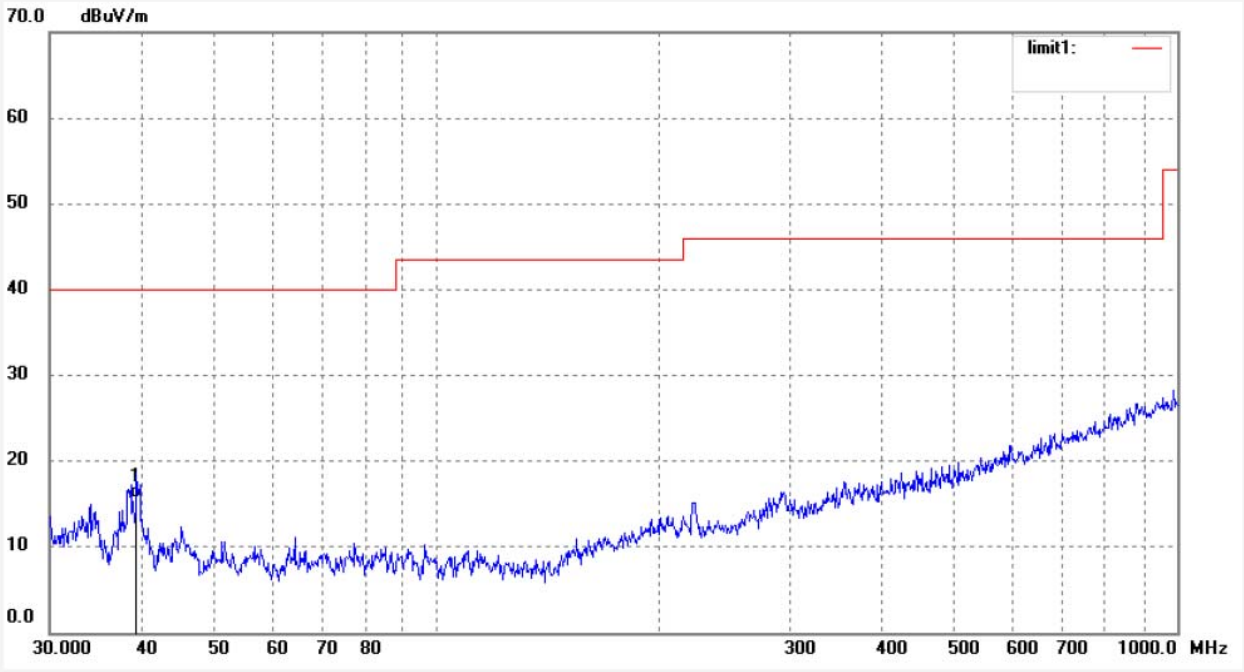
Job No.: STAR2015 #923
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2407MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Vertical
Power Source: DC 6V
Date: 2015/06/24
Time: 19:44:37
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	39.3204	34.60	-18.88	15.72	40.00	-24.28	QP			

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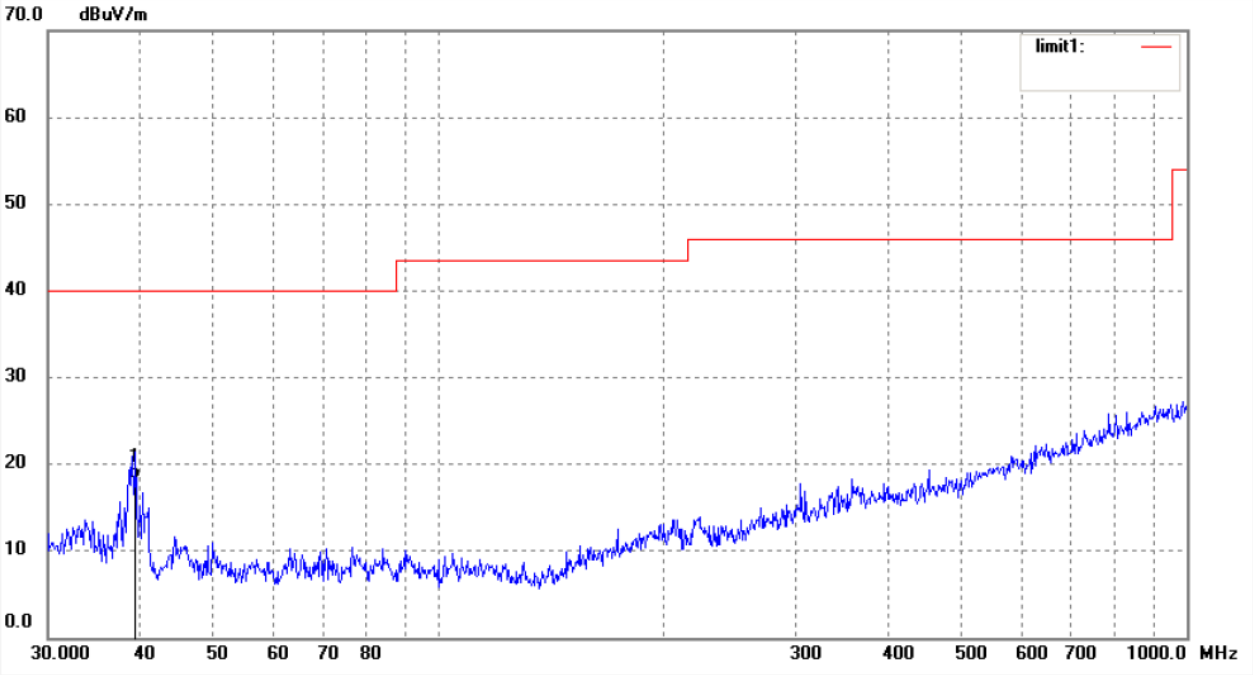
Job No.: STAR2015 #924	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 19:45:17
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2407MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	39.3203	37.14	-18.88	18.26	40.00	-21.74	QP			

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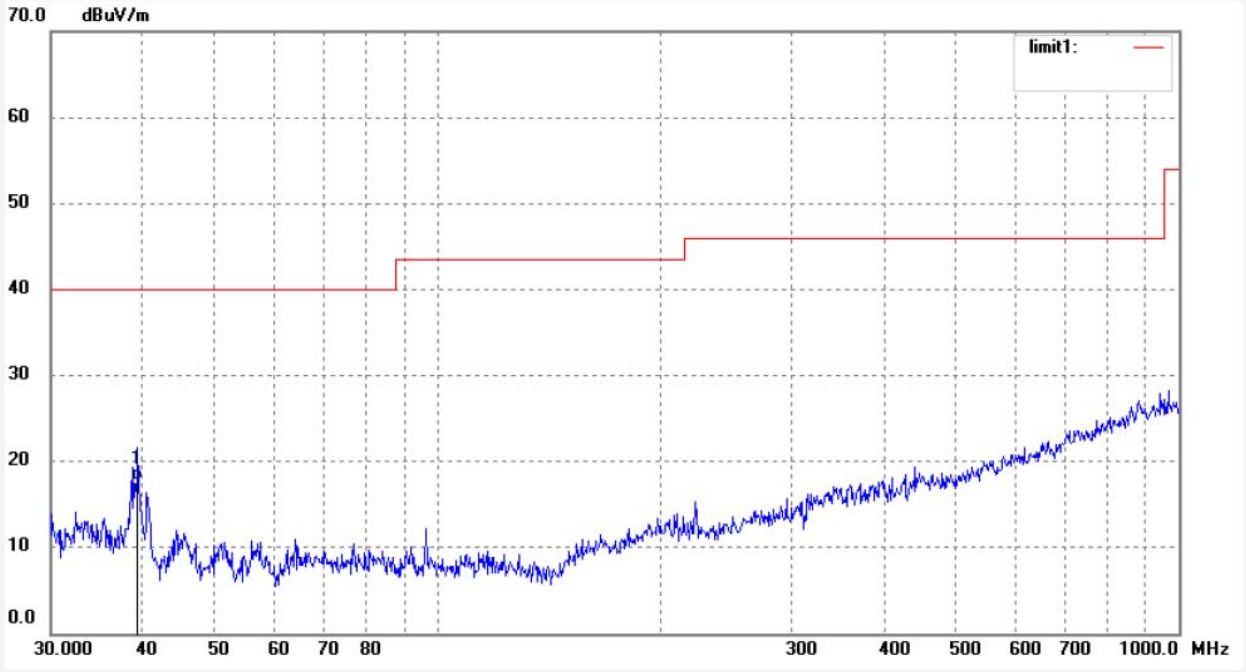
Job No.: STAR2015 #925	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 19:45:52
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	39.3204	36.70	-18.88	17.82	40.00	-22.18	QP			

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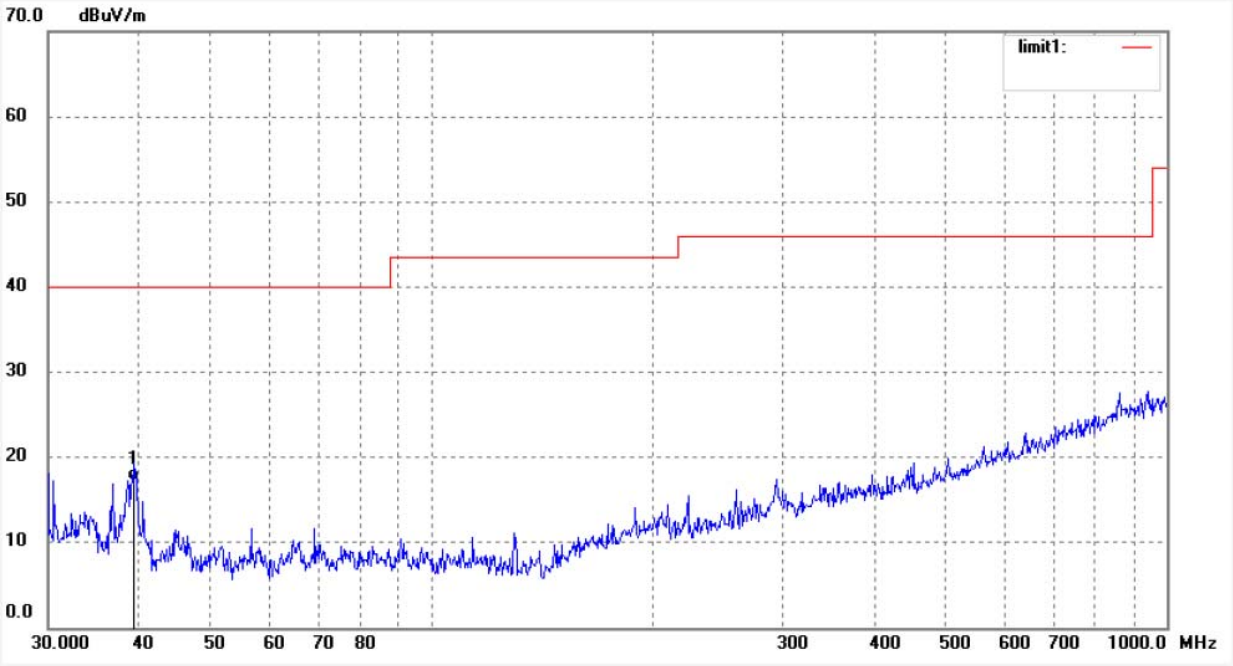
Job No.: STAR2015 #926	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 19:46:23
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	39.3203	36.10	-18.88	17.22	40.00	-22.78	QP			

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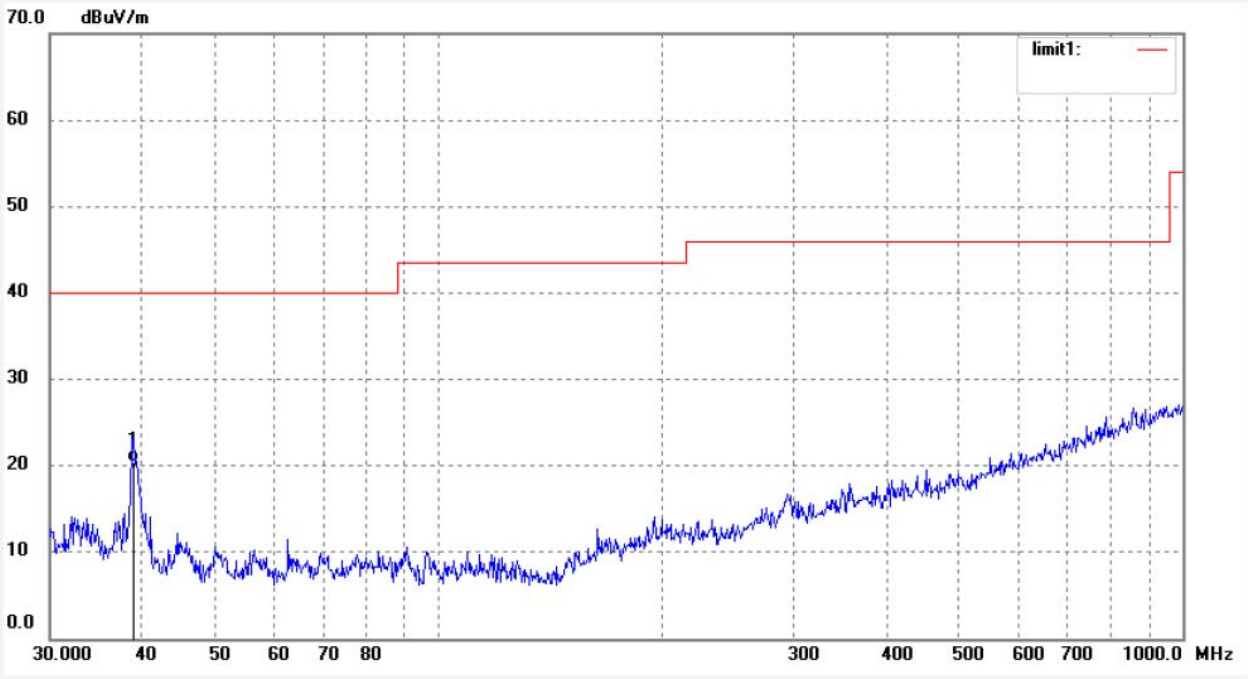
Job No.: STAR2015 #927
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2473MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Vertical
Power Source: DC 6V
Date: 2015/06/24
Time: 19:47:02
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	38.9080	39.10	-18.75	20.35	40.00	-19.65	QP			

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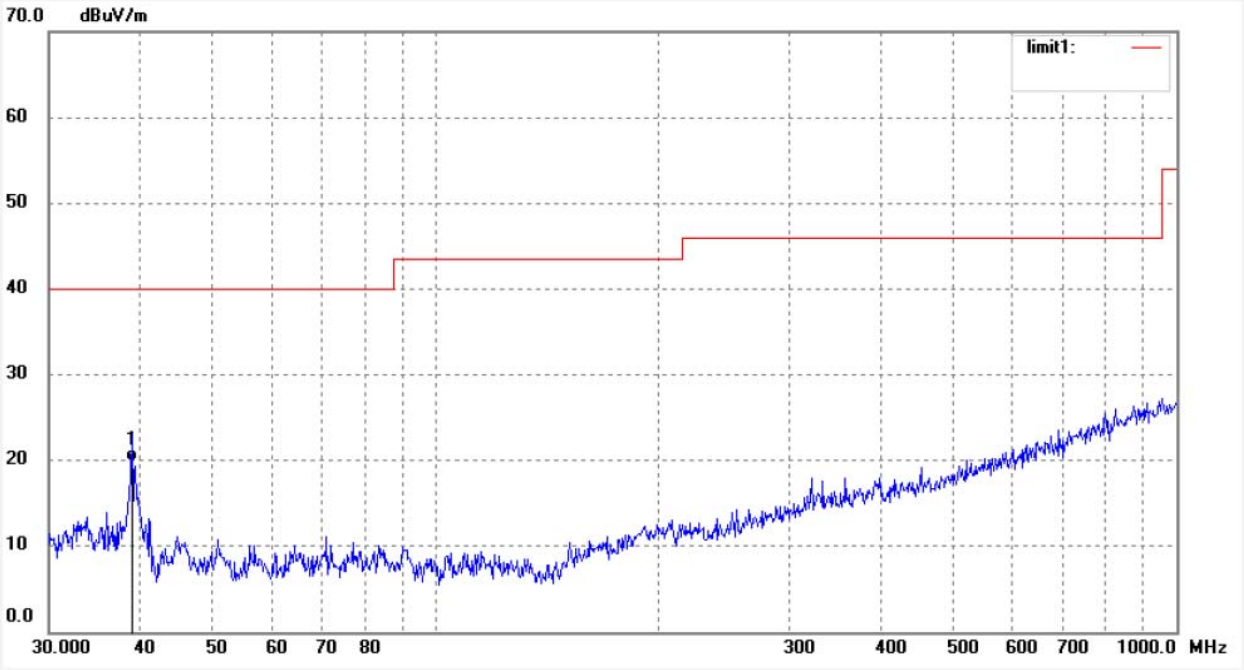
Job No.: STAR2015 #928	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 19:47:30
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2473MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	38.9081	38.67	-18.75	19.92	40.00	-20.08	QP			

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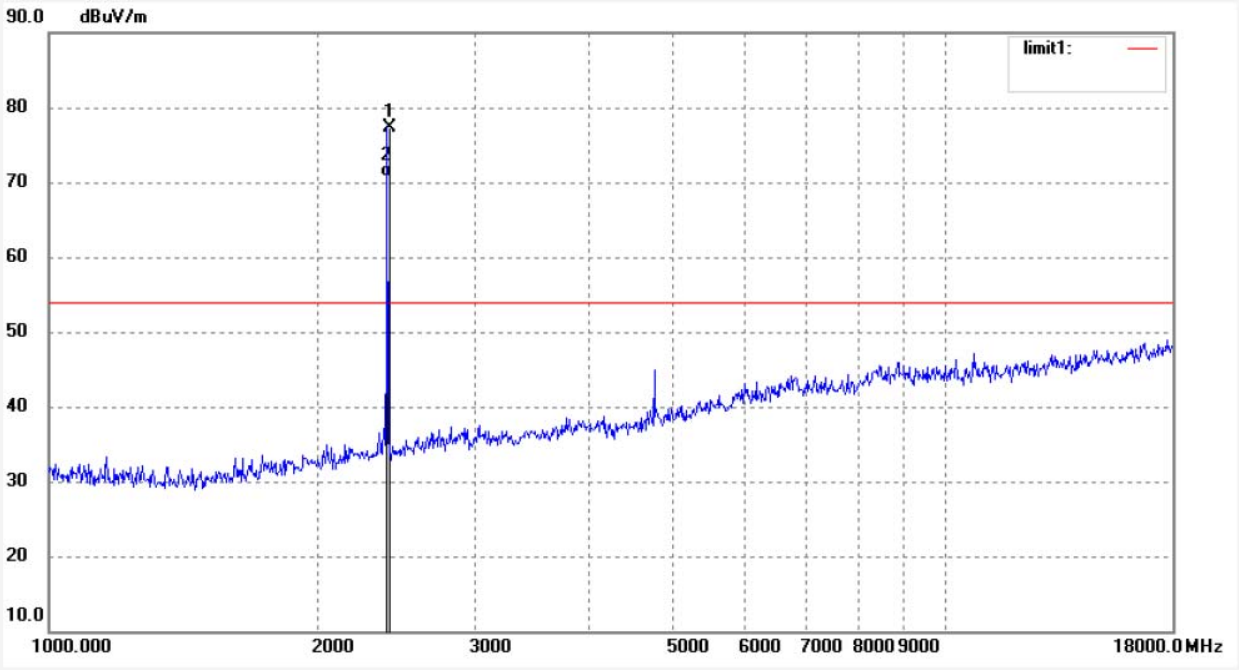
Job No.: STAR2015 #989
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2407MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Vertical
Power Source: DC 6V
Date: 2015/06/24
Time: 21:11:45
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2407.000	85.33	-7.96	77.37	114.00	36.63	peak			
2	2407.000	78.63	-7.96	70.67	94.00	23.33	AVG			

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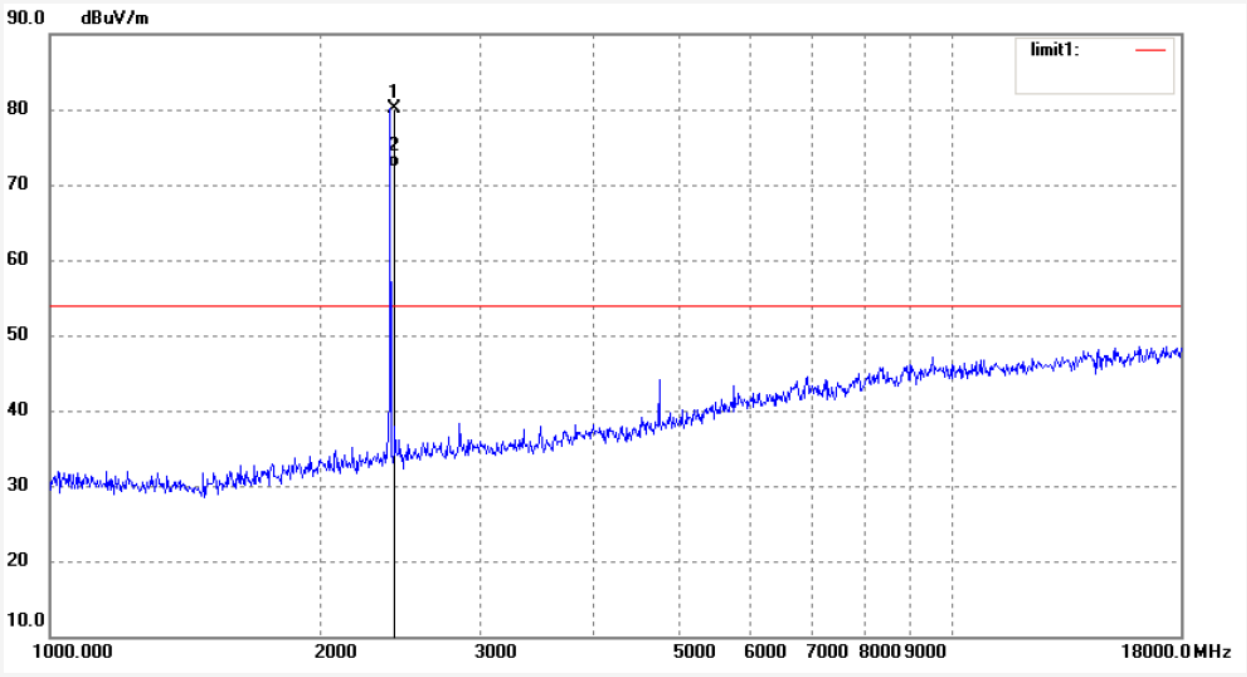
Job No.: STAR2015 #990
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2407MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Horizontal
Power Source: DC 6V
Date: 2015/06/24
Time: 21:12:48
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2407.000	87.99	-7.96	80.03	114.00	33.97	peak			
2	2407.000	80.22	-7.96	72.26	94.00	21.74	AVG			

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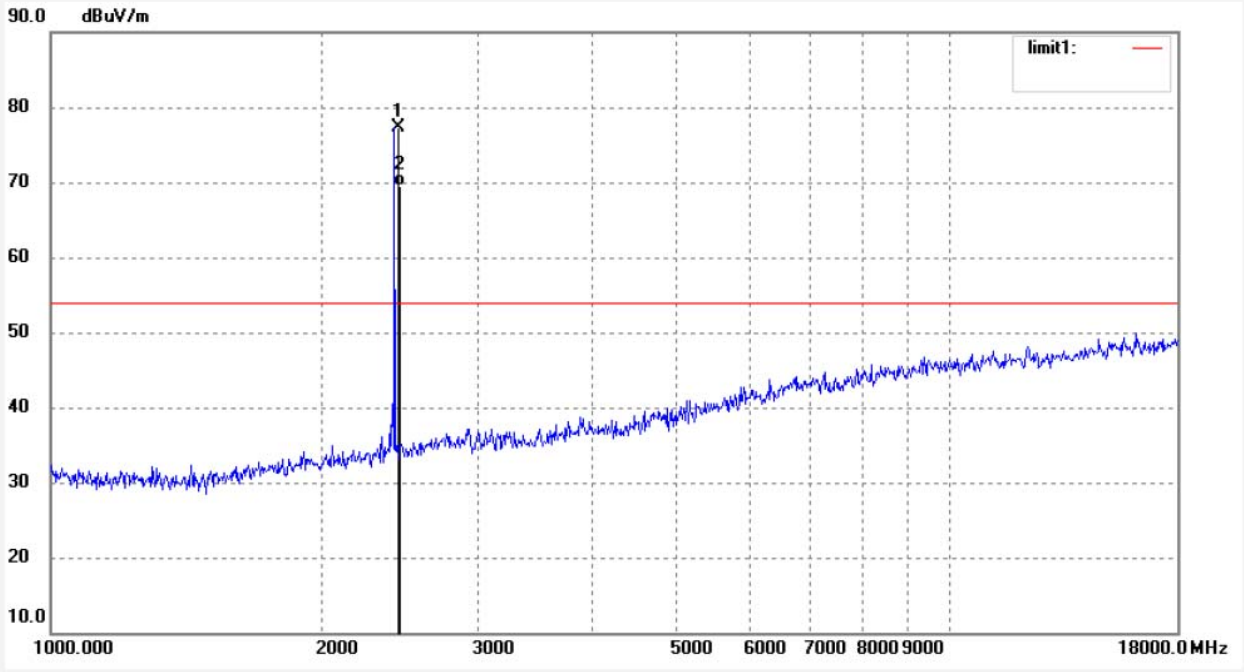
Job No.: STAR2015 #991
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2440MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Horizontal
Power Source: DC 6V
Date: 2015/06/24
Time: 21:14:40
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	85.16	-7.87	77.29	114.00	36.71	peak			
2	2440.000	77.44	-7.87	69.57	94.00	24.43	AVG			

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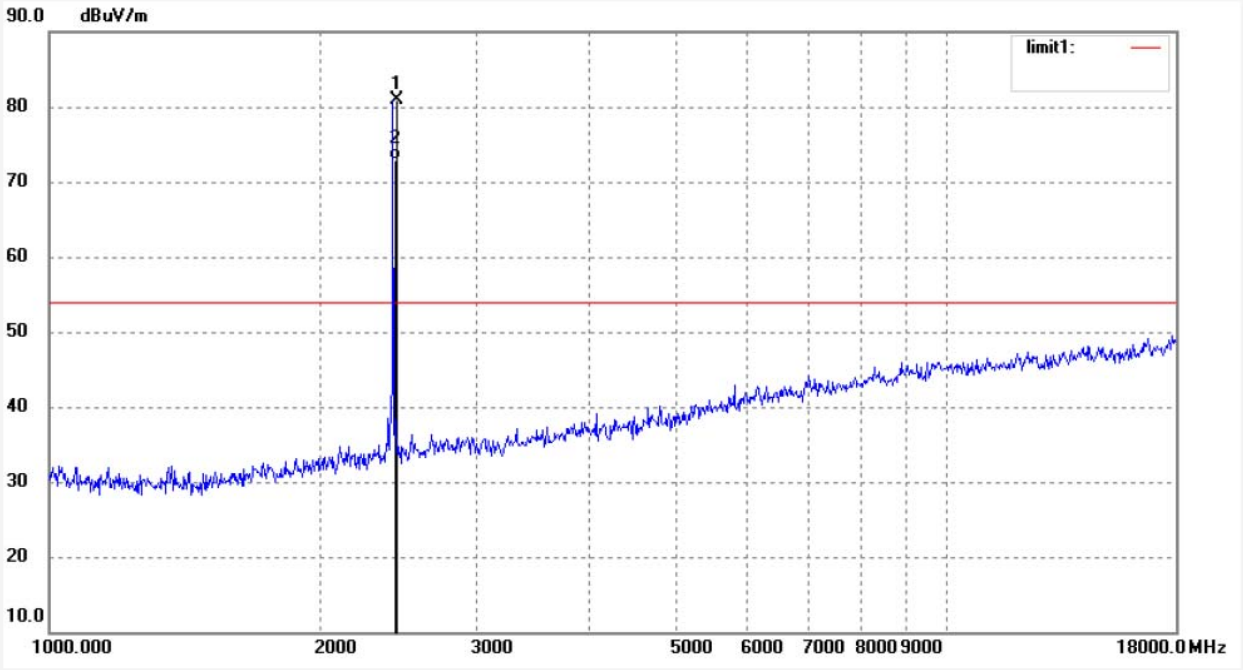
Job No.: STAR2015 #992	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 21:15:30
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	88.83	-7.87	80.96	114.00	33.04	peak			
2	2440.000	80.75	-7.87	72.88	94.00	21.12	AVG			

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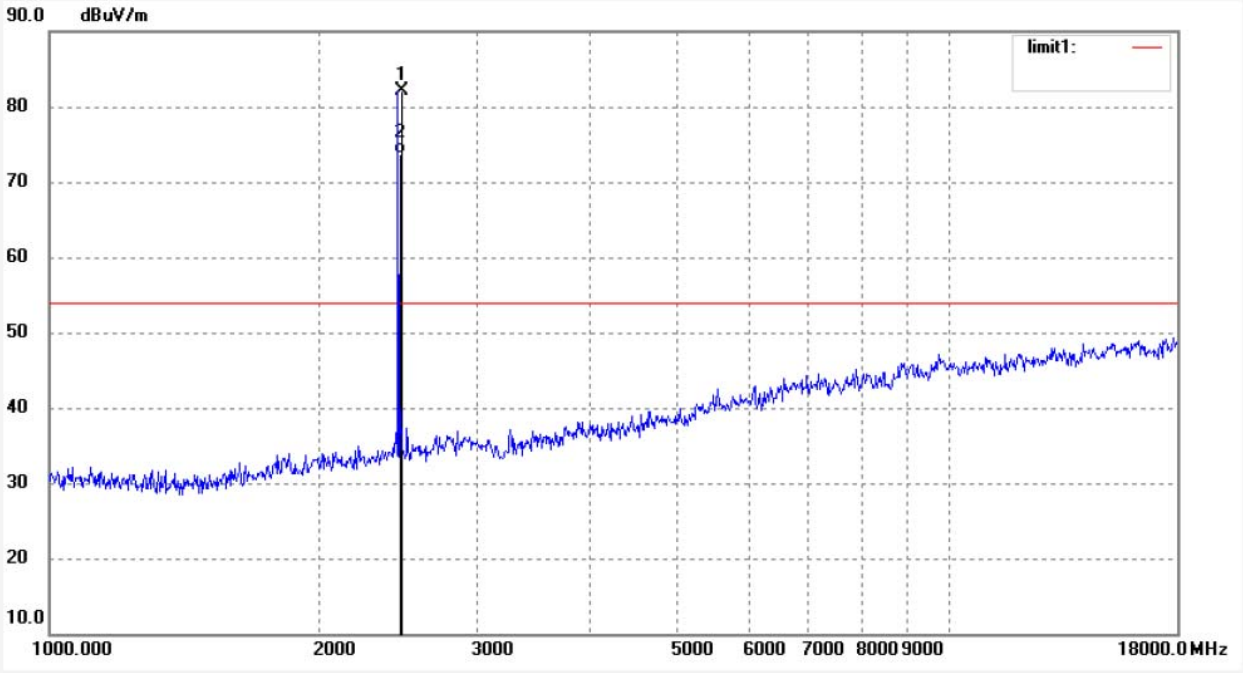
Job No.: STAR2015 #993	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2015/06/24
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 21:17:01
EUT: Sonar Copter	Engineer Signature:
Mode: TX 2473MHz	Distance: 3m
Model: TX-1014	
Manufacturer: Industries	

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.000	89.90	-7.78	82.12	114.00	31.88	peak			
2	2473.000	81.58	-7.78	73.80	94.00	20.20	AVG			

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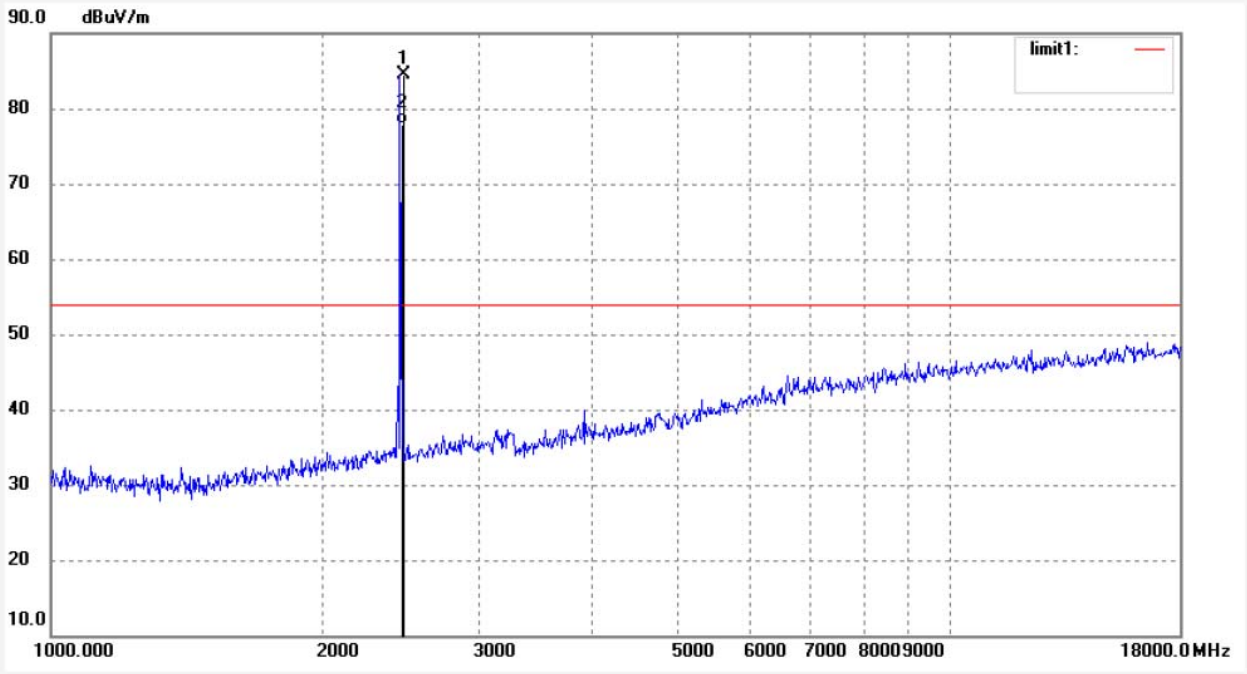
Job No.: STAR2015 #994
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Sonar Copter
Mode: TX 2473MHz
Model: TX-1014
Manufacturer: Industries

Polarization: Horizontal
Power Source: DC 6V
Date: 2015/06/24
Time: 21:18:14
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151295



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.000	92.21	-7.78	84.43	114.00	29.57	peak			
2	2473.000	85.69	-7.78	77.91	94.00	16.09	AVG			

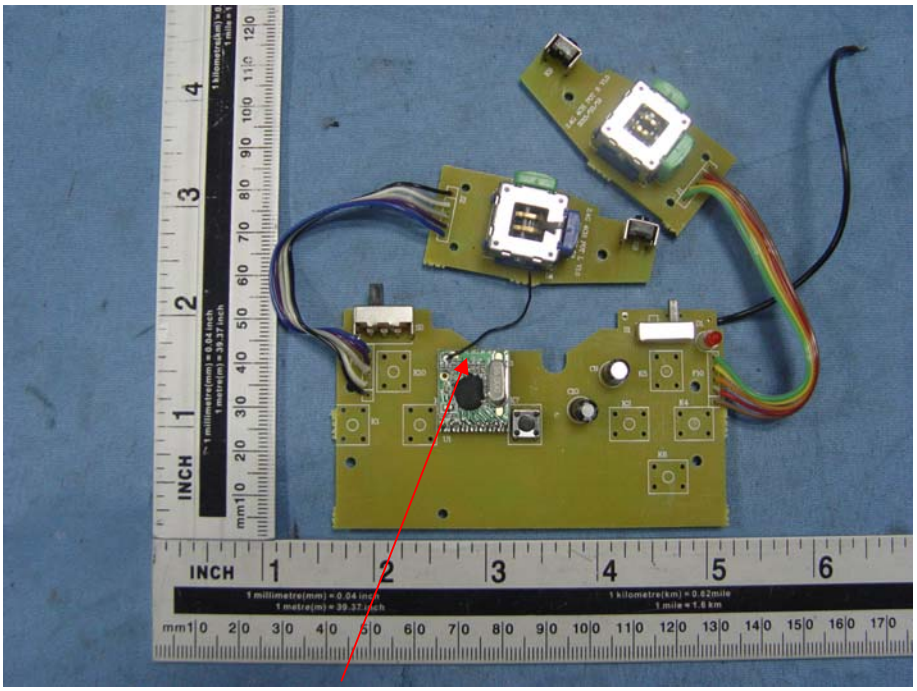
8. ANTENNA REQUIREMENT

8.1.The Requirement

According to Section 15.203, 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.

8.2.Antenna Construction

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna