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Report No.: HK2411207023-E

FCC Test Report

Test Report On Behalf of XING RONG TOYS FACTORY

For

Shark toys Model No.: 208000, 208001, 208002, 208003, 208004, 208005, 208006, 208007, 208008, 208009, 208050, 208051, 208052, 208053, 208054, 208055, 208056, 208057, 208058, 208059, 208080, 208081, 208082, 208083, 208084, 208085, 208086, 208087, 208088, 208089

FCC ID: 2BMDG-208000

Prepared For:

XING RONG TOYS FACTORY

CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, 515800 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:
 Nov. 20, 2024 ~ Dec. 30, 2024

 Date of Report:
 Dec. 30, 2024

 Report Number:
 HK2411207023-E

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Data of Toot

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Test Result Certification

| Applicant's Name | XING RONG TOYS FACTORY | | | | |
|------------------------------|--|--|--|--|--|
| Address: | CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, 515800 China | | | | |
| Manufacturer's Name | XING RONG TOYS FACTORY | | | | |
| Address | CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, 515800 China | | | | |
| Product Description | | | | | |
| Trade Mark | N/A | | | | |
| Product Name: | Shark toys 208000, 208001, 208002, 208003, 208004, 208005, 208006, 208007, 208008, 208009, 208050, 208051, 208052, 208053, | | | | |
| Model and/or Type Reference: | 208054, 208055, 208056, 208057, 208058, 208059, 208080, 208081, 208082, 208083, 208084, 208085, 208086, 208087, 208088, 208089 | | | | |
| Standards | 47 CFR Part15, Subpart C 15.227 | | | | |

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| Date (s) of Performance of Tests | Nov. 20, 2024 ~ |
|----------------------------------|-----------------|
| Date of Issue | Dec. 30, 2024 |
| Test Result | Pass |

Dec. 30, 2024

Testing Engineer

(Len Liao)

Technical Manager

Mbm IVOY

(Sliver Wan)

Authorized Signatory:

Mou

(Jason Zhou)

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Т 691

** Modified History **

| Revision | Description | Issued Data | Remark |
|--------------|-----------------------------|---------------|------------|
| Revision 1.0 | Initial Test Report Release | Dec. 30, 2024 | Jason Zhou |
| NKTESTING NK | TESTIN" IN TESTIN | resta. | AKTESTIN |
| HUM | HU. | HUN | HUM |

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1. Test Result Summary

1.1. Test Facility

| 20- | | |
|--|---------------------------|--------|
| Requirement | CFR 47 Section | Result |
| Conduction Emission, 0.15MHz to 30MHz | §15.207 | N/A |
| Radiation Emission | §15.227, §15.205, §15.209 | PASS |
| Occupied Bandwidth | §15.215 | PASS |
| Antenna requirement | §15.203 | PASS |

Note:

- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.

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=Radiated Emission Expanded Uncertainty(9kHz-30MHz)=Radiated Emission Expanded Uncertainty(30MHz-1000MHz)=Radiated Emission Expanded Uncertainty(Above 1GHz)=

= 2.71dB, k=2

- = 3.90dB, k=2
- = 3.90dB, k=2
- = 4.28dB, k=2

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CATION

2. EUT Description

2.1. General Description of EUT

| Equipment | Shark toys | -STING | STING |
|---------------------|---|--|--|
| Model Name | 208000 | O HUAK ! | C HUAK !! |
| Serial Models | 208001, 208002, 208003, 2 208007, 208008, 208009, 2 208053, 208054, 208055, 2 208059, 208080, 208081, 2 208085, 208086, 208087, 2 | 208004, 208005, 208050, 208051, 208056, 208057, 208082, 208083, 208088, 208089 | 208006, 208052, 208058, 208084, |
| Model Difference | All model's the function, so same, only with a product r sample mode: 208000. | ftware and electri model named diffe | c circuit are the erent. Test |
| FCC ID | 2BMDG-208000 | 0 | i i i i i i i i i i i i i i i i i i i |
| Antenna Type | External Antenna | HUAKTESTIN | HUAKTESTIN |
| Antenna Gain | 0dBi | | |
| Operation Frequency | 27.147MHz | HUNKTESTIN | TESTING |
| Modulation Type | ASK | | O HUAN |
| Power Source | DC 3V From Battery | HUAKTESTIN | |
| Power Rating | DC 3V From Battery | WAKTESTR | HUAK TESTIN |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. Antenna gain Refer to the antenna specifications.

3. The cable loss data is obtained from the supplier.

4. The test results in the report only apply to the tested sample.

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2.2. Description of Test Setup



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3. General Information

3.1. Test Environment and Mode

| Operating Environment: | | | |
|------------------------|---|--|--|
| Temperature: | 24.0 °C | | |
| Humidity: | 54 % RH | | |
| Atmospheric Pressure: | 1010 mbar | | |
| Test Mode: | | | |
| Operation mode: | Keep the EUT in continuous transmitting with modulation | | |
| | | | |

3.2. 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 | Note |
|--------|-------------|------------|----------------|---------------|---------|
| 1 | Shark toys | N/A | 208000 | N/A | EUT |
| | | AKTESTING | | WTESTING | |
| -6 | ING TESTING | D HO | -STING TESTING | O HUN STING | TESTING |
| HUAKTL | C HUAN | HUAK | C HUAK | HUAKIL | HUAN |

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

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4. Test Results and Measurement Data

4.1. Antenna Requirement

Standard requirement: FCC Pa

FCC Part15 C Section 15.203

15.203 requirement:

HUAK TESTING

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.

E.U.T Antenna:

External Antenna

The antenna used in this product is an External Antenna, need professional installation. conforms to the standard requirements. The directional gains of antenna used for transmitting is 0dBi.



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4.2. Conducted Emission

4.2.1. Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

| Frequency (MHz) | Maximum RF Line Voltage (dBμV) | | | | |
|--------------------|--------------------------------|------|---------|--------|--|
| | CLASS A | | CLASS B | | |
| | Q.P. | Ave. | Q.P. | Ave. | |
| 0.15 - 0.50 | 79 | 66 | 66-56* | 56-46* | |
| 0.50 - 5.00 | 73 | 60 | 56 | 46 | |
| 5.00 - 30.0 | 73 | 60 | 60 | 50 | |

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

4.2.2. Test Setup



TEE

4.2.3. Test Procedure

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5. All support equipments received AC power from a second LISN, if any.
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

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4.2.4. Test Result

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

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4.3. Radiated Emission Measurement

4.3.1. Test Specification

| Test Requirement: | FCC Part15 C | C Section 15 | .227 and | 15.209 | | |
|-----------------------|--|---|--|--|---|--|
| Test Method: | ANSI C63.10 | ANSI C63.10:2013 | | | | |
| Frequency Range: | 9 kHz to 1 GF | 9 kHz to 1 GHz | | | TING | |
| Measurement Distance: | 3 m | UAKTES | 0. | | HUAKTES | |
| Antenna Polarization: | Horizontal & V | /ertical | TES | ING | <i></i> | |
| | Frequency 9kHz- 150kHz | Detector Quasi-pe ak | RBW 200Hz | VBW 1kHz | Remark Quasi-peak Value | |
| Passiver Setup: | 150kHz- 30MHz | Quasi-pe ak | 9kHz | 30kHz | Quasi-peak Value | |
| Receiver Setup. | 30MHz-1G Hz | Quasi-pe ak | 120KH z | 300KH z | Quasi-peak Value | |
| | Above 1GHz | Peak Peak | 1MHz 1MHz | 3MHz 10Hz | Peak Value Average Value | |
| | neters ab 1GHz, 1.5 was rotate highest ra 2. The EUT w interference the top of 3. The antenn above the field strence | ove the grou m above the diation. vas set 3 me ce-receiving a variable-he a height is v ground to de gth. Both ho | and at a 3 e ground i ters away antenna, eight ante raried fron etermine rizontal a | meter car n above 1 ermine the v from the which was enna tower n one meter the maxim nd vertical | mber in below GHz. The table e position of the s mounted on r. er to four meters num value of the polarizations of | |
| | the antenr 4. For each su worst case from 1 me turned fror maximum | ha are set to uspected em and then the ter to 4 meter m 0 degrees reading | make the hission, th he antenn ers and th to 360 de | e measure e EUT wa a was tun e rotatable egrees to t | ment. s arranged to its ed to heights e table was find the | |
| | 5. The test-re and Speci 6. If the emiss lower than the and the pea Otherwise the would be re average me sheet. | ceiver syste fied Bandwid sion level of the limit spec ak values of the emission e-tested one ethod as spe | m was se dth with M the EUT i cified, the the EUT is that did by one us cified and | t to Peak I faximum H n peak mo n testing c would be r not have sing peak, d then repo | Detect Function Hold Mode. ode was 10dB could be stopped reported. 10dB margin quasi-peak or orted in a data | |

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4.3.2. Limit

(a) The field strength of any emission within this band shall not exceed 10,000 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.
(b) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in §15.209.

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| Frequency Range (MHz) | Distance (m) | Field strength (dBµV/m) | Field strength (microvolts/meter) |
|-----------------------|--------------|-------------------------|-----------------------------------|
| 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 | 40.0 | 100** |
| 88-216 | KTESTING 3 | 43.5 | 150** |
| 216-960 | 1 A STATE | 46.0 | 200** |
| Above 960 | 3 | 54.0 | 500 |

4.3.3. Frequencies in restricted band are complied to limit on Paragraph 15.209

NOTE:

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., S 15.231 and 15.241.

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4.3.4. Test Instruments

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

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4.3.5. Test Data

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

Field Strength of Fundamental

| Frequency (MHz) | Reading (dBuV/m) | Correction Factor(dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Polar (H/V) | Detector |
|--------------------|---------------------|----------------------------|--------------------|-------------------|----------------|----------------|----------|
| 26.96 | 30.62 | -10.82 | 19.80 | 69.50 | 49.70 | Н | Peak |
| 26.96 | 31.22 | -10.82 | 20.40 | 69.50 | 49.10 | V | Peak |
| 27.147 | 44.91 | -12.57 | 32.34 | 100 | 67.66 | Н | Peak |
| 27.147 | 46.61 | -12.57 | 34.04 | 100 | 65.96 | V | Peak |
| 27.28 | 31.45 | -10.82 | 20.63 | 69.50 | 48.87 | H | Peak |
| 27.28 | 30.99 | -10.82 | 20.17 | 69.50 | 49.33 | V | Peak |

Remark: Margin = Limit - Result Result = Reading +Correction Factor Correction Factor = Antenna Factor + Cable Factor

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| Sus | pec | ted | List |
|-----|-----|-----|------|
|-----|-----|-----|------|

| NO. | Freq. | Factor | Reading | Level | Limit | Margin |
|-----|-----------|--------|----------|----------|----------|--------|
| | [MHz] | [dB] | [dBµV/m] | [dBµV/m] | [dBµV/m] | [dB] |
| 1 | 0.028397 | -10.72 | 44.54 | 33.82 | 118.52 | 84.70 |
| 2 | 0.08807 | -10.06 | 32.32 | 22.26 | 108.70 | 86.44 |
| 3 | 0.672636 | -10.95 | 35.42 | 24.47 | 71.06 | 46.59 |
| 4 | 1.732841 | -10.49 | 23.26 | 12.77 | 69.50 | 56.73 |
| 5 | 12.110905 | -11.68 | 12.52 | 0.84 | 69.50 | 68.66 |
| 6 | 27.147899 | -12.57 | 46.61 | 34.04 | 69.50 | 35.46 |

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

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FICATION

About 30MHz-1GHz



QP Detector

Suspected List

| | Freq. | Factor | Reading | Level | Limit | Margin | Height | Angle | |
|-----|-----------|--------|----------|----------|----------|--------|--------|-------|------------|
| NO. | [MHz] | [dB] | [dBµV/m] | [dBµV/m] | [dBµV/m] | [dB] | [cm] | [°] | Polarity |
| 1 | 54.274274 | -13.50 | 44.39 | 30.89 | 40.00 | 9.11 | 100 | 99 | Horizontal |
| 2 | 81.461461 | -18.34 | 37.24 | 18.90 | 40.00 | 21.10 | 100 | 258 | Horizontal |
| 3 | 243.61361 | -13.32 | 32.45 | 19.13 | 46.00 | 26.87 | 100 | 123 | Horizontal |
| 4 | 270.80080 | -12.52 | 37.58 | 25.06 | 46.00 | 20.94 | 100 | 142 | Horizontal |
| 5 | 297.98798 | -11.79 | 41.49 | 29.70 | 46.00 | 16.30 | 100 | 163 | Horizontal |
| 6 | 325.17517 | -11.00 | 42.87 | 31.87 | 46.00 | 14.13 | 100 | 99 | Horizontal |

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

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QP Detector

| Suspe | cted List | | | | | | | | |
|-------|-----------|--------|----------|----------|----------|--------|--------|-------|----------|
| | Freq. | Factor | Reading | Level | Limit | Margin | Height | Angle | |
| NO. | [MHz] | [dB] | [dBµV/m] | [dBµV/m] | [dBµV/m] | [dB] | [cm] | [°] | Polarity |
| 1 | 54.274274 | -13.50 | 49.00 | 35.50 | 40.00 | 4.50 | 100 | 324 | Vertical |
| 2 | 81.461461 | -18.34 | 42.58 | 24.24 | 40.00 | 15.76 | 100 | 308 | Vertical |
| 3 | 325.17517 | -11.00 | 30.94 | 19.94 | 46.00 | 26.06 | 100 | 202 | Vertical |
| 4 | 406.73673 | -9.75 | 29.93 | 20.18 | 46.00 | 25.82 | 100 | 22 | Vertical |
| 5 | 461.11111 | -8.91 | 30.34 | 21.43 | 46.00 | 24.57 | 100 | 1 | Vertical |
| 6 | 488.29829 | -7.91 | 29.13 | 21.22 | 46.00 | 24.78 | 100 | 8 | Vertical |

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

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4.4. Occupied Bandwidth

4.4.1. Test Specification

| Test Requirement: | FCC Part15 C Section 15.215 | | | | | |
|-------------------|--|--|--|--|--|--|
| Test Method: | ANSI C63.10: 2013 | | | | | |
| Limit: | N/A | | | | | |
| | According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. Set to the maximum power setting and enable the EUT transmit continuously. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW=1% to 5% of the Occupied Bandwidth; VBW=3RBW; Sweep = auto; Detector function = peak; Trace = max hold. Measure and record the results in the test report. | | | | | |
| Test Setup: | Attenuator Spectrum Analyzer EUT | | | | | |
| Test Mode: | Transmitting Mode | | | | | |
| Test Results: | PASS | | | | | |

4.4.2. Test Instruments

| RF Test Room | | | | | | |
|-------------------|---------------|-----------------|---------|------------|--|--|
| Equipment | Serial Number | Calibration Due | | | | |
| Spectrum Analyzer | Agilent | N9020A | HKE-025 | 2025/02/19 | | |

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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PRO!

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4.4.3. Test data

| Test Channel (MHz) | 20dB Occupy Bandwidth (kHz) | Limit (kHz) | Conclusion | |
|-----------------------|--------------------------------|-------------|------------|--|
| 27.147 | 7.458 | N/A where | PASS | |

Test plots as follows:



STATUS

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VAL

5. Test Setup Photos of the EUT

Radiated Emission





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TIFICATION

6. 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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