



CERTIFICATE #5473.01

Test Report No.:
FCC2023-0062-RF

TEST REPORT

FCC ID : 2AI7A22210
Applicant : Kidz Toyz USA LLC
Product Name : Kawasaki 200ft. Walkie Talkies
Mode No. : 22210
Classification Of Test: COMMISSION TEST

CVC Testing Technology Co., Ltd.

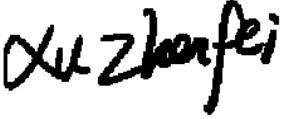
Applicant	Name: Kidz Toyz USA LLC Address: 700 Fairfield Avenue Stamford CT 06902				
Manufacturer	Name: Kidz Toyz USA LLC Address: 700 Fairfield Avenue Stamford CT 06902				
Equipment Under Test	Product Name : Kawasaki 200ft. Walkie Talkies Model No. : 22210 Trade mark : N/A Serial no. : N/A Sampling : 1-1				
Date of Receipt.	2023.10.21	Date of Testing	2023.10.24		
Test Specification		Test Result			
FCC CFR47 Part 15C (2020) Radio Frequency Devices ANSI C63.10 (2013)		PASS			
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied.				
	Seal of CVC Issue Date: 2023.10.27				
Approved by:	Reviewed by:	Tested by:			
Chen HuaWen	Xu Zhenfei	Lu Weiji			
					
Other Aspects: NONE.					
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested					
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC .					

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1. General Product Information

1.1 General information

Product Name	Kawasaki 200ft. Walkie Talkies
Model No.	22210
Additional model	N/A
Power Supply	DC 9.0V
Serial Number(SN)	N/A
firmware	V1.0
software	V1.0
specific power settings	Default
Antenna Type	External Antenna
Antenna Connector	A permanently attached antenna
Antenna Gain	0 dBi (provided by client)
Beamforming gain	Unsupported (provided by client)
Frequency Range	49.86 MHz
Channel Number	1 Channel
Type of Modulation	F3E
Max. Power	-38.75dBm
Operate Temp.Range	-5~70°C

Note:

1. The information of the EUT is declared by the manufacturer.
2. The laboratory is not responsible for the product technical specification provided by the client.

2. Test Sites

2.1 Test Facilities

The tests and measurements refer to this report were performed by RF testing Lab. of CVC Testing Technology Co., Ltd.

Add.: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, Guangdong, 510663, People's Republic of China

Telephone : +86-20-32293888

Fax : +86-20-32293889

FCC(Test firm designation number: CN1282)

IC(Test firm CAB identifier number: CN0103)

2.2 Description of Non-standard Method and Deviations

The testing and measurement methods used in this report are applied by all standard methods. Not any non-standard method or deviation from the used standards was used.

2.3 List of Test and Measurement Instruments

Refer to **Appendix A**.

3. Test Configuration

3.1 Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Test Mode	Antenna Delivery	Test Channel
Tx mode	1TX	49.86MHz

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate and different channels. Preliminary tests have been done on all the configurations for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates and channels are shown as following table.

Test Mode	Data Rate		
	Antenna 1	Antenna 2	MIMO
Tx mode	/	/	/

Test Items	Test Antenna	Test Mode	Test Channel
Radiated Emissions	Antenna 1	Tx mode	49.86MHz
Field Strength of Fundamental Emissions	Antenna 1	Tx mode	49.86MHz
20dB Bandwidth measurement	Antenna 1	Tx mode	49.86MHz
26dB Bandwidth measurement	Antenna 1	Tx mode	49.86MHz

4. Summary of measurement results

Summary of measurements of results	Clause in FCC rules	Verdict	Note
Conducted Emissions	15.207	N/A	See Note1
Radiated Emissions	15.209	PASS	/
Field Strength of Fundamental Emissions	15.235(a)	PASS	/
20dB Bandwidth measurement	15.235(c)	PASS	/
26dB Bandwidth measurement	15.235(b)	PASS	/
Antenna Requirement	15.203	PASS	No antenna connector is used

Note1: The device is not connected to the AC power line, there are no testing requirements.

