中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **SHANTOU CHENGHAI HONGBAODA SCIENCE, EDUCATION AND CULTURE CO. LTD**

Address: Chenghai district, Shantou City, Guangdong province, China

FCC ID: **2BD58-HBD88-P10**

Product Name: **TOY SERIES**
Standard(s): **47 CFR Part 15, Subpart C(15.249)**
ANSI C63.10-2013

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR231063862-00**

Date Of Issue: **2023/12/19**

Reviewed By: **Julie Tan** Julie Tan
Title: RF Engineer

Approved By: **Sun Zhong** Sun Zhong
Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR231063862-00	Original Report	2023/12/19

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	TOY SERIES
EUT Model:	HBD88-P10
Multiple Model:	HBD88-P1, HBD88-P1A, HBD88-P1B, HBD88-P1C, HBD88-P2, HBD88-P2A, HBD88-P2B, HBD88-P2C, HBD88-P3, HBD88-P3A, HBD88-P3B, HBD88-P3C, HBD88-P5, HBD88-P5A, HBD88-P5B, HBD88-P5C, HBD88-P6, HBD88-P6A, HBD88-P6B, HBD88-P6C, HBD88-P7, HBD88-P7A, HBD88-P7B, HBD88-P7C, HBD88-P8, HBD88-P8A, HBD88-P8B, HBD88-P8C, HBD88-P9, HBD88-P9A, HBD88-P9B, HBD88-P9C, HBD88-P10A, HBD88-P10B, HBD88-P10C, HBD88-P11, HBD88-P11A, HBD88-P11B, HBD88-P11C, HBD88-P12, HBD88-P12A, HBD88-P12B, HBD88-P12C, HBD88-P13, HBD88-P13A, HBD88-P13B, HBD88-P13C, HBD88-P15, HBD88-P15A, HBD88-P15B, HBD88-P15C, HBD88-P16, HBD88-P16A, HBD88-P16B, HBD88-P16C, HBD88-P17, HBD88-P17A, HBD88-P17B, HBD88-P17C, HBD88-P18, HBD88-P18A, HBD88-P18B, HBD88-P18C, HBD88-P19, HBD88-P19A, HBD88-P19B, HBD88-P19C, HBD88-P20, HBD88-P20A, HBD88-P20B, HBD88-P20C, HBD88-P21, HBD88-P21A, HBD88-P21B, HBD88-P21C, HBD88-P22, HBD88-P22A, HBD88-P22B, HBD88-P22C, HBD88-P23, HBD88-P23A, HBD88-P23B, HBD88-P23C, HBD88-P25, HBD88-P25A, HBD88-P25B, HBD88-P25C, HBD88-P26, HBD88-P26A, HBD88-P26B, HBD88-P26C, HBD88-P27, HBD88-P27A, HBD88-P27B, HBD88-P27C, HBD88-P28, HBD88-P28A, HBD88-P28B, HBD88-P28C
Operation Frequency:	2405-2475 MHz
Modulation Type:	GFSK
Rated Input Voltage:	DC 3V from battery
Serial Number:	2CYB-1
EUT Received Date:	2023/10/31
EUT Received Status:	Good
Note: The Multiple model is electrically identical with test model, please refer to the declaration letter for more detail, which was provided by manufacturer.	

Operation Frequency Detail:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2405	4	2465
2	2433	5	2475
3	2440	…	…

Per section 15.31(m), the below frequencies were performed the test as below:

Test Channel	Frequency (MHz)
Lowest	2405
Middle	2440
Highest	2475

Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
Dongguan Couson	Monopole	50	2.4~2.5GHz	0 dBi

The Method of §15.203 Compliance:

☒Antenna must be permanently attached to the unit.

☐Antenna must use a unique type of connector to attach to the EUT.

☐Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Accessory Information:

No Accessory.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	No
The engineering mode was provided by manufacturer▲. The maximum power was configured default setting.	

1.2.2 Support Equipment List and Details

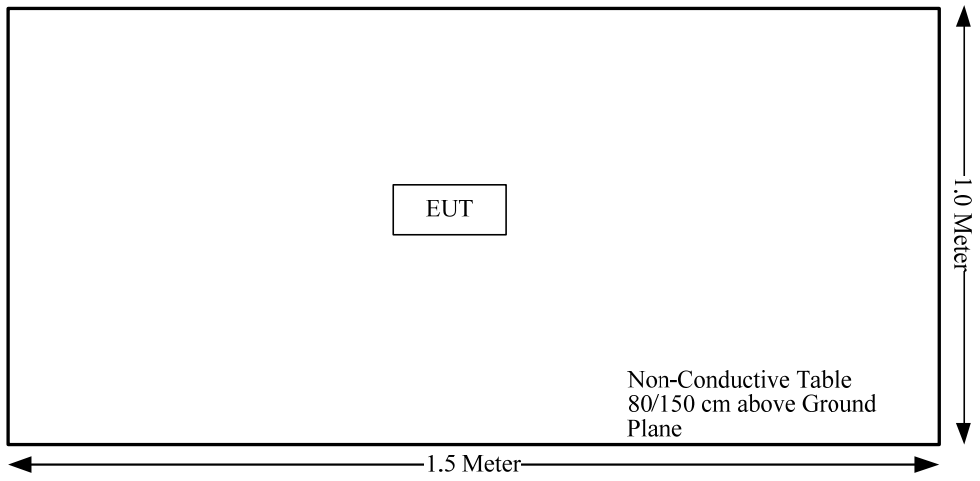
Manufacturer	Description	Model	Serial Number
/	/	/	/

1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
/	/	/	/	/	/

1.2.4 Block Diagram of Test Setup

Spurious emissions:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
Unwanted Emissions, radiated	9kHz~30MHz: 4.12dB, 30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB, 18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s)/Rule(s)	Description of Test	Result
§15.207(a)	Conduction Emissions	Not Applicable
15.205, §15.209, §15.249	Radiated Emissions	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant
§15.203	Antenna Requirement	Compliant
§1.1307	RF Exposure Evaluation	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

	Conducted limit (dBμV)	
Frequency of emission (MHz)	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.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

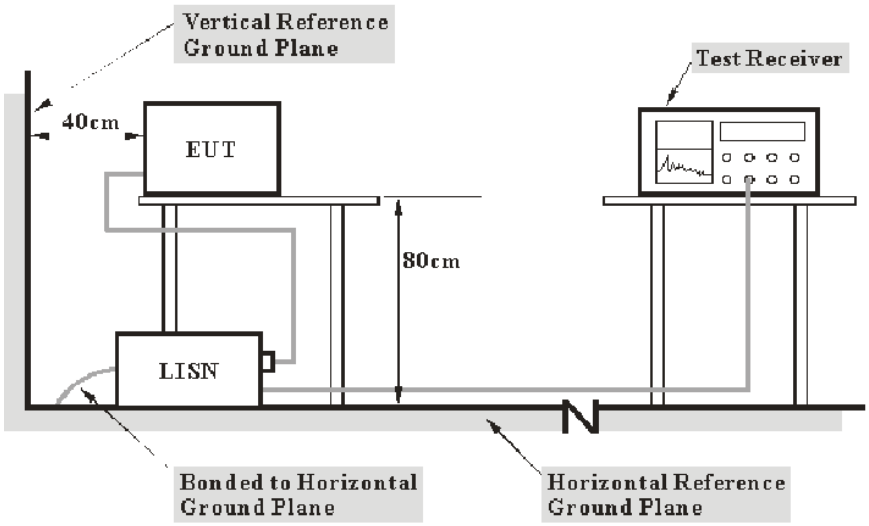
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only 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. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtainig their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the first LISN.

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiated Emissions

3.2.1 Applicable Standard

As per FCC§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:

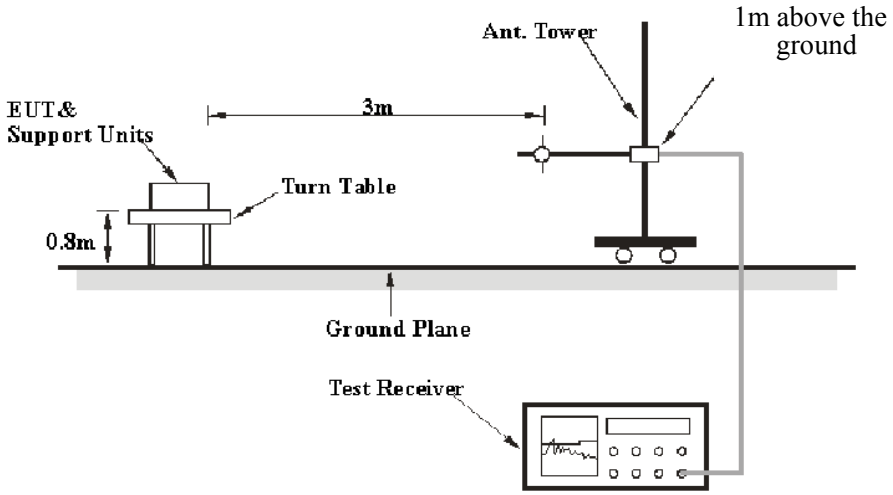
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

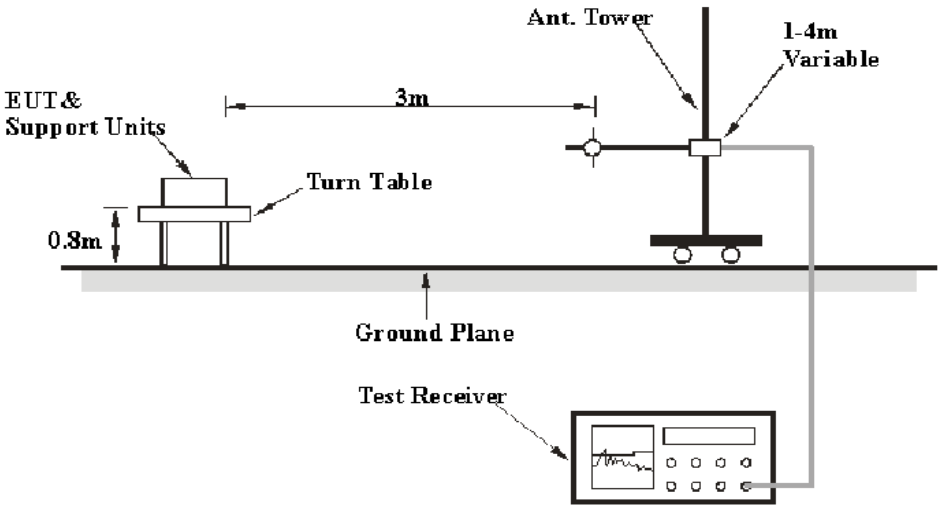
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

3.2.2 EUT Setup

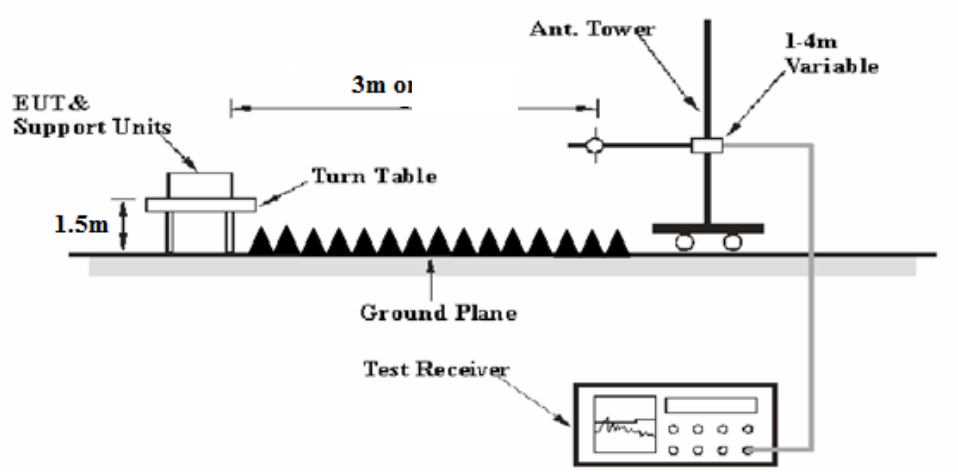
9kHz~30MHz:



Below 1GHz:



Above 1GHz:



The radiated emissions were performed in the 3 meters distance, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.249 limits.

For 9kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9kHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9kHz-1000MHz:

Frequency Range	Measurement	RBW	Video B/W	IF B/W
9 kHz – 150 kHz	QP/AV	200 Hz	1 kHz	200 Hz
150 kHz – 30 MHz	QP/AV	9 kHz	30 kHz	9 kHz
30 MHz – 1000 MHz	QP	/	/	120 kHz
	PK	100 kHz	300 kHz	/

Above 1GHz:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz-1 GHz except 9 – 90 kHz, 110 – 490 kHz, employing an average detector, peak and Average detection modes for frequencies above 1 GHz.

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = Antenna Factor + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

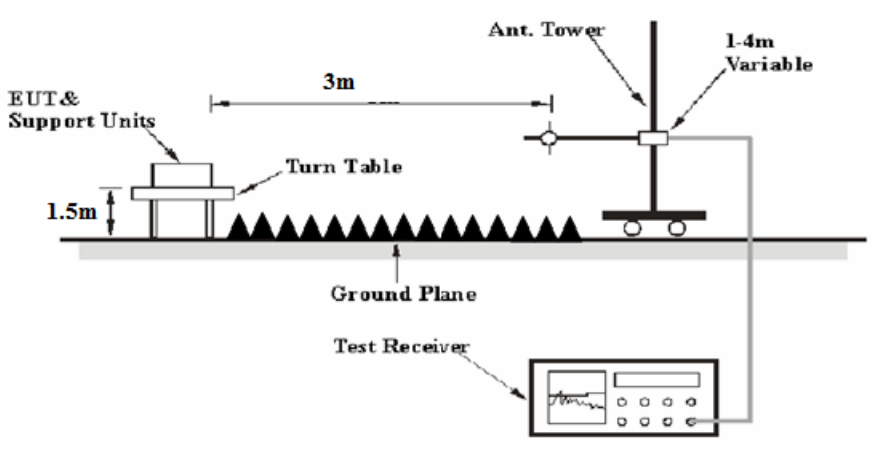
3.3 20 dB Emission Bandwidth

3.3.1 Applicable Standard

FCC §15.215

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.

3.3.2 EUT Setup



3.3.3 Test Procedure

According to ANSI C63.10-2013 Section 6.9.2

a) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, unless otherwise specified by the applicable requirement.
b) Set the video bandwidth (VBW) ≥ 3×RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

3.4 Antenna Requirement

3.4.1 Applicable Standard

FCC §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 shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

3.4.2 Judgment

Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Not Applicable, the device was powered by battery only.

4.2 Radiation Spurious Emissions

Serial Number:	2CYB-1	Test Date:	2023/12/07~2023/12/15
Test Site:	966-1/966-2	Test Mode:	Transmitting
Tester:	Carl Xue, coco Tian	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.6~25.9	Relative Humidity: (%)	48~57	ATM Pressure: (kPa)	101.2~101.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-6	2023/09/18	2026/09/17
BACL	Loop Antenna	1313-1P	3092721	2023/10/20	2026/10/19
R&S	EMI Test Receiver	ESR3	102724	2023/03/31	2024/03/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/07/16	2024/07/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/07/16	2024/07/15
Sonoma	Amplifier	310N	186165	2023/07/16	2024/07/15
Audix	Test Software	E3	201021 (V9)	N/A	N/A
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/02/22	2026/02/21
R&S	Spectrum Analyzer	FSV40	101591	2023/03/31	2024/03/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/08/06	2024/08/05
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/08/06	2024/08/05
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/08	2024/11/07
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021/02/05	2024/02/04
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/09/15	2024/09/14
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/08/06	2024/08/05
E-Microwave	Band Rejection Filter	2400-2483.5MHz	OE01902424	2023/08/06	2024/08/05
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/08/06	2024/08/05

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Please refer to the below table and plots.

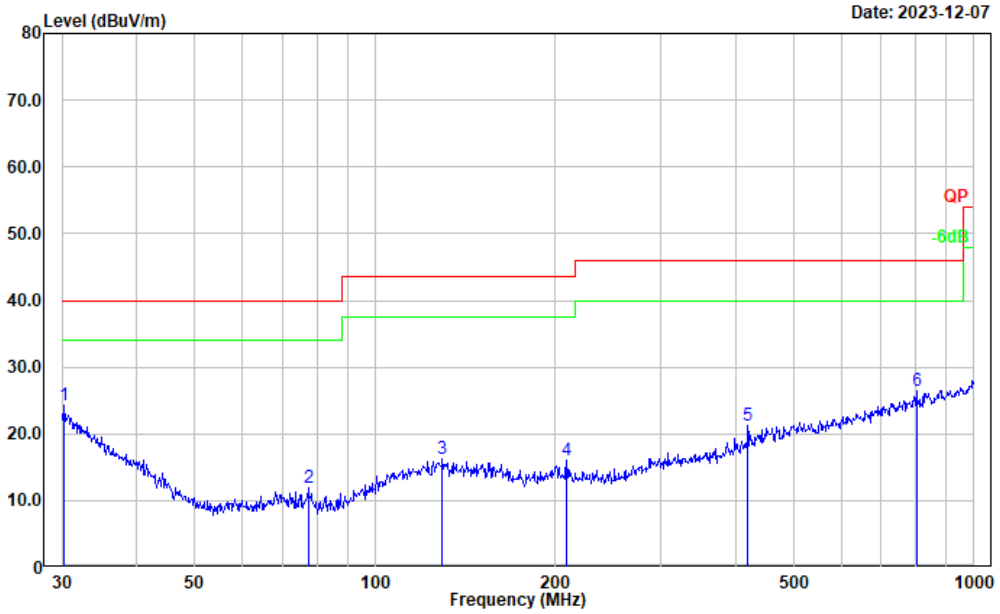
After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

1) 9kHz~30MHz

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

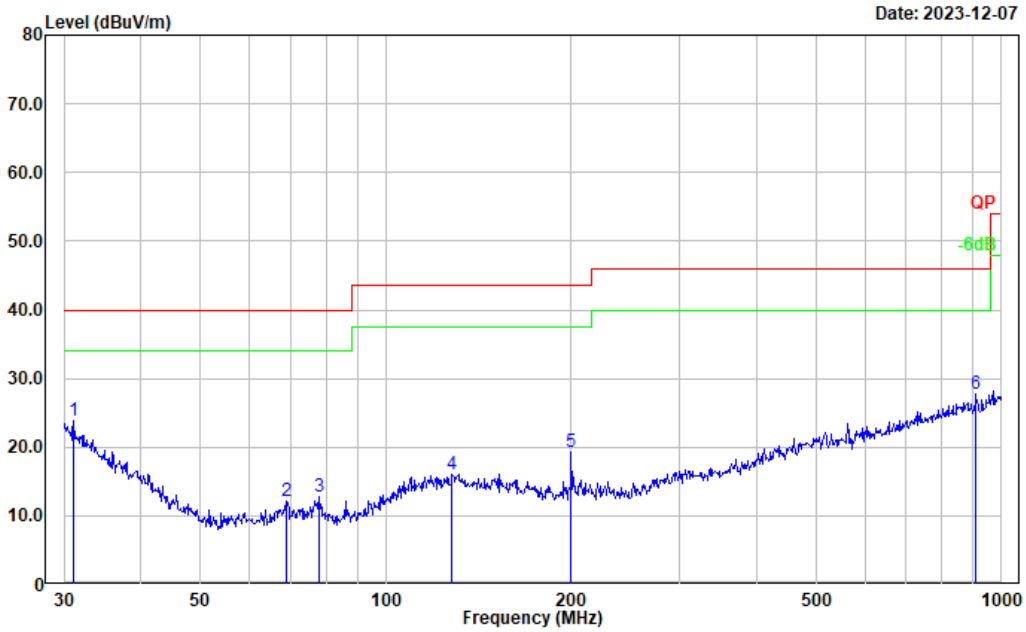
2) 30MHz-1GHz:
Low channel:

Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: horizontal
Note: Transmitting(Low Channel)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.317	28.58	-4.36	24.22	40.00	15.78	Peak
2	77.321	29.56	-17.57	11.99	40.00	28.01	Peak
3	129.468	27.92	-11.63	16.29	43.50	27.21	Peak
4	208.580	29.03	-12.91	16.12	43.50	27.38	Peak
5	419.108	29.62	-8.38	21.24	46.00	24.76	Peak
6	801.786	28.79	-2.39	26.40	46.00	19.60	Peak

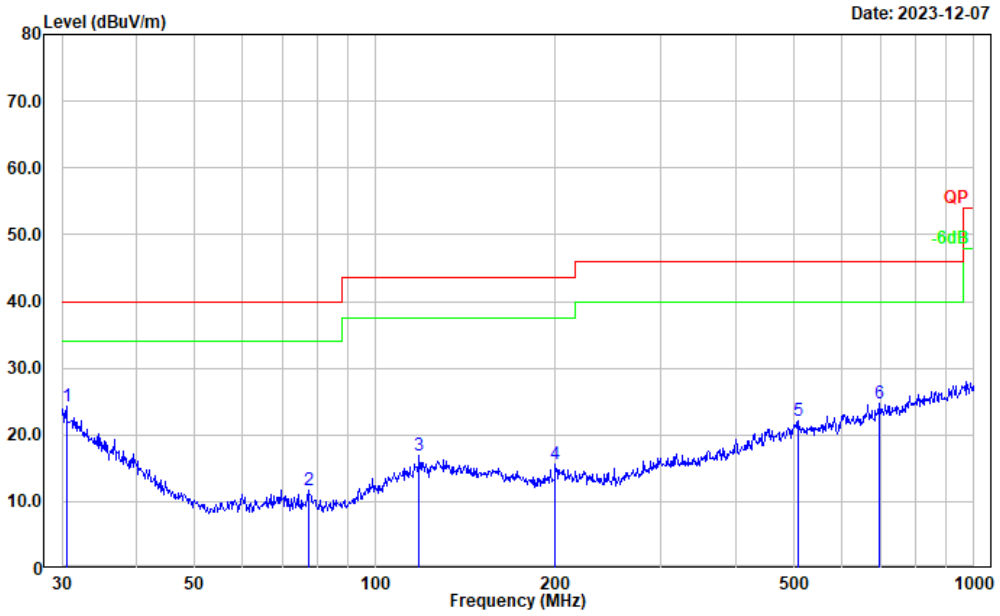
Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: vertical
Note: Transmitting(Low Channel)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.071	28.78	-4.94	23.84	40.00	16.16	Peak
2	68.872	29.28	-17.04	12.24	40.00	27.76	Peak
3	77.865	30.52	-17.63	12.89	40.00	27.11	Peak
4	128.113	27.71	-11.63	16.08	43.50	27.42	Peak
5	199.986	31.78	-12.58	19.20	43.50	24.30	Peak
6	909.667	28.67	-0.86	27.81	46.00	18.19	Peak

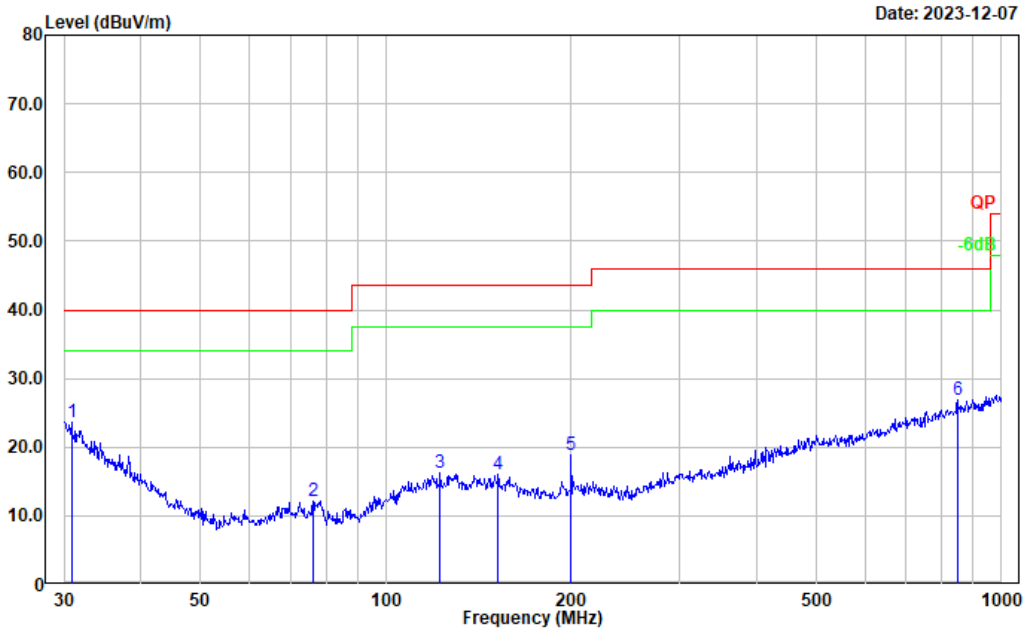
Middle channel:

Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: horizontal
Note: Transmitting(Middle Channel)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.531	28.80	-4.53	24.27	40.00	15.73	Peak
2	77.321	29.33	-17.57	11.76	40.00	28.24	Peak
3	118.601	28.75	-11.94	16.81	43.50	26.69	Peak
4	199.986	28.15	-12.58	15.57	43.50	27.93	Peak
5	508.258	28.49	-6.32	22.17	46.00	23.83	Peak
6	694.417	28.66	-4.03	24.63	46.00	21.37	Peak

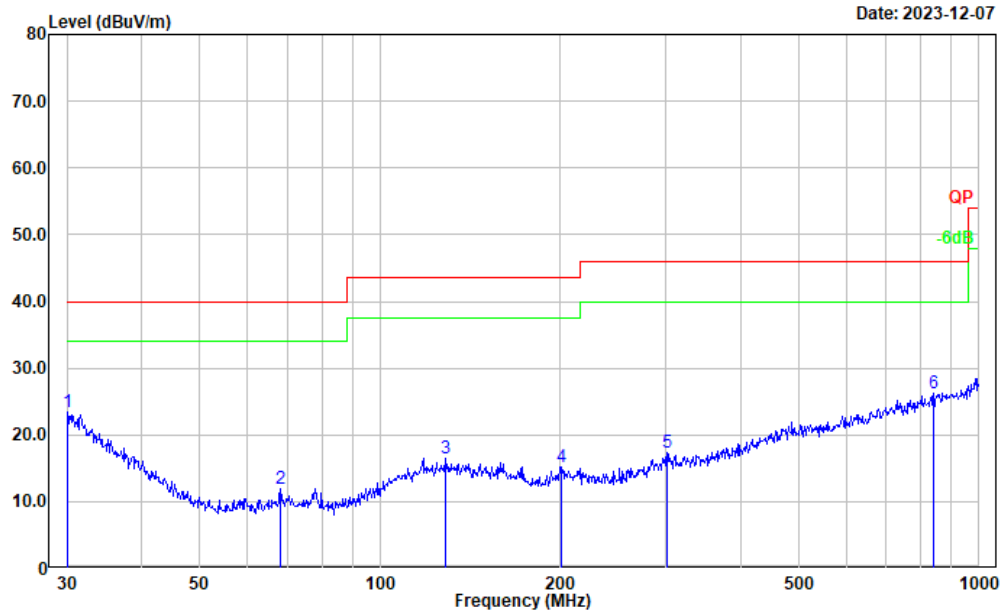
Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: vertical
Note: Transmitting(Middle Channel)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.853	28.39	-4.78	23.61	40.00	16.39	Peak
2	76.244	29.60	-17.47	12.13	40.00	27.87	Peak
3	122.404	28.06	-11.77	16.29	43.50	27.21	Peak
4	152.130	28.32	-12.25	16.07	43.50	27.43	Peak
5	199.986	31.40	-12.58	18.82	43.50	24.68	Peak
6	848.056	28.56	-1.77	26.79	46.00	19.21	Peak

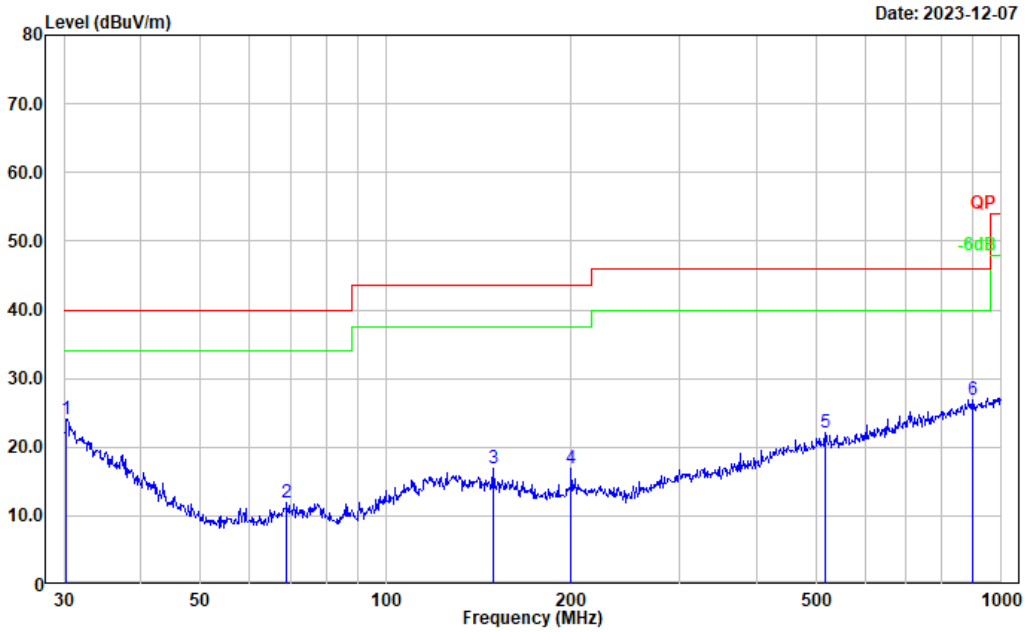
High channel:

Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: horizontal
Note: Transmitting(High Channel)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.105	27.71	-4.20	23.51	40.00	16.49	Peak
2	68.151	29.08	-17.09	11.99	40.00	28.01	Peak
3	128.563	28.14	-11.63	16.51	43.50	26.99	Peak
4	200.688	27.87	-12.61	15.26	43.50	28.24	Peak
5	301.422	28.30	-11.03	17.27	46.00	28.73	Peak
6	839.182	28.14	-1.90	26.24	46.00	19.76	Peak

Project No.: CR231063862-RF
Tester: Carl Xue
Polarization: vertical
Note: Transmitting(High Channel)

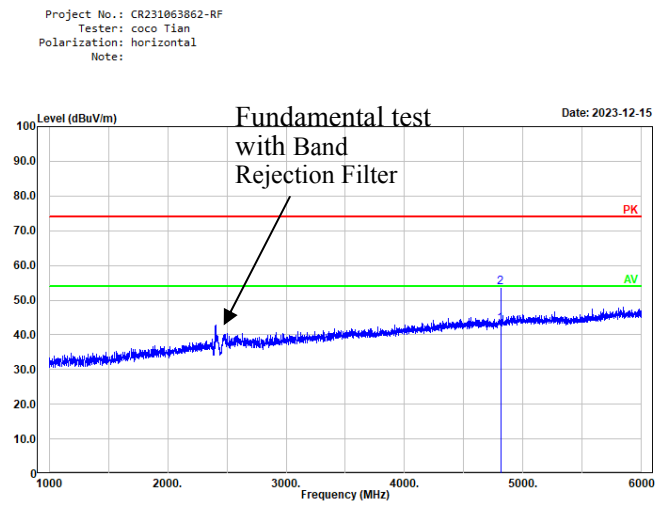
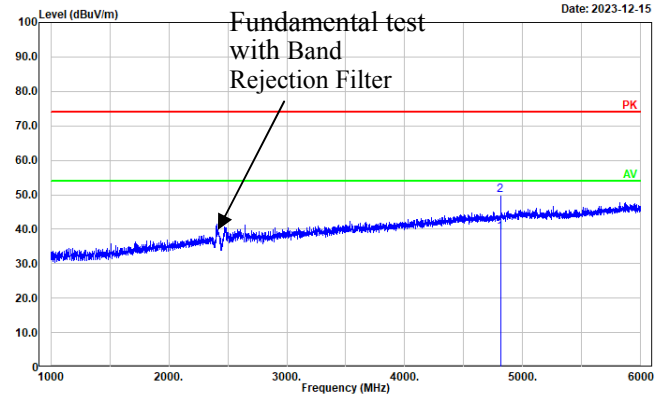


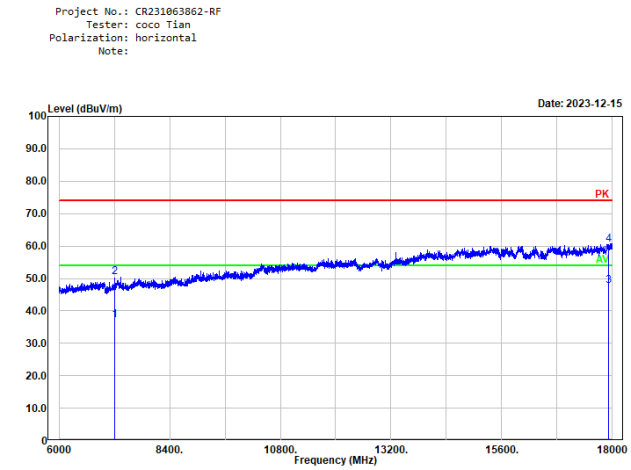
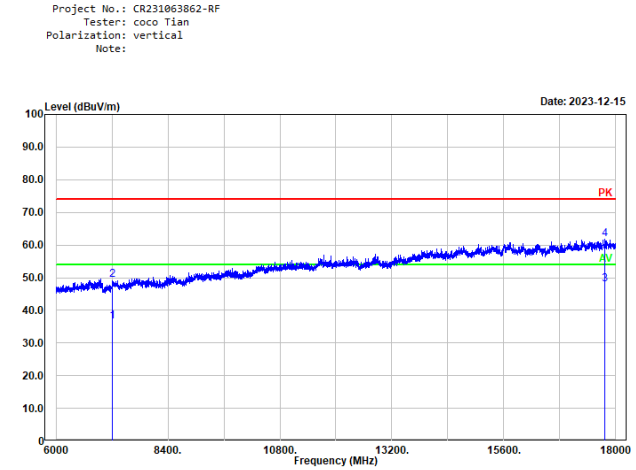
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.317	28.44	-4.36	24.08	40.00	15.92	Peak
2	69.114	28.85	-17.02	11.83	40.00	28.17	Peak
3	149.486	29.20	-12.22	16.98	43.50	26.52	Peak
4	199.986	29.43	-12.58	16.85	43.50	26.65	Peak
5	517.248	28.32	-6.29	22.03	46.00	23.97	Peak
6	896.997	28.17	-1.20	26.97	46.00	19.03	Peak

