

FCC Test Report

**Test report
On Behalf of
Shantou Cainuo Toys Co., Ltd.
For
Toy with Remote Control
Model No.: 3369**

FCC ID: 2BQOB-3369

Prepared For : Shantou Cainuo Toys Co., Ltd.
No. 8, West 3rd Lane, Zhouzai Xinpian, Gangkou Community, Fengxiang Subdistrict, Chenghai District, Shantou City, Guangdong Province, China

Prepared By : Shenzhen HUAK Testing Technology Co., Ltd.
1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Date of Test: Jun. 17, 2025~Jul. 04, 2025
Date of Report: Jul. 04, 2025
Report Number: HK2506173174-E

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Test Result Certification

Applicant's name : Shantou Cainuo Toys Co., Ltd.

Address : No. 8, West 3rd Lane, Zhouzai Xinbian, Gangkou Community, Fengxiang Subdistrict, Chenghai District, Shantou City, Guangdong Province, China

Manufacturer's Name : Shantou Dawu Technology Co., Ltd

Address : No.1, Lane 2, east of Tancuogou Road, Gangkou, Fengxiang Street, Chenghai District, Shantou City, Guangdong Province, China

Product description

Trade Mark: N/A

Product name : Toy with Remote Control

Model and/or type reference : 3369

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

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Date of Test.....:

Date (s) of performance of tests : Jun. 17, 2025~Jul. 04, 2025

Date of Issue : Jul. 04, 2025

Test Result : **Pass**

Testing Engineer

len liao

Len Liao

Technical Manager

Sliver Wan

Sliver Wan

Authorized Signatory

Jason Zhou

Jason Zhou

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**** Modified History ****

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Jul. 04, 2025	Jason Zhou



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1. Test Summary

1.1. Test Procedures and Results

DESCRIPTION OF TEST	SECTION NUMBER	RESULT
AC POWER LINE CONDUCTED EMISSION	15.207	N/A
RADIATED EMISSION TEST	15.249(a)/15.209	COMPLIANT
BAND EDGE	15.249(d)/15.205	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	15.215 (c)	COMPLIANT
ANTENNA REQUIREMENT	15.203	COMPLIANT

1.2. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.

1.3. Measurement Uncertainty

Measurement Uncertainty

Conducted Emission Expanded Uncertainty

$$= 2.71 \text{dB, k=2}$$

Radiated emission expanded uncertainty(9kHz-30MHz)

$$= 3.90 \text{dB, } k=2$$

Radiated emission expanded uncertainty(30MHz-1000MHz)

$$= 3.90 \text{dB, } k=2$$

Radiated emission expanded uncertainty(Above 1GHz)

$$= 4.28 \text{dB, } k=2$$



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2. General Information

2.1. General Description of EUT

Equipment:	Toy with Remote Control
Model Name:	3369
Series Model:	N/A
Model Difference:	N/A
FCC ID:	2BQOB-3369
Antenna Type:	Internal antenna
Antenna Gain:	0.59dBi
Operation frequency:	2407-2477MHz
Number of Channels:	27CH
Modulation Type:	GFSK
Power Source:	DC 3V From Battery
Power Rating:	DC 3V From Battery
Note:	<p>1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.</p> <p>2. Antenna gain Refer to the antenna specifications.</p> <p>3. The cable loss data is obtained from the supplier.</p> <p>4. The test results in the report only apply to the tested sample.</p>

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2.1.1. Carrier Frequency of Channels

Description of Channel:					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2407	10	2435	19	2467
2	2408	11	2436	20	2468
3	2409	12	2437	21	2469
4	2410	13	2438	22	2470
5	2411	14	2439	23	2471
6	2412	15	2440	24	2472
7	2413	16	2441	25	2473
8	2414	17	2442	26	2474
9	2421	18	2447	27	2477

2.2. Operation of EUT During Testing

Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2407MHz

Middle Channel: 2439MHz

High Channel: 2477MHz



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2.3. Description of Test Setup

Operation of EUT during radiation testing:



Operation of EUT during RF conducted testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.



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2.4. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	Toy with Remote Control	N/A	3369	N/A	EUT

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Occupied Bandwidth), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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2.5. Measurement Instruments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	L.I.S.N.	R&S	ENV216	HKE-002	2025/02/19	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2025/02/19	1 Year
3	EMI Test Receiver	R&S	ESR	HKE-005	2025/02/19	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2025/02/19	1 Year
5	Spectrum analyzer	R&S	FSV3044	HKE-126	2025/02/19	1 Year
6	Preamplifier	EMCI	EMC051845S	HKE-006	2025/02/19	1 Year
7	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	2025/02/19	1 Year
8	Preamplifier	A.H. Systems	SAS-574	HKE-182	2025/02/19	1 Year
9	6d Attenuator	Pasternack	6db	HKE-184	2025/02/19	1 Year
10	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	2025/02/19	1 Year
11	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2024/02/21	2 Year
12	Loop Antenna	COM-POWER FMZB 1519 012 May 11, 2016 1 Year	AL-130R	HKE-014	2024/02/21	2 Year
13	Horn Antenna	Schwarzbeck	9120D	HKE-013	2024/02/21	2 Year
14	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
15	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
16	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2025/02/19	1 Year
17	High pass filter unit	Tonscend	JS0806-F	HKE-055	2025/02/19	1 Year
18	Wireless Communication Test Set	R&S	CMU200	HKE-026	2025/02/19	1 Year
19	Wireless Communication Test Set	R&S	CMW500	HKE-027	2025/02/19	1 Year
20	High-low temperature chamber	Guangke	HT-80L	HKE-118	2025/06/09	1 Year
21	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2025/06/09	1 Year
22	RF Test Software	Tonscend	JS1120-3 Version V3.5.39	HKE-083	/	/
23	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2025/02/19	1 Year
24	RSE Test Software	Tonscend	JS36-RSE 5.0 .0	HKE-184	/	/

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3.4. Test Result

Not applicable.

Note: EUT power supply by DC Power, so this test item not applicable.

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4. Radiated Emission Test

4.1. Radiation Limit

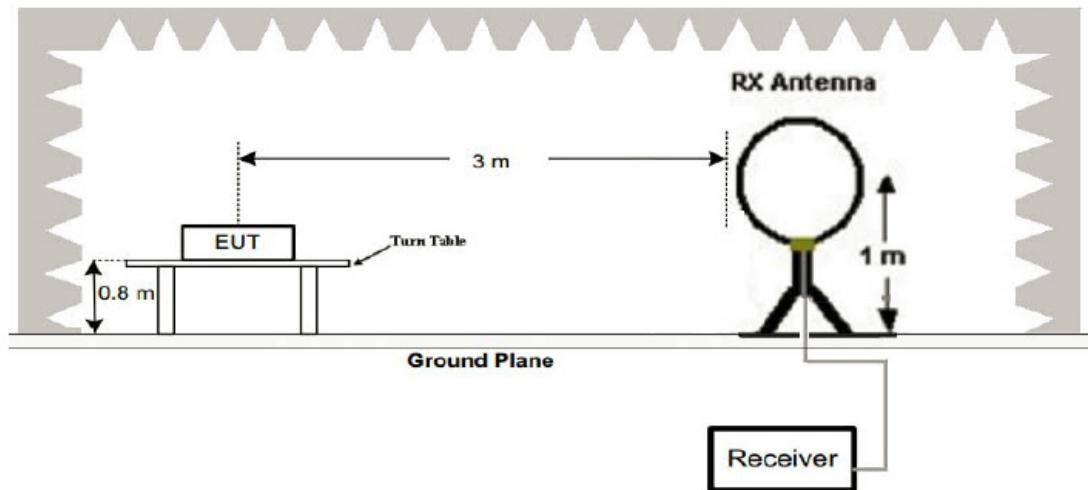
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.490	300	20log 2400/F (kHz)	2400/F (kHz)
0.490-1.705	30	20log 24000/F (kHz)	24000/F (kHz)
1.705-30	30	20log 30	30
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

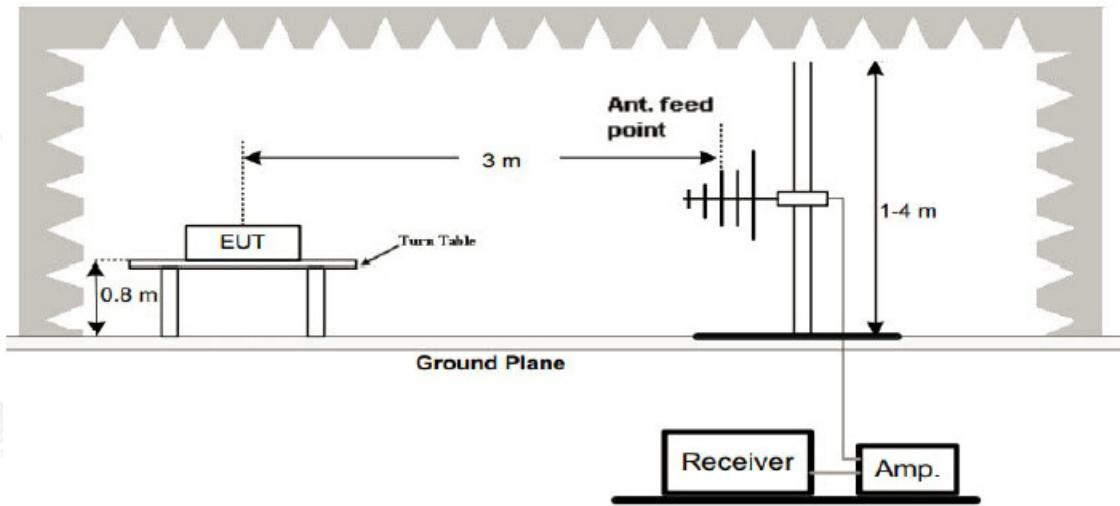
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2. Test Setup

(1) Radiated Emission Test-Up Frequency Below 30MHz



(2) Radiated Emission Test-Up Frequency 30MHz~1GHz



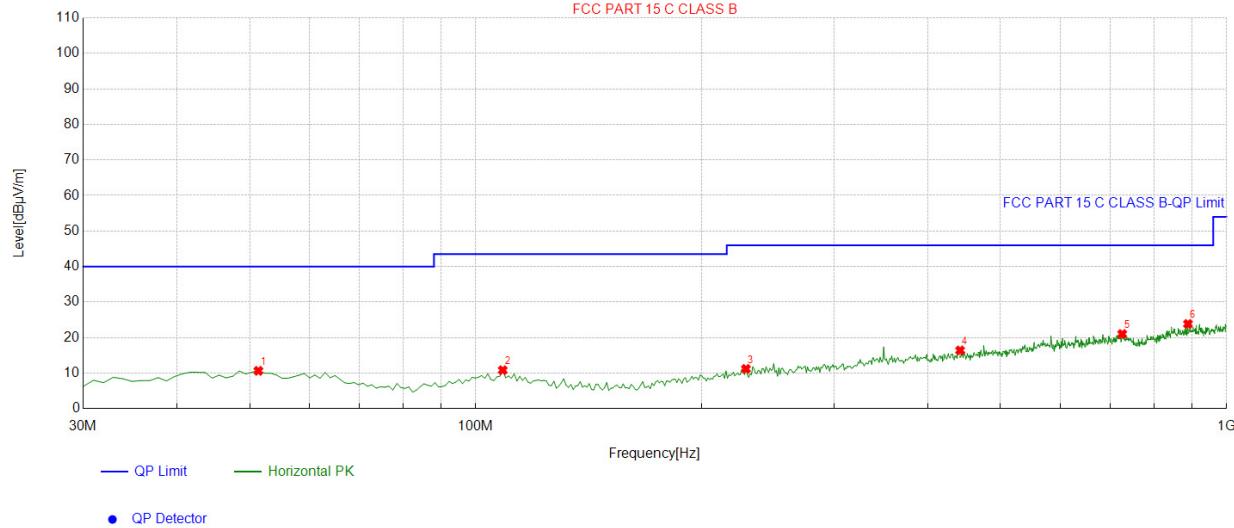
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Below 1GHz Test Results:

Antenna polarity: H



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.3614	-13.25	23.91	10.66	40.00	29.34	100	231	Horizontal
2	108.6486	-14.02	24.85	10.83	43.50	32.67	100	22	Horizontal
3	229.0490	-13.93	25.12	11.19	46.00	34.81	100	120	Horizontal
4	441.6917	-8.67	25.07	16.40	46.00	29.60	100	25	Horizontal
5	726.1862	-3.92	24.93	21.01	46.00	24.99	100	93	Horizontal
6	888.3383	-1.63	25.48	23.85	46.00	22.15	100	27	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit – Level

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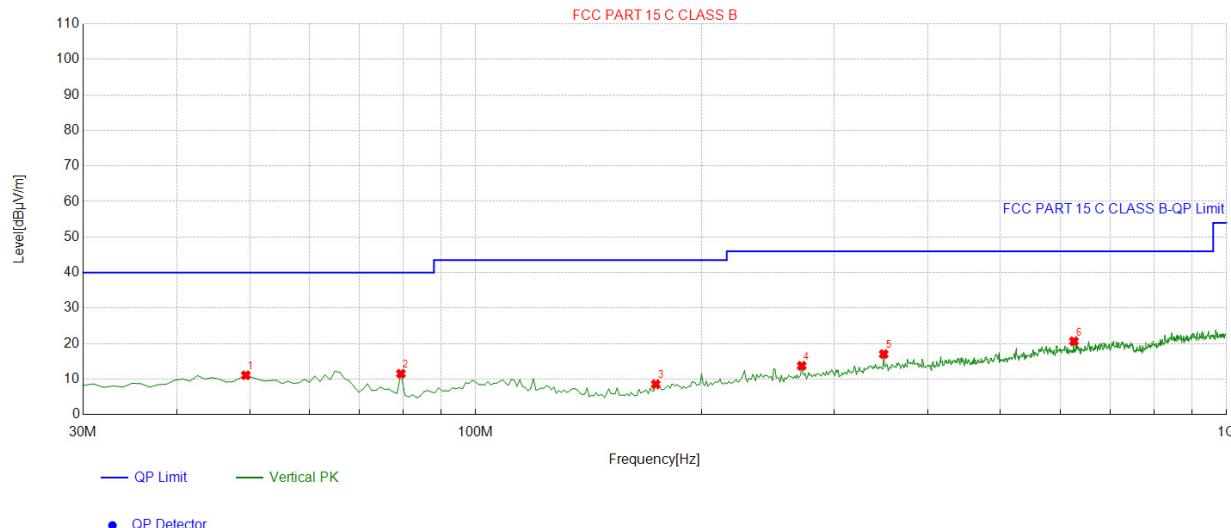
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Antenna polarity: V



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.4194	-13.14	24.23	11.09	40.00	28.91	100	123	Vertical
2	79.5195	-18.01	29.54	11.53	40.00	28.47	100	253	Vertical
3	173.7037	-16.83	25.40	8.57	43.50	34.93	100	174	Vertical
4	271.7718	-12.57	26.33	13.76	46.00	32.24	100	88	Vertical
5	349.4494	-10.04	27.09	17.05	46.00	28.95	100	19	Vertical
6	626.1762	-5.35	26.01	20.66	46.00	25.34	100	92	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dB μ V/m)	Limit@3m (dB μ V/m)
--	--	--
--	--	--
--	--	--
--	--	--

Note: 1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

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Above 1 GHz Test Results:**CH Low (2407MHz)****Horizontal:**

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2407.00	96.98	-5.84	91.14	114	22.86	peak
2407.00	81.18	-5.84	75.34	94	18.66	AVG
4814.00	51.52	-3.64	47.88	74	26.12	peak
4814.00	41.19	-3.64	37.55	54	16.45	AVG
7221.00	50.31	-0.95	49.36	74	24.64	peak
7221.00	40.64	-0.95	39.69	54	14.31	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2407.00	99.73	-5.84	93.89	114	20.11	peak
2407.00	81.2	-5.84	75.36	94	18.64	AVG
4814.00	52.11	-3.64	48.47	74	25.53	peak
4814.00	41.23	-3.64	37.59	54	16.41	AVG
7221.00	49.62	-0.95	48.67	74	25.33	peak
7221.00	39.47	-0.95	38.52	54	15.48	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

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CH Middle (2439MHz)**Horizontal:**

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2439.00	98.85	-5.71	93.14	114	20.86	
2439.00	71.33	-5.71	65.62	94	28.38	AVG
4878.00	52.61	-3.51	49.1	74	24.9	peak
4878.00	43.73	-3.51	40.22	54	13.78	AVG
7317.00	50.84	-0.82	50.02	74	23.98	peak
7317.00	41.21	-0.82	40.39	54	13.61	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2439.00	102.84	-5.71	97.13	114	16.87	
2439.00	78.63	-5.71	72.92	94	21.08	AVG
4878.00	52.36	-3.51	48.85	74	25.15	peak
4878.00	41.22	-3.51	37.71	54	16.29	AVG
7317.00	49.87	-0.82	49.05	74	24.95	peak
7317.00	39.52	-0.82	38.7	54	15.3	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

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CH High (2477MHz)**Horizontal:**

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2477.00	100.14	-5.65	94.49	114	19.51	peak
2477.00	74.78	-5.65	69.13	94	24.87	AVG
4954.00	52.17	-3.43	48.74	74	25.26	peak
4954.00	41.14	-3.43	37.71	54	16.29	AVG
7431.00	50.66	-0.75	49.91	74	24.09	peak
7431.00	38.90	-0.75	38.15	54	15.85	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2477.00	101.76	-5.65	96.11	114	17.89	peak
2477.00	75.51	-5.65	69.86	94	24.14	AVG
4954.00	51.31	-3.43	47.88	74	26.12	peak
4954.00	42.16	-3.43	38.73	54	15.27	AVG
7431.00	51.36	-0.75	50.61	74	23.39	peak
7431.00	39.26	-0.75	38.51	54	15.49	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit-Level.

Remark :

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency; "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test keyboard between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dB μ V/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dB μ V/m(PK Value) <54 dB μ V/m(AV Limit), the Average Detected not need to completed.
- (7) All modes of operation were investigated and the worst-case emissions are reported.

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5. Band Edge

5.1. Limits

FCC PART 15.249(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 §15.209, whichever is the lesser attenuation.

5.2. Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 1MHz and VBM to 3MHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.

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5.3. Test Result

PASS

Radiated Band Edge Test:

Operation Mode: TX CH Low (2407MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2310	56.32	-5.81	50.51	74	23.49	peak
2310	/	-5.81	/	54	/	AVG
2390	54.72	-5.84	48.88	74	25.12	peak
2390	/	-5.84	/	54	/	AVG
2400	51.98	-5.84	46.14	74	27.86	peak
2400	/	-5.84	/	54	/	AVG

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2310	55.78	-5.81	49.97	74	24.03	peak
2310	/	-5.81	/	54	/	AVG
2390	54.63	-5.84	48.79	74	25.21	peak
2390	/	-5.84	/	54	/	AVG
2400	52.88	-5.84	47.04	74	26.96	peak
2400	/	-5.84	/	54	/	AVG

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Operation Mode: TX CH High (2477MHz)

Horizontal

Frequency (MHz)	Reading Result (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2483.50	56.42	-5.65	50.77	74	23.23	peak
2483.50	/	-5.65	/	54	/	AVG
2500.00	53.19	-5.65	47.54	74	26.46	peak
2500.00	/	-5.65	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit-L level

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.50	55.02	-5.65	49.37	74	24.63	peak
2483.50	/	-5.65	/	54	/	AVG
2500.00	53.17	-5.65	47.52	74	26.48	peak
2500.00	/	-5.65	/	54	/	AVG

Remark:

1. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

2. In restricted bands of operation, the spurious emissions below the permissible value more than 20dB.

3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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6. Occupied Bandwidth Measurement

6.1. Test Setup

Same as Radiated Emission Measurement

6.2. Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on ANSI C63.10 section 6.9.2: RBW= 20KHz. VBW=62 KHz, Span=3MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

6.3. Measurement Equipment Used

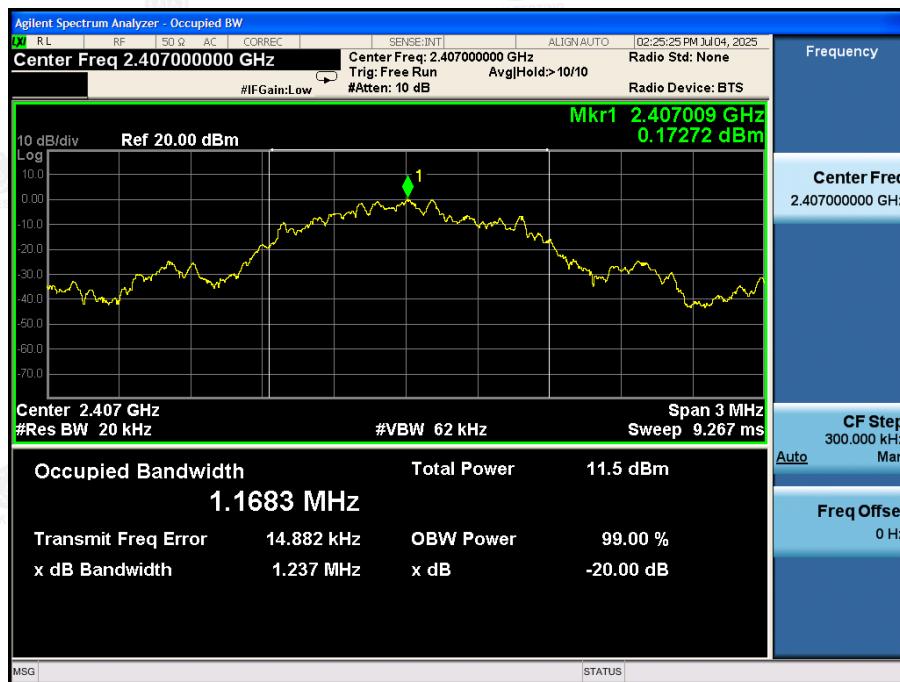
Same as Radiated Emission Measurement

6.4. Test Result

PASS

Frequency	20dB Bandwidth (MHz)	Result
2407 MHz	1.237	PASS
2439 MHz	1.238	PASS
2477 MHz	1.244	PASS

CH: 2407MHz



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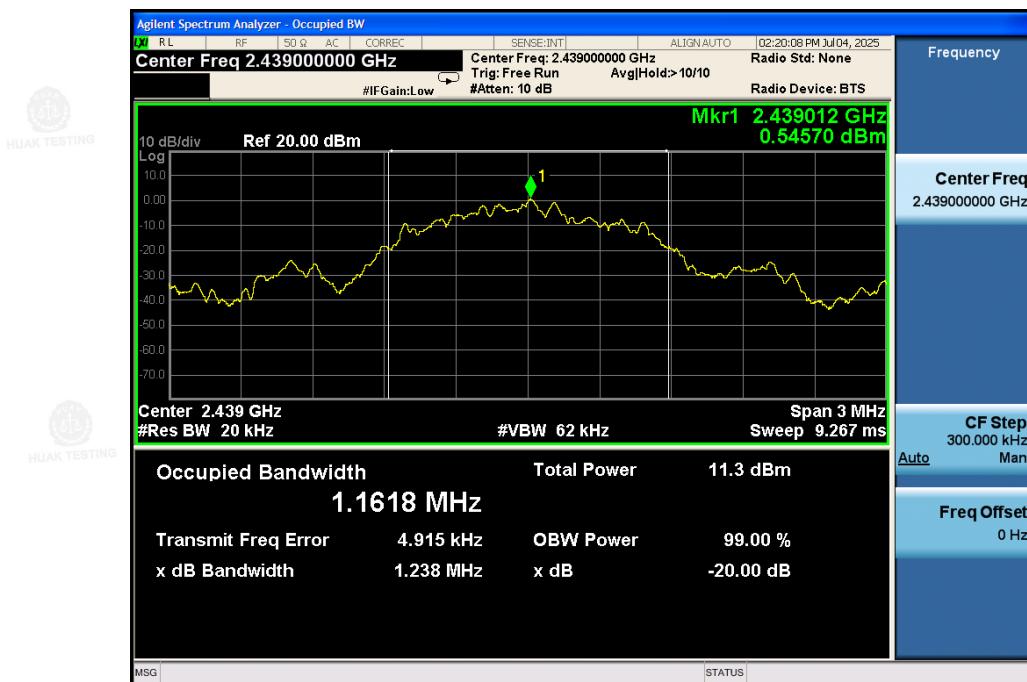


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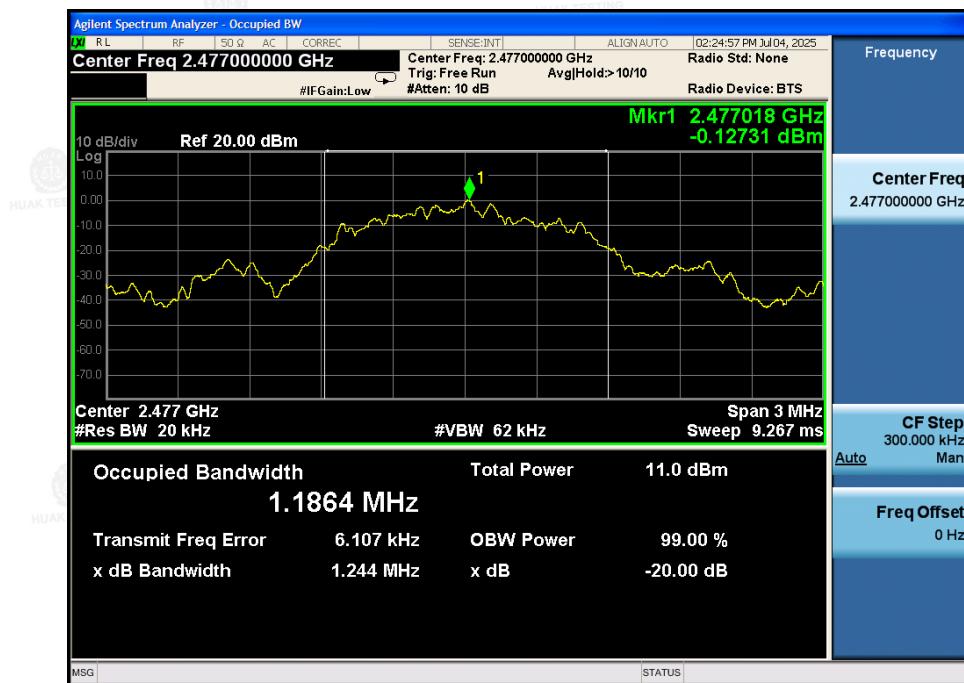
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CH: 2439MHz



CH: 2477MHz



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7. Antenna Requirement

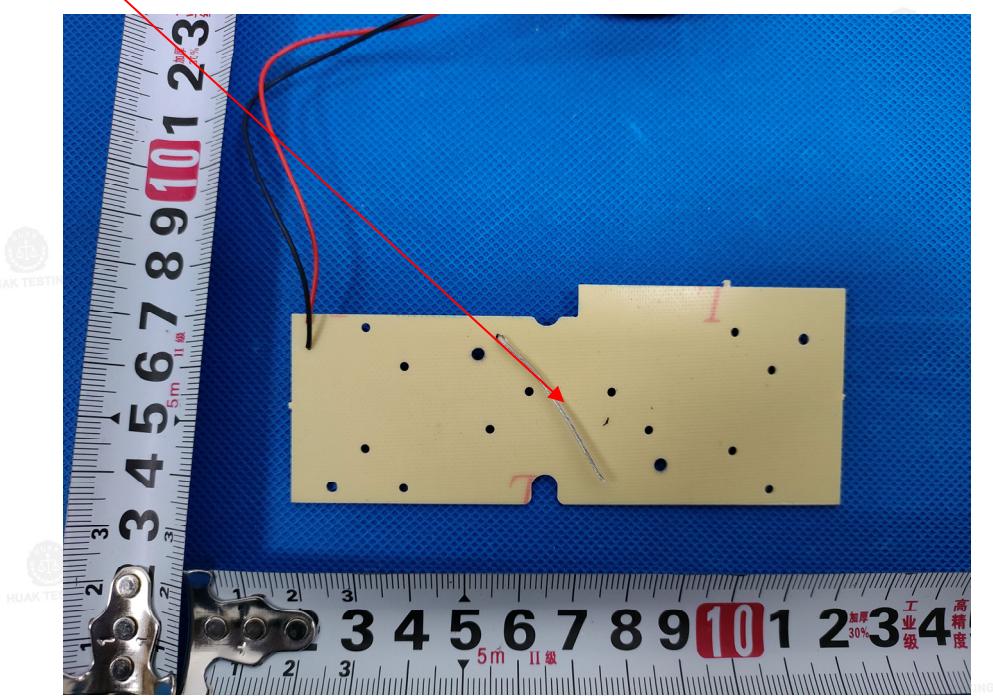
Standard Applicable

For intentional device, according to FCC 47 CFR 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.

Antenna Connected Construction

The antenna used in this product is a Internal antenna, which permanently attached. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 0.59dBi.

Antenna



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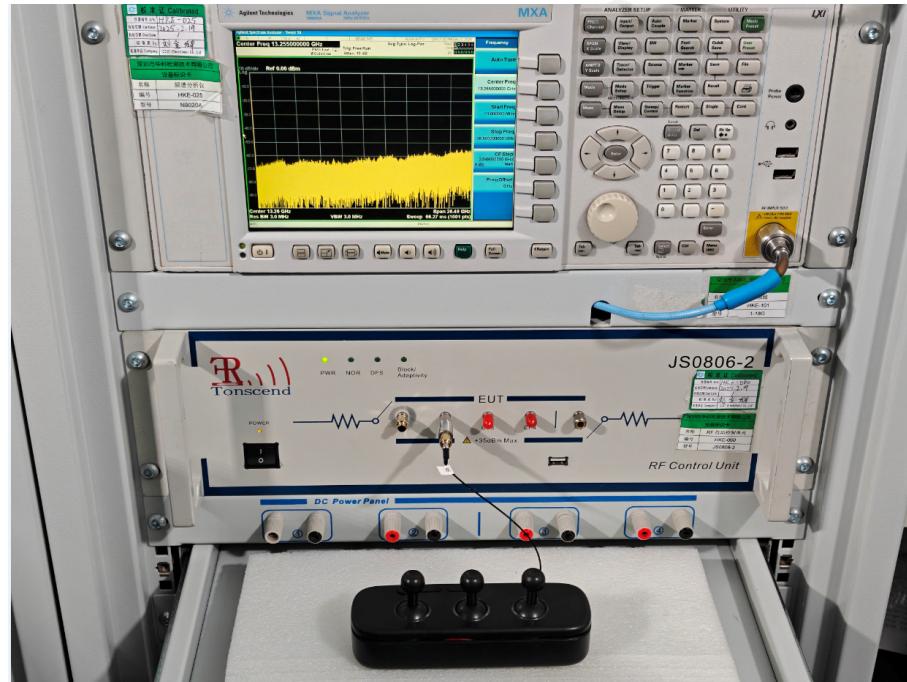
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RF Conducted Emission



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9. Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

-----End of test report-----



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