5. Measurement procedure

5.1 Conducted Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was setup according to ANSI C63.10, 2013 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

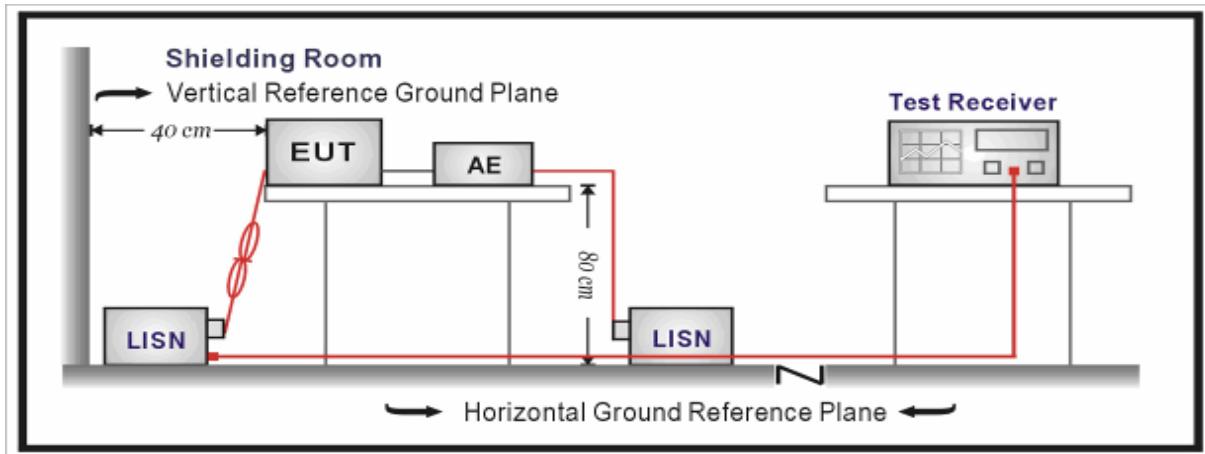
Limits:

Frequency (MHz)	Conducted Limits(dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Test Setup:



Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Level =Reading + Factor.

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U = 3.12$ dB.

Test Results:

Conducted Emission applies to an intentional radiator that is designed to be connected to the public utility (AC) power line. 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.

5.2 Radiated Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was setup and tested according to ANSI C63.10, 2013.

For emissions testing at or below 1 GHz, the EUT is placed on a turn table which is 0.8 meter above ground. For emissions testing above 1 GHz, the EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

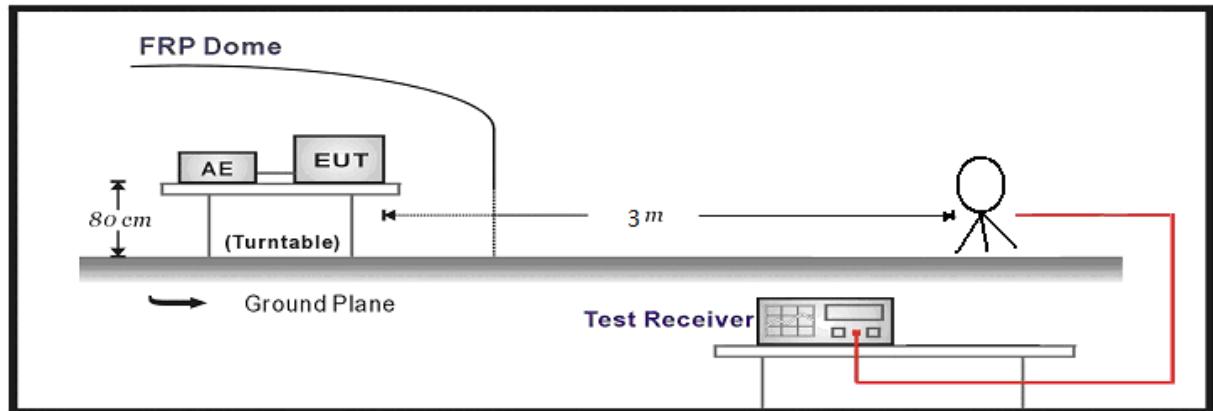
Limits:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

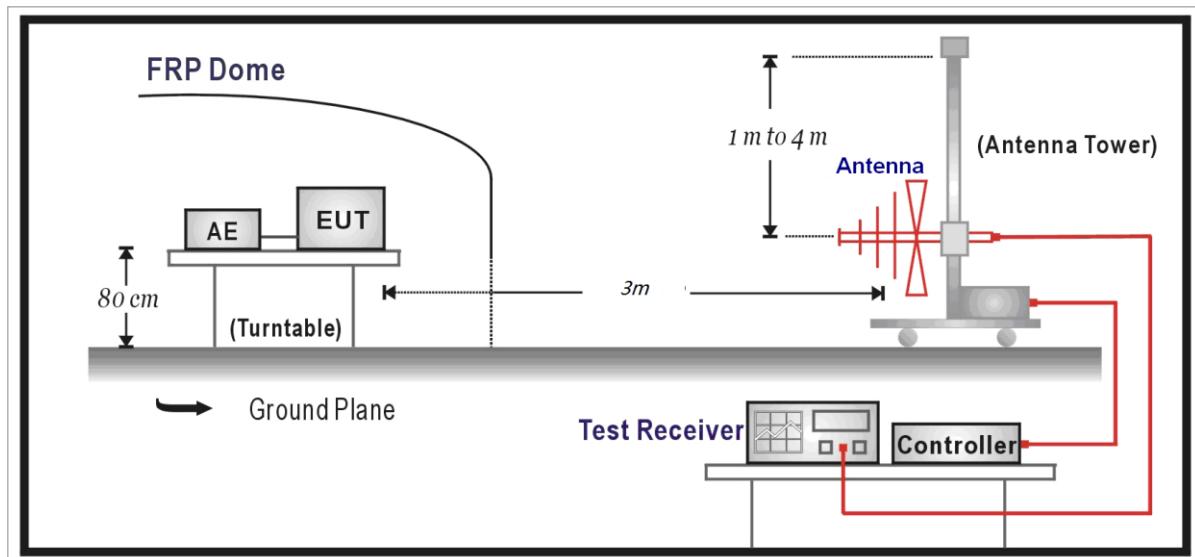
Frequency	Limit (μ V/m)	Limit (dB μ V/m @3m)	Remark
0.009MHz-0.490MHz	2400/F(kHz)@300m	20lg(240000/F(kHz))	Quasi-peak Level
0.490MHz~1.705MHz	24000/F(kHz)@30m	20lg(240000/F(kHz))	Quasi-peak Level
1.705MHz~30.0MHz	30@30m	49.54	Quasi-peak Level
30MHz-88MHz	100@3m	40.0	Quasi-peak Level
88MHz-216MHz	150@3m	43.5	Quasi-peak Level
216MHz-960MHz	200@3m	46.0	Quasi-peak Level
960MHz-1GHz	500@3m	54.0	Quasi-peak Level
Above 1GHz	500@3m	54.0	Average Level
	5000@3m	74.0	Peak Level

Test Setup:

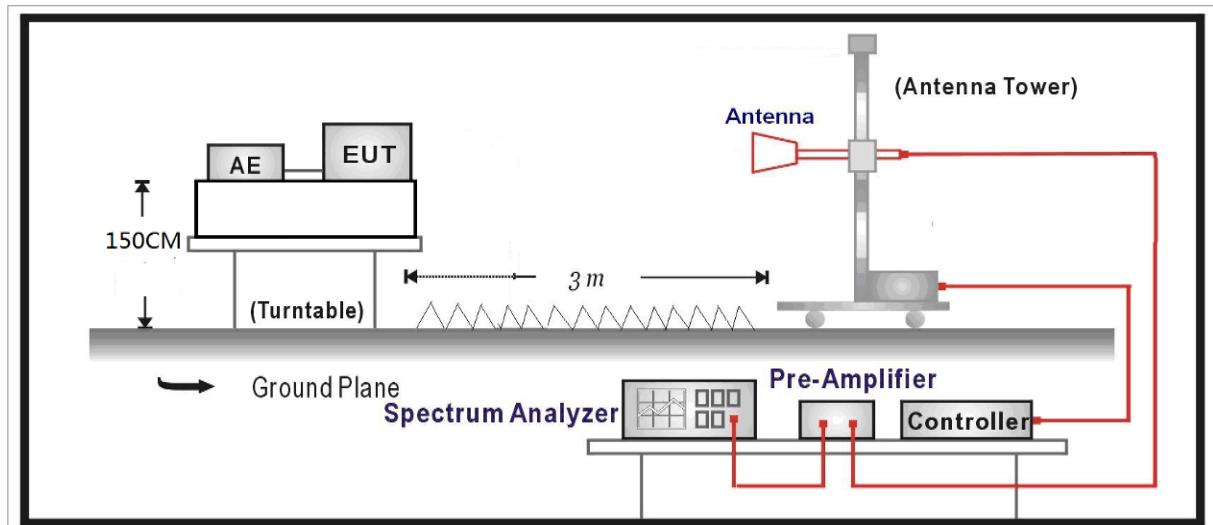
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



Measurement Data:

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

Final Level =Reading - Factor

Factor = Preamplifier Factor – Antenna Factor–Cable Loss

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test Results:

BELOW 1GHz WORST-CASE DATA:

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M									
No.	Freq. (MHz)	Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or	Antenna Height (cm)	Table Angle (Degree)	Pass/ Fail
1	149.516	20.69	33.13	43.50	10.37	PK	100	92	Pass
2	249.2419	19.36	37.51	46.00	8.49	PK	100	99	Pass
3	348.9679	22.66	44.37	46.00	1.63	PK	100	92	Pass
4	448.6939	25.25	40.25	46.00	5.75	PK	100	277	Pass
5	498.5569	26.61	37.28	46.00	8.72	PK	100	284	Pass
6	698.0088	30.31	40.62	46.00	5.38	PK	100	350	Pass
7	149.5657	20.69	15.94	43.50	27.56	QP	110	92	Pass
8	249.2744	19.36	24.12	46.00	21.88	QP	370	99	Pass
9	348.9679	22.66	28.67	46.00	17.33	QP	390	92	Pass
10	448.6809	25.25	25.82	46.00	20.18	QP	190	277	Pass
11	498.5208	26.61	28.82	46.00	17.18	QP	380	284	Pass
12	697.9478	30.31	38.34	46.00	7.66	QP	330	350	Pass

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M									
No.	Freq. (MHz)	Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or	Antenna Height (cm)	Table Angle (Degree)	Pass/ Fail
1	99.653	15.90	33.49	43.50	10.01	PK	100	66	Pass
2	348.9679	22.66	42.22	46.00	3.78	PK	100	203	Pass
3	398.8309	23.92	41.21	46.00	4.79	PK	100	92	Pass
4	448.6939	25.25	42.71	46.00	3.29	PK	100	112	Pass
5	498.5569	26.61	45.17	46.00	0.83	PK	100	92	Pass
6	548.4198	27.65	41.75	46.00	4.25	PK	100	125	Pass
7	99.7121	15.90	32.56	43.50	10.94	QP	380	66	Pass
8	348.9679	22.66	34.28	46.00	11.72	QP	210	203	Pass
9	398.8193	23.92	37.93	46.00	8.07	QP	310	92	Pass
10	448.6809	25.25	36.82	46.00	9.18	QP	330	112	Pass
11	498.5352	26.61	42.99	46.00	3.01	QP	320	92	Pass
12	548.3801	27.65	40.30	46.00	5.70	QP	250	125	Pass

NOTE:

- Margin value = Limit value - Emission level.
- The emission levels of other frequencies were less than 20dB margin against the limit.

5.3 Field Strength of Fundamental Emissions

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was setup and tested according to ANSI C63.10, 2013.

For emissions testing at or below 1 GHz, the EUT is placed on a turn table which is 0.8 meter above ground. For emissions testing above 1 GHz, the EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

Limits:

According to 15.235, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

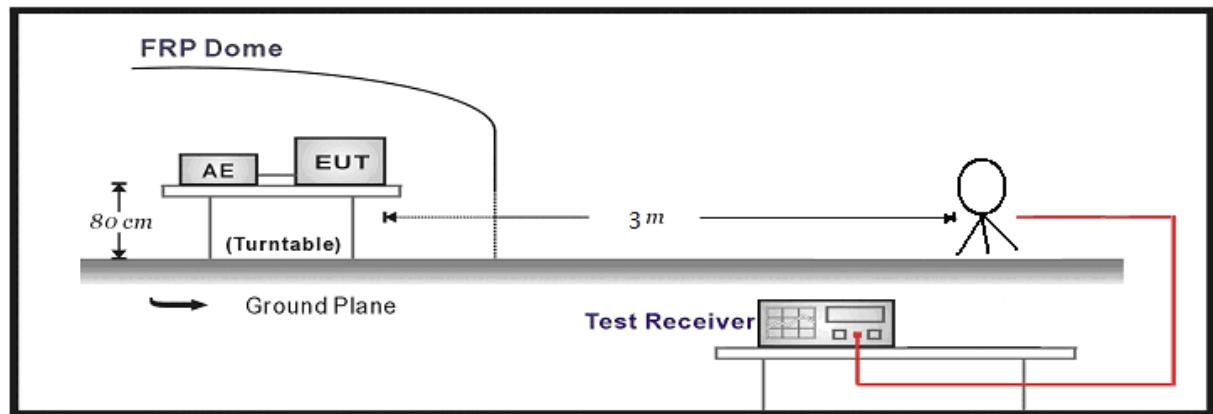
Fundamental frequency (MHz)	Field strength of fundamental			
	Peak Level(uV/m)	Peak Level(dBuV/m)	Average Level(uV/m)	Average Level(dBuV/m)
49.82-49.90	100,000	100	10,000	80

NOTE:

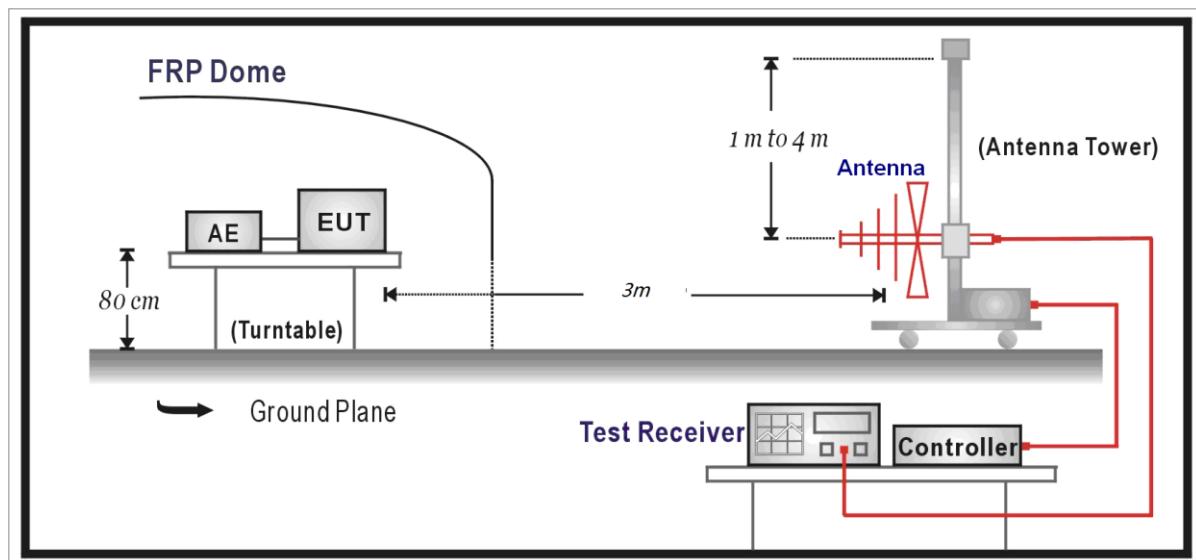
1. Emission level (dBuV/m) = 20 log Emission level (uV/m).
2. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions.

