



TEST REPORT

Report No. : CHTEW19080071 Report Verification : 

Project No. : SHT1907088602EW

FCC ID : SIP-5616-C

Applicant's name : MegaGain International Ltd.

Address : Rm 904-905, Greenfield Tower, Concordia Plaza, 1 Science Museum Road, T.S.T. East. Kowloon. HongKong

Manufacturer : MegaGain International Ltd.

Address : Rm 904-905, Greenfield Tower, Concordia Plaza, 1 Science Museum Road, T.S.T. East. Kowloon. HongKong

Test item description : CARS MCQUEEN BTR H20

Trade Mark : Disney

Model/Type reference : 5616-C

Listed Model(s) : -

Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.249

Date of receipt of test sample : Aug.01, 2019

Date of testing : Aug.01, 2019- Aug.13, 2019

Date of issue : Aug.14, 2019

Result : PASS

Compiled by
(position+printedname+signature).... : File administrators Fanghui Zhu

Fanghui Zhu

Supervised by
(position+printedname+signature).... : Project Engineer Hans Hu

Hans Hu

Approved by
(position+printedname+signature).... : RF Manager Hans Hu

Hans Hu

Testing Laboratory Name : Shenzhen Huatongwei International Inspection Co., Ltd.

Address : 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Shenzhen Huatongwei International Inspection Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Huatongwei International Inspection Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen Huatongwei International Inspection Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

The test report merely correspond to the test sample.

Contents

<u>1.</u>	<u>TEST STANDARDS AND REPORT VERSION</u>	<u>3</u>
1.1.	Test Standards	3
1.2.	Report version information	3
<u>2.</u>	<u>TEST DESCRIPTION</u>	<u>4</u>
<u>3.</u>	<u>SUMMARY</u>	<u>5</u>
3.1.	Client Information	5
3.2.	Product Description	5
3.3.	EUT operation mode	5
3.4.	EUT configuration	6
3.5.	Modifications	6
<u>4.</u>	<u>TEST ENVIRONMENT</u>	<u>7</u>
4.1.	Address of the test laboratory	7
4.2.	Test Facility	7
4.3.	Environmental conditions	8
4.4.	Statement of the measurement uncertainty	8
4.5.	Equipments Used during the Test	9
<u>5.</u>	<u>TEST CONDITIONS AND RESULTS</u>	<u>11</u>
5.1.	Antenna requirement	11
5.2.	AC Power Conducted Emissions	12
5.3.	20 dB Occupied Bandwidth	13
5.4.	Radiated field strength of the fundamental signal	15
5.5.	Radiated Spurious Emissions and Bandedge Emission	17
<u>6.</u>	<u>TEST SETUP PHOTOS OF THE EUT</u>	<u>23</u>
<u>7.</u>	<u>EXTERNAL AND INTERNAL PHOTOS OF THE EUT</u>	<u>24</u>

1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.249](#): Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.

[ANSI C63.10-2013](#): American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report version information

Revision No.	Date of issue	Description
N/A	2019-08-14	Original

2. TEST DESCRIPTION

Test Item	Section in CFR 47	Result	Test Engineer
Antenna requirement	15.203	PASS	Jiongsheng Feng
AC Power Line Conducted Emissions	15.207	N/A	N/A
20dB Occupied Bandwidth	15.215/15.249	PASS	Jiongsheng Feng
Field strength of the Fundamental signal	15.249(a)	PASS	Jiongsheng Feng
Spurious Emissions	15.209/15.249(a)	PASS	Pan Xie
Band edge Emissions	15.205/15.249(d)	PASS	Pan Xie

Remark: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	MegaGain International Ltd.
Address:	Rm 904-905, Greenfield Tower, Concordia Plaza,1 Science Museum Road, T.S.T. East. Kowloon. HongKong
Manufacturer:	MegaGain International Ltd.
Address:	Rm 904-905, Greenfield Tower, Concordia Plaza,1 Science Museum Road, T.S.T. East. Kowloon. HongKong

3.2. Product Description

Name of EUT:	CARS MCQUEEN BTR H20
Trade Mark:	Disney
Model No.:	5616-C
Listed Model(s):	-
Power supply:	DC 3.0V
Adapter information:	-
Hardware Version:	V1
Software Version:	V1
RF Specification	
Operation frequency:	2405~2475MHz
Channel number:	1MHz
Modulation Type:	GFSK
Antenna type:	Integral antenna
Antenna gain:	0dBi

3.3. EUT operation mode

● Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

Channel	Frequency (MHz)
CH _L	2405
CH _M	2440
CH _H	2475

● **TEST MODE**

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit.

The EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data recorded in the report.

During all testing, the product is powered by new battery.

3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

	Manufacturer :	/
	Model No. :	/
	Manufacturer :	/
	Model No. :	/

3.5. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 762235.

IC-Registration No.: 5377A

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

4.4. 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 in calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics;Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurementof mobile radio equipment characteristics;Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system according to ISO/IEC 17025. Further more, 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.

Here after the best measurement capability for Shenzhen Huatongwei is reported:

Test Items	Measurement Uncertainty	Notes
Conducted Disturbance 150kHz~30MHz	3.02 dB	(1)
Radiated Emissions below 1GHz	4.90 dB	(1)
Radiated Emissions above 1GHz	4.96 dB	(1)
Occupied Bandwidth	70 Hz	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.5. Equipments Used during the Test

● Conducted Emission						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Shielded Room	Albatross projects	N/A	N/A	2018/09/28	2023/09/27
●	EMI Test Receiver	R&S	ESCI	101247	2018/10/27	2019/10/26
●	Artificial Mains	SCHWARZBECK	NNLK 8121	573	2018/10/27	2019/10/26
●	Pulse Limiter	R&S	ESH3-Z2	100499	2018/10/27	2019/10/26
●	RF Connection Cable	HUBER+SUHNER	EF400	N/A	2018/11/15	2019/11/14
●	Test Software	R&S	ES-K1	N/A	N/A	N/A
○	Single Balanced Telecom Pair ISN	FCC	FCC-TLISN-T2-02	20371	2018/10/28	2019/10/27
○	Two Balanced Telecom Pairs ISN	FCC	FCC-TLISN-T4-02	20373	2018/10/28	2019/10/27
○	Four Balanced Telecom Pairs ISN	FCC	FCC-TLISN-T8-02	20375	2018/10/28	2019/10/27
○	V-Network	R&S	ESH3-Z6	100211	2018/10/27	2019/10/26
○	V-Network	R&S	ESH3-Z6	100210	2018/10/27	2019/10/26
○	2-Line V-Network	R&S	ESH3-Z5	100049	2018/10/27	2019/10/26

● Radiated Emission-6th test site						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	SAC-3m-02	N/A	2018/09/30	2021/09/29
●	EMI Test Receiver	R&S	ESCI	100900	2018/10/28	2019/10/27
●	Loop Antenna	R&S	HFH2-Z2	100020	2017/11/20	2020/11/19
●	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	546	2017/04/05	2020/04/04
●	Pre-Amplifier	SCHWARZBECK	BBV 9742	N/A	2018/11/15	2019/11/14
●	RF Connection Cable	HUBER+SUHNER	N/A	N/A	2018/09/28	2019/09/27
●	RF Connection Cable	HUBER+SUHNER	SUCOFLEX104	501184/4	2018/09/28	2019/09/27
●	Test Software	R&S	ES-K1	N/A	N/A	N/A
●	Turntable	Maturo Germany	TT2.0-1T	N/A	N/A	N/A
●	Antenna Mast	Maturo Germany	CAM-4.0-P-12	N/A	N/A	N/A

● Radiated emission-7th test site						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	SAC-3m-01	N/A	2018/09/30	2021/09/29
●	Spectrum Analyzer	R&S	FSP40	100597	2018/10/27	2019/10/26
●	Horn Antenna	SCHWARZBECK	9120D	1011	2017/03/27	2020/03/26
●	Pre-amplifier	BONN	BLWA0160-2M	1811887	2018/11/14	2019/11/13
●	Pre-amplifier	CD	PAP-0102	12004	2018/11/14	2019/11/13
●	Broadband Pre-amplifier	SCHWARZBECK	BBV 9718	9718-248	2019/04/26	2020/04/25
●	RF Connection Cable	HUBER+SUHNER	RE-7-FH	N/A	2018/11/15	2019/11/14
●	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	2018/11/15	2019/11/14
●	Test Software	Audix	E3	N/A	N/A	N/A
●	Turntable	Maturo Germany	TT2.0-1T	N/A	N/A	N/A
●	Antenna Mast	Maturo Germany	CAM-4.0-P-12	N/A	N/A	N/A

● RF Conducted Method						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Signal and spectrum Analyzer	R&S	FSV40	100048	2018/10/28	2019/10/27
●	Spectrum Analyzer	Agilent	N9020A	MY50510187	2018/09/29	2019/09/28
○	OSP	R&S	OSP120	101317	N/A	N/A
○	Radio communication tester	R&S	CMW500	137688-Lv	2018/09/29	2019/09/28
○	Test software	Tonscend	JS1120-1(LTE)	N/A	N/A	N/A
○	Test software	Tonscend	JS1120-2(WIFI)	N/A	N/A	N/A
○	Test software	Tonscend	JS1120-3(WCDMA)	N/A	N/A	N/A
○	Test software	Tonscend	JS1120-4(GSM)	N/A	N/A	N/A

5. TEST CONDITIONS AND RESULTS

5.1. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.

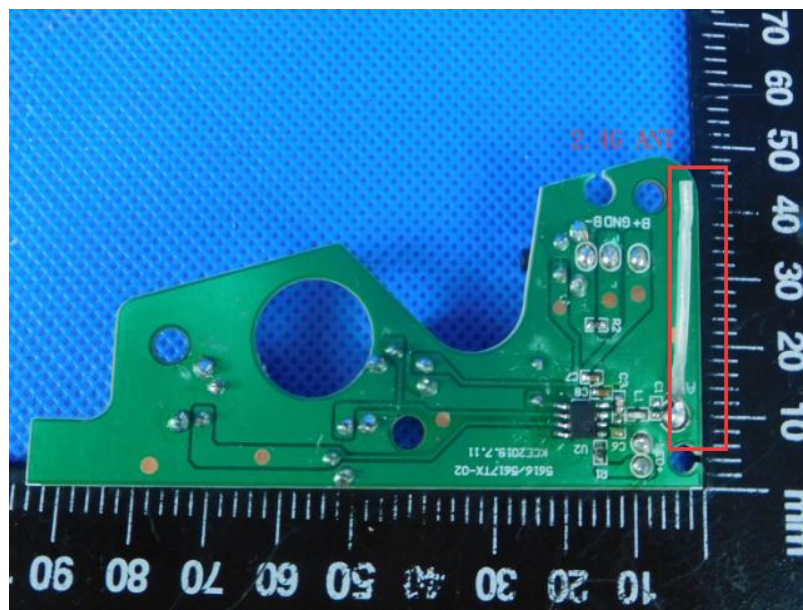
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. AC Power Conducted Emissions

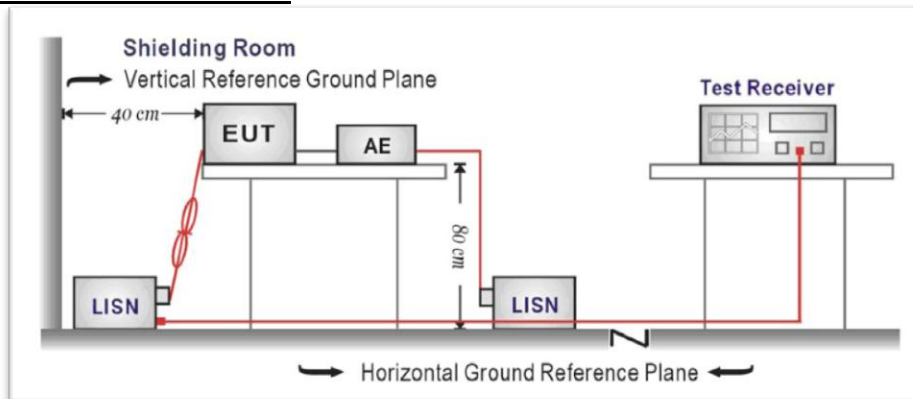
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.10:2013
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 10 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 10 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50ohm / 50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

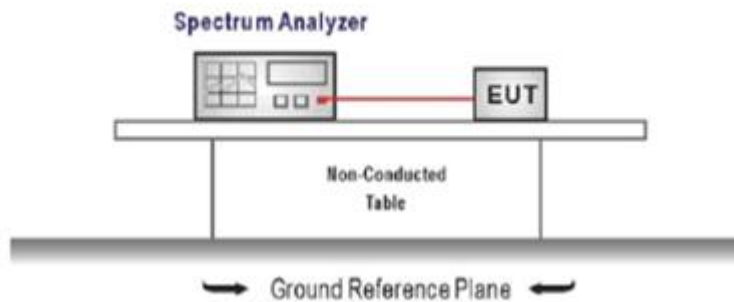
☐ Passed ☒ Not Applicable

5.3. 20 dB Occupied Bandwidth

Limit

Operation frequency range 2400MHz~2483.5MHz.

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
 Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
 RBW $\geq$ 1% of the 20 dB bandwidth, VBW $\geq$ RBW
 Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

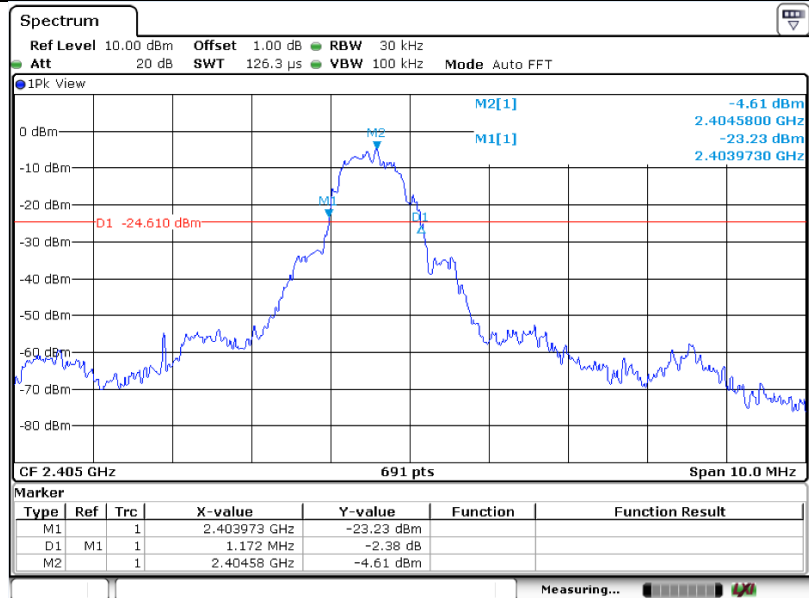
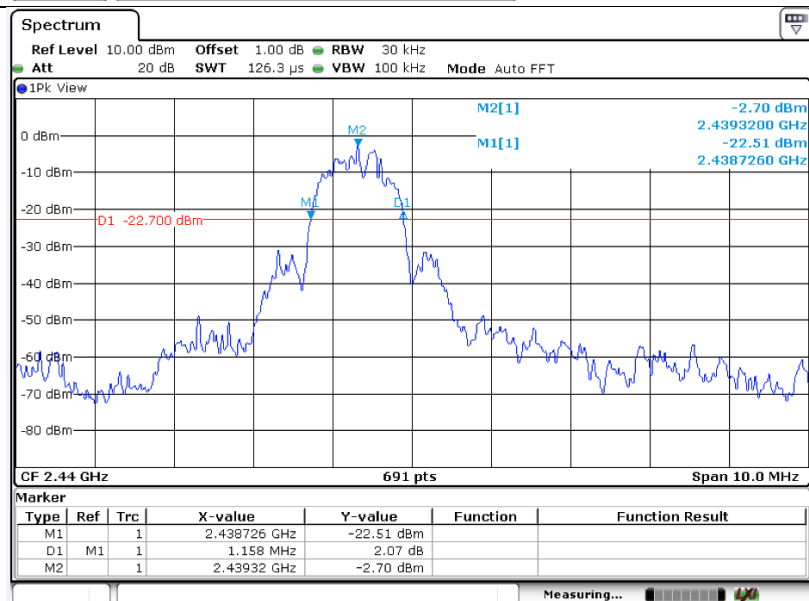
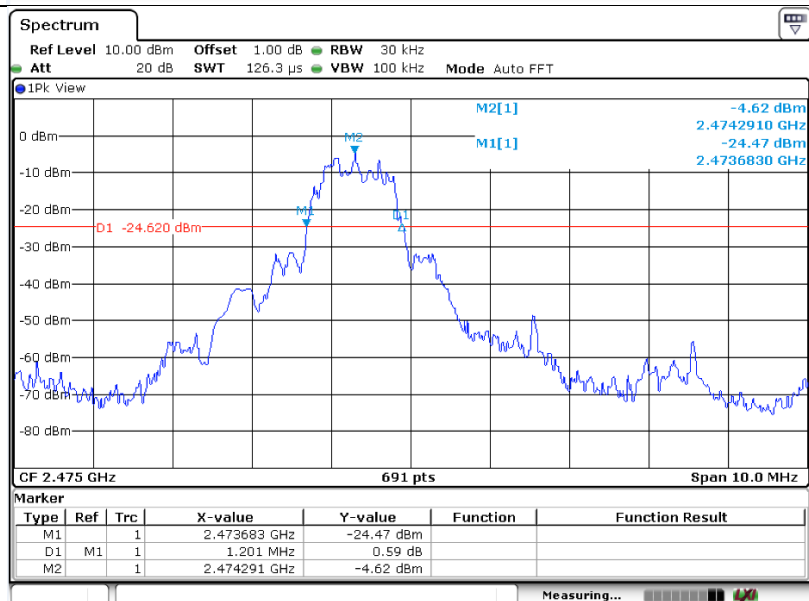
TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ Passed ☐ Not Applicable

Test Channel	20dB Bandwidth (MHz)	Limit (MHz)	Result
CH _L	1.172	-	Pass
CH _M	1.158	-	Pass
CH _H	1.201	-	Pass

CH_LCH_MCH_H

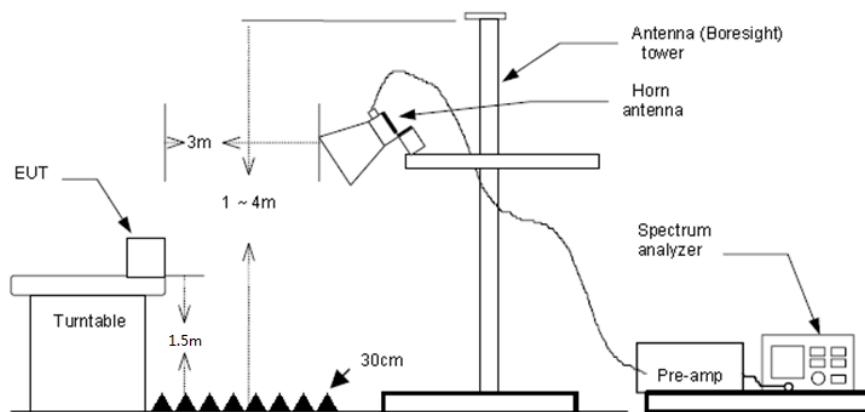
5.4. Radiated field strength of the fundamental signal

LIMIT

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
2400-2483.5 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
5725-5875 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
24.0-24.25 GHz	250 (108dBuV/m @3m)	2500 (68dBuV/m @3m)

Frequencies above 1000 MHz, the field strength limits are based on average limits

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:
 RBW=3MHz, VBW=3MHz Peak detector for Peak value.
 RBW=3MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ Passed ☐ Not Applicable

CH _L							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
2405	93.90	-2.41	91.49	114.00	22.51	Vertical	Peak
2405	93.53	-2.41	91.12	94.00	2.88	Vertical	Average
2405	96.22	-2.40	93.82	114.00	20.18	Horizontal	Peak
2405	92.97	-2.40	90.57	94.00	3.43	Horizontal	Average

CH _M							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
2440	94.18	-2.29	91.89	114.00	22.11	Vertical	Peak
2440	93.99	-2.29	91.70	94.00	2.30	Vertical	Average
2440	91.64	-2.29	89.35	94.00	4.65	Horizontal	Average
2440	99.28	-2.29	96.99	114.00	17.01	Horizontal	Peak

CH _H							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
2475	90.95	-2.81	88.14	94.00	5.86	Vertical	Average
2475	97.04	-2.81	94.23	114.00	19.77	Vertical	Peak
2475	95.44	-2.81	92.63	114.00	21.37	Horizontal	Peak
2475	93.41	-2.81	90.60	94.00	3.40	Horizontal	Average

Remark:

1. Final Level = Receiver Read level + factor
2. Factor = Antenna Factor + Cable Loss – Preamplifier Factor

5.5. Radiated Spurious Emissions and Bandedge Emission

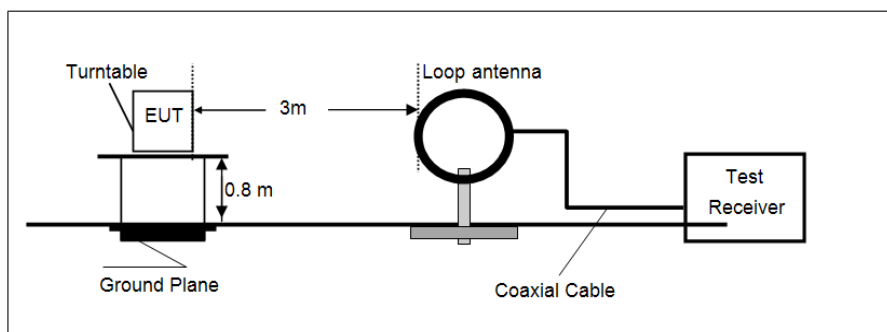
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

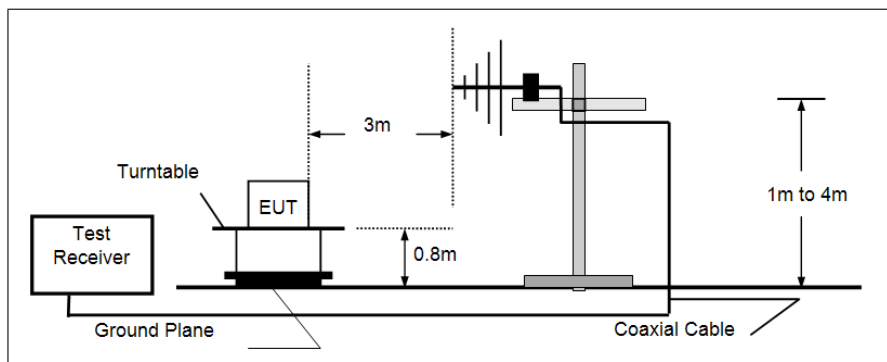
Frequency	Limit (dBuV/m @3m)	Value
30MHz~88MHz	40.00	Quasi-peak
88MHz~216MHz	43.50	Quasi-peak
216MHz~960MHz	46.00	Quasi-peak
960MHz~1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

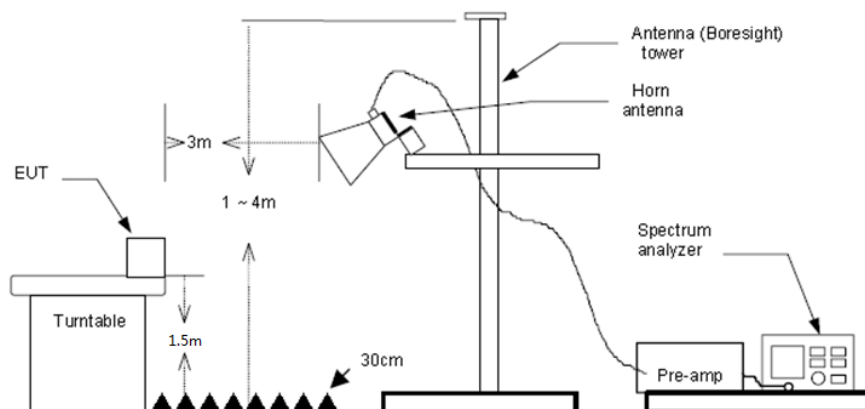
- 9 kHz ~ 30 MHz



- 30 MHz ~ 1 GHz



- Above 1 GHz



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - (3) From 1 GHz to 10th harmonic:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Note:

- 1) Above 1GHz Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.

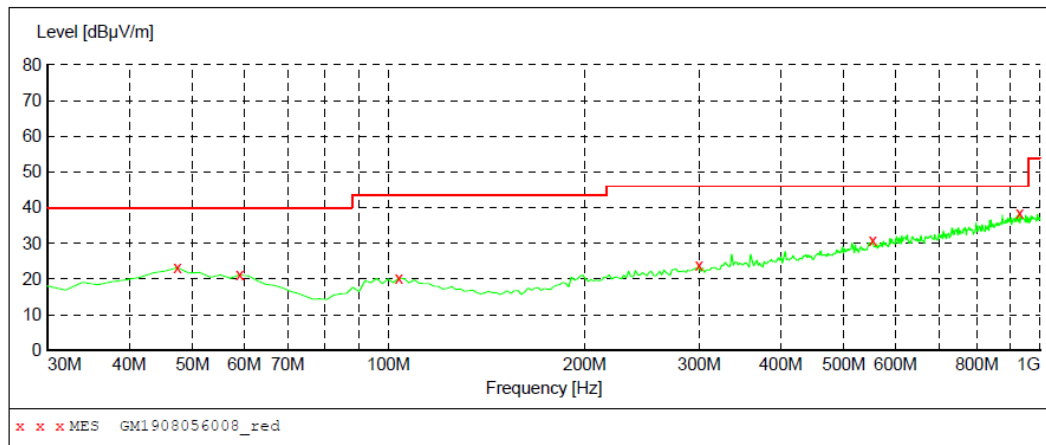
Radiated Spurious Emissions**■ 9 kHz ~ 30 MHz**

The EUT was pre-scanned the frequency band (9 kHz ~ 30 MHz), found the radiated level lower than the limit, so don't show on the report.

■ 30 MHz ~ 1 GHz

Polarization:

Vertical



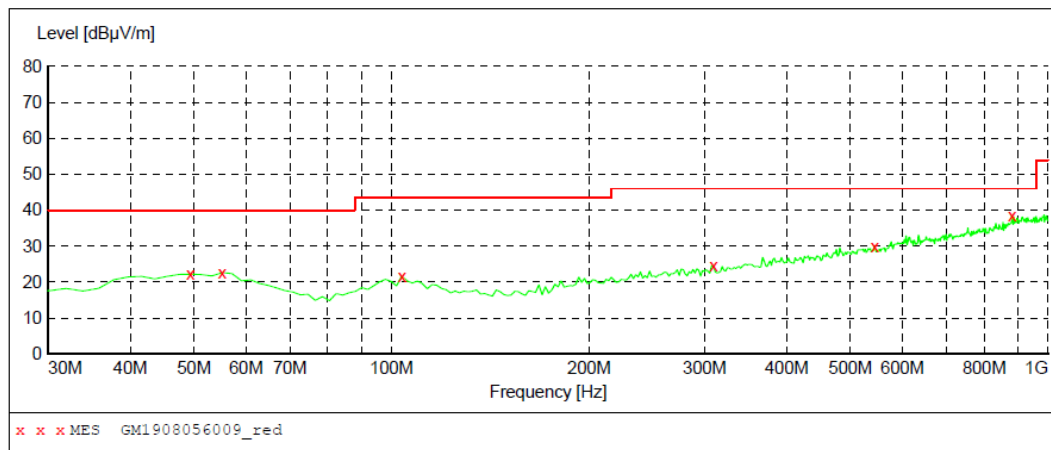
MEASUREMENT RESULT: "GM1908056008_red"

8/5/2019 9:34AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	23.20	-4.9	40.0	16.8	QP	100.0	242.00	VERTICAL
59.100000	21.20	-5.9	40.0	18.8	QP	100.0	294.00	VERTICAL
103.720000	20.20	-6.6	43.5	23.3	QP	100.0	229.00	VERTICAL
299.660000	23.90	-3.5	46.0	22.1	QP	100.0	269.00	VERTICAL
553.800000	30.80	3.0	46.0	15.2	QP	100.0	310.00	VERTICAL
930.160000	38.50	10.7	46.0	7.5	QP	100.0	173.00	VERTICAL

Polarization:

Horizontal



MEASUREMENT RESULT: "GM1908056009_red"

8/5/2019 9:39AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
49.400000	22.20	-4.8	40.0	17.8	QP	100.0	78.00	HORIZONTAL
55.220000	22.60	-5.3	40.0	17.4	QP	100.0	216.00	HORIZONTAL
103.720000	21.60	-6.6	43.5	21.9	QP	300.0	198.00	HORIZONTAL
309.360000	24.60	-3.3	46.0	21.4	QP	100.0	132.00	HORIZONTAL
544.100000	29.80	2.8	46.0	16.2	QP	300.0	267.00	HORIZONTAL
881.660000	38.50	10.0	46.0	7.5	QP	100.0	149.00	HORIZONTAL

■ Above 1 GHz

CH _L							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
1190.937	37.18	-5.93	31.25	74.00	42.75	Vertical	Peak
3182.562	36.29	0.75	37.04	74.00	36.96	Vertical	Peak
4808.468	54.08	7.06	61.14	74.00	12.86	Vertical	Peak
4808.468	44.31	7.06	51.37	54.00	2.63	Vertical	Average
7214.281	28.69	16.00	44.69	74.00	29.31	Vertical	Peak
1227.656	36.63	-5.76	30.87	74.00	43.13	Horizontal	Peak
3176.687	37.66	0.72	38.38	74.00	35.62	Horizontal	Peak
4809.937	52.63	7.06	59.69	74.00	14.31	Horizontal	Peak
4808.468	42.72	7.06	49.78	54.00	4.22	Horizontal	Average
7214.281	28.73	16.00	44.73	74.00	29.27	Horizontal	Peak

CH _M							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
1270.250	35.99	-5.65	30.34	74.00	43.66	Vertical	Peak
3119.406	36.87	0.42	37.29	74.00	36.71	Vertical	Peak
4878.968	51.50	7.15	58.65	74.00	15.35	Vertical	Peak
4877.500	43.83	7.15	50.98	54.00	3.02	Vertical	Average
6744.281	31.56	13.35	44.91	74.00	29.09	Vertical	Peak
1199.750	36.59	-5.83	30.76	74.00	43.24	Horizontal	Peak
3051.843	36.97	0.11	37.08	74.00	36.92	Horizontal	Peak
4877.500	53.59	7.15	60.74	74.00	13.26	Horizontal	Peak
4877.500	43.55	7.15	50.70	54.00	3.30	Horizontal	Average
6666.437	31.73	13.36	45.09	74.00	28.91	Horizontal	Peak

CH _H							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
1148.343	37.59	-6.38	31.21	74.00	42.79	Vertical	Peak
3213.406	36.45	0.68	37.13	74.00	36.87	Vertical	Peak
4949.468	52.82	7.51	60.33	74.00	13.67	Vertical	Peak
4949.468	44.14	7.51	51.65	54.00	2.35	Vertical	Average
7424.312	38.97	16.38	55.35	74.00	18.65	Vertical	Peak
7422.843	32.50	16.38	48.88	54.00	5.12	Vertical	Average
1160.093	38.04	-6.25	31.79	74.00	42.21	Horizontal	Peak
3198.718	36.46	0.83	37.29	74.00	36.71	Horizontal	Peak
4949.468	52.56	7.51	60.07	74.00	13.93	Horizontal	Peak
4949.468	41.89	7.51	49.40	54.00	4.60	Horizontal	Average
7422.843	27.72	16.38	44.10	74.00	29.90	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + factor
2. Factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The peak level is lower than average limit(54dBuV/m), this data is the too weak instrument of signal is unable to test.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

Bandedge Emission

CH _L							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
2310.000	52.54	-2.34	50.20	74.00	23.80	Vertical	Peak
2310.000	45.47	-2.34	43.13	54.00	10.87	Vertical	Average
2390.000	51.98	-2.41	49.57	74.00	24.43	Vertical	Peak
2390.000	45.79	-2.41	43.38	54.00	10.62	Vertical	Average
2400.000	54.38	-2.53	51.85	74.00	22.15	Vertical	Peak
2400.000	46.81	-2.53	44.28	54.00	9.72	Vertical	Average
2310.000	52.70	-2.34	50.36	74.00	23.64	Horizontal	Peak
2310.000	45.66	-2.34	43.32	54.00	10.68	Horizontal	Average
2390.000	44.73	-2.41	42.32	54.00	11.68	Horizontal	Average
2390.000	51.49	-2.41	49.08	74.00	24.92	Horizontal	Peak
2400.000	52.19	-2.53	49.66	74.00	24.34	Horizontal	Peak
2400.000	45.86	-2.53	43.33	54.00	10.67	Horizontal	Average

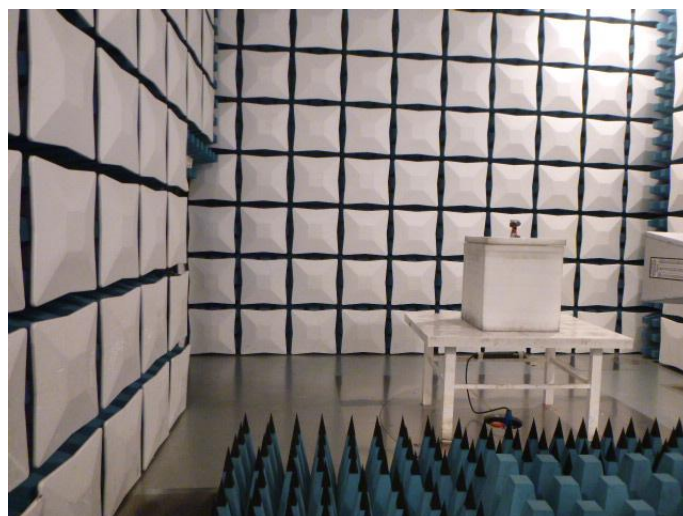
CH _H							
Frequency (MHz)	Reading (dBuV/m)	Factor[dB]	Level (dBuV/m)	Limit Line (dBuV/m)	Margin(dB)	Polarization	Test value
2483.500	52.89	-2.15	50.74	74.00	23.26	Vertical	Peak
2483.500	44.42	-2.15	42.27	54.00	11.73	Vertical	Average
2500.000	44.94	-2.10	42.84	54.00	11.16	Vertical	Average
2500.000	52.46	-2.10	50.36	74.00	23.64	Vertical	Peak
2483.518	62.65	-2.15	60.50	74.00	13.50	Horizontal	Peak
2483.518	47.18	-2.15	45.03	54.00	8.97	Horizontal	Average
2500.000	52.64	-2.10	50.54	74.00	23.46	Horizontal	Peak
2500.000	44.58	-2.10	42.48	54.00	11.52	Horizontal	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

6. TEST SETUP PHOTOS OF THE EUT

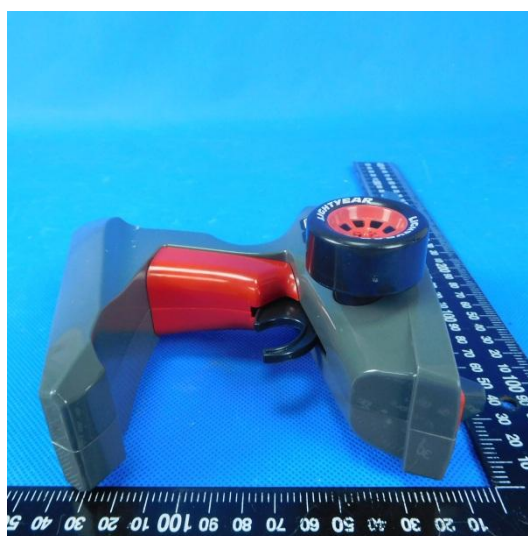
Radiated Emissions



7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

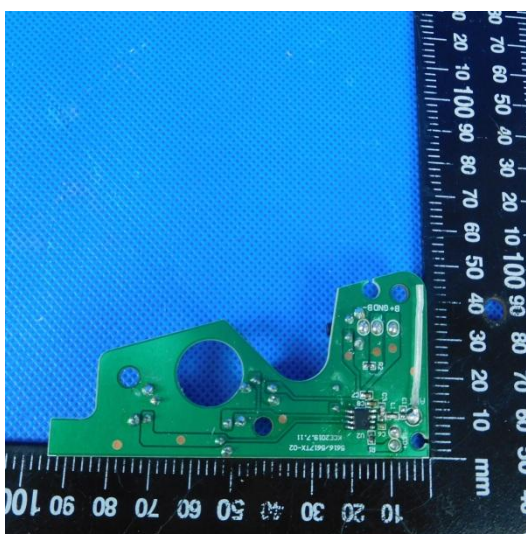
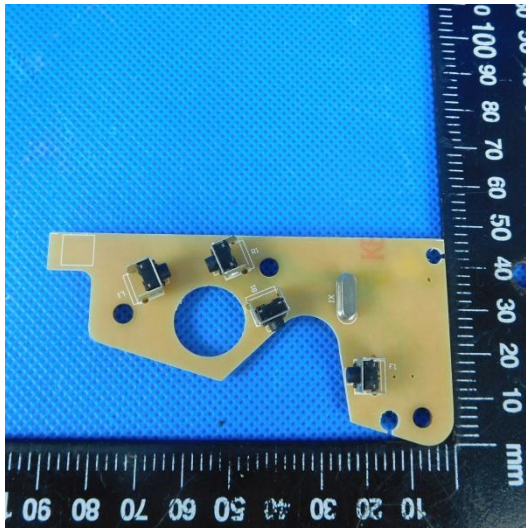
External Photos







Internal Photos





-----End of Report-----