

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
ZEGO Electronic Company Limited

Battle Drone

Model No.: 66097, K30

FCC ID: 2ACS628TX

Prepared for : ZEGO Electronic Company Limited
Address : Room 703 Kowloon Building, 555 Nathan Road,
Kowloon, HongKong

Prepared by : Shenzhen Accurate Technology Co., Ltd.
Address : 1/F., Building A, Changyuan New Material Port,
Science & Industry Park, Nanshan District,
Shenzhen, Guangdong, P.R. China.

Tel: (0755) 26503290
Fax: (0755) 26503396

Report Number : ATE20181553
Date of Test : Aug. 22, 2018-Sep. 20, 2018
Date of Report : Sep. 21, 2018

TABLE OF CONTENTS

Description	Page
Test Report Certification	
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT)	4
1.2. Special Accessory and Auxiliary Equipment	4
1.3. Model difference declaration	5
1.4. Description of Test Facility	5
1.5. Measurement Uncertainty	5
2. MEASURING DEVICE AND TEST EQUIPMENT	6
3. OPERATION OF EUT DURING TESTING	7
3.1. Operating Mode	7
3.2. Configuration and peripherals	7
3.3. Carrier Frequency of Channels	7
4. TEST PROCEDURES AND RESULTS	8
5. 20DB BANDWIDTH MEASUREMENT	9
5.1. Block Diagram of Test Setup	9
5.2. The Requirement For Section 15.215(c)	9
5.3. Operating Condition of EUT	9
5.4. Test Procedure	9
5.5. Test Result	10
6. BAND EDGE COMPLIANCE TEST	12
6.1. Block Diagram of Test Setup	12
6.2. The Requirement For Section 15.249	12
6.3. EUT Configuration on Measurement	12
6.4. Operating Condition of EUT	13
6.5. Test Procedure	13
6.6. Test Result	13
7. RADIATED SPURIOUS EMISSION TEST	18
7.1. Block Diagram of Test Setup	18
7.2. The Limit For Section 15.249	20
7.3. Restricted bands of operation	20
7.4. Configuration of EUT on Measurement	21
7.5. Operating Condition of EUT	21
7.6. Test Procedure	21
7.7. DATA SAMPLE	22
7.8. The Field Strength of Radiation Emission Measurement Results	22
8. ANTENNA REQUIREMENT	35
8.1. The Requirement	35
8.2. Antenna Construction	35

Test Report Certification

Applicant : ZEGO Electronic Company Limited
Address : Room 703 Kowloon Building, 555 Nathan Road, Kowloon, HongKong
Manufacturer : Shenzhen Yangri Electronic Company Limited
Address : The Third Industrial Area, Luotian community, Songgang town, Shenzhen City, China
Product : Battle Drone
66097, K30
Model No. : (Note: These samples are same except for the model number and colors are different. So we prepare the 66097 for test.)
Trade name : n.a

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 SHENZHEN 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 Shenzhen 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 SHENZHEN ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Aug. 22, 2018--Sep. 20, 2018
Date of Report : Sep. 21, 2018

Prepared by : 
(Tim g Engineer)

Approved & Authorized Signer : 
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Battle Drone
Model No.	:	66097, K30
Power Supply	:	DC 6V(Powered by battery)
Operate Frequency	:	2420-2460MHz
Number of channel	:	9
Modulation mode	:	GFSK
Antenna Gain	:	0dBi
Antenna type	:	Wire Antenna
Applicant	:	ZEGO Electronic Company Limited.
Address	:	Room 703 Kowloon Building, 555 Nathan Road, Kowloon, HongKong
Manufacturer	:	Shenzhen Yangri Electronic Company Limited.
Address	:	The Third Industrial Area, Luotian community, Songgang town, Shenzhen City, China
Date of sample received	:	Aug. 21, 2018
Date of Test	:	Aug. 22, 2018--Sep. 20, 2018

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3. Model difference declaration

66097, K30 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name for different customers.

1.4. Description of Test Facility

EMC Lab	: Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISED) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	: Shenzhen Accurate Technology Co., Ltd.
Site Location	: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.5. 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. 06, 2018	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 06, 2018	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 06, 2018	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 06, 2018	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 06, 2018	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 06, 2018	One Year
Conducted Emission Test Software	Rohde&Schwarz	ES-K1	V1.71	N/A	N/A
Radiated Emission Test Software	Farad	EZ-EMC	1.1.4.2	N/A	N/A

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2420MHz

Middle Channel: 2440MHz

High Channel: 2460MHz

3.2.Configuration and peripherals

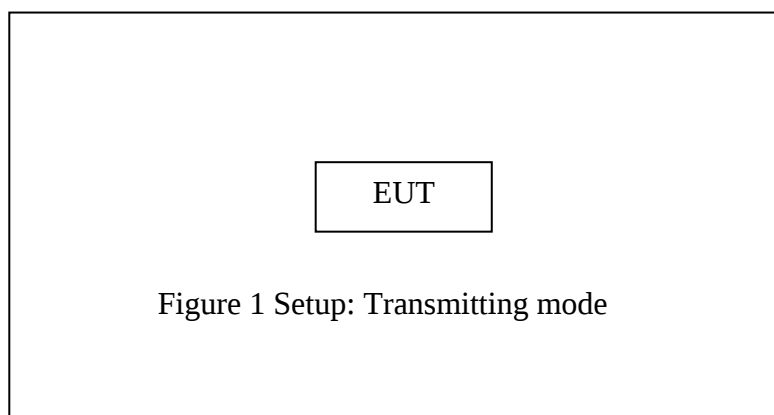


Figure 1 Setup: Transmitting mode

3.3.Carrier Frequency of Channels

Frequency Channel

Channel number	Frequency(MHz)	Channel number	Frequency(MHz)
1	2420	6	2445
2	2425	7	2450
3	2430	8	2455
4	2435	9	2460
5	2440		

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

Note: The power supply mode of the EUT is DC 6V, According to the FCC standard requirements, conducted emission is not applicable.

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 2420, 2440, 2460MHz.

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 to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

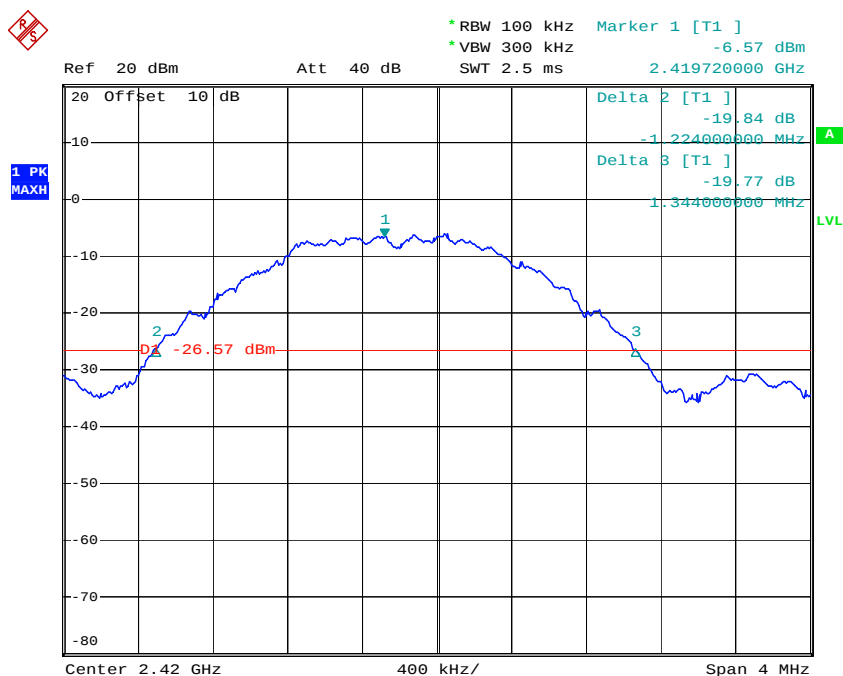
5.4.4. Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5. Test Result

Channel	Frequency(MHz)	20 dB Bandwidth(MHz)
Low	2420	2.568
Middle	2440	2.576
High	2460	2.592

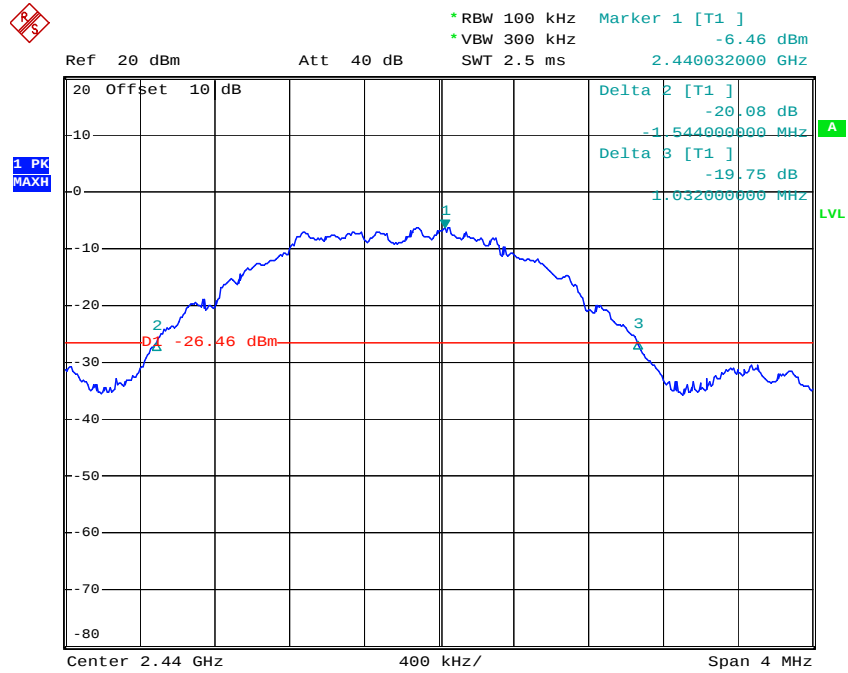
The spectrum analyzer plots are attached as below.

Low channel



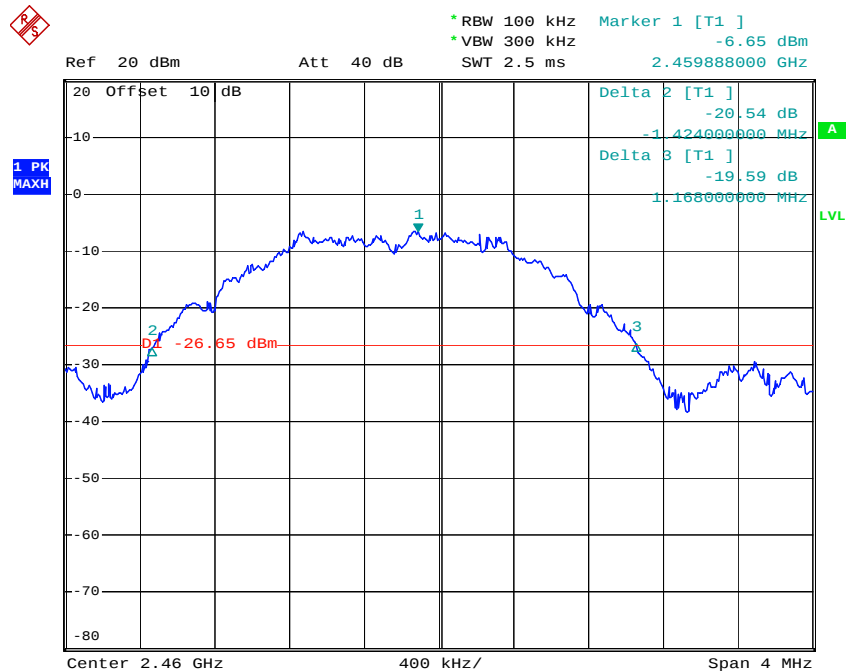
Comment A:
Date: 4.SEP.2018 17:06:15

Middle channel



Comment A:
Date: 4.SEP.2018 17:09:35

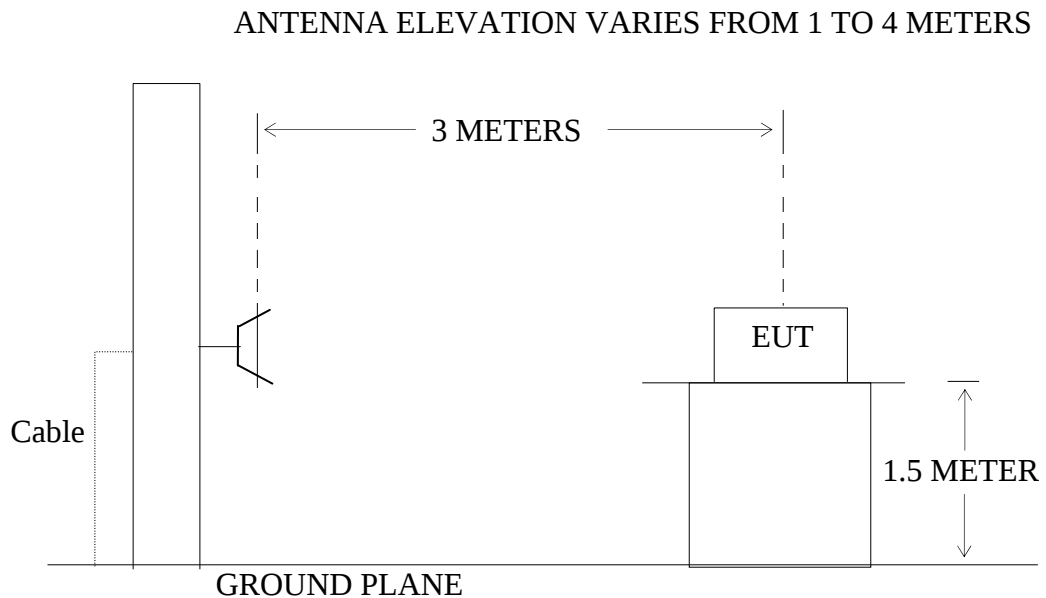
High channel



Comment A:
Date: 4.SEP.2018 17:11:07

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 2420, 2460MHz.

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

Job No.: frank2018 #1302

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: ZEGO Electronic Company Limited.

Polarization: Horizontal

Power Source: DC 6V

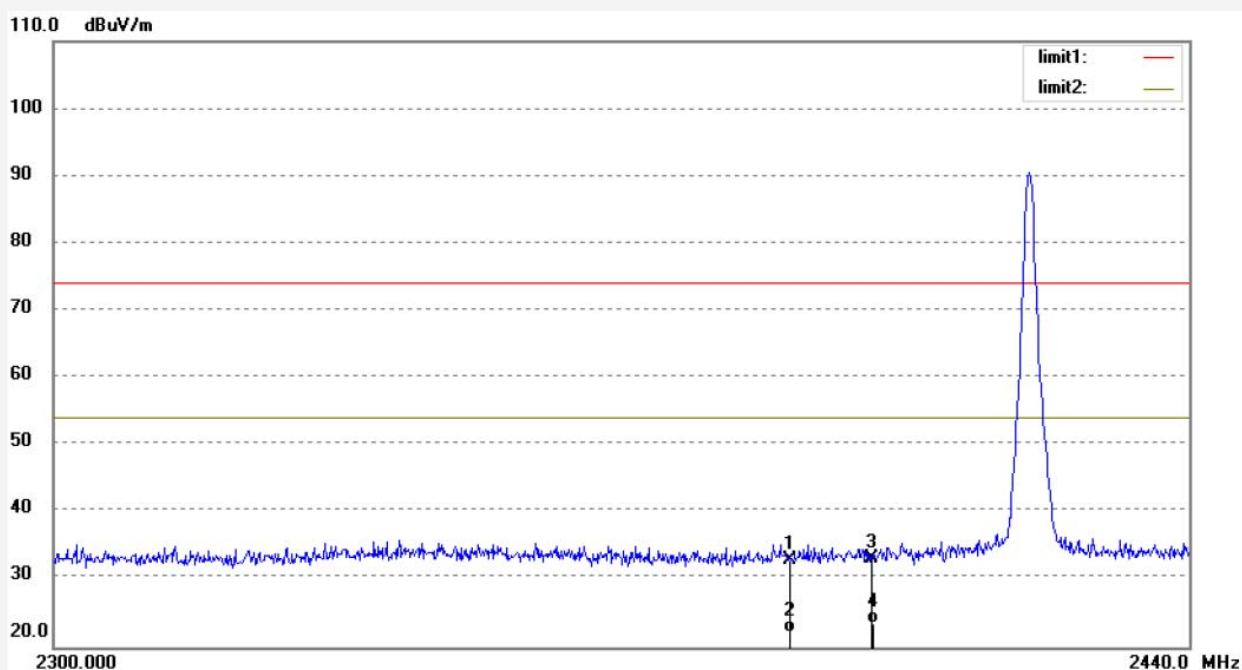
Date: 2018/09/04

Time: 15:08:32

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



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	40.90	-8.00	32.90	74.00	-41.10	peak	250	197	
2	2390.000	30.15	-8.00	22.15	54.00	-31.85	AVG	200	45	
3	2400.000	41.17	-7.97	33.20	74.00	-40.80	peak	250	156	
4	2400.000	31.45	-7.97	23.48	54.00	-30.52	AVG	200	13	

Job No.: frank2018 #1303

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: ZEGO Electronic Company Limited.

Polarization: Vertical

Power Source: DC 6V

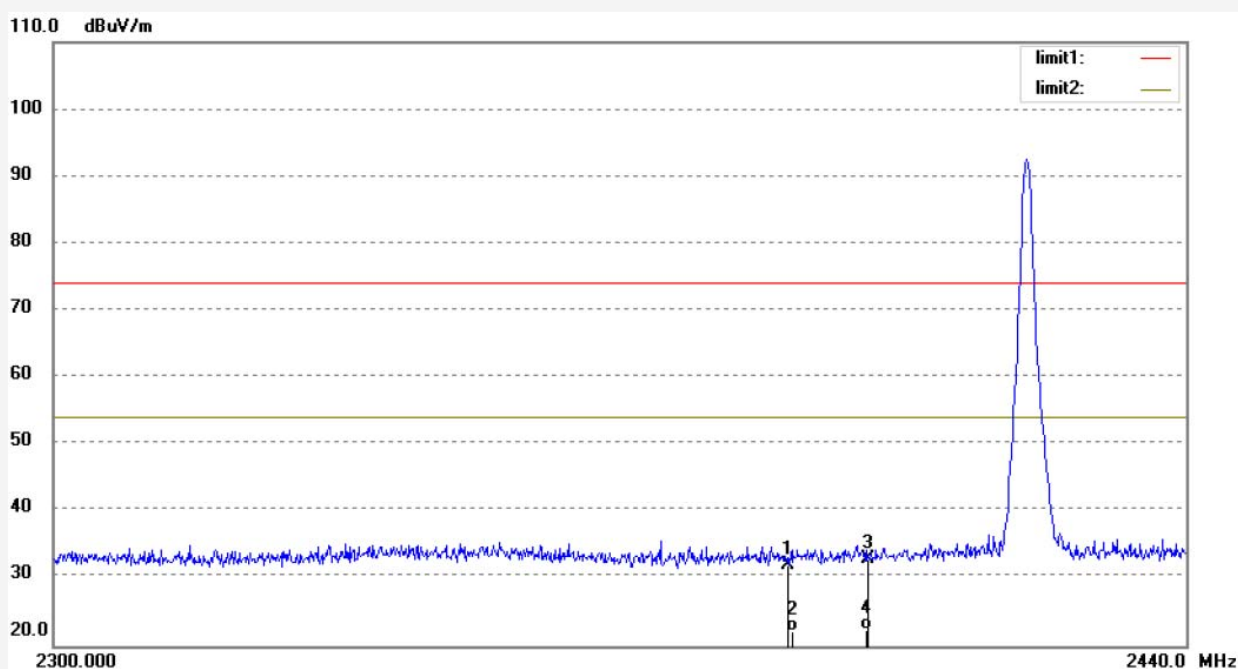
Date: 2018/09/04

Time: 15:16:30

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



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	40.12	-8.00	32.12	74.00	-41.88	peak	200	354	
2	2390.000	30.12	-8.00	22.12	54.00	-31.88	AVG	150	232	
3	2400.000	40.86	-7.97	32.89	74.00	-41.11	peak	200	222	
4	2400.000	30.42	-7.97	22.45	54.00	-31.55	AVG	150	98	

Job No.: frank2018 #1305

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: ZEGO Electronic Company Limited.

Polarization: Horizontal

Power Source: DC 6V

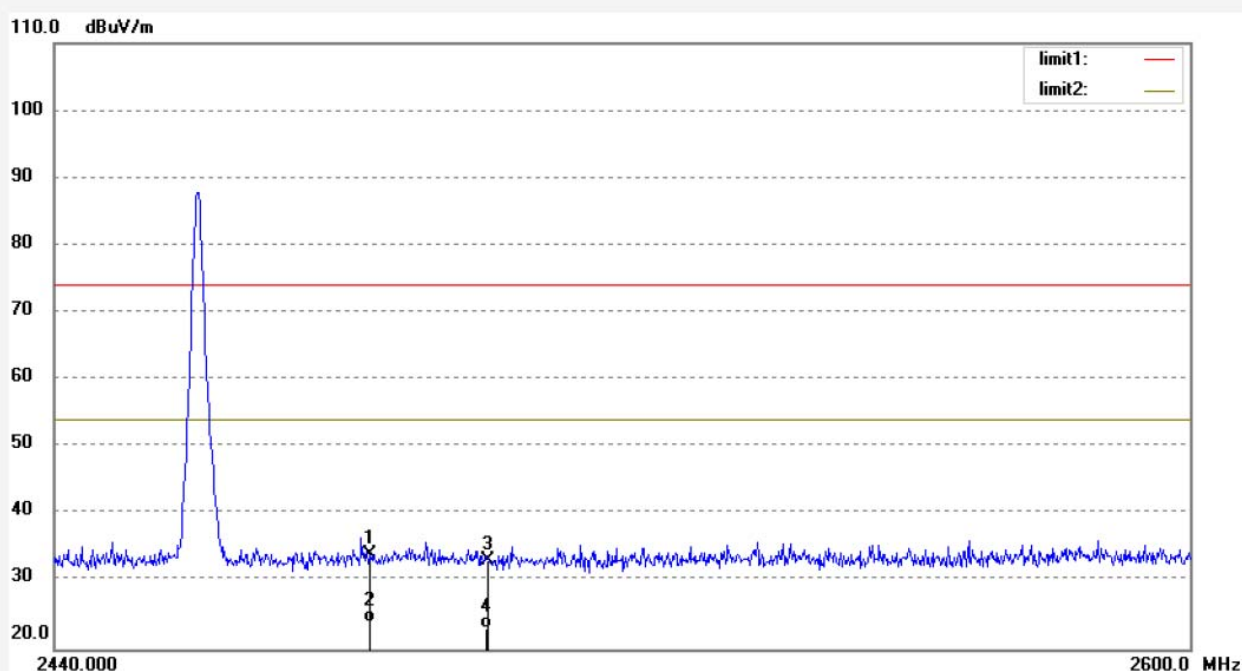
Date: 2018/09/04

Time: 15:20:19

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



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	41.83	-7.76	34.07	74.00	-39.93	peak	250	302	
2	2483.500	31.80	-7.76	24.04	54.00	-29.96	AVG	200	154	
3	2500.000	40.87	-7.71	33.16	74.00	-40.84	peak	200	84	
4	2500.000	30.65	-7.71	22.94	54.00	-31.06	AVG	200	156	

Job No.: frank2018 #1304

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: ZEGO Electronic Company Limited.

Polarization: Vertical

Power Source: DC 6V

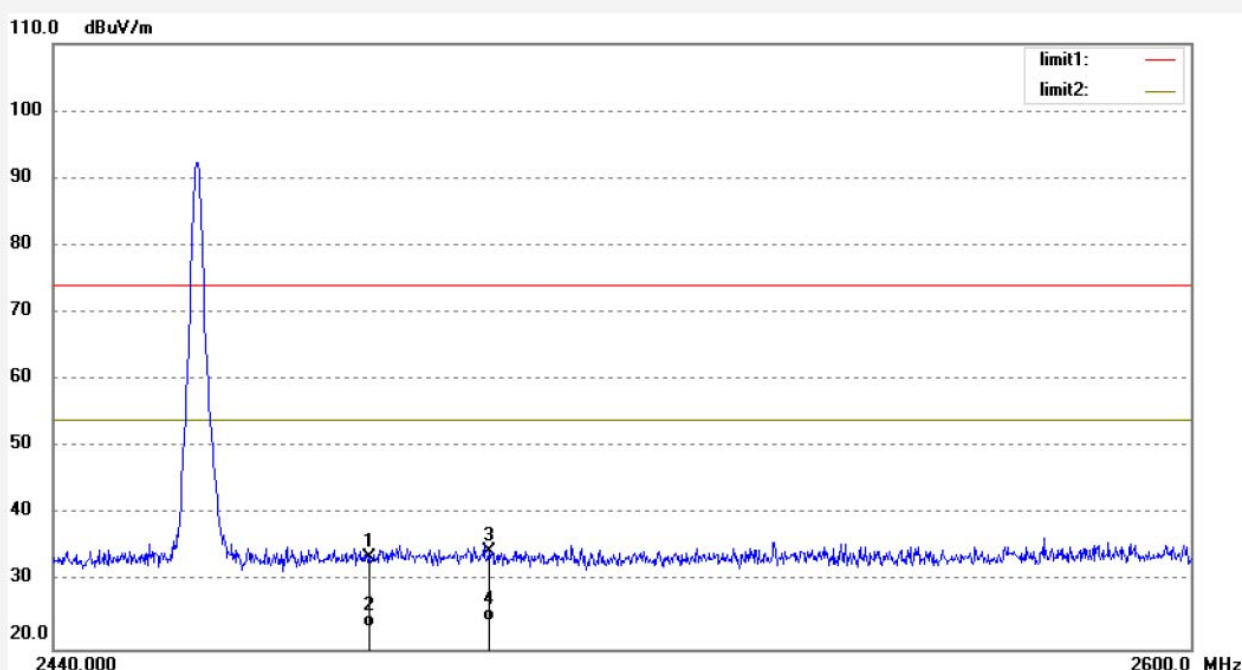
Date: 2018/09/04

Time: 15:19:12

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



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	41.32	-7.76	33.56	74.00	-40.44	peak	200	93	
2	2483.500	31.02	-7.76	23.26	54.00	-30.74	AVG	150	126	
3	2500.000	42.27	-7.71	34.56	74.00	-39.44	peak	200	45	
4	2500.000	31.97	-7.71	24.26	54.00	-29.74	AVG	150	163	

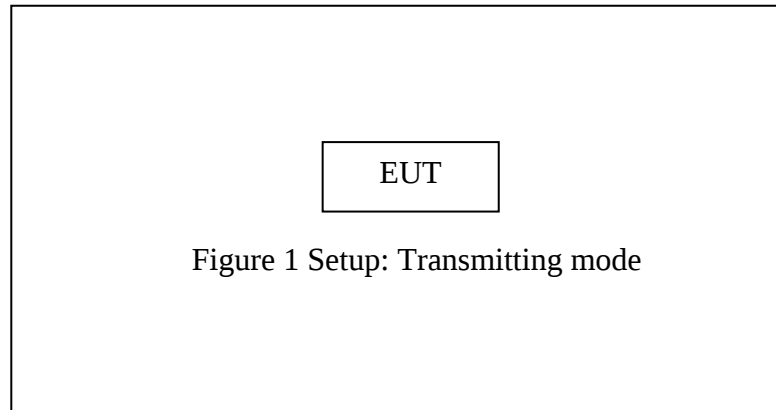
Note:

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

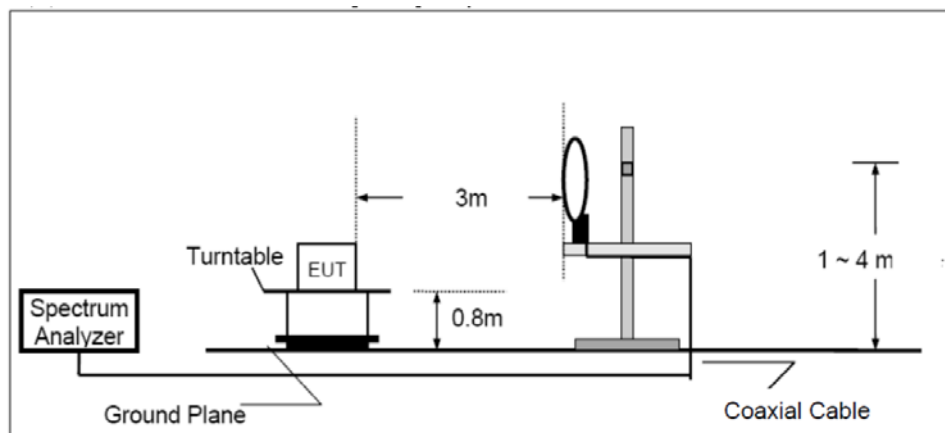
7.1. Block Diagram of Test Setup

7.1.1. Block diagram of connection between the EUT and peripherals

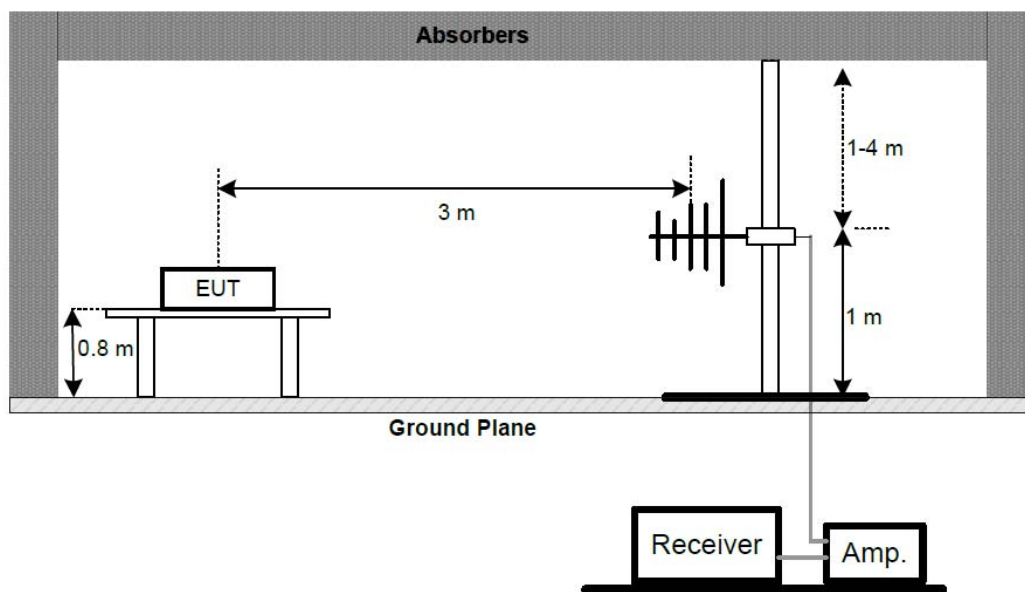


7.1.2. Semi-Anechoic Chamber Test Setup Diagram

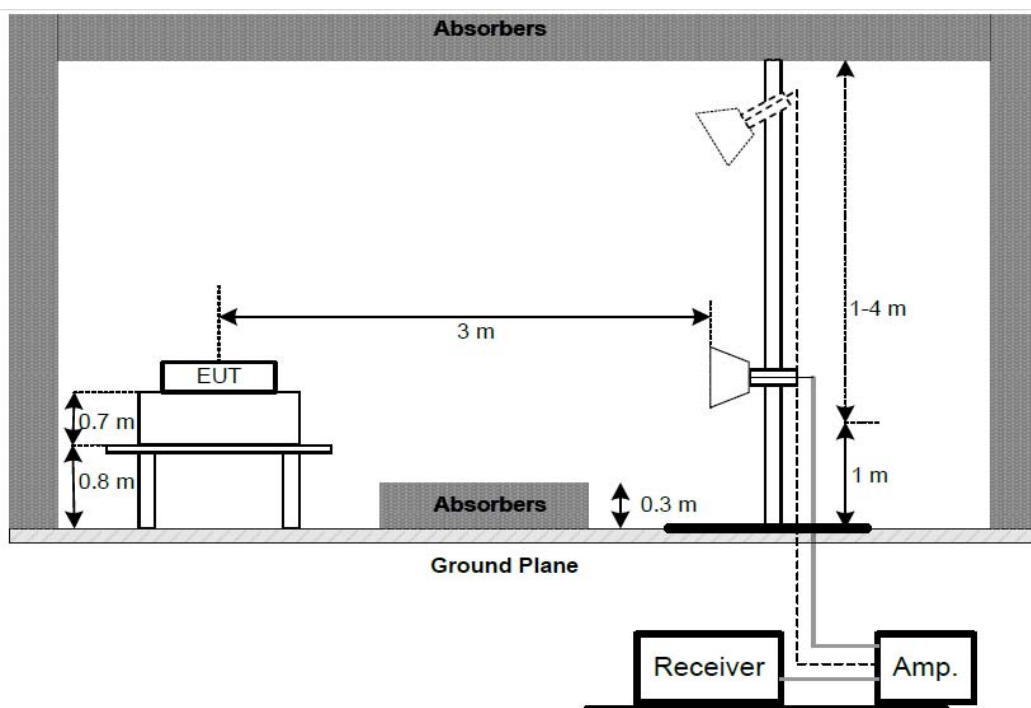
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1GHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



7.2.The Limit For Section 15.249

Except as provided in paragraph (b) of this section of FCC part C 15.249, 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

For products working in the 2400-2483.5MHz band, According to 15.249(a) the Avg limit of fundamental frequency is 94.00dBuV/m. The corresponding peak limit is 114.00dBuV/m. Field strength limits are specified at a distance of 3 meters.

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			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 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 Section 15.209 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 and measure it. The transmit frequency are 2420, 2440, 2460MHz.

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.DATA SAMPLE

Frequency (MHz)	Reading (dB μ V)	Factor (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Remark
X.XX	49.83	-22.03	27.80	43.50	-15.70	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ V) = Uncorrected Analyzer/Receiver reading

Factor (dB/m)= Antenna factor + Cable Loss – Amplifier gain

Result(dB μ V/m) = Reading + Factor

Limit (dB μ V/m)= Limit stated in standard

Margin (dB) = Result(dB μ V/m) - Limit (dB μ V/m)

Calculation Formula:

Margin(dB) = Result (dB μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

7.8.The Field Strength of Radiation Emission Measurement Results

PASS.

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 9KHz-30MHz and 18GHz-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.

30MHz-1GHz



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1162

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

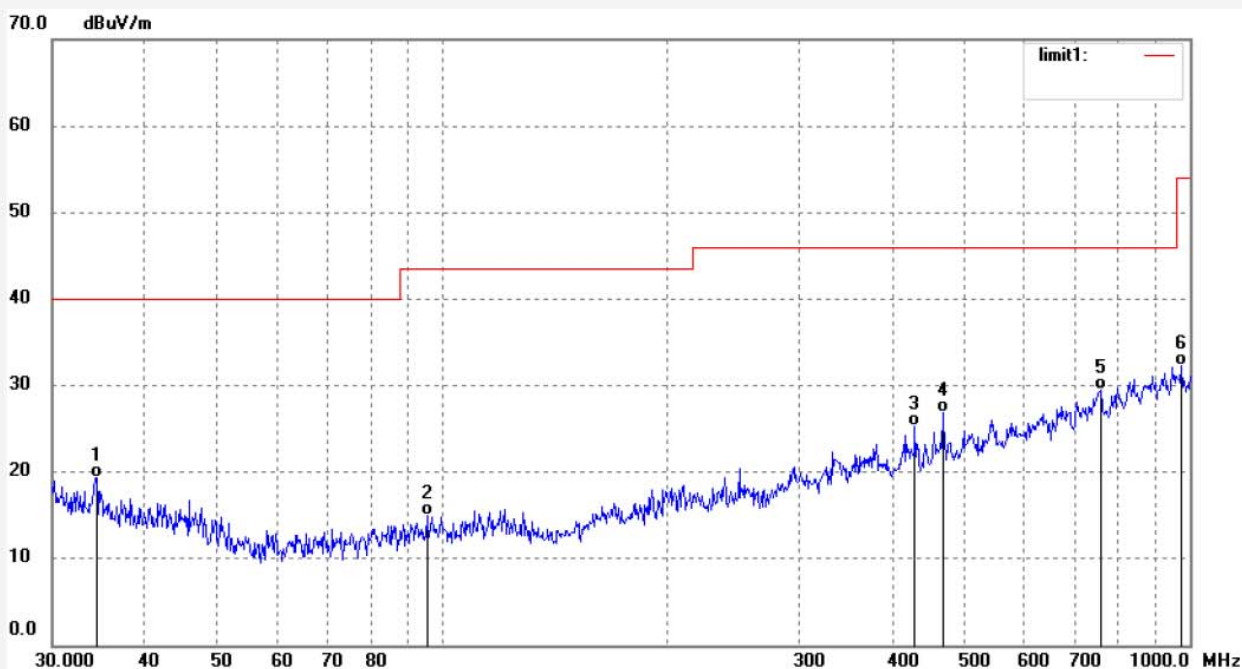
Date: 18/09/03/

Time: 10/55/17

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.4059	36.73	-17.42	19.31	40.00	-20.69	QP	200	118	
2	95.3131	36.45	-21.49	14.96	43.50	-28.54	QP	200	223	
3	428.7959	38.92	-13.55	25.37	46.00	-20.63	QP	200	156	
4	468.1650	39.40	-12.60	26.80	46.00	-19.20	QP	200	47	
5	760.2866	36.01	-6.55	29.46	46.00	-16.54	QP	200	158	
6	975.7047	35.26	-3.04	32.22	54.00	-21.78	QP	200	132	

Job No.: frank2018 #1163

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

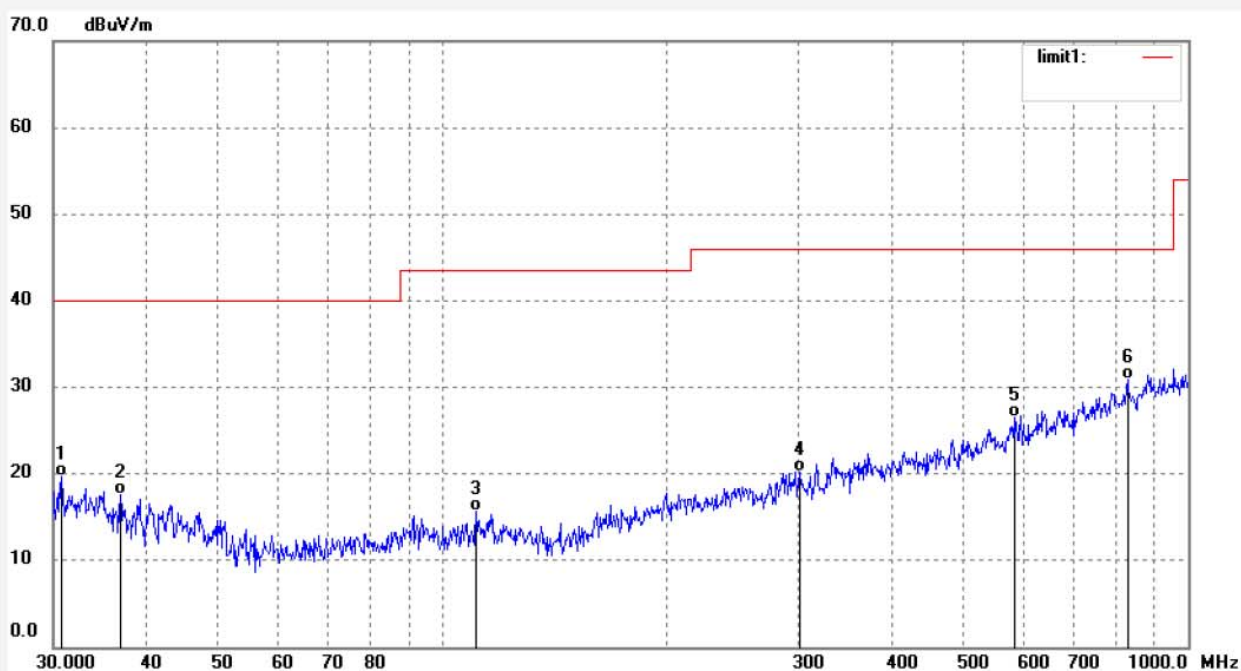
Date: 18/09/03/

Time: 10/55/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.7469	36.62	-16.91	19.71	40.00	-20.29	QP	100	212	
2	36.9106	35.73	-18.12	17.61	40.00	-22.39	QP	100	45	
3	110.8580	36.76	-21.08	15.68	43.50	-27.82	QP	100	78	
4	301.7572	36.50	-16.25	20.25	46.00	-25.75	QP	100	189	
5	584.1611	36.80	-10.27	26.53	46.00	-19.47	QP	100	211	
6	830.0909	36.29	-5.38	30.91	46.00	-15.09	QP	100	316	

Job No.: frank2018 #1165

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2440MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

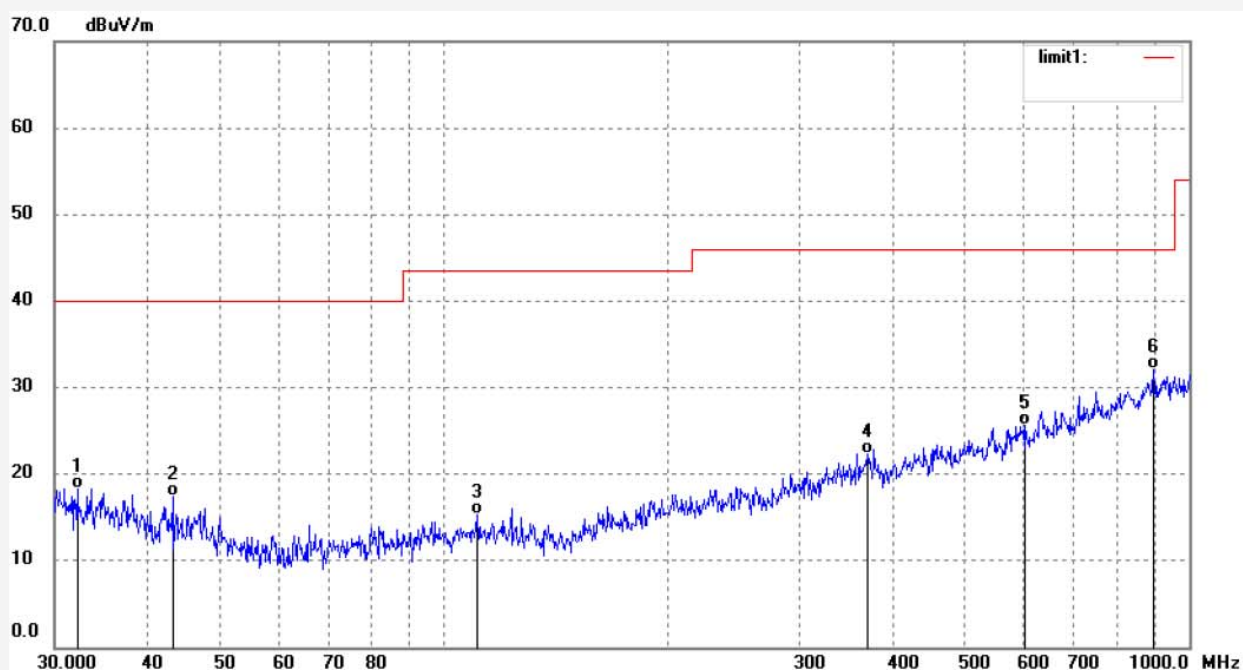
Date: 18/09/03/

Time: 10/56/31

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.1839	35.36	-17.11	18.25	40.00	-21.75	QP	200	67	
2	43.2331	36.77	-19.29	17.48	40.00	-22.52	QP	200	122	
3	110.8580	36.44	-21.08	15.36	43.50	-28.14	QP	200	44	
4	369.9658	36.58	-14.23	22.35	46.00	-23.65	QP	200	156	
5	602.9287	35.55	-9.84	25.71	46.00	-20.29	QP	200	125	
6	896.8011	36.38	-4.21	32.17	46.00	-13.83	QP	200	138	

Job No.: frank2018 #1164

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2440MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

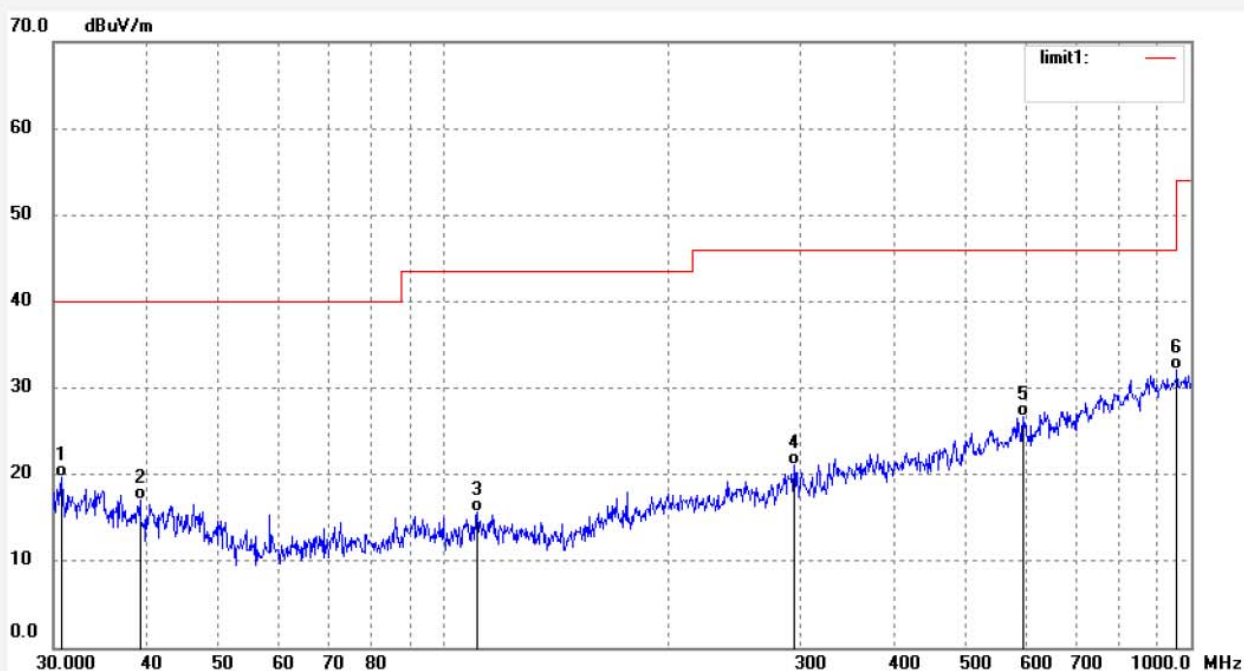
Date: 18/09/03/

Time: 10/56/11

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.7469	36.62	-16.91	19.71	40.00	-20.29	QP	100	279	
2	39.1824	35.95	-18.85	17.10	40.00	-22.90	QP	100	118	
3	110.8580	36.76	-21.08	15.68	43.50	-27.82	QP	100	149	
4	294.4259	37.46	-16.38	21.08	46.00	-24.92	QP	100	47	
5	596.6068	36.62	-9.99	26.63	46.00	-19.37	QP	100	125	
6	958.7133	35.39	-3.29	32.10	46.00	-13.90	QP	100	36	

Job No.: frank2018 #1166

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

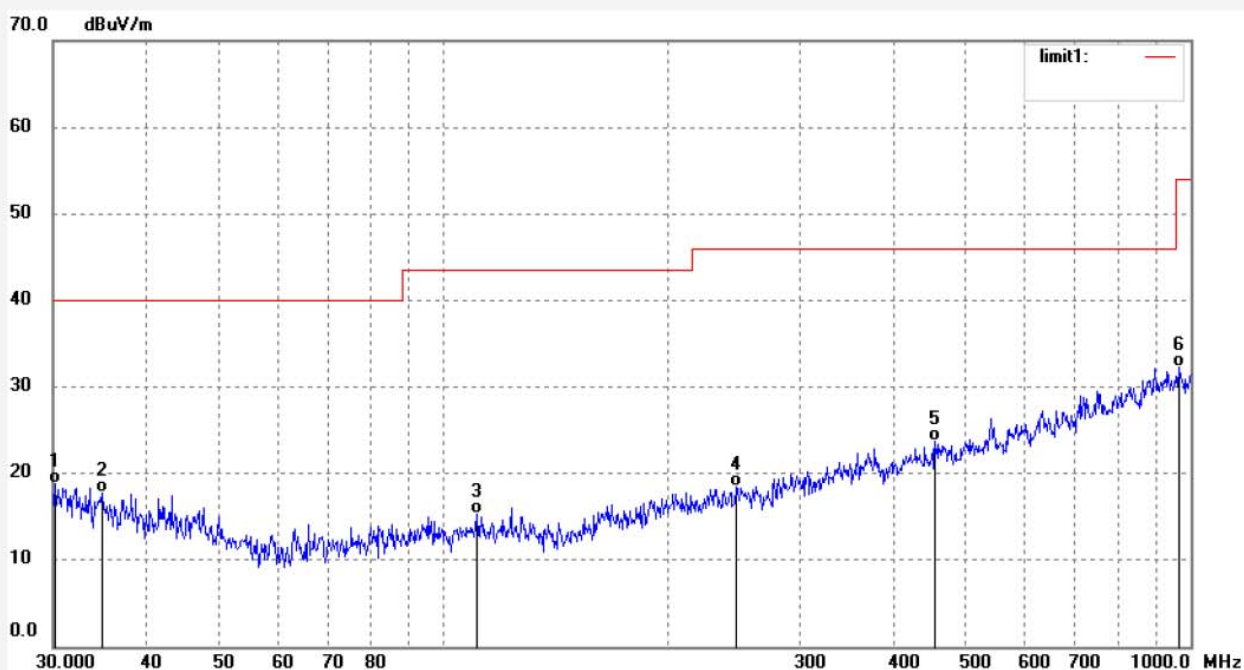
Date: 18/09/03/

Time: 10/56/38

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.2116	35.57	-16.83	18.74	40.00	-21.26	QP	200	221	
2	34.8928	35.17	-17.49	17.68	40.00	-22.32	QP	200	231	
3	110.8580	36.44	-21.08	15.36	43.50	-28.14	QP	200	112	
4	246.1237	36.67	-18.20	18.47	46.00	-27.53	QP	200	44	
5	455.1888	36.63	-12.87	23.76	46.00	-22.24	QP	200	215	
6	965.4741	35.44	-3.20	32.24	54.00	-21.76	QP	200	135	

Job No.: frank2018 #1167

Standard: FCC 15.249 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

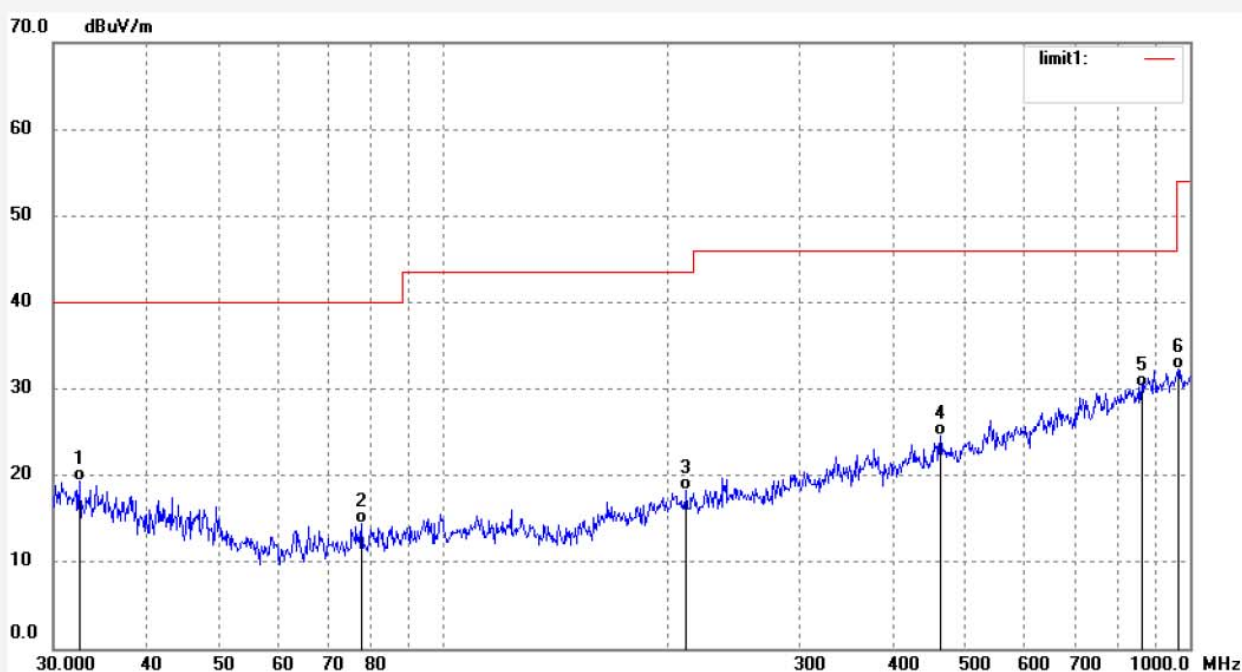
Date: 18/09/03/

Time: 10/56/52

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.5248	36.45	-17.15	19.30	40.00	-20.70	QP	100	62	
2	77.7407	37.37	-22.99	14.38	40.00	-25.62	QP	100	158	
3	211.6108	36.75	-18.46	18.29	43.50	-25.21	QP	100	155	
4	463.2561	37.27	-12.68	24.59	46.00	-21.41	QP	100	48	
5	856.7595	35.20	-4.95	30.25	46.00	-15.75	QP	100	15	
6	965.4741	35.44	-3.20	32.24	54.00	-21.76	QP	100	132	

1GHz-18GHz



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1169

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

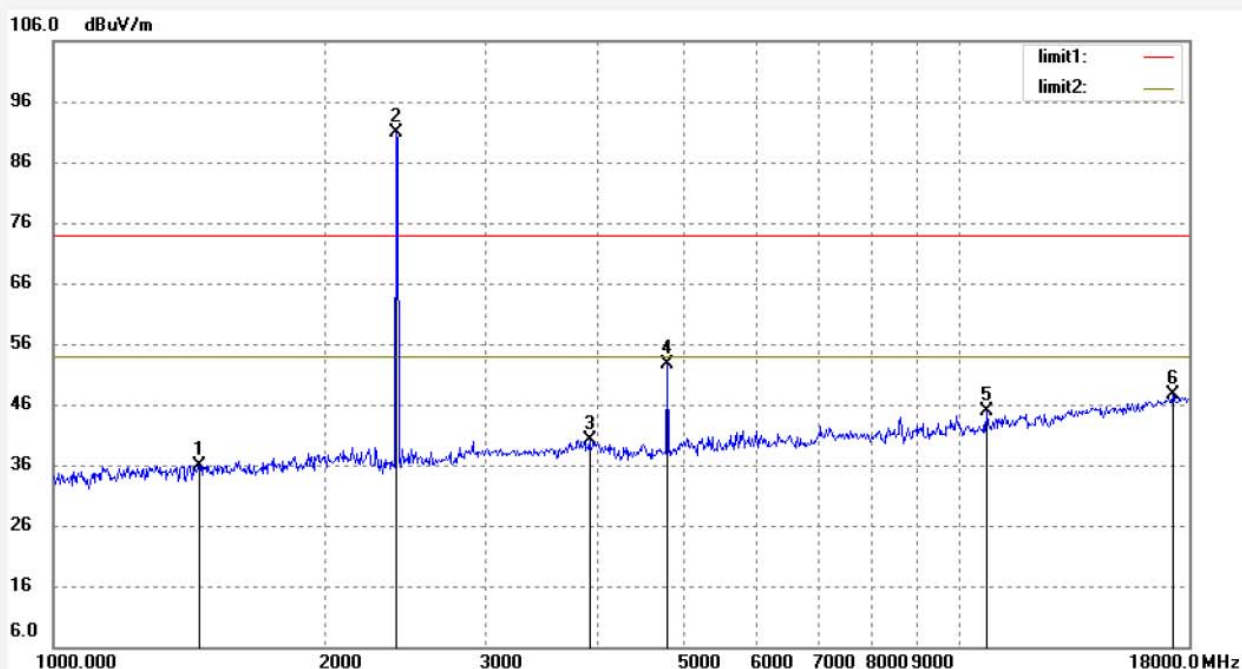
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1451.468	47.42	-11.44	35.98	74.00	-38.02	peak	200	166	
2	2420.619	98.92	-7.98	90.94	114.00	-23.06	peak	200	56	
3	3916.273	43.61	-3.50	40.11	74.00	-33.89	peak	200	198	
4	4840.459	54.99	-2.39	52.60	74.00	-21.40	peak	200	115	
5	10752.836	39.20	5.62	44.82	74.00	-29.18	peak	200	220	
6	17281.236	31.59	16.13	47.72	74.00	-26.28	peak	200	132	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

Job No.: frank2018 #1168

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2420MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

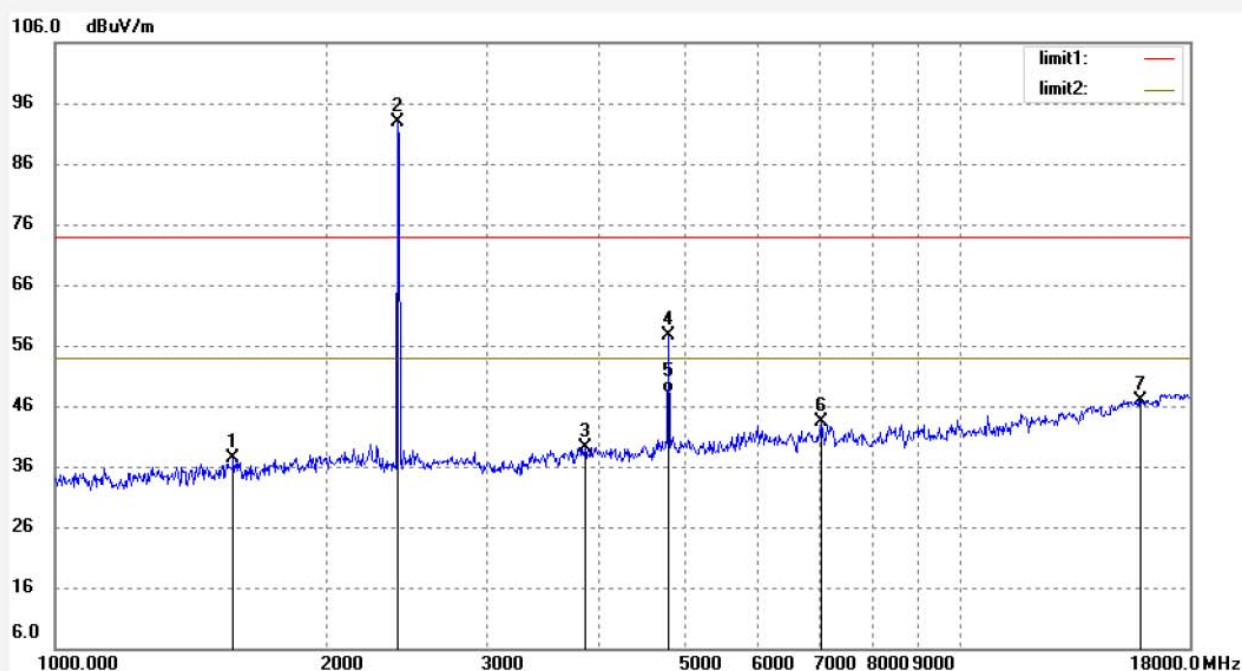
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1574.718	48.37	-10.96	37.41	74.00	-36.59	peak	150	154	
2	2420.119	99.92	-7.98	91.94	114.00	-22.06	peak	150	198	
3	3859.689	42.85	-3.63	39.22	74.00	-34.78	peak	150	97	
4	4840.259	59.99	-2.39	57.60	74.00	-16.40	peak	150	125	
5	4840.259	50.45	-2.39	48.06	54.00	-5.94	AVG	150	55	
6	7050.590	41.44	1.86	43.30	74.00	-30.70	peak	150	221	
7	15882.369	34.24	12.75	46.99	74.00	-27.01	peak	150	136	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1170

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2440MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

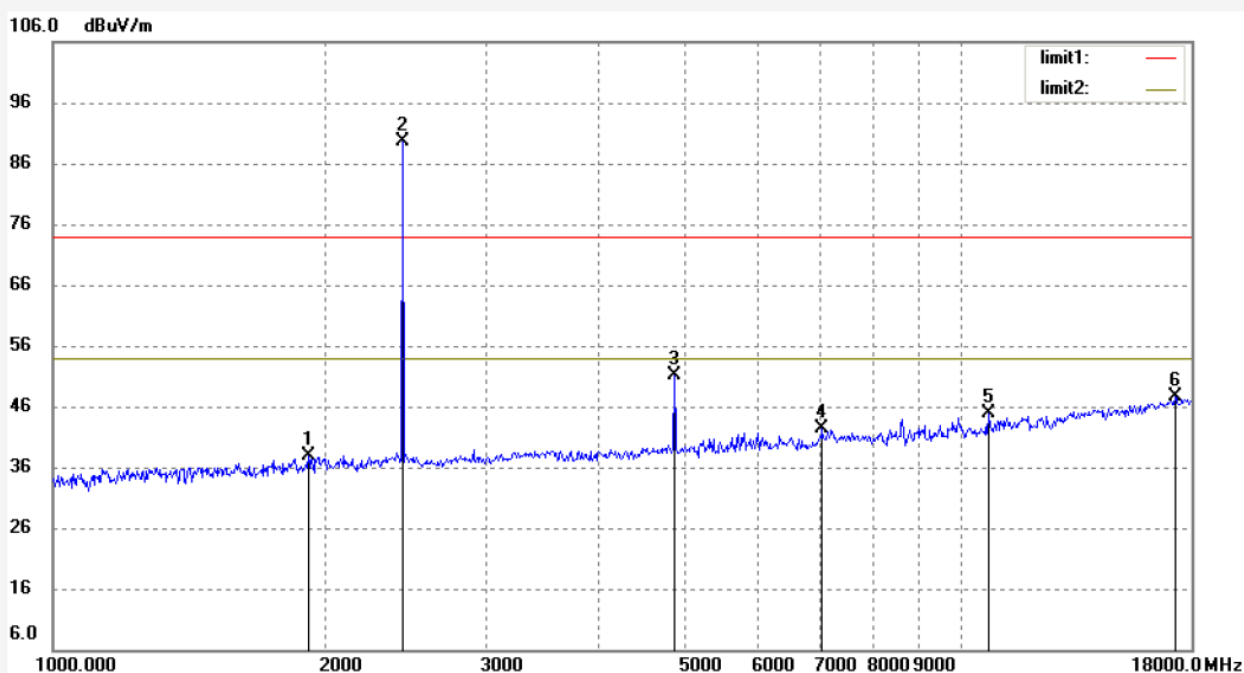
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1913.811	47.19	-9.41	37.78	74.00	-36.22	peak	200	263	
2	2440.724	97.43	-7.90	89.53	114.00	-24.47	peak	200	145	
3	4880.438	53.33	-2.16	51.17	74.00	-22.83	peak	200	48	
4	7050.590	40.44	1.86	42.30	74.00	-31.70	peak	200	296	
5	10752.836	39.20	5.62	44.82	74.00	-29.18	peak	200	212	
6	17281.236	31.59	16.13	47.72	74.00	-26.28	peak	250	101	

Note:

- The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
- The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1171

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2440MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

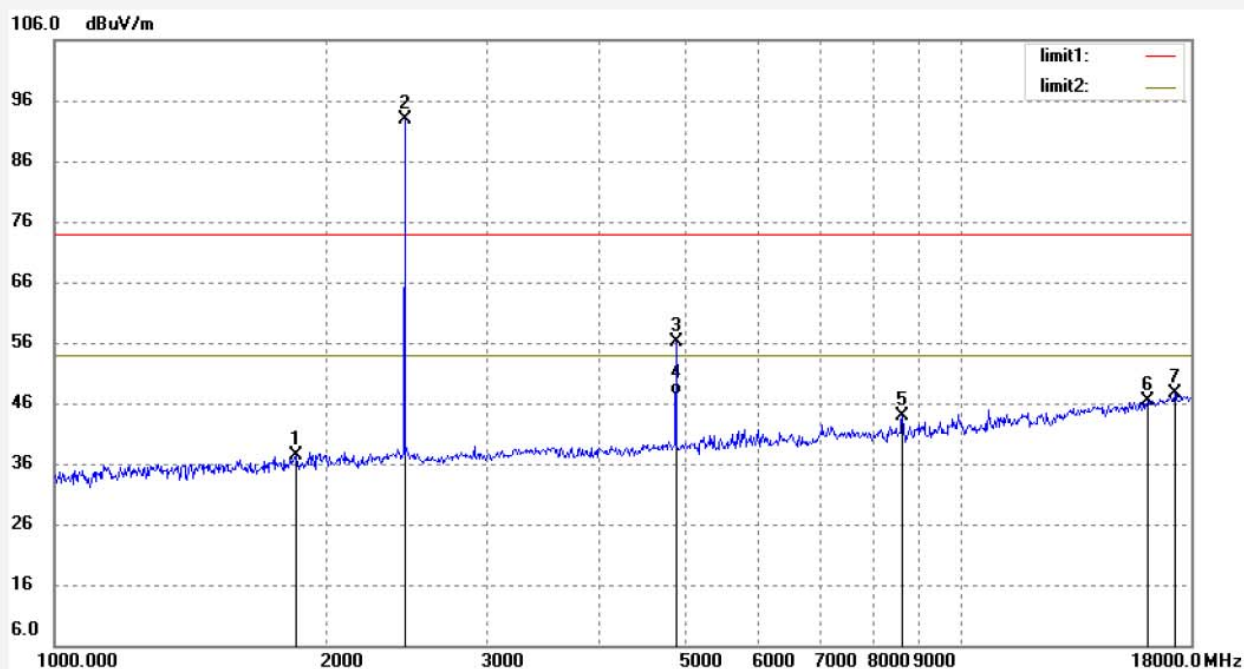
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1848.118	47.03	-9.71	37.32	74.00	-36.68	peak	150	102	
2	2440.207	99.69	-7.88	91.81	114.00	-22.19	peak	150	56	
3	4880.557	58.35	-2.10	56.25	74.00	-17.75	peak	150	113	
4	4880.557	49.41	-2.10	47.31	54.00	-6.69	AVG	150	156	
5	8643.983	39.50	4.42	43.92	74.00	-30.08	peak	150	48	
6	16115.207	33.47	12.92	46.39	74.00	-27.61	peak	150	156	
7	17281.236	31.59	16.13	47.72	74.00	-26.28	peak	150	102	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1173

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Horizontal

Power Source: DC 6V

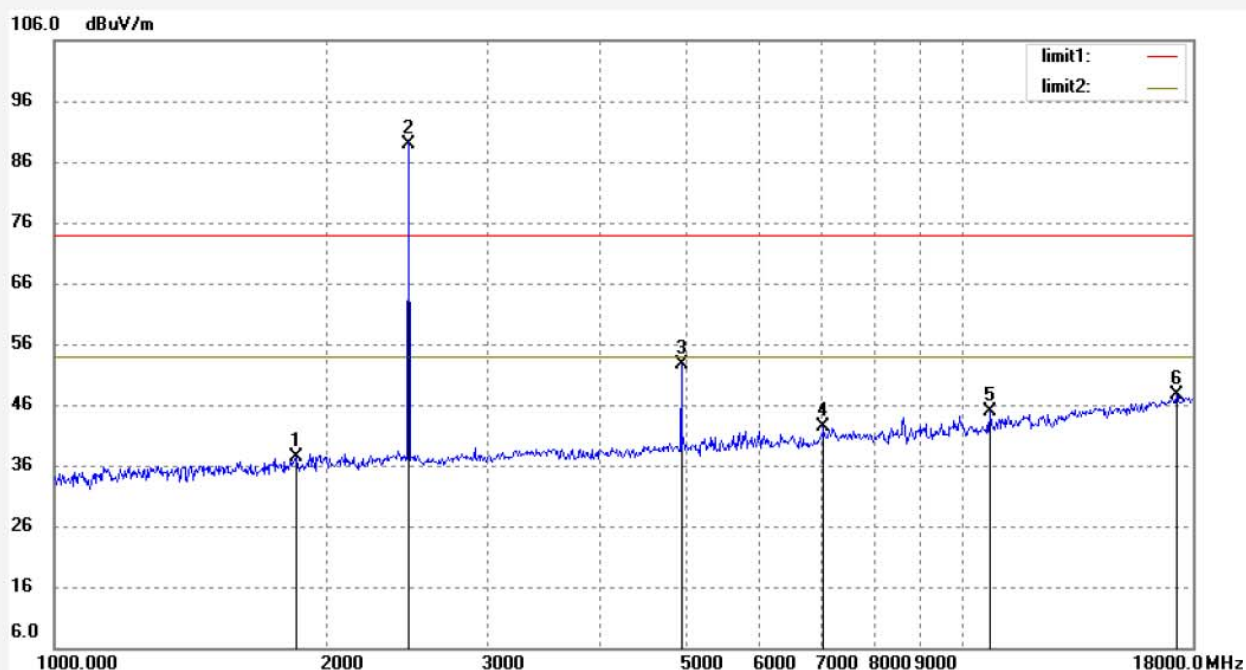
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1848.118	47.03	-9.71	37.32	74.00	-36.68	peak	200	40	
2	2460.179	95.83	-7.83	88.00	114.00	-26.00	peak	200	181	
3	4920.444	54.48	-1.92	52.56	74.00	-21.44	peak	200	156	
4	7050.590	40.44	1.86	42.30	74.00	-31.70	peak	200	78	
5	10752.836	39.20	5.62	44.82	74.00	-29.18	peak	200	159	
6	17281.236	31.59	16.13	47.72	74.00	-26.28	peak	200	103	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

Job No.: frank2018 #1172

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Battle Drone

Mode: TX 2460MHz

Model: 66097

Manufacturer: Shenzhen Yangri Electronic Company Limited

Polarization: Vertical

Power Source: DC 6V

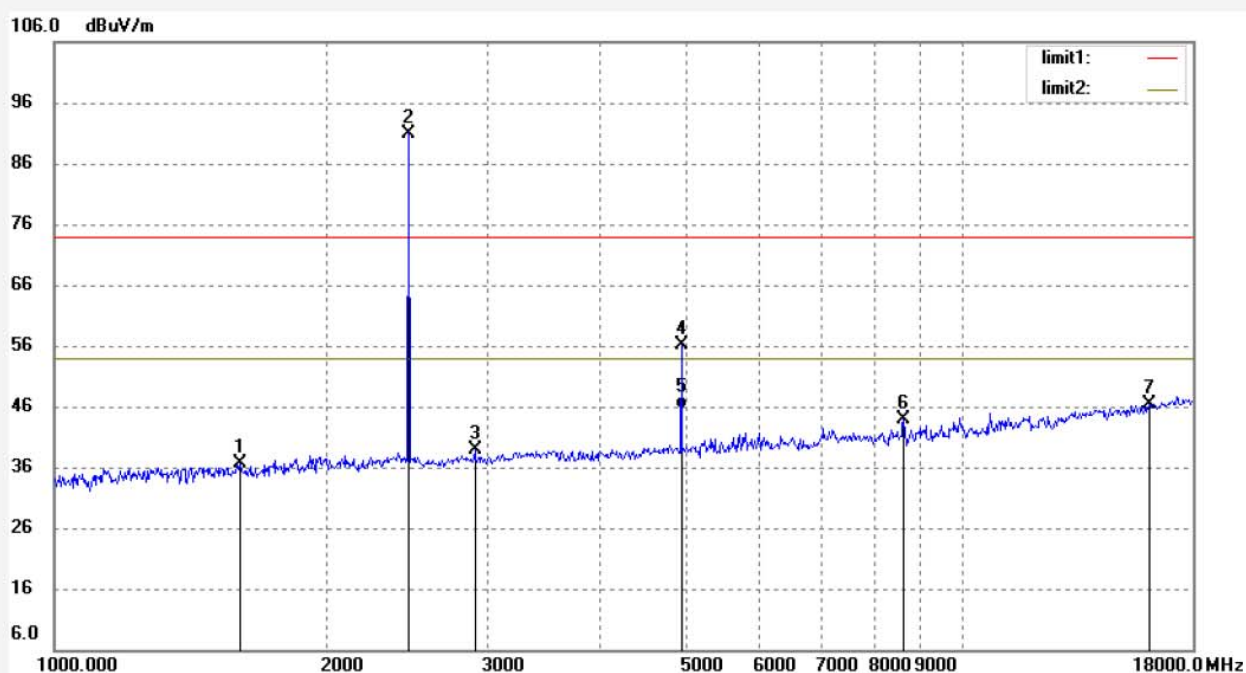
Date: 18/09/03/

Time: 11/24/58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181553



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1602.462	47.38	-10.83	36.55	74.00	-37.45	peak	150	66	
2	2460.179	97.83	-7.83	90.00	114.00	-24.00	peak	150	187	
3	2910.265	45.36	-6.47	38.89	74.00	-35.11	peak	150	302	
4	4920.444	57.98	-1.92	56.06	74.00	-17.94	peak	150	145	
5	4920.444	47.45	-1.92	45.53	54.00	-8.47	AVG	150	48	
6	8643.983	39.50	4.42	43.92	74.00	-30.08	peak	150	56	
7	16115.207	33.47	12.92	46.39	74.00	-27.61	peak	150	101	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture(No.2). Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

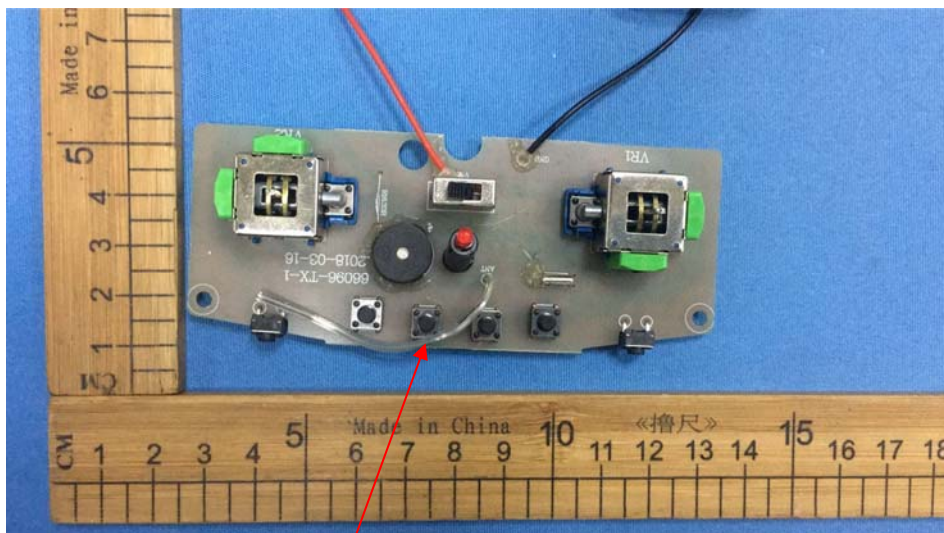
8. ANTENNA REQUIREMENT

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 permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Wire Antenna