Test Setup:

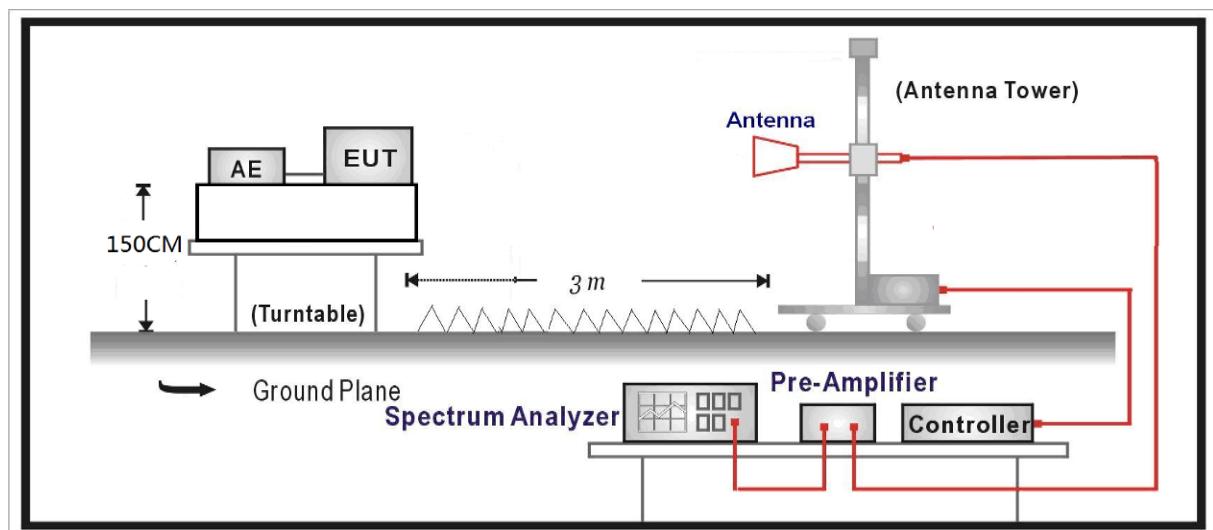
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



Measurement Data:

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

Final Level =Reading - Factor

Factor = Preamplifier Factor – Antenna Factor–Cable Loss

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test Results:

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M									
No.	Freq. (MHz)	Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or	Antenna Height (cm)	Table Angle (Degree)	Pass/ Fail
1	49.86	20.44	42.92	100.00	57.08	PK	100	4	Pass
2	49.86	20.44	39.34	80.00	40.66	AV	110	4	Pass

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M									
No.	Freq. (MHz)	Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or	Antenna Height (cm)	Table Angle (Degree)	Pass/ Fail
1	49.86	20.44	56.45	100.00	43.55	PK	100	108	Pass
2	49.86	20.44	56.08	80.00	23.92	AV	140	115	Pass

NOTE: Margin value = Limit value - Emission level.

5.4 20dB Bandwidth measurement

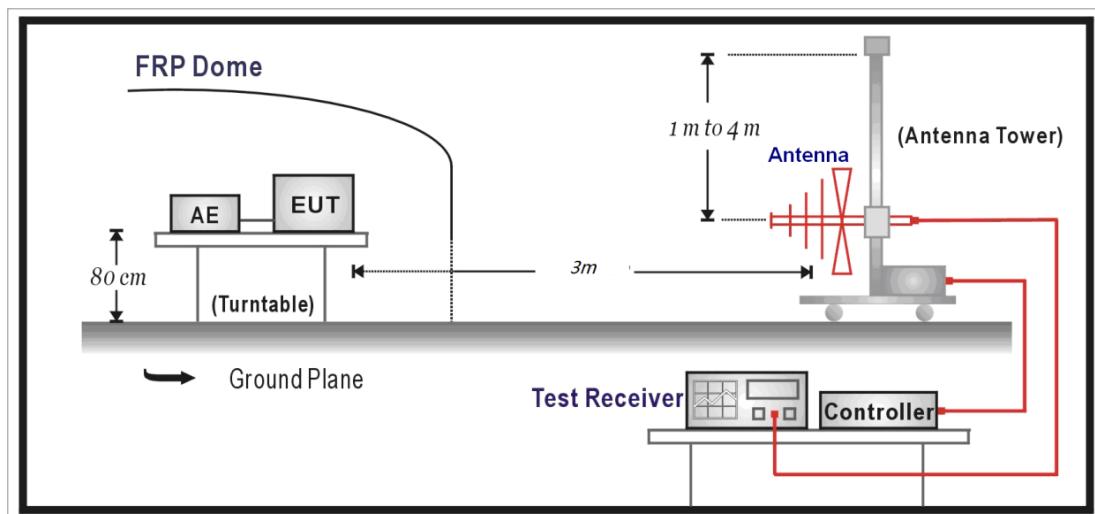
Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The spectrum analyzer was receiving the maximum emission level. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

Test Setup:



Limits:

According to FCC 15.235(c), The RF carrier and modulation products shall be maintained within the band 49.82–49.90 MHz.

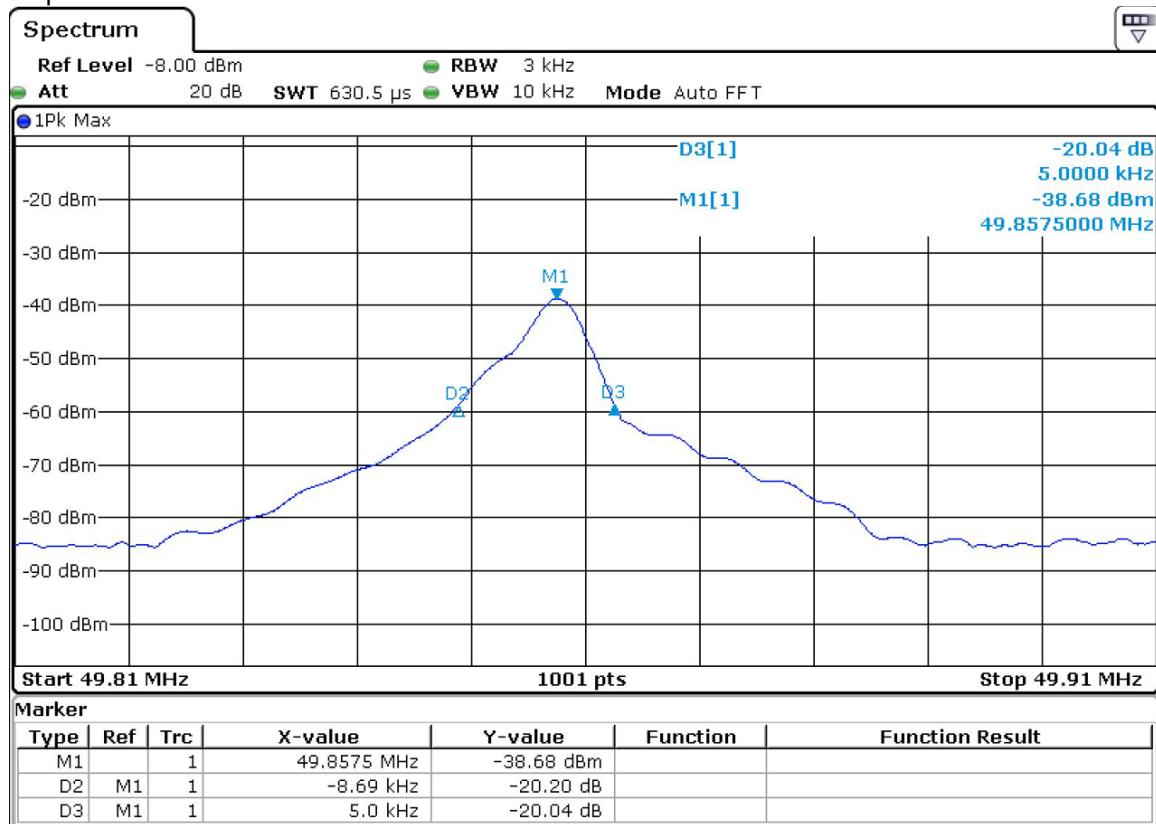
Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	PASS/FAIL
49.86	13.69	within 49.82-49.90	PASS

The plots of test results are attached as below.



5.5 26dB Bandwidