FCC TEST REPORT

Product	:	1:14 RC CAR(Dark star)
Trade mark	:	N/A
Model/Type reference	:	KD0714(5F62DB4)
FCC ID	:	XRZKD0714
Report Number	:	EED32H000543-1
Date	:	May 19, 2015
Regulations	:	See below

Test Standards	Results
☒ 47 CFR FCC Part 15 Subpart C 15.249: 2014	PASS

Prepared for

KidsRock Limited

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Prepared by

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Lab manager

Check No.: 1727872190

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(Note: N/A means not applicable)

1. GENERAL INFORMATION

Applicant: KidsRock Limited
Unit 08A, 25/F Gammon House, 12 Harcourt Road, Admiralty, Hong Kong

Manufacturer: KidsRock Limited
Unit 08A, 25/F Gammon House, 12 Harcourt Road, Admiralty, Hong Kong

FCC ID: XRZKD0714

Product: 1:14 RC CAR(Dark star)

Trade mark: N/A

Model/Type reference: KD0714(5F62DB4)

Serial Number: N/A

Report Number: EED32H000543-1

Sample Received Date: Apr. 11, 2015

Sample tested Date: Apr. 11, 2015 to May 19, 2015

The above equipment was tested by Centre Testing International (Shenzhen) Corporation for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart C and the measurement procedure according to ANSI C63.4:2009 and ANSI C63.10:2009.

2. TEST SUMMARY

The complete list of measurements is given below:

No.	Test Item	Rule	Result
1	20dB/ 99% Bandwidth	FCC 15.215(c) 7& RSS-Gen 4.6.1	**PASS**
2	Radiated Emission	FCC 15.249 & A2.9	**PASS**
3	AC Conducted Emission	FCC PART15.207 & RSS-Gen 7.2.4	**N/A**
4	Antenna Requirements *	FCC 15.203 & RSS-Gen 7.1.2	**PASS**

1. According to Section 15.203 and RSS-Gen 7.1.2, 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 EUT has a built in antenna which is a short wire solder on the PCB, this is permanently attached antenna and meets the requirements of this section.
2. New battery is used during all the test.

3. MEASUREMENT UNCERTAINTY

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

Measurement items	Uncertainty
Radiated Emissions	4.5 dB

4. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Serial No.	Due Date
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06/01/2016
Receiver	R&S	ESCI	100435	07/08/2015
Receiver	R&S	ESCI	100435	07/08/2015
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	617	07/13/2015
Multi device Controller	maturo	NCD/070/10711112	---	N/A
Horn Antenna	ETS-LINGREN	3117	00057407	07/07/2015
Microwave Preamplifier	Agilent	8449B	3008A02425	01/28/2016
Spectrum Analyzer	R&S	FSP40	100416	07/06/2015

5. SUPPORT EQUIPMENT LIST

No.	Device Type	Brand	Model	Series No.	Data Cable	Power Cord
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6. PRODUCT INFORMATION

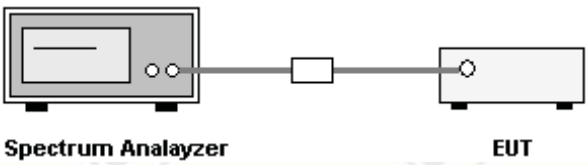
Items	Description
Rating	DC 6V
Intentional Transceiver	Intentional Transmitter
Modulation	GFSK
Frequency Range	2.406～2.480GHz
Channel Number	16
Type	Integrate Antenna
Antenna Gain	2.54dBi
Connector	fixed on board

7. 20DB/ 99% BANDWIDTH MEASUREMENT

7.1 LIMITS

None

7.2 BLOCK DIAGRAM OF TEST SETUP



7.3 TEST PROCEDURE

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set spectrum analyzer's RBW and VBW to applicable value with Peak in Max Hold.
3. A PEAK output reading and 20dB/99% BW function in spectrum analyzer were taken.

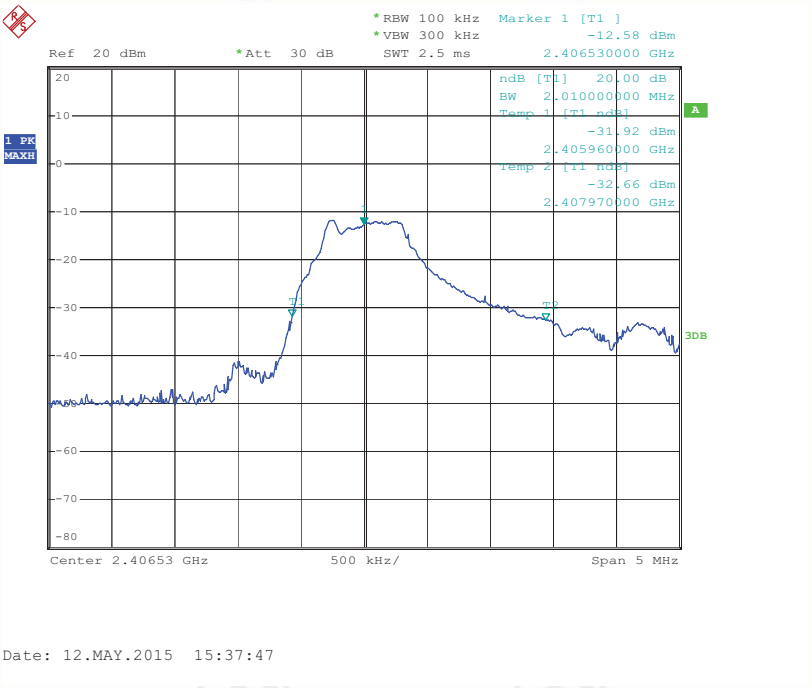
7.4 TEST RESULT

20dB Bandwidth:

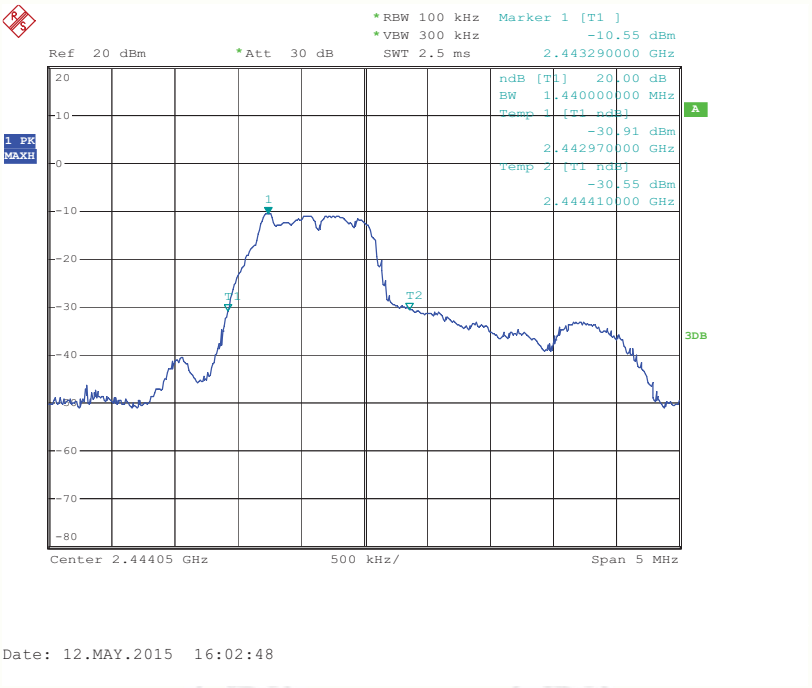
Channel	Frequency (GHz)	20 dB BW (MHz)	99% BW (MHz)
Low	2.406	2.01	2.36
Middle	2.443	1.44	2.01
High	2.480	1.84	2.46

Please see the following plots:

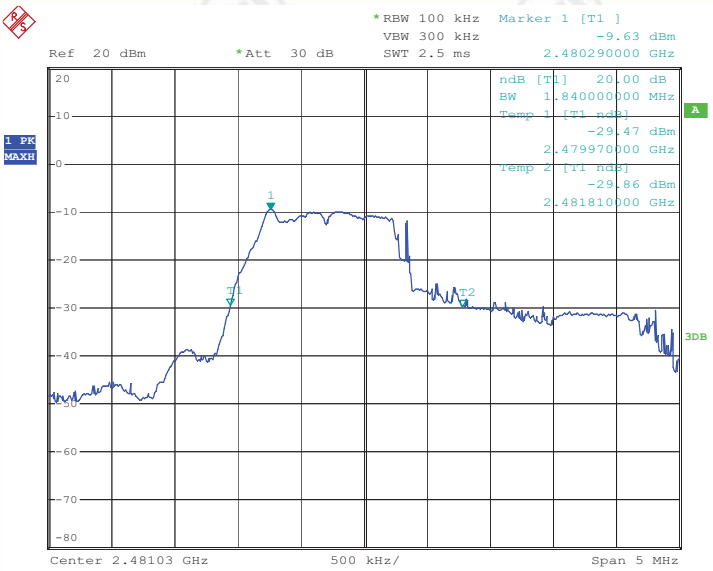
20dB BW:



Channel low

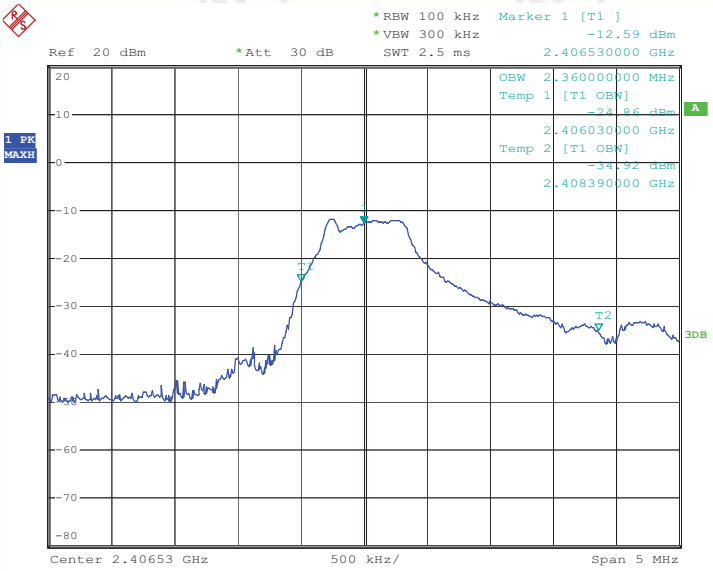


Channel middle

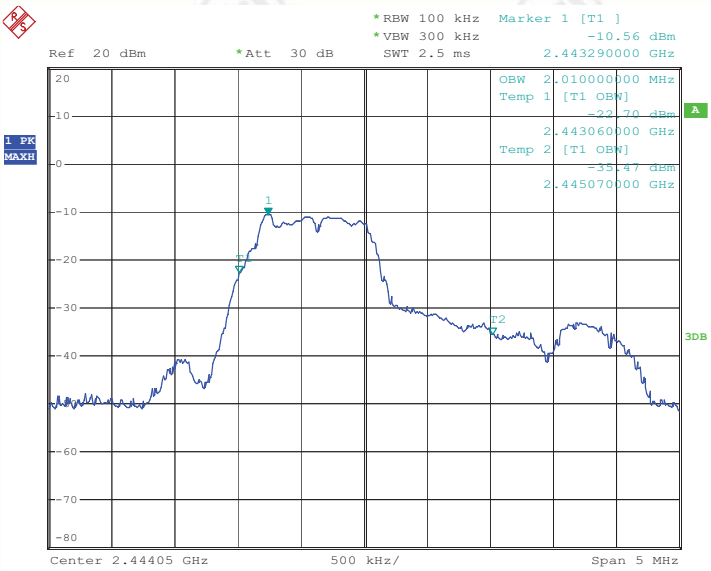


Channel high

99% BW:

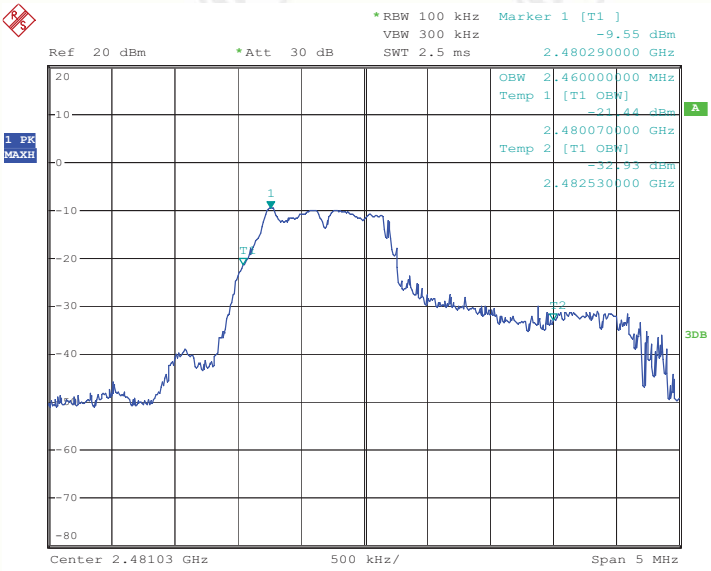


Channel low



Date: 12.MAY.2015 16:00:16

Channel middle



Date: 12.MAY.2015 14:06:31

Channel high

8. RADIATED EMISSIONS MEASUREMENT

8.1 LIMITS

(1) 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)
2400–2483.5 MHz	50	500

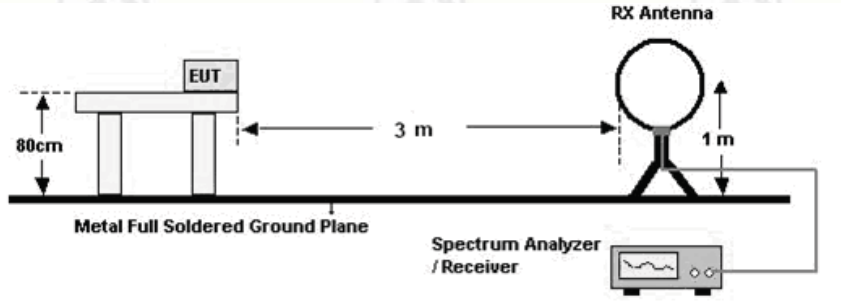
(2) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209 as the following , whichever is the lesser attenuation.

Frequency (MHz)	Field strength (mV/m)	Distance (m)
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

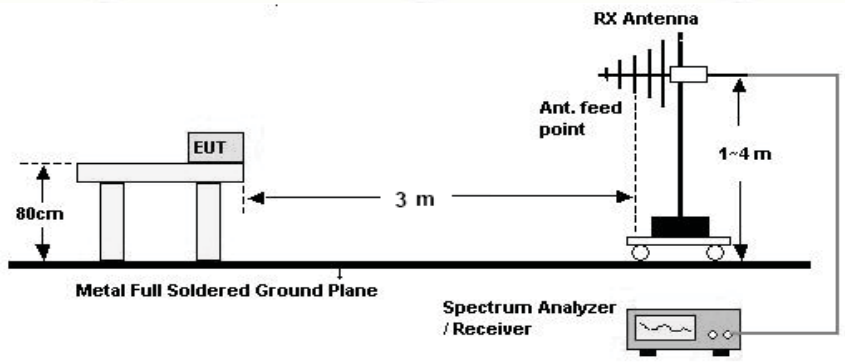
Note: the tighter limit applies at the band edges.

8.2 BLOCK DIAGRAM OF TEST SETUP

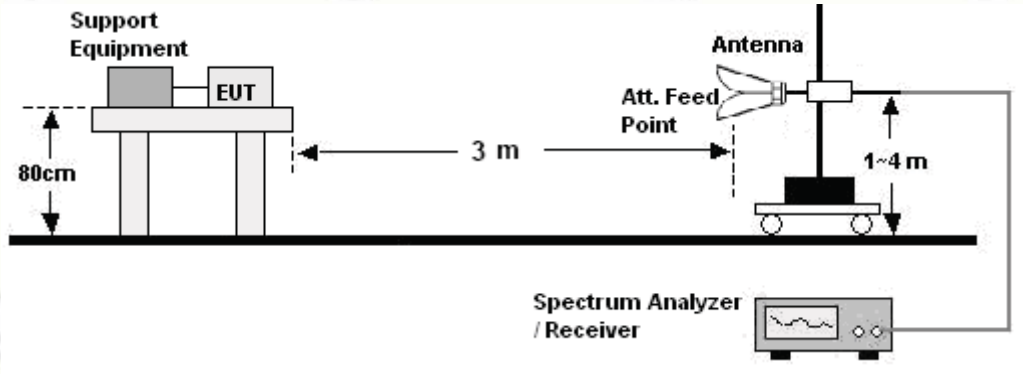
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30 - 1000MHz



For radiated emissions from 1GHz to 25GHz



8.3 TEST PROCEDURE

Below 30MHz

a. The Product is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.

b. For each suspected emission, the Product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

c. The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

30MHz ~ 1GHz:

a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.

b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 100 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

c. For each frequency whose maximum record was higher or close to limit, measure its QP value (120 kHz RBW): vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

Above 1GHz:

a. The EUT was placed on the non-conductive turntable 0.8m above the ground at a chamber.

b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

8.4 TEST RESULT

All the modes of operation (X, Y, Z) were investigated and the worst-case emissions are reported.

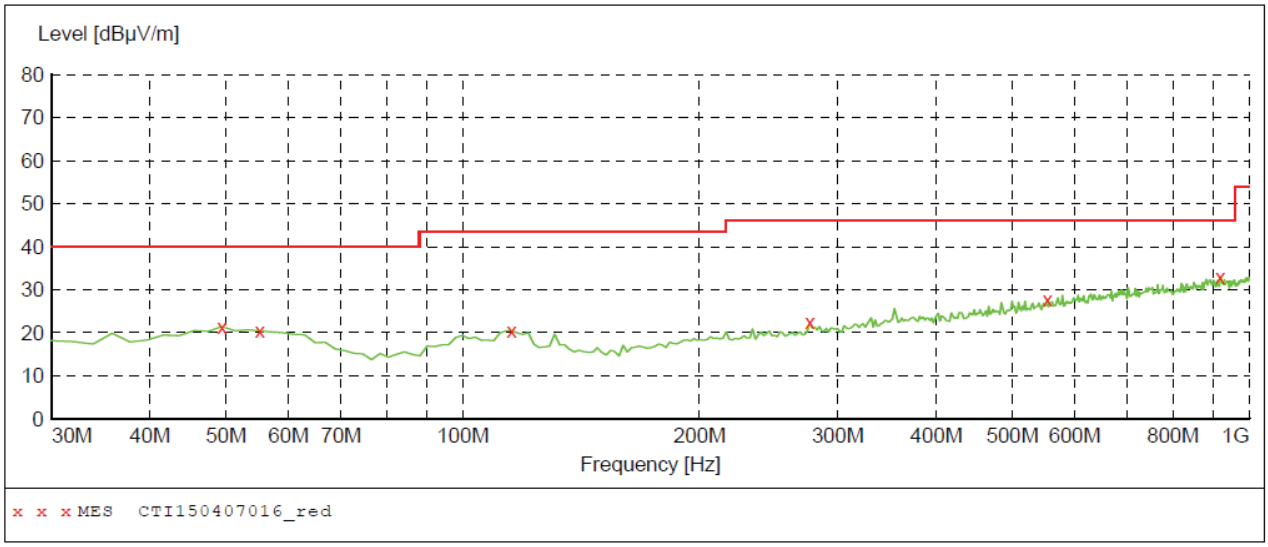
Below 30MHz:

No emissions were found higher than the background below 30MHz and background is lower than the limit, so it deems to compliance with the limit without recorded.

30MHz ～ 1GHz:

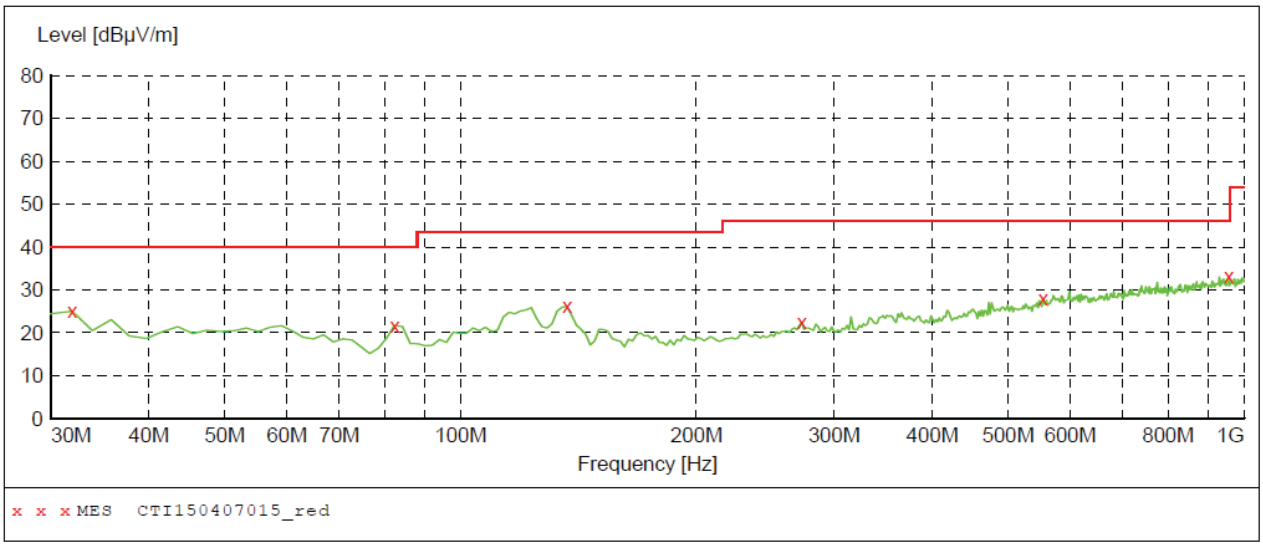
The test data of low channel, middle channel and high channel are almost same in frequency bands 30MHz to 1GHz, and the data of middle channel are chosen as representative in below:

H:



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
49.400000	21.40	16.0	40.0	18.6	---	100.0	31.00	HORIZONTAL
55.220000	20.40	15.4	40.0	19.6	---	200.0	170.00	HORIZONTAL
115.360000	20.50	12.3	43.5	23.0	---	100.0	345.00	HORIZONTAL
276.380000	22.40	15.8	46.0	23.6	---	100.0	168.00	HORIZONTAL
553.800000	27.70	21.8	46.0	18.3	---	100.0	357.00	HORIZONTAL
918.520000	33.00	27.1	46.0	13.0	---	200.0	86.00	HORIZONTAL

V:



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
31.940000	25.00	12.8	40.0	15.0	---	100.0	14.00	VERTICAL
82.380000	21.70	9.6	40.0	18.3	---	100.0	213.00	VERTICAL
136.700000	26.20	10.9	43.5	17.3	---	100.0	14.00	VERTICAL
272.500000	22.50	15.7	46.0	23.5	---	100.0	370.00	VERTICAL
553.800000	27.90	21.8	46.0	18.1	---	100.0	370.00	VERTICAL
955.380000	33.10	27.3	46.0	12.9	---	200.0	275.00	VERTICAL

Above 1GHz:

Test Results-(Measurement Distance: 3m)_Channel low_2406MHz_GFSK mode:

Frequency (MHz)	Measurement (dBuV/m)	Limit (dBuV/m)	Detector Type	Antenna (H/V)	Result (P/F)
2390.0	36.77	74	PK	H	P
2400.0	37.68	74	PK	H	P
2406.0*	92.97	114	PK	H	P
4812.0	47.82	74	PK	H	P
2390.0	36.68	74	PK	V	P
2400.0	37.86	74	PK	V	P
2406.0*	91.68	114	PK	V	P
4812.0	45.48	74	PK	V	P

*: fundamental frequency

Test Results-(Measurement Distance: 3m)_Channel middle_2443MHz_GFSK mode:

Frequency (MHz)	Measurement (dBuV/m)	Limit (dBuV/m)	Detector Type	Antenna (H/V)	Result (P/F)
2443.0*	93.82	114	PK	H	P
4886.0	44.42	74	PK	H	P
2443.0*	92.41	114	PK	V	P
4886.0	44.84	74	PK	V	P

*: fundamental frequency

Test Results-(Measurement Distance: 3m)_Channel high_2480MHz_GFSK mode:

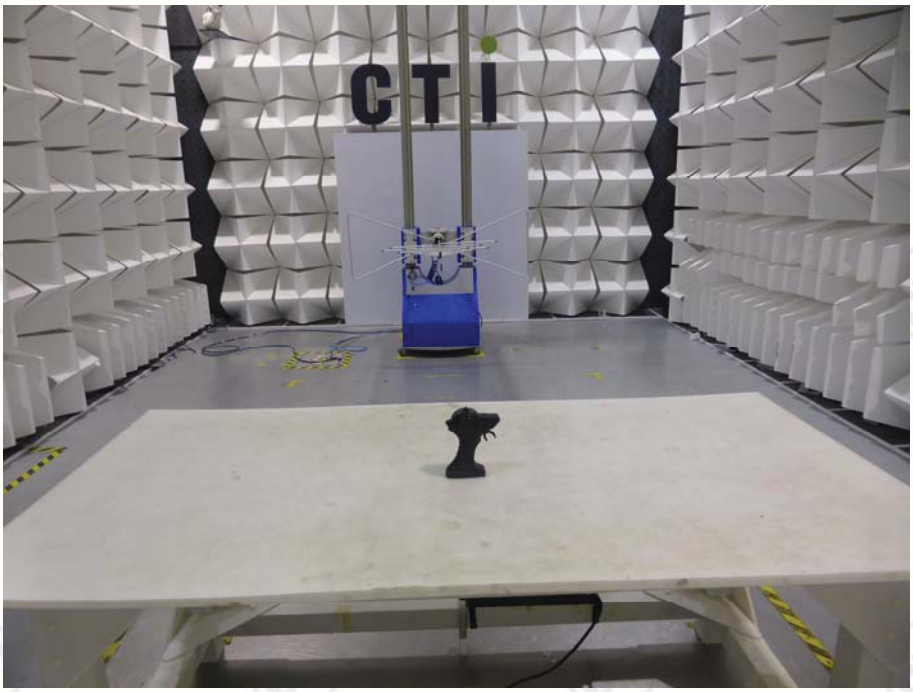
Frequency (MHz)	Measurement (dBuV/m)	Limit (dBuV/m)	Detector Type	Antenna (H/V)	Result (P/F)
2480.0*	92.85	114	PK	H	P
2483.5	44.72	74	PK	H	P
4960.0	46.84	74	PK	H	P
2480.0*	93.03	114	PK	V	P
2483.5	43.95	74	PK	V	P
4960.0	44.81	74	PK	V	P

*: fundamental frequency

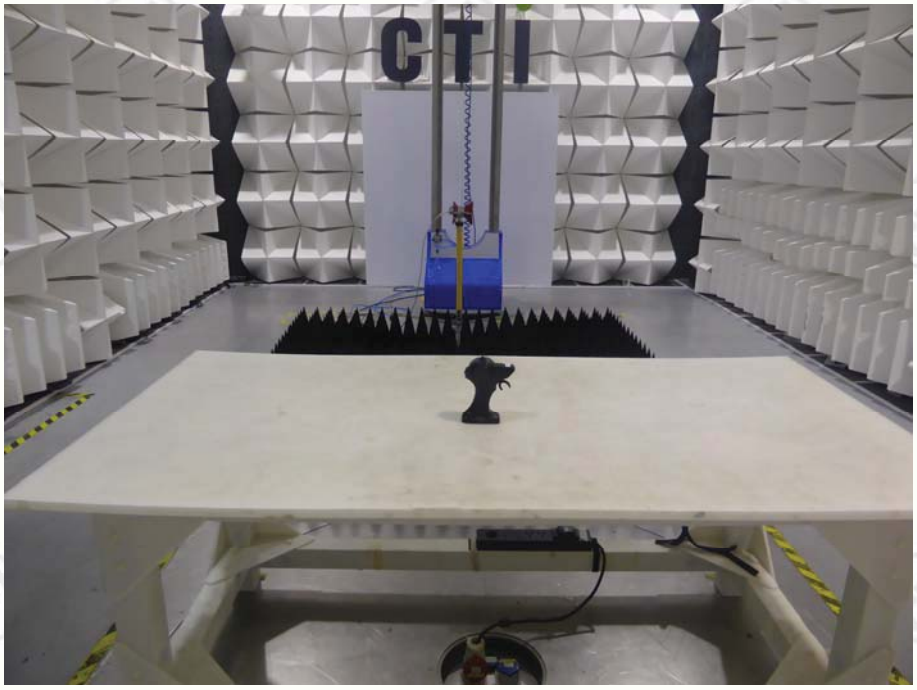
Remark:

1. The above tables show that the frequencies peak data are all below the average limit, so the average data of these frequencies are deems to fulfill the average limits and not reported.
2. No emission found from 18GHz to 25GHz.
3. All outside of operating frequency band and restricted band specified are below 15.209.
4. For fundamental， RBW 3MHz VBW 10MHz peak detector .

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



TEST SETUP OF RADIATED EMISSION (30MHz～1GHz)



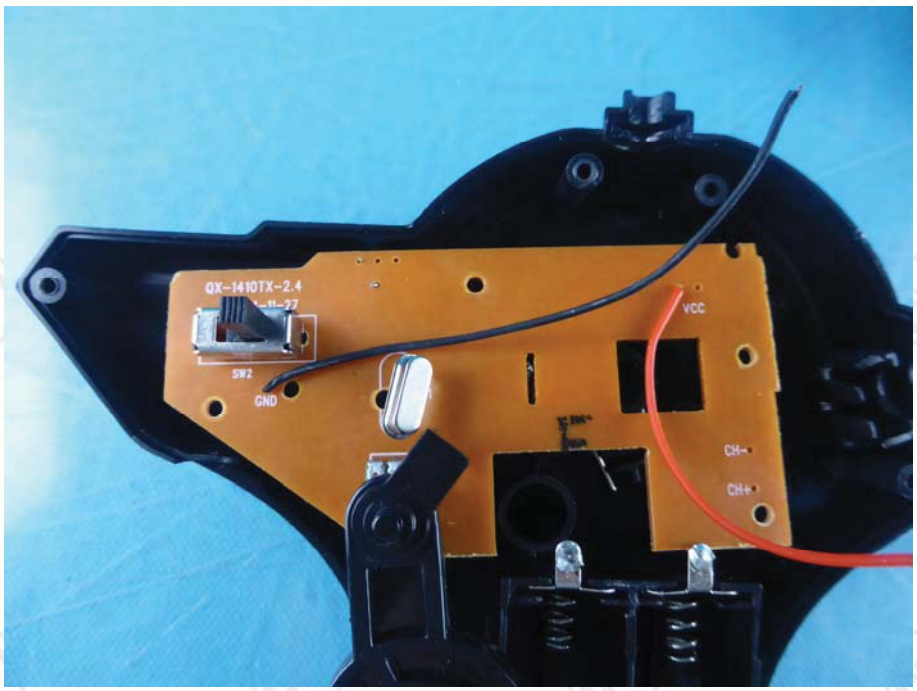
TEST SETUP OF RADIATED EMISSION (Above1GHz)

APPENDIX 2 PHOTOGRAPHS OF EUT

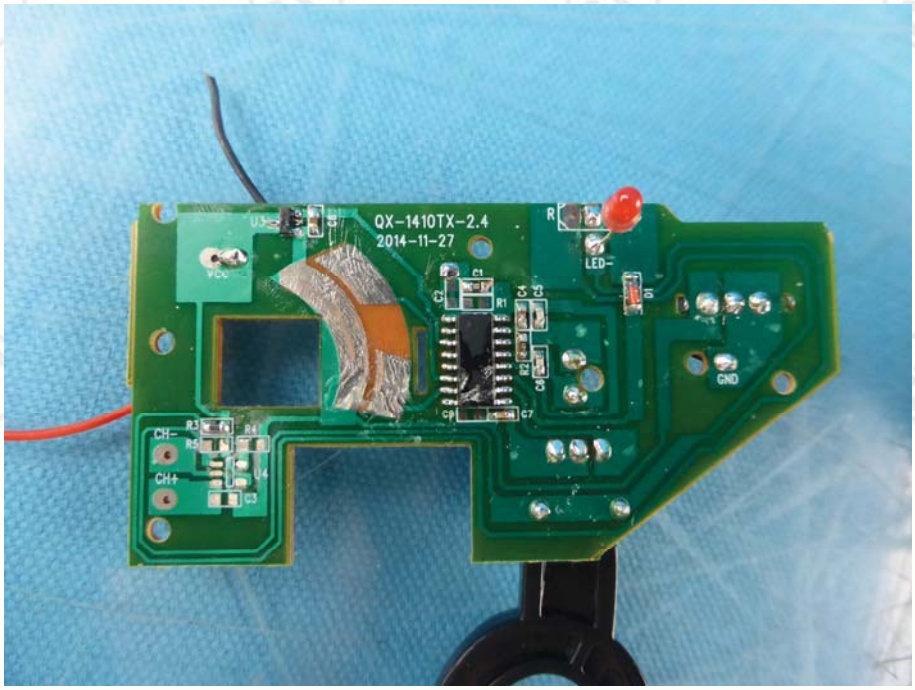
View of external EUT-1

View of external EUT-2

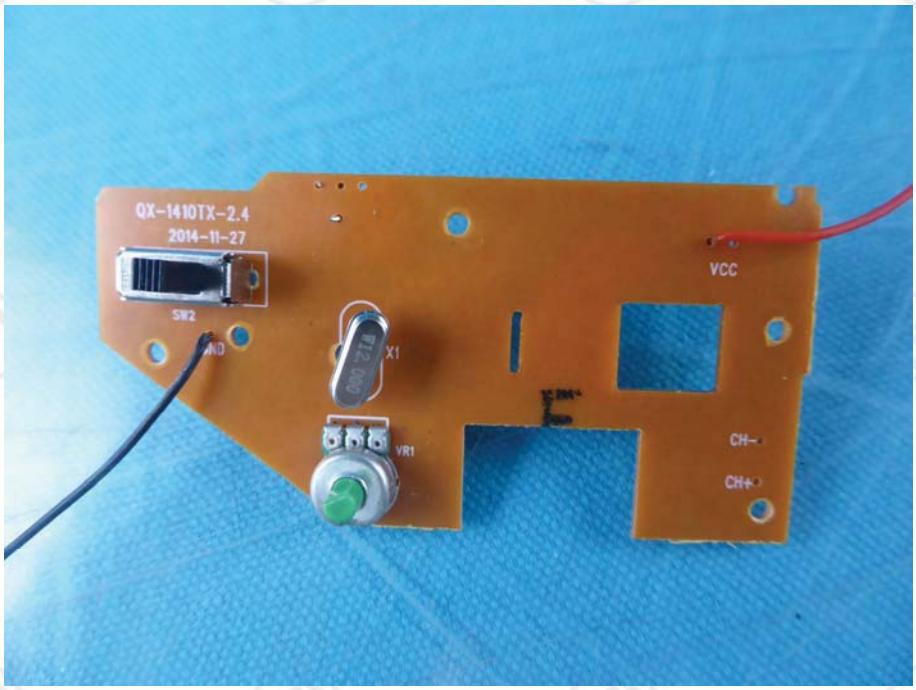
View of internal EUT-1



View of internal EUT-2



View of internal EUT-3



View of internal EUT-4

*** End of Report ***