FCC Test Report

Part 15 subpart C

Client Information:

Applicant:	SHANTOU CHENGHAI FEILITE MODEL FACTORY
Applicant add.:	CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA

Product Information:

Product Name:	flying saucer series
Model No.:	H805W
Derivative model No.:	Refer to page 6.
Brand Name:	N/A
FCC ID:	2AFICH805W

Standards: CFR 47 FCC PART 15 SUBPART C:2013 section 15.249

Prepared By:

UL-CCIC Company Limited

Add. : Electronic Building, Parage Electronic Industrial Park, No. 8 Nanyun Er Road, Guangzhou Science Park, Guangzhou, 510663 China

Date of Receipt:	July 02, 2015	Date of Test:	July 02~ July 10, 2015
Date of Issue:	July 10, 2015	Test Result:	Pass

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

*This test report must not be used by the client to claim product endorsement by any agency of the U.S. government.

Reviewed by: Lambert Tang **Approved by:** Richard Li

1 Contents

Page

COVER PAGE

1 CONTENTS 2

2 TEST SUMMARY 3

2.1 TESTING LABORATORY 3
COMPLIANCE WITH FCC PART 15 SUBPART C 3
2.2 MEASUREMENT UNCERTAINTY 4

3 TEST FACILITY 5

3.1 DEVIATION FROM STANDARD 5
3.2 ABNORMALITIES FROM STANDARD CONDITIONS 5

4 GENERAL INFORMATION 6

4.1 GENERAL DESCRIPTION OF EUT 6
4.2 TEST LOCATION 6

5 DESCRIPTION OF TEST CONDITIONS 8

5.1 E.U.T. OPERATION 8
5.2 EUT PERIPHERAL LIST 9
5.3 TEST PERIPHERAL LIST 9

6 EQUIPMENTS LIST FOR ALL TEST ITEMS 10

7 TEST RESULT 11

7.1 ANTENNA REQUIREMENT 11
7.2 FIELD STRENGTH OF FUNDAMENTAL& FIELD STRENGTH OF UNWANTED EMISSIONS& BAND EDGE 12
7.2.1 Duty cycle measurement: 16
7.2.2 Fundamental field strength measurement: 17
7.2.3 Radiated Emissions Test Data 18
7.2.4 Band Edge Measurement: 22
7.2.5 Restricted Bands Measurement: 23
7.3 OCCUPIED BANDWIDTH 24
7.4 CONDUCTED EMISSIONS AT MAINS TERMINALS 150 KHZ TO 30 MHZ 26

8 PHOTOGRAPHS 28

8.1 RADIATED EMISSION TEST SETUP 28

9 EUT CONSTRUCTIONAL DETAILS 29

2 Test Summary

2.1 Testing Laboratory

Dongguan Yaxu (AiT) Technology Limited

Address: No. 22, JinQianLing Street 3, JiTiGang Village, HuangJiang Town, DongGuan, GuangDong, China.

Compliance with FCC Part 15 subpart C

Test	Test Requirement	Standard Paragraph	Result
Field Strength of Fundamental	FCC PART 15 C section 15.249 (a)	ANSI C63.10: Clause 6.6	PASS
Field Strength of Unwanted Emissions	FCC PART 15 C section 15.249 (a) section 15.249 (d)	ANSI C63.10: Clause 6.4, 6.6 and 6.7	PASS
Band Edges	FCC PART 15 C section 15.249 (d)	ANSI C63.10: Clause 6.9.2	PASS
Occupied Bandwidth	FCC PART 15 C section 15.215(c)	ANSI C63.10: Clause 6.9.1	PASS
Conducted Emissions at Mains Terminals	FCC PART 15 C section 15.207	ANSI C63.10: Clause 6.2	N/A

Remark:

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radio Frequency.

ANSI C63.10: the detail version is ANSI C63.10:2009 in the whole report.

2.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, the maximum value of the uncertainty as below:

No.	Item	Uncertainty
1	Conducted Emission Test	1.20dB
2	Radiated Emission Test	3.30dB
3	RF power,conducted	0.16dB
4	RF power density,conducted	0.24dB
5	Spurious emissions,conducted	0.21dB
6	All emissions,radiated(<1G)	4.68dB
7	All emissions,radiated(>1G)	4.89dB

3 Test Facility

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

.CNAS- Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2005 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on Apr. 18, 2013

.FCC- Registration No: 248337

The 3m Semi-Anechoic Chamber, 3m/10m Open Area Test Site and Shielding Room of Dongguan Yaxu (AiT) Technology Limited have been registered by Federal Communications Commission (FCC) on Aug.29, 2014.

.Industry Canada(IC)-Registration No: IC6819A-1

The 3m Semi-Anechoic Chamber and 3m of Dongguan Yaxu (AiT) Technology Limited have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing on Oct. 01, 2014.

.VCCI- Registration No: 2705

The 3m/10m Open Area Test Site, Shielding Room and 3m Chamber of Dongguan Yaxu (AiT) Technology Limited have been registered by Voluntary Control Council for Interference on Nov. 21, 2012. The Telecommunication Ports Conducted Disturbance Measurement of Dongguan Yaxu (AiT) Technology Limited have been registered by Voluntary Control Council for Interference on May. 13, 2013.

3.1 Deviation from standard

None

3.2 Abnormalities from standard conditions

None

4 General Information

4.1 General Description of EUT

Manufacturer:	SHANTOU CHENGHAI FEILITE MODEL FACTORY
Manufacturer Address:	CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA
EUT Name:	flying saucer series
Model No.:	H805W
Operation frequency:	2405 MHz to 2475 MHz
Number of channel:	71 channels
Modulation Type and Antenna Type:	GFSK, Integrate Antenna
Data rate:	Only 2Mbps
H/W No.:	05
S/W No.:	00
Antenna Gain:	3 dBi
Brand Name:	N/A
Derivative model No.:	H809S、H805W、H107R、H07N、H07NL、H07NC、H09N、H09NL、H09NC、H05N、H05NL、H05NC、H07L、H07C、M801R、M803R、H805、H805C、H805S、H806、H806C、H806W、H806S、H807、H807C、H808、H808C、H809、H809C、H809W
Model description:	According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference being the model name. Therefore only one model H805W was tested in this report.
Power Supply Range:	DC 6.0V(4*1.5V AA battery)
Power Supply:	DC 6.0V from battery
Power Cord:	N/A
Signal Cable:	N/A

4.2 Test Location

All tests were performed at:

Dongguan Yaxu (AiT) Technology Limited
No. 22, JinQianLing Street 3, JiTiGang Village, HuangJiang Town,DongGuan, GuangDong, China.

Tel.: +86.769.82020499 Fax.: +86.769.82020495

Description of Channel:					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2405	25	2429	49	2453
02	2406	26	2430	50	2454
03	2407	27	2431	51	2455
04	2408	28	2432	52	2456
05	2409	29	2433	53	2457
06	2410	30	2434	54	2458
07	2411	31	2435	55	2459
08	2412	32	2436	56	2460
09	2413	33	2437	57	2461
10	2414	34	2438	58	2462
11	2415	35	2439	59	2463
12	2416	36	2440	60	2464
13	2417	37	2441	61	2465
14	2418	38	2442	62	2466
15	2419	39	2443	63	2467
16	2420	40	2444	64	2468
17	2421	41	2445	65	2469
18	2422	42	2446	66	2470
19	2423	43	2447	67	2471
20	2424	44	2448	68	2472
21	2425	45	2449	69	2473
22	2426	46	2450	70	2474
23	2427	47	2451	71	2475
24	2428	48	2452		

5 Description of Test conditions

5.1 E.U.T. Operation

Test Voltage: DC 6.0V from battery

Temperature: 20.0 -25.0 °C

Humidity: 38-50 % RH

Atmospheric Pressure: 1000 -1010 mbar

Test frequencies and frequency range: According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

According to the 15.33 (a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:

Number of fundamental frequencies to be tested in EUT transmit band

Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

Frequency range of radiated emission measurements

Lowest frequency generated in the device	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz, whichever is lower
At or above 10 GHz to below 30 GHz	5th harmonic of highest fundamental frequency or to 100 GHz, whichever is lower
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz, whichever is lower, unless otherwise specified

5.2 EUT Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	signal cable
1	N/A	N/A	N/A	N/A	N/A	N/A

5.3 Test Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

6 Equipments List for All Test Items

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	ADVANTEST	R3182	150900201	2015.06.20	2016.06.19
2	EMI Measuring Receiver	R&S	ESR	101660	2014.12.12	2015.12.11
3	Low Noise Pre Amplifier	Tsj	MLA-10K01-B01-27	1205323	2015.06.20	2016.06.19
4	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2014.12.02	2015.12.01
5	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9160	9160-3206	2014.12.03	2015.12.02
6	Broadband Horn Antenna	SCHWARZBECK	BBHA9120D	452	2014.12.03	2015.12.02
7	SHF-EHF Horn	SCHWARZBECK	BBHA9170	BBHA9170367	2014.12.03	2015.12.02
8	Loop Antenna	ARA	PLA-1030/B	1029	2015.03.20	2016.03.19
9	Radiated Cable 1#（30MHz-1GHz）	FUJIKURA	5D-2W	01	2015.01.04	2016.01.03
10	Radiated Cable 2#（1GHz -25GHz）	FUJIKURA	10D2W	02	2014.12.25	2015.12.24
11	Conducted Cable 1#(9KHz-30MHz)	FUJIKURA	1D-2W	01	2015.01.04	2016.01.03
12	SMA Antenna connector	Dosin	Dosin-SMA	N/A	N/A	N/A
Note: The SMA antenna connector is soldered on the PCB board in order to perform conducted tests and this SMA antenna connector is listed in the equipment list.						

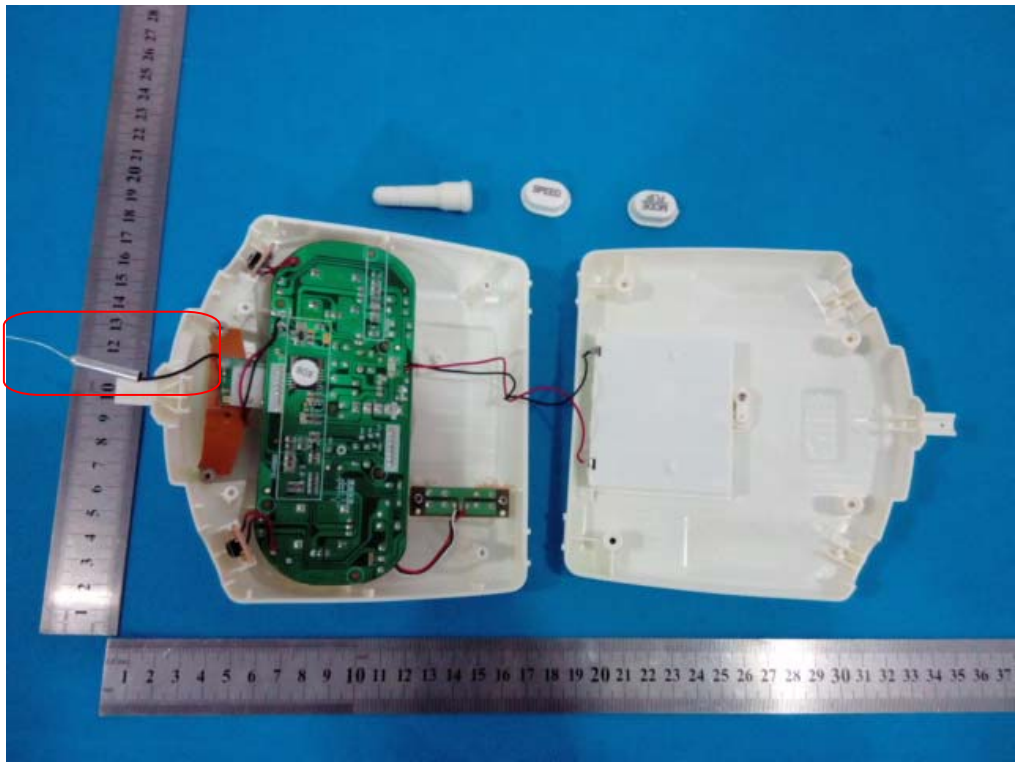
7 Test Result

7.1 Antenna Requirement

Standard requirement

EUT Antenna

The antenna is non-removable antenna and no consideration of replacement. The maximum gain of the antenna is 3 dBi.



Test result: The unit does meet the FCC requirements.

7.2 Field Strength of Fundamental& Field Strength of Unwanted Emissions& Band Edge

Test Requirement: FCC Part15 C section 15.249

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBμV/m @ 3m)	Field Strength of Harmonics (dBμV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

(d) 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 Section 15.209, whichever is the lesser attenuation.

Limits: The fundamental frequency rang is in the frequency band of the EUT is 2405 MHz ~ 2475 MHz.

The limit for AVG field strength dBμV/m for the fundamental frequency = 94.0 dBμV/m.

The limit for Peak field strength dBμV/m for the fundamental frequency = 114.0 dBμV/m.

No fundamental is allowed in the restricted bands.

The limit for AVG field strength dBμV/m for the harmonics and other above 1G frequencies = 54.0 dBμV/m.

The limit for Peak field strength dBμV/m for the harmonics and other above 1G frequencies = 74.0 dBμV/m.

Test Method: ANSI C63.10: Clause 6.4, 6.6 and 6.7 for Field Strength of Fundamental& Field Strength of Unwanted Emissions

ANSI C63.10: Clause 6.9.2 for Band Edge

Status: Pre-test the EUT in continuous transmitting mode with setup as stand-alone in X, Y, Z threes axes, found the worst case is X axes and report the data.

Measurement Distance: 3m (Semi-Anechoic Chamber)

Frequency range: 9 kHz – 25 GHz for transmitting mode.

Test instrumentation resolution bandwidth
9 kHz (9 kHz - 30 MHz), 120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 MHz – 25 GHz)

Detector: For PK and QP value:

RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For AV value:

RBW = 1 MHz for f ≥ 1 GHz,

VBW =10 Hz

Sweep = auto

Detector function = peak

Trace = max hold

Test Procedure:

1)9 kHz to 30 MHz emissions:

For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.10. The centre of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT, During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

2)30 MHz to 1 GHz emissions:

For testing performed with the bi-log type antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360º, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

3)1 GHz to 25 GHz emissions:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2007 was used to perform radiated emission test above 1 GHz.

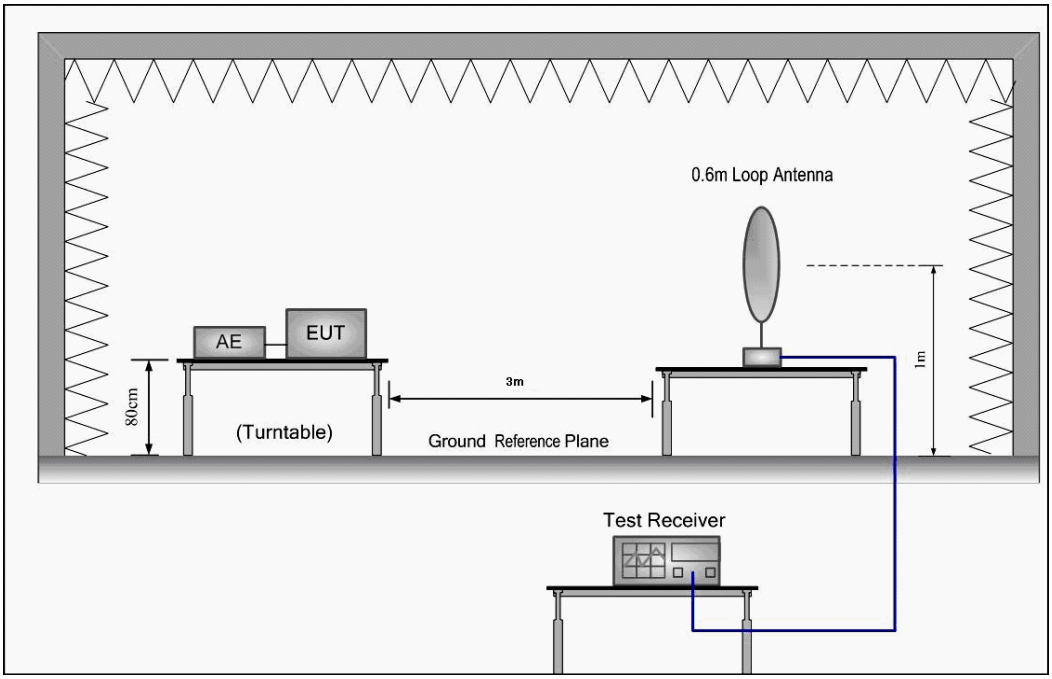
For testing performed with the horn antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360º, the antenna height scan between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

For the radiated emission test above 1GHz:

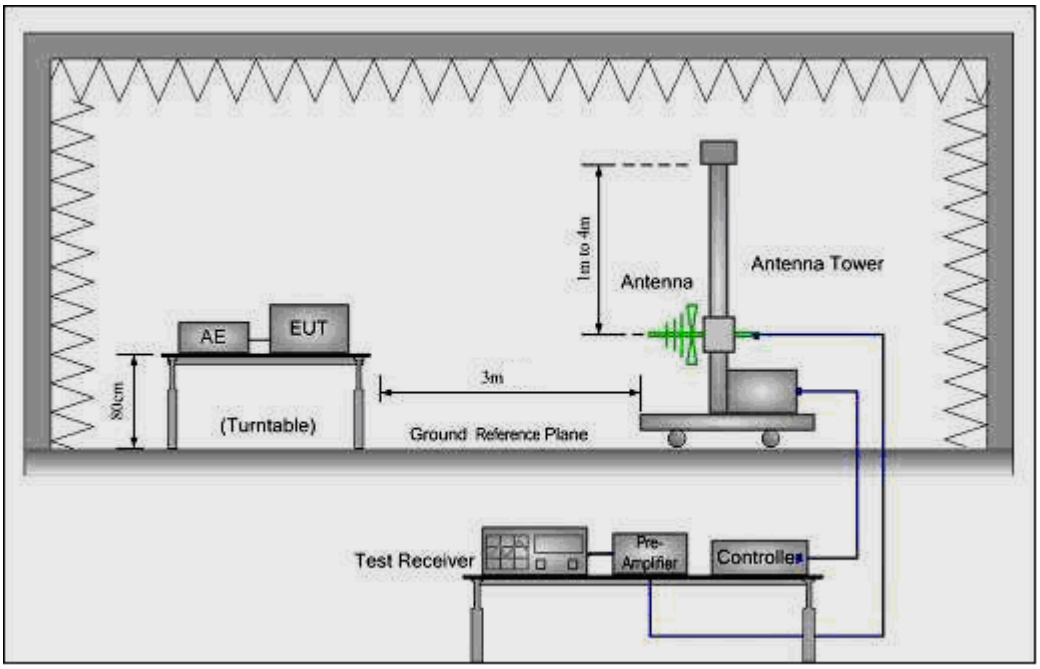
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

Test Configuration:

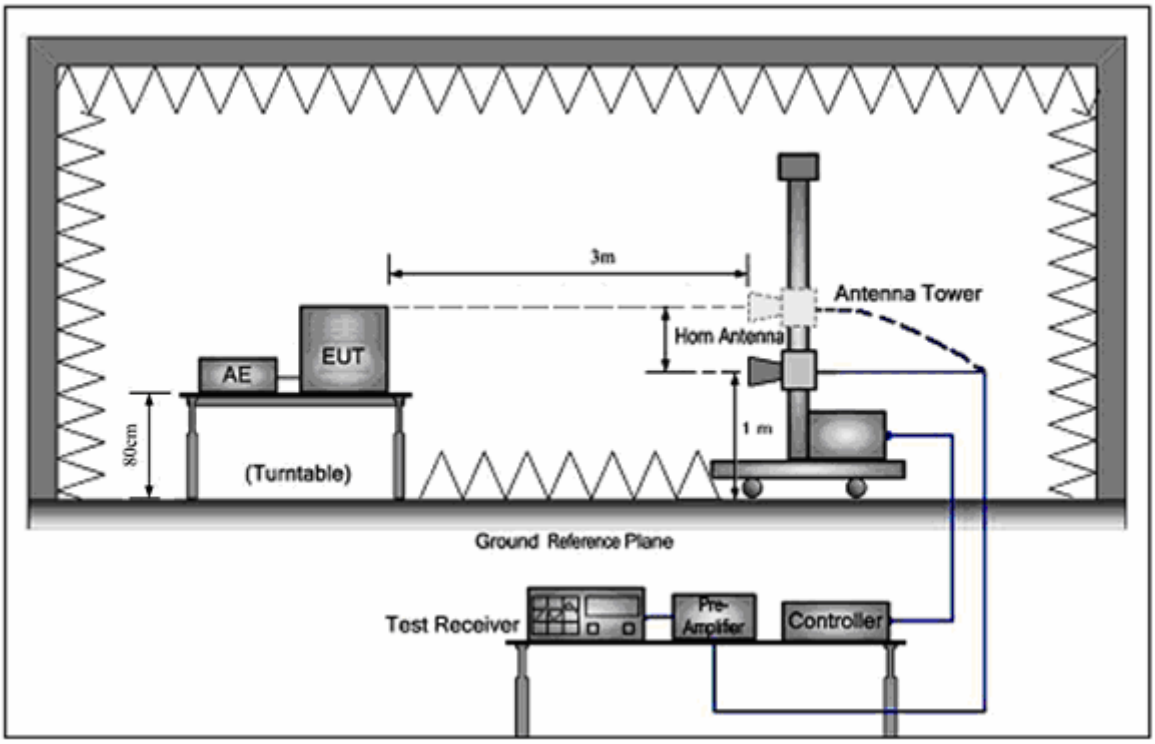
1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:



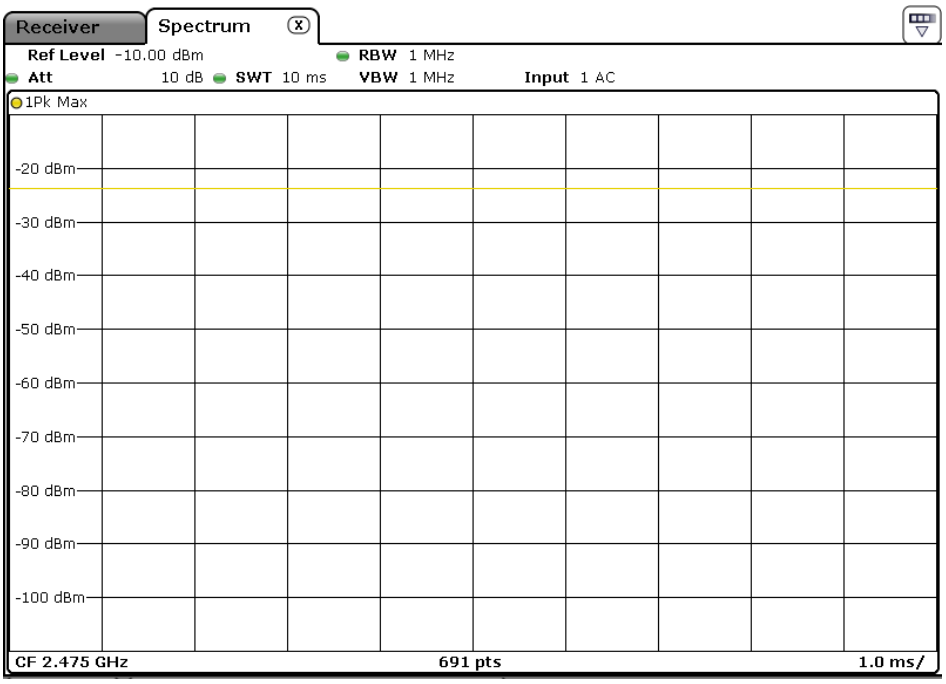
3) 1 GHz to 25 GHz emissions:



The field strength is calculated by adding the Antenna Factor, Cable Loss & Per-amplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss – Preamplifier Factor

7.2.1 Duty cycle measurement:



7.2.2 Fundamental field strength measurement:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	Antenna polarization
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		
2405	92.80	-5.64	87.16	114.00	-26.84	Peak	V
2405	80.12	-5.64	74.48	94.00	-19.52	AVG	V
2405	91.33	-5.64	85.69	114.00	-28.31	Peak	H
2405	79.41	-5.64	73.77	94.00	-20.23	AVG	H
2445	89.75	-5.32	84.43	114.00	-29.57	Peak	V
2445	78.53	-5.32	73.21	94.00	-20.79	AVG	V
2445	90.57	-5.32	85.25	114.0	-28.75	Peak	H
2445	78.27	-5.32	72.95	94.00	-21.05	AVG	H
2475	86.35	-5.05	81.30	114.00	-32.7	Peak	V
2475	75.33	-5.05	70.28	94.00	-23.72	AVG	V
2475	89.88	-5.05	84.83	11400	-29.17	Peak	H
2475	78.24	-5.05	73.19	94.00	-20.81	AVG	H

Note: Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss– Pre-amplifier.

7.2.3 Radiated Emissions Test Data

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

30 MHz~1 GHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

EUT：	Flying saucer series	Model Name ：	H805
Temperature：	25 ℃	Test Data	2015-07-04
Pressure：	1010 hPa	Relative Humidity：	50%
Test Mode ：	TX mode(worse-case: 2405 MHz)	Test Voltage ：	DC 6.0V from battery
Measurement Distance	3 m	Frenqucy Range	30MHz to 1GHz
RBW/VBW	100KHz / 300KHz for spectrum, RBW=120KHz for receiver.		

(a) Antenna polarization: Horizontal

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
34.5172	31.03	-16.87	14.16	40.00	-25.84	QUASIPEAK
103.4419	31.49	-13.69	17.80	43.50	-25.70	QUASIPEAK
162.6106	30.96	-14.78	16.18	43.50	-27.32	QUASIPEAK
251.1803	30.70	-11.07	19.63	46.00	-26.37	QUASIPEAK
400.4318	30.05	-5.93	24.12	46.00	-21.88	QUASIPEAK
***801.7862**	**29.68**	**3.30**	**32.98**	**46.00**	**-13.02**	**QUASIPEAK**

(b) Antenna polarization: vertical

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
38.4808	29.39	-14.48	14.91	40.00	-25.09	QUASIPEAK
49.8813	29.61	-14.19	15.42	40.00	-24.58	QUASIPEAK
183.2005	30.97	-10.48	20.49	43.50	-23.01	QUASIPEAK
280.0237	30.99	-10.26	20.73	46.00	-25.27	QUASIPEAK
510.0436	28.95	-4.96	23.99	46.00	-22.01	QUASIPEAK
***821.7103**	**30.39**	**0.68**	**31.07**	**46.00**	**-14.93**	**QUASIPEAK**

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss– Pre-amplifier.

Above 1GHz Field Strength of Unwanted Emissions Measurement

EUT：	Flying saucer series	Model Name ：	H805
Temperature：	25 ℃	Test Data	2015-07-04
Pressure：	1010 hPa	Relative Humidity：	50%
Test Mode ：	TX mode	Test Voltage ：	DC 6.0V from battery
Measurement Distance	3 m	Frenqucy Range	1GHz to 25GHz
RBW/VBW	1MHz/1MHz for Peak, 1MHz/10Hz for Average. non-restricted band: 100KHz/300KHz for Peak.		

(a) Antenna polarization: Horizontal

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4810.000	73.65	-16.88	56.77	74.00	-17.23	PEAK
***4810.000**	**62.13**	**-16.88**	**45.25**	**54.00**	**-8.75**	**AVERAGE**
7215.000	53.10	-13.42	39.68	74.00	-34.32	PEAK
7215.000	42.58	-13.42	29.16	54.00	-24.84	AVERAGE
9620.000	50.41	-11.62	38.79	74.00	-35.21	PEAK
9620.000	36.89	-11.62	25.27	54.00	-28.73	AVERAGE

(b) Antenna polarization: Vertical

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4810.000	68.65	-16.88	51.77	74.00	-22.23	PEAK
***4810.000**	**58.17**	**-16.88**	**41.29**	**54.00**	**-12.71**	**AVERAGE**
7215.000	57.32	-13.42	43.90	74.00	-30.10	PEAK
7215.000	43.86	-13.42	30.44	54.00	-23.56	AVERAGE
9620.000	53.62	-11.62	42.00	74.00	-32.00	PEAK
9620.000	41.76	-11.62	30.14	54.00	-23.86	AVERAGE

Note: '*' means the worst case

10~25GHz at least have 20dB margin. No recording in the test report.

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss– Pre-amplifier.

Low Channel: 2405 MHz

(a) Antenna polarization: Horizontal

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4890.000	61.25	-15.23	46.02	74.00	-27.98	PEAK
***4890.000**	**48.60**	**-15.23**	**33.37**	**54.00**	**-20.63**	**AVERAGE**
7335.000	53.16	-13.28	39.88	74.00	-34.12	PEAK
7335.000	40.29	-13.28	27.01	54.00	-26.99	AVERAGE
9780.000	51.25	-11.39	39.86	74.00	-34.14	PEAK
9780.000	40.83	-11.39	29.44	54.00	-24.56	AVERAGE

(b) Antenna polarization: Vertical

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4890.000	62.87	-15.23	47.64	74.00	-26.36	PEAK
***4890.000**	**51.60**	**-15.23**	**36.37**	**54.00**	**-17.63**	**AVERAGE**
7335.000	56.34	-13.28	43.06	74.00	-30.94	PEAK
7335.000	45.26	-13.28	31.98	54.00	-22.02	AVERAGE
9780.000	52.73	-11.39	41.34	74.00	-32.66	PEAK
9780.000	41.02	-11.39	29.63	54.00	-24.37	AVERAGE

Note: '*' means the worst case

10~25GHz at least have 20dB margin. No recording in the test report.

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss –Preamplifier Factor.

Middle Channel: 2445 MHz

(a) Antenna polarization: Horizontal

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4950.000	59.00	-13.98	45.02	74.00	-28.98	PEAK
***4950.000**	**48.72**	**-13.98**	**34.74**	**54.00**	**-19.26**	**AVERAGE**
7425.000	54.55	-13.17	41.38	74.00	-32.62	PEAK
7425.000	41.38	-13.17	28.21	54.00	-25.79	AVERAGE
9960.000	53.11	-11.26	41.85	74.00	-32.15	PEAK
9960.000	40.39	-11.26	29.13	54.00	-24.87	AVERAGE

(b) Antenna polarization: Vertical

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
4950.000	59.12	-13.98	45.14	74.00	-28.86	PEAK
***4950.000**	**48.08**	**-13.98**	**34.10**	**54.00**	**-19.90**	**AVERAGE**
7425.000	50.75	-13.17	37.58	74.00	-36.42	PEAK
7425.000	39.80	-13.17	26.63	54.00	-27.37	AVERAGE
9960.000	50.24	-11.26	38.98	74.00	-35.02	PEAK
9960.000	38.21	-11.26	26.95	54.00	-27.05	AVERAGE

Note: '*' means the worst case

10~25GHz at least have 20dB margin. No recording in the test report.

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss –Preamplifier Factor.

Highest Channel : 2475 MHz

7.2.4 Band Edge Measurement:

Ant.Pol. H/V	Freq. (MHz)	Reading		Ant/CF CF(dB)	Act		Limit	
		Peak (dBuv)	AV (dBuv)		Peak (dBuv/m)	AV (dBuv/m)	Peak (dBuv/m)	AV (dBuv/m)
Lowest 2405 MHz								
V	2400.00	43.23	32.88	-5.79	37.44	27.09	74.00	54.00
H	2400.00	43.89	32.07	-5.79	38.1	26.28	74.00	54.00
Highest 2475 MHz								
V	2483.50	43.47	32.53	-4.98	38.49	27.55	74.00	54.00
H	2483.50	43.66	32.46	-4.98	38.68	27.48	74.00	54.00

Remark:

1). The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss –Preamplifier Factor.

Test result: The unit does meet the FCC requirements.

7.2.5 Restricted Bands Measurement:

EUT：	Flying saucer series	Model Name ：	H805
Temperature：	25 ℃	Test Data	2015-07-04
Pressure：	1010 hPa	Relative Humidity：	50%
Test Mode ：	TX mode	Test Voltage ：	DC 6.0V from battery
Note：	1. The transmitter was setup to transmit at the lowest channel. Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was setup to transmit at the highest channel. Then the field strength was measured at 2483.5-2500 MHz. 3. The data of 2390MHz and 2483.5MHz was the worst.		

Ant.Pol. H/V	Freq. (MHz)	Reading		Ant/CF CF(dB)	Act		Limit	
		Peak (dBuv)	AV (dBuv)		Peak (dBuv/m)	AV (dBuv/m)	Peak (dBuv/m)	AV (dBuv/m)
V	2390.00	42.34	32.85	-5.79	36.55	27.06	74.00	54.00
H	2390.00	43.28	31.76	-5.79	37.49	25.97	74.00	54.00
V	2483.50	43.47	32.53	-4.98	38.49	27.55	74.00	54.00
H	2483.50	43.66	32.46	-4.98	38.68	27.48	74.00	54.00

Remark：

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode.

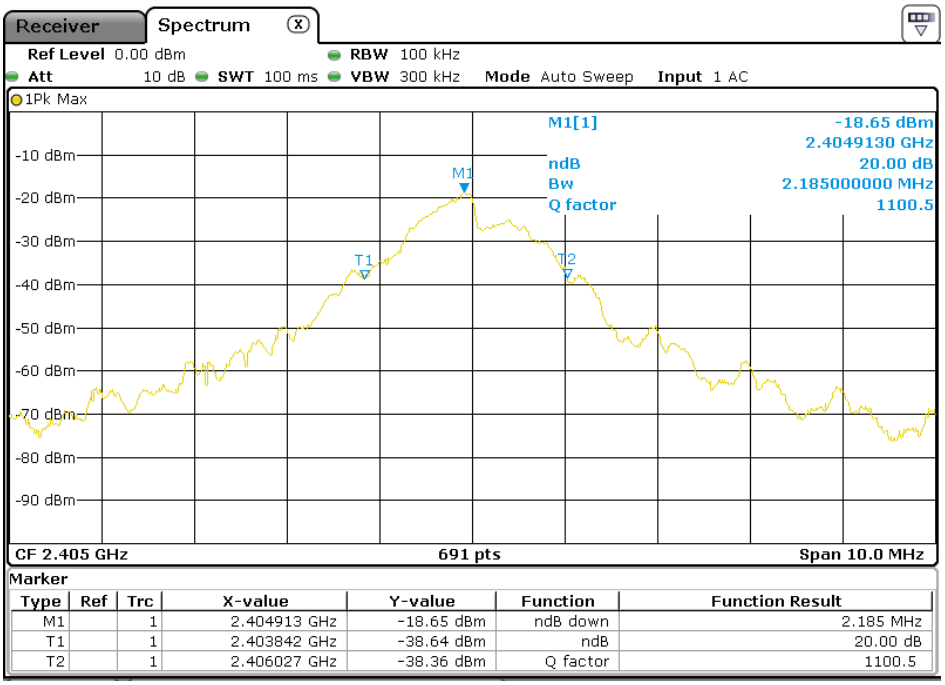
(2) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(3) Corr.Factor = Antenna Factor + Cable Loss – Pre-amplifier.

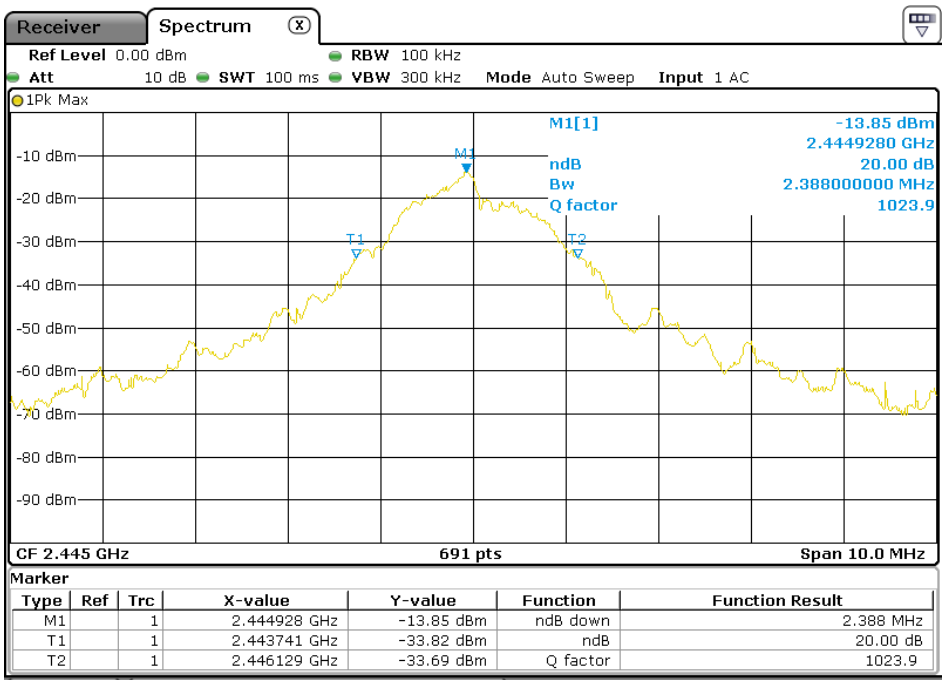
7.3 Occupied Bandwidth

Test Requirement:	FCC Part 15 C section 15.215 (c)Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10: Clause 6.9.1 Operation within the band 2405 MHz to 2475 MHz
Method of measurement:	A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken.

Test in the frequency 2405MHz (20 dB bandwidth)

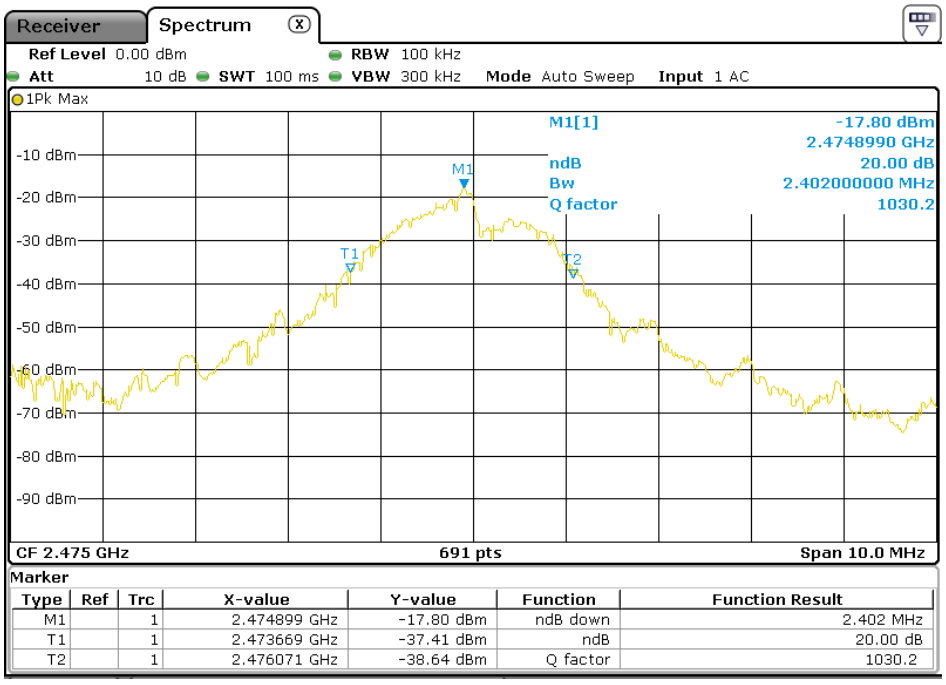


Test in the frequency 2445MHz (20 dB bandwidth)



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.444928 GHz	-13.85 dBm	ndB down	2.388 MHz
T1		1	2.443741 GHz	-33.82 dBm	ndB	20.00 dB
T2		1	2.446129 GHz	-33.69 dBm	Q factor	1023.9

Test in the frequency 2475MHz (20 dB bandwidth)



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.474899 GHz	-17.80 dBm	ndB down	2.402 MHz
T1		1	2.473669 GHz	-37.41 dBm	ndB	20.00 dB
T2		1	2.476071 GHz	-38.64 dBm	Q factor	1030.2

7.4 Conducted Emissions at Mains Terminals 150 kHz to 30 MHz

Test Requirement: FCC Part 15 C section 15.207

Test Method: ANSI C63.10: Clause 6.2

Frequency Range: 150 kHz to 30 MHz

Detector: Peak for pre-scan (9 kHz Resolution Bandwidth)

Test Limit

Limits for conducted disturbance at the mains ports of class B

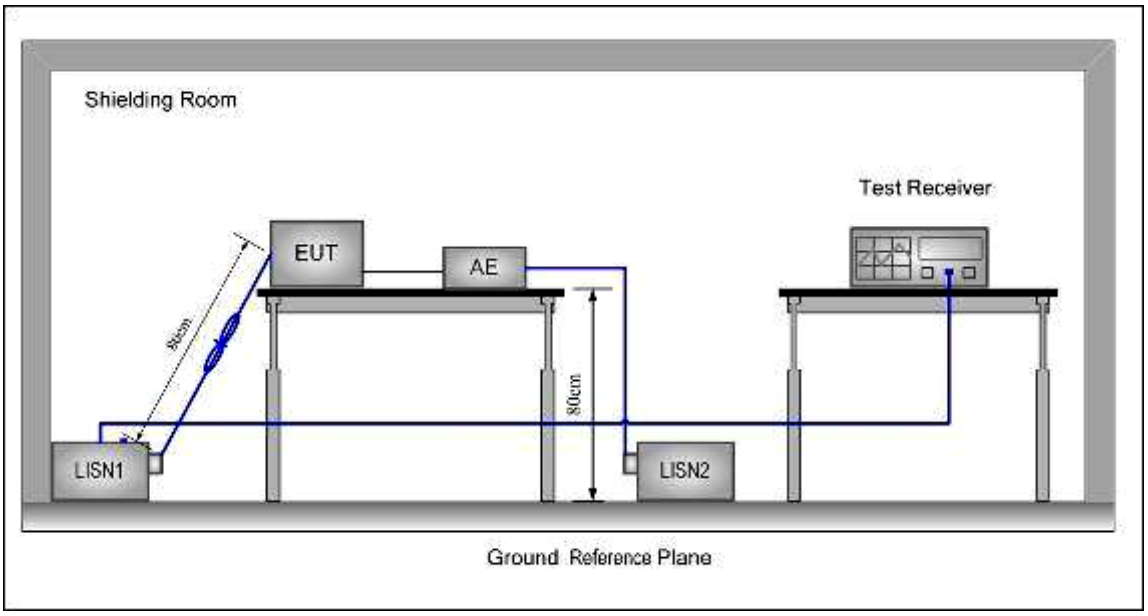
Frequency Range (MHz)	**Class B Limit dB(μV)**	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.		

EUT Operation:

Test in normal operating mode. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Test Configuration:



Test procedure:

1. The mains terminal disturbance voltage test was conducted in a shielded room.

2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.

4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

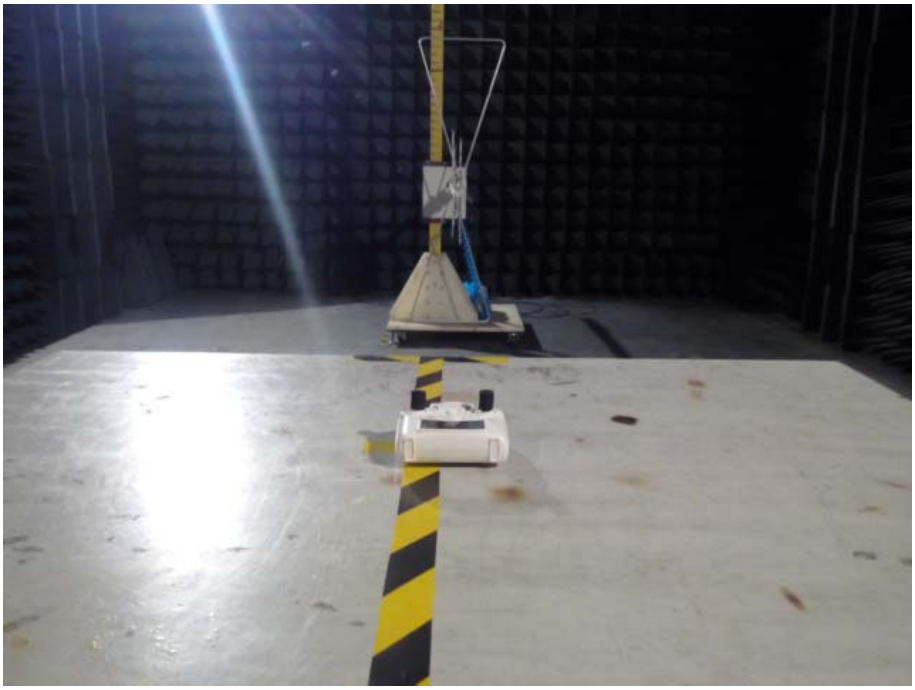
Measurement Data

Remark: Because the EUT employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Measurements to demonstrate compliance with the conducted limits are not required for devices.

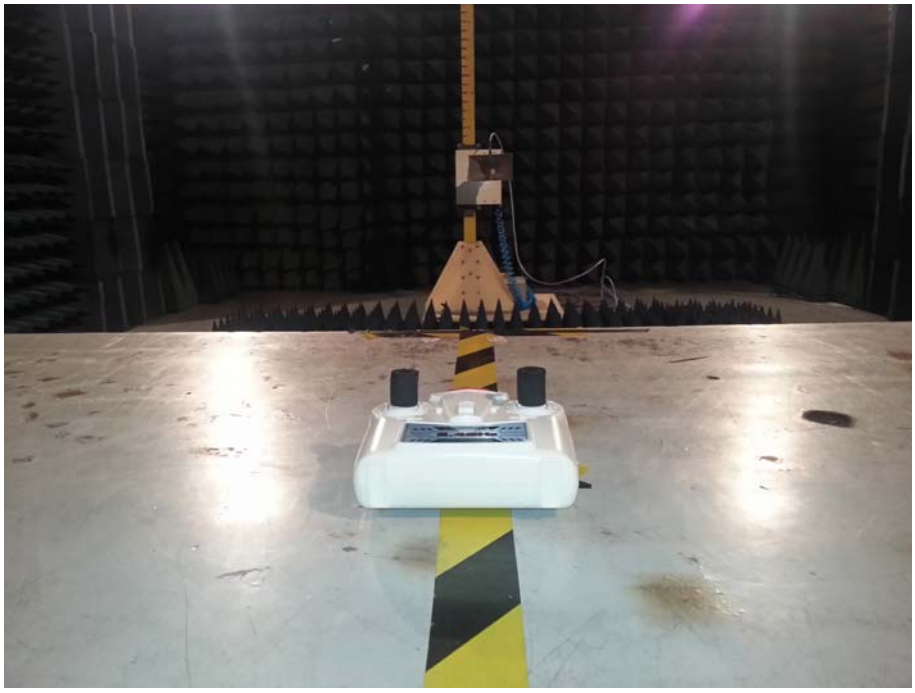
8 Photographs

8.1 Radiated Emission Test Setup

Below 1G



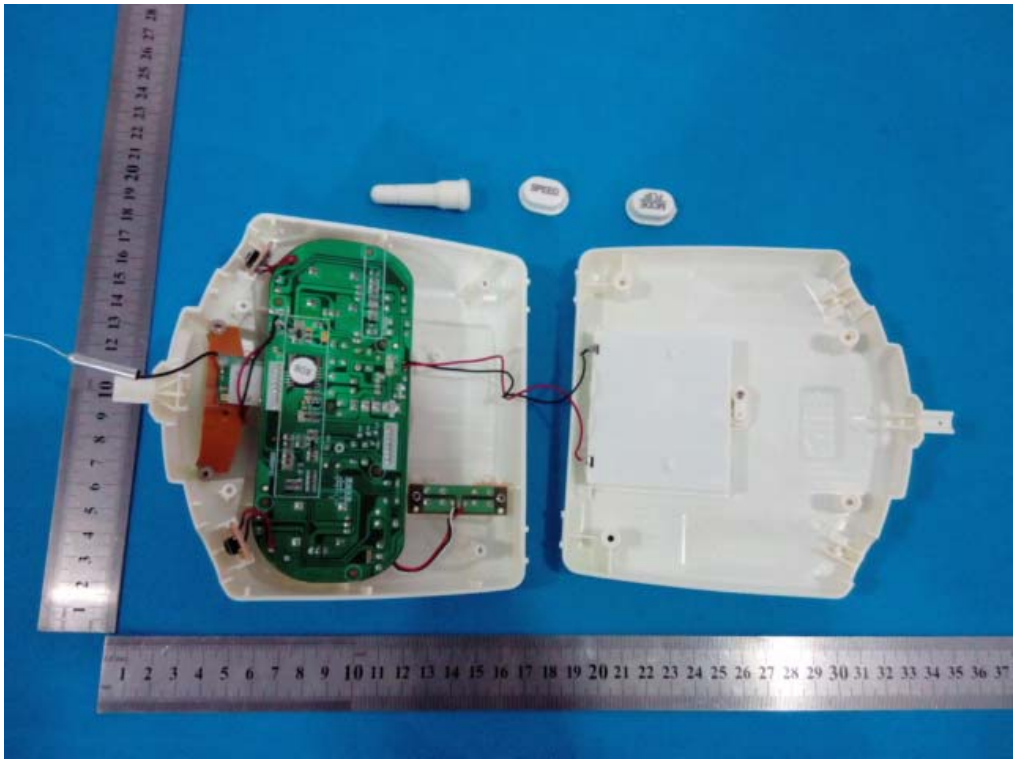
Above 1G

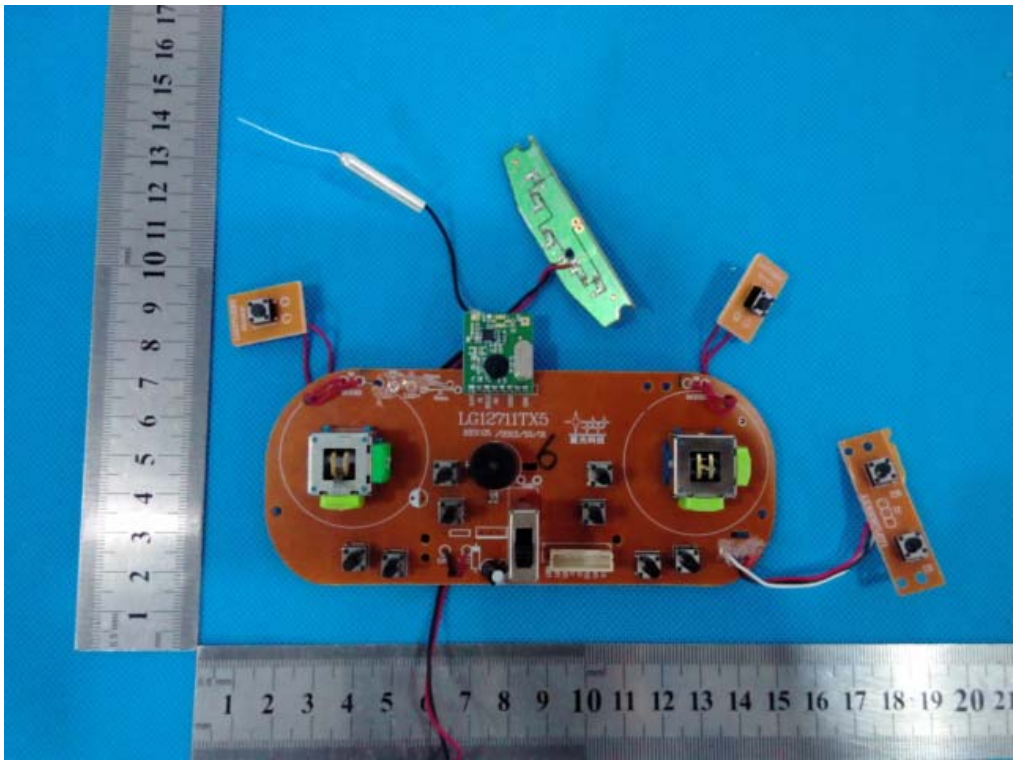


9 EUT Constructional Details


MODE
FLIP


GYRO SYSTEM
2.4GHz
HIGH PRECISION

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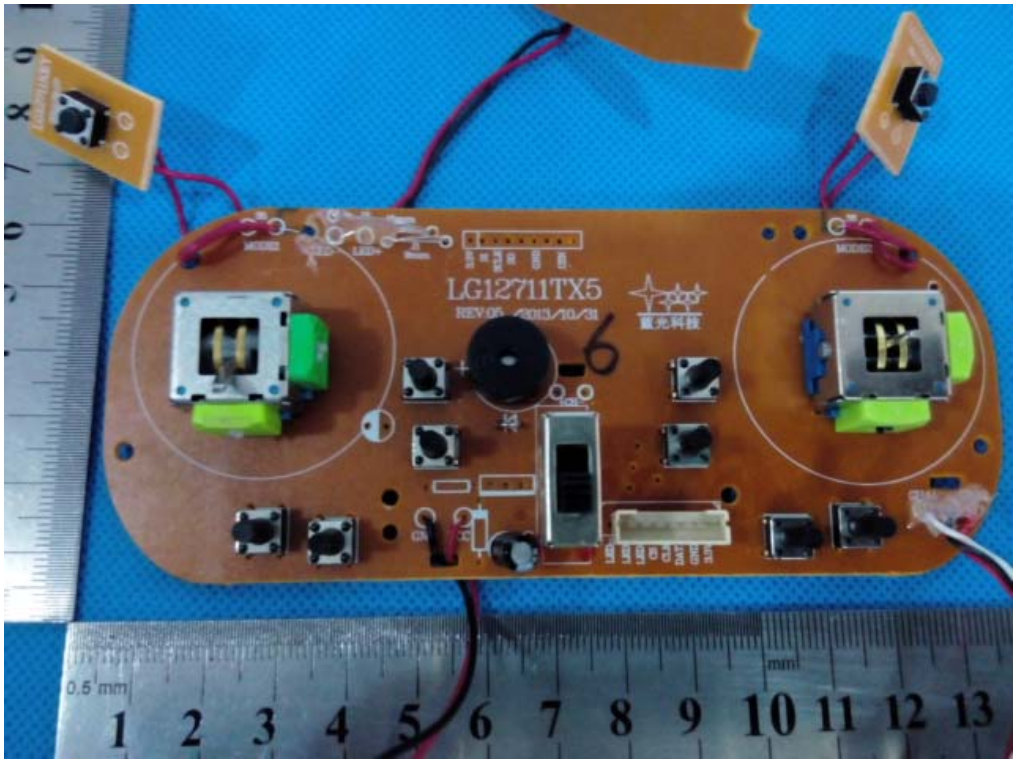
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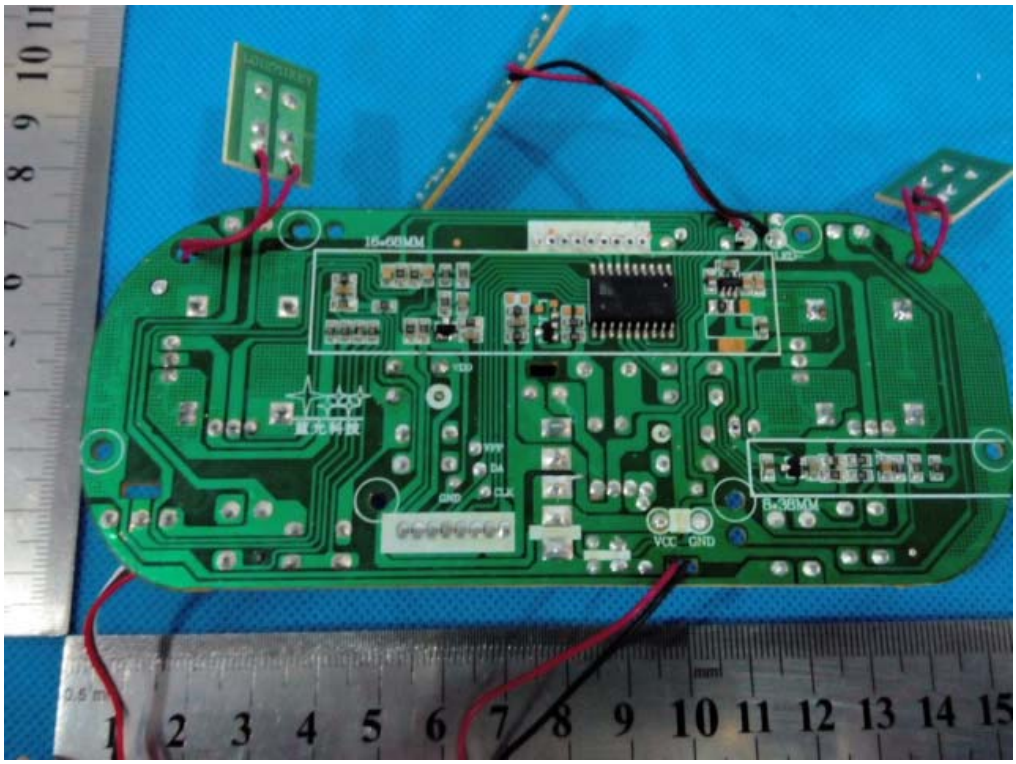

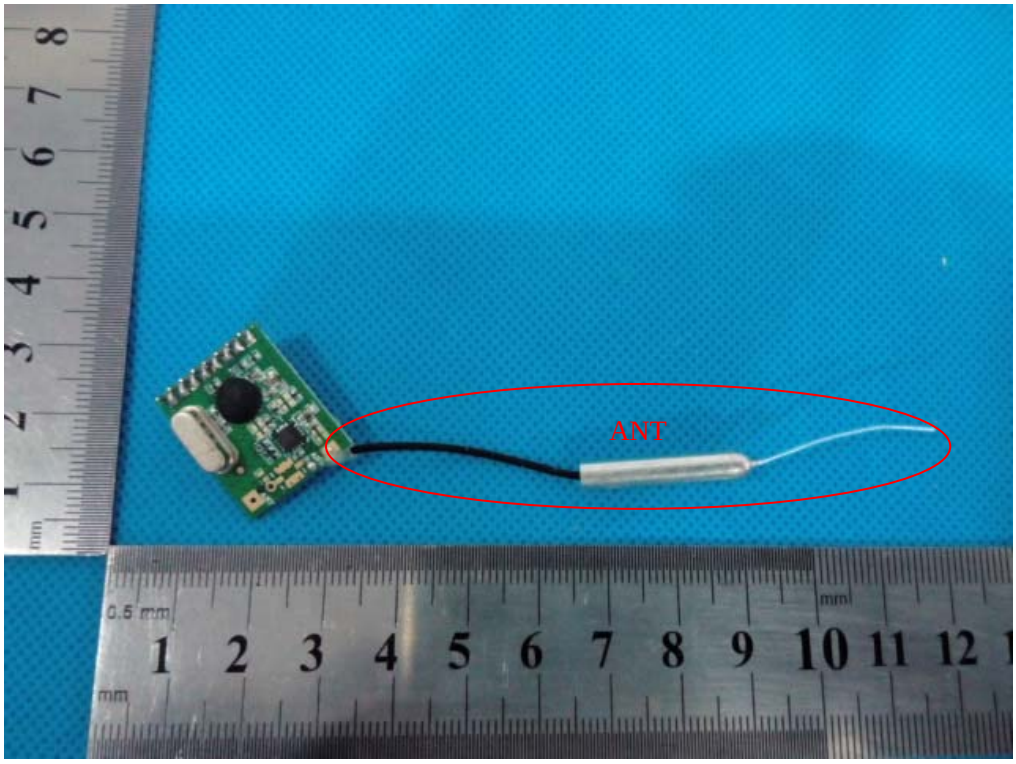
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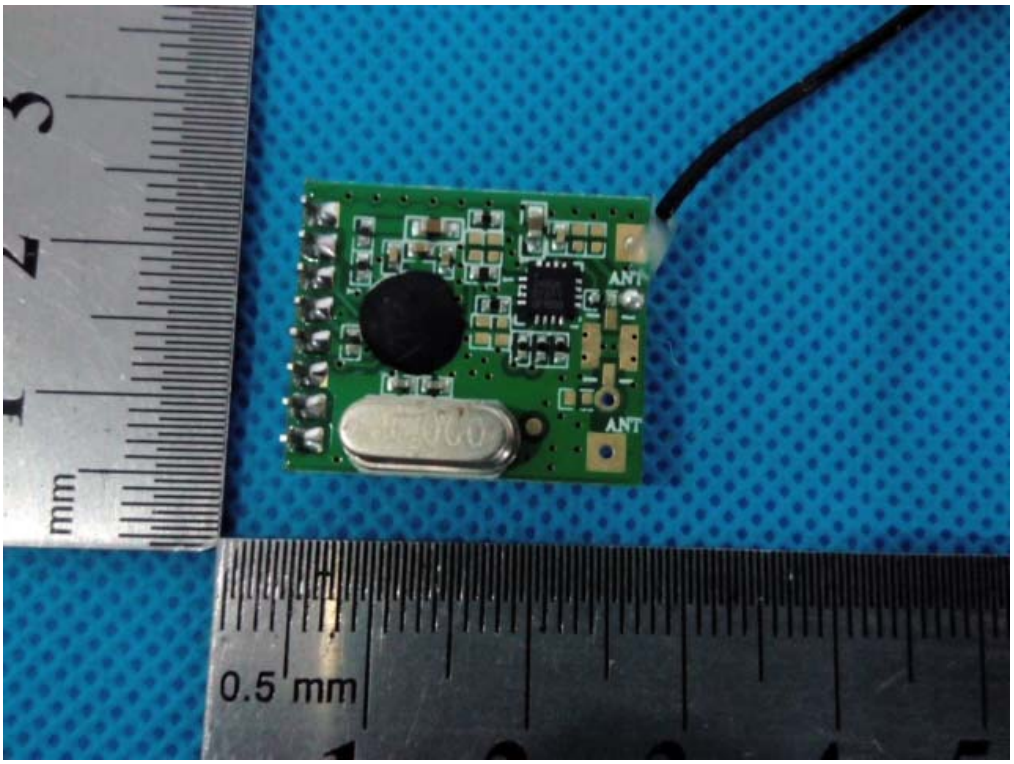
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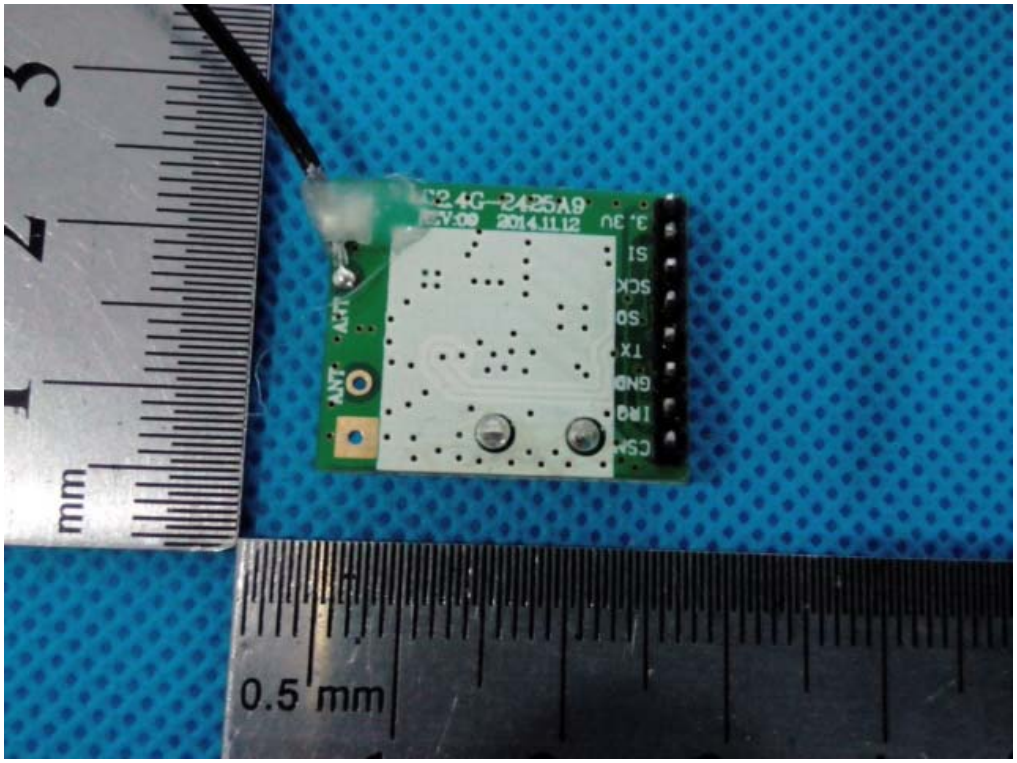
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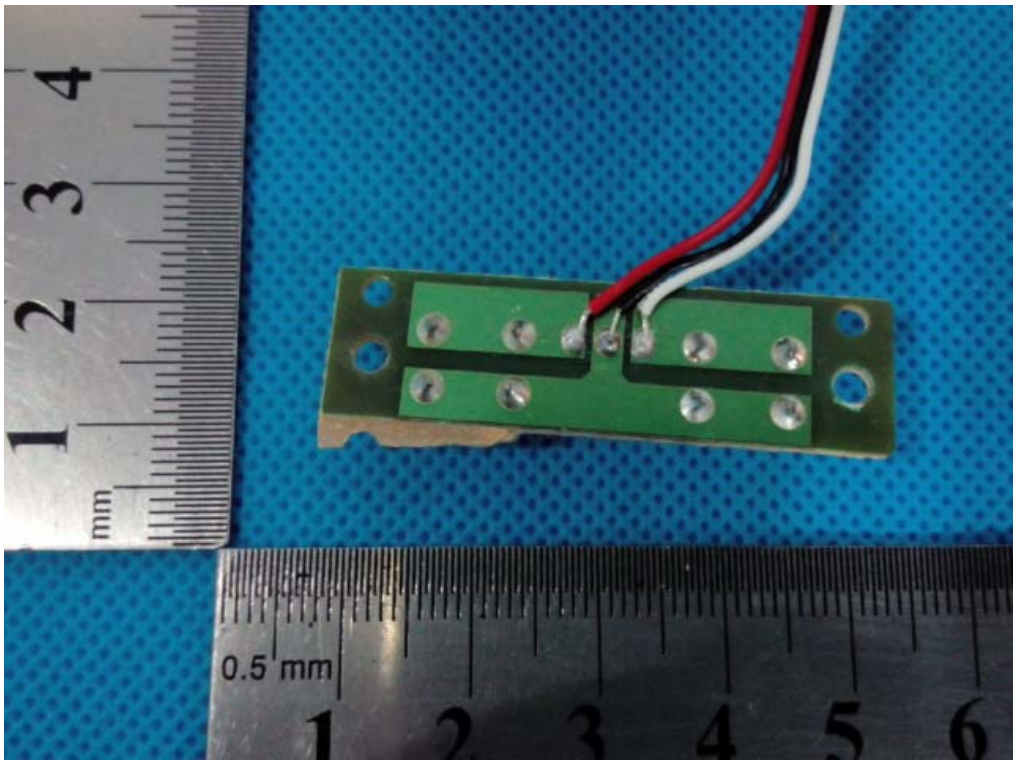
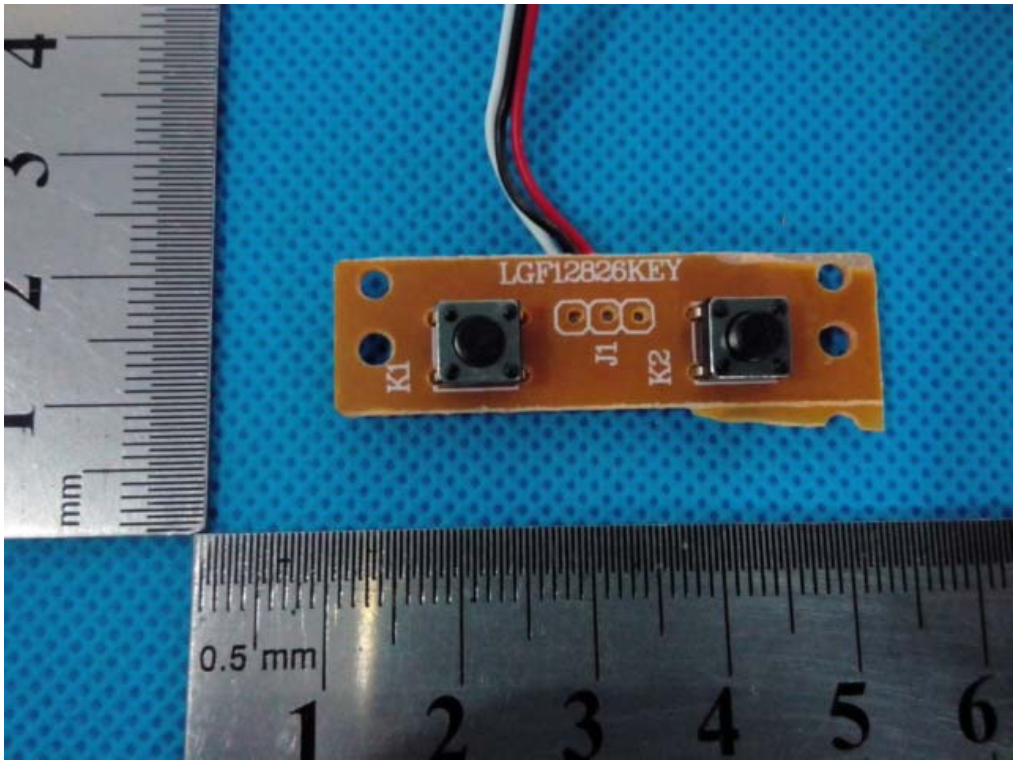
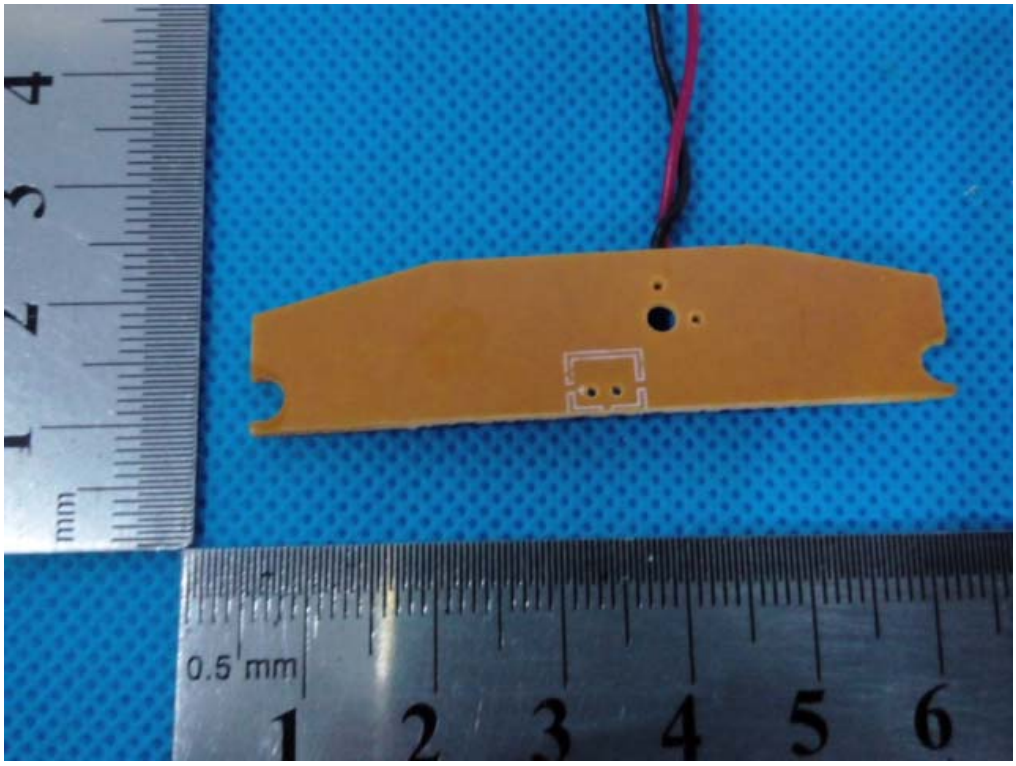
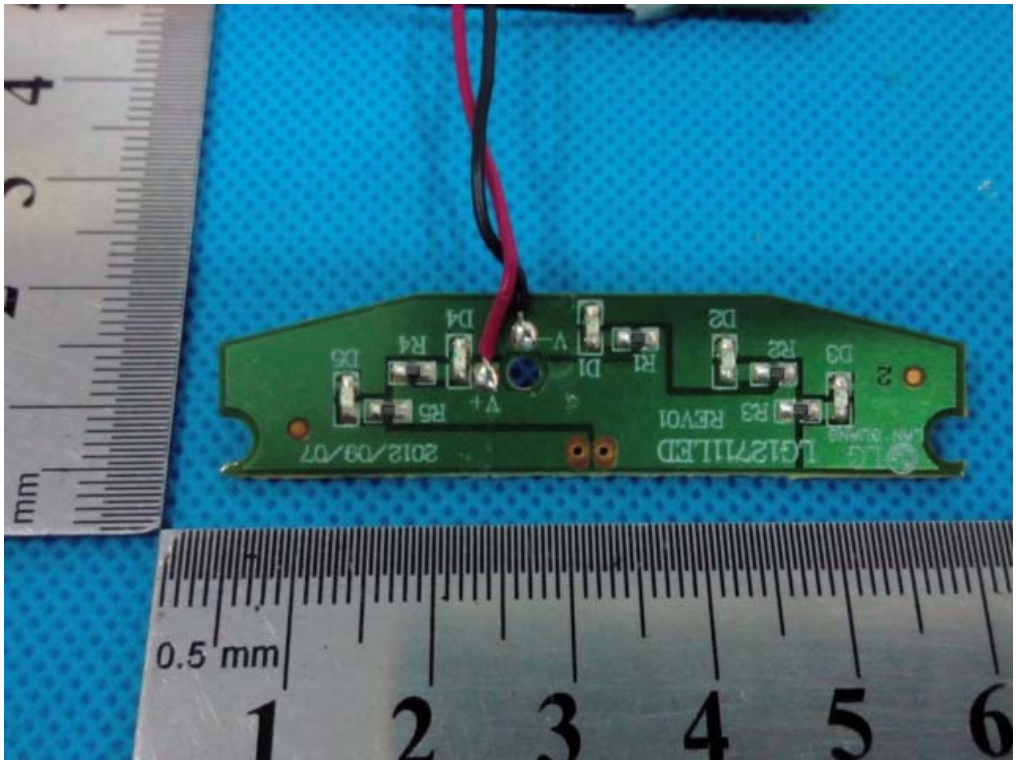
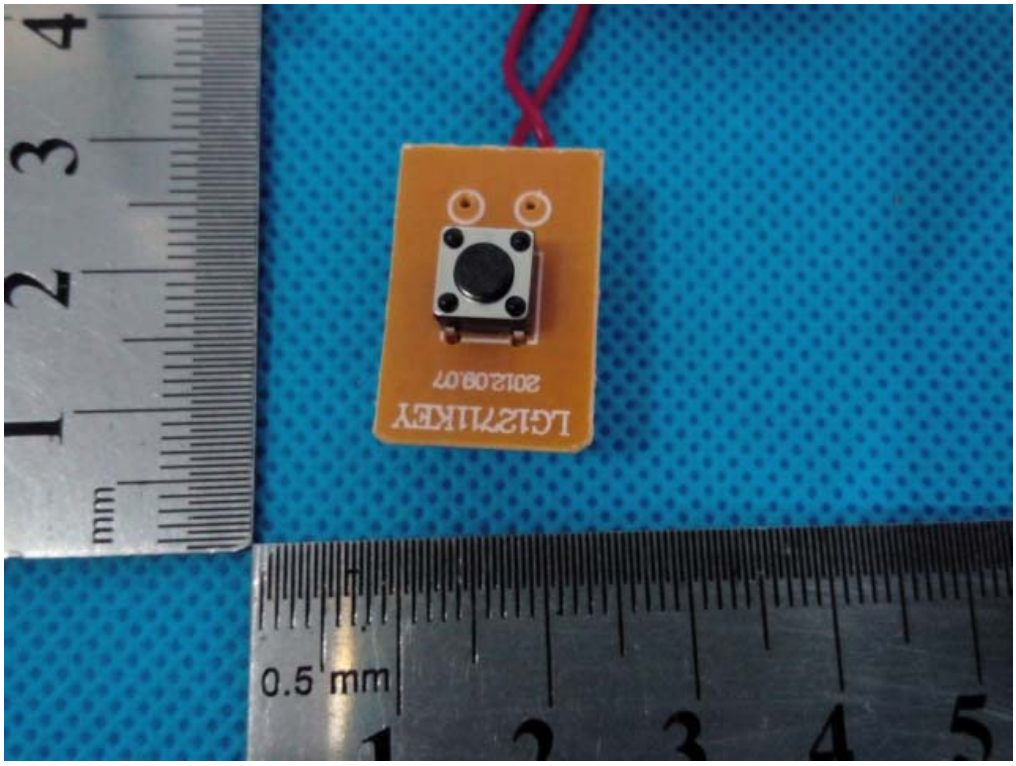
0.5 mm

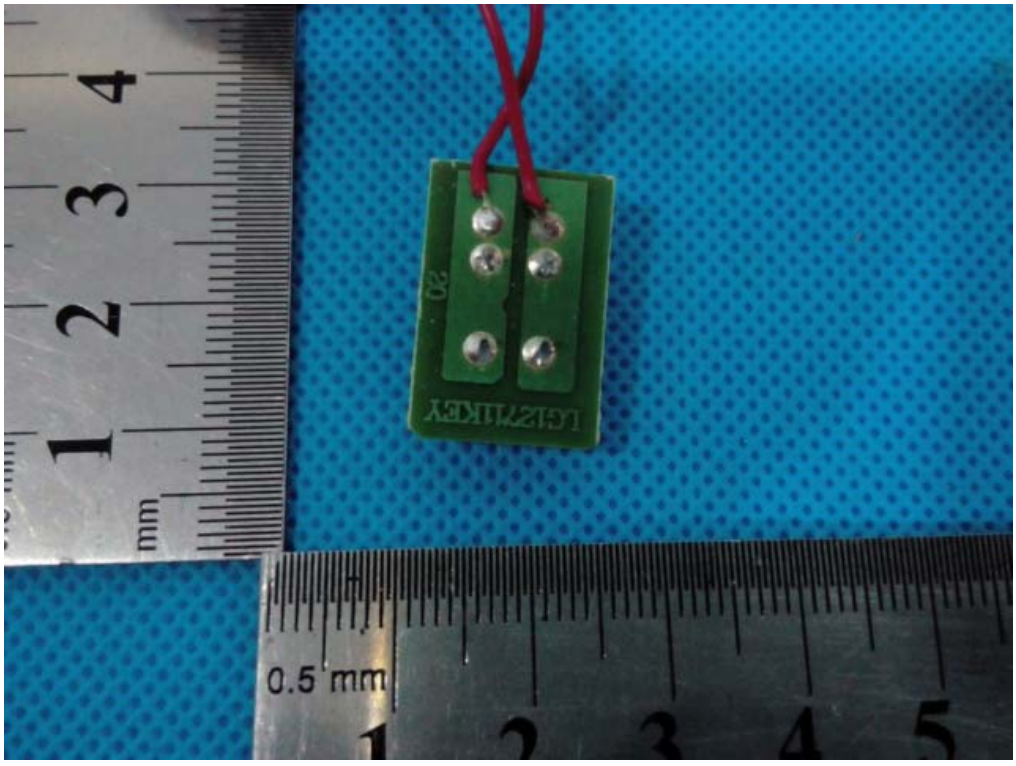

mm
0.5 mm


LGF12826KEY
K1
J1
K2
mm
0.5 mm


0.5 mm


0.5 mm
LG127111LED
REV01
2012/09/07





End of report