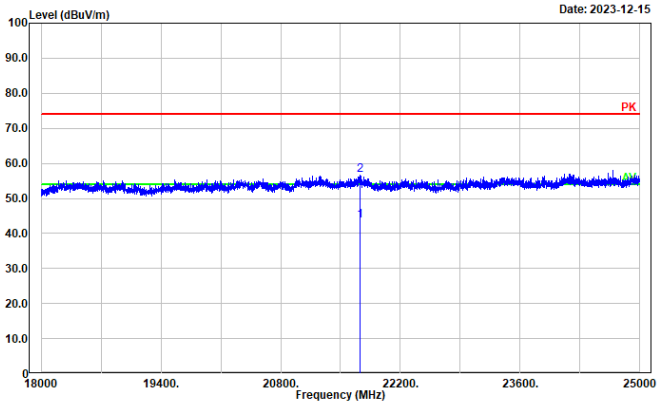
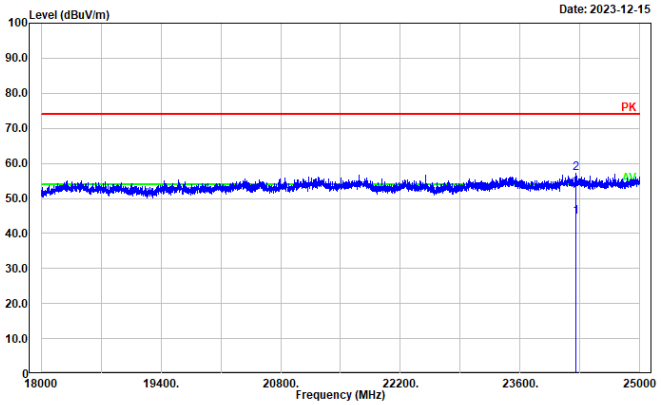
3) 1GHz-25GHz:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Test Frequency: 2405 MHz							
2405.000	53.23	PK	H	31.81	85.04	113.98	28.94
2405.000	40.12	AV	H	31.81	71.93	93.98	22.05
2405.000	50.35	PK	V	31.81	82.16	113.98	31.82
2405.000	37.38	AV	V	31.81	69.19	93.98	24.79
2400.000	26.57	PK	H	31.78	58.35	74.00	15.65
2400.000	13.32	AV	H	31.78	45.10	54.00	8.90
2400.000	26.38	PK	V	31.78	58.16	74.00	15.84
2400.000	13.46	AV	V	31.78	45.24	54.00	8.76
4810.000	42.47	PK	H	11.21	53.68	74.00	20.32
4810.000	31.99	AV	H	11.21	43.20	54.00	**10.80**
4810.000	38.65	PK	V	11.21	49.86	74.00	24.14
4810.000	27.89	AV	V	11.21	39.10	54.00	14.90
7215.000	35.20	PK	H	15.10	50.30	74.00	23.70
7215.000	22.12	AV	H	15.10	37.22	54.00	16.78
7215.000	34.35	PK	V	15.10	49.45	74.00	24.55
7215.000	21.56	AV	V	15.10	36.66	54.00	17.34
Test Frequency: 2440 MHz							
2440.000	52.73	PK	H	32.01	84.74	113.98	29.24
2440.000	40.03	AV	H	32.01	72.04	93.98	21.94
2440.000	50.63	PK	V	32.01	82.64	113.98	31.34
2440.000	37.42	AV	V	32.01	69.43	93.98	24.55
4880.000	41.35	PK	H	11.48	52.83	74.00	21.17
4880.000	30.76	AV	H	11.48	42.24	54.00	11.76
4880.000	38.32	PK	V	11.48	49.80	74.00	24.20
4880.000	27.45	AV	V	11.48	38.93	54.00	15.07
7320.000	33.78	PK	H	15.58	49.36	74.00	24.64
7320.000	20.86	AV	H	15.58	36.44	54.00	17.56
7320.000	33.65	PK	V	15.58	49.23	74.00	24.77
7320.000	20.69	AV	V	15.58	36.27	54.00	17.73
Test Frequency: 2475 MHz							
2475.000	53.36	PK	H	32.16	85.52	113.98	28.46
2475.000	40.12	AV	H	32.16	72.28	93.98	21.70
2475.000	50.08	PK	V	32.16	82.24	113.98	31.74
2475.000	37.32	AV	V	32.16	69.48	93.98	24.50
2483.500	27.02	PK	H	32.19	59.21	74.00	14.79
2483.500	13.67	AV	H	32.19	45.86	54.00	8.14
2483.500	26.74	PK	V	32.19	58.93	74.00	15.07
2483.500	13.58	AV	V	32.19	45.77	54.00	8.23
4950.000	41.53	PK	H	11.76	53.29	74.00	20.71
4950.000	30.86	AV	H	11.76	42.62	54.00	11.38
4950.000	38.26	PK	V	11.76	50.02	74.00	23.98
4950.000	27.84	AV	V	11.76	39.60	54.00	14.40
7425.000	33.69	PK	H	15.87	49.56	74.00	24.44
7425.000	20.54	AV	H	15.87	36.41	54.00	17.59
7425.000	33.65	PK	V	15.87	49.52	74.00	24.48
7425.000	20.79	AV	V	15.87	36.66	54.00	17.34

Worst Test plots (Low channel was the worst)

Test Plots	
1GHz-6GHz Horizontal	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 4810.000 31.99 11.21 43.20 54.00 10.80 Average 2 4810.000 42.47 11.21 53.68 74.00 20.32 Peak
1GHz-6GHz Vertical	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 4810.000 27.89 11.21 39.10 54.00 14.90 Average 2 4810.000 38.65 11.21 49.86 74.00 24.14 Peak

Test Plots	
6GHz-18GHz Horizontal	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 7215.000 22.12 15.10 37.22 54.00 16.78 Average 2 7215.000 35.20 15.10 50.30 74.00 23.70 Peak 3 17915.980 15.40 32.24 47.64 54.00 6.36 Average 4 17915.980 28.32 32.24 60.56 74.00 13.44 Peak
6GHz-18GHz Vertical	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 7215.000 21.56 15.10 36.66 54.00 17.34 Average 2 7215.000 34.35 15.10 49.45 74.00 24.55 Peak 3 17759.950 16.50 31.48 47.98 54.00 6.02 Average 4 17759.950 30.37 31.48 61.85 74.00 12.15 Peak

Test Plots	
18GHz-25GHz Horizontal	Project No.: CR231063862-RF Tester: coco Tian Polarization: Horizontal Note:  No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 21733.150 38.64 5.01 43.65 54.00 10.35 Average 2 21733.150 51.73 5.01 56.74 74.00 17.26 Peak
18GHz-25GHz Vertical	Project No.: CR231063862-RF Tester: coco Tian Polarization: Vertical Note:  No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 24246.650 39.60 5.02 44.62 54.00 9.38 Average 2 24246.650 52.07 5.02 57.09 74.00 16.91 Peak

4.3 20 dB Emission Bandwidth:

Serial Number:	2CYB-1	Test Date:	2023/12/16
Test Site:	966-1	Test Mode:	Transmitting
Tester:	coco Tian	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	25.5	Relative Humidity: (%)	58	ATM Pressure: (kPa)	101.0

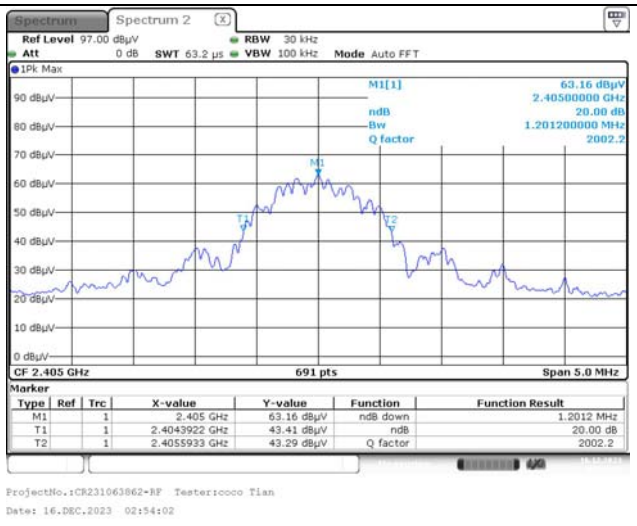
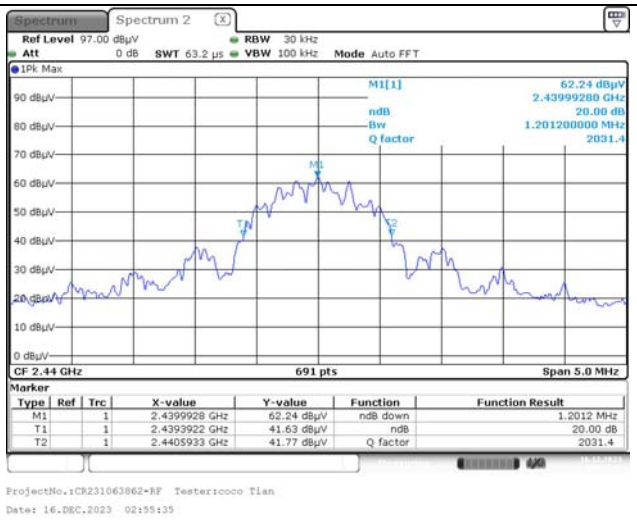
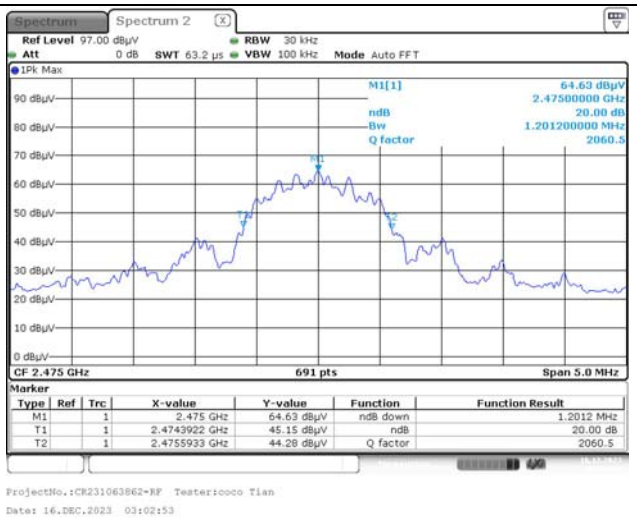
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/02/22	2026/02/21
R&S	Spectrum Analyzer	FSV40	101591	2023/03/31	2024/03/30
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/08	2024/11/07
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/08/06	2024/08/05
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/08/06	2024/08/05

**** Statement of Traceability:*** *China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Frequency (MHz)	20 dB Bandwidth (MHz)
2405	1.201
2440	1.201
2475	1.201

20dB Emission Bandwidth	
2405MHz	
2440MHz	
2475MHz	

5. RF EXPOSURE EVALUATION

5.1.1 Applicable Standard

FCC §1.1307(b)(3)(i)(A)

a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

5.1.2 Procedure

According to 447498 D04 Interim General RF Exposure Guidance v01, clause 2.1.2- 1-mW Test Exemption:

Per §1.1307(b)(3)(i)(A), a single RF source is *exempt RF device* (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

5.1.3 Measurement Result

Frequency (MHz)	Maximum Power		1-mW Test Exemption
	dBm	mW	
2405-2475	-9.68	0.11	Compliant

Note:
1. This device maximum E-Field level is 85.52dBμV/m at 3m, so the EIRP power is -9.68 dBm, Antenna Gain is 0dBi, so the Maximum Conduct Power is -9.68dBm.
2. EIRP(dBm)=Field Strength of Fundamental(dBuV/m)-95.2 (dB),
Maximum Conduct Power (dBm)= EIRP(dBm)- Antenna Gain(dBi)

Result: Compliant. RF Exposure is exemption**.**

6. EUT PHOTOGRAPHS

Please refer to the attachment CR231063862-EXP EUT EXTERNAL PHOTOGRAPHS and CR231063862-INP EUT INTERNAL PHOTOGRAPHS

7. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR231063862-00-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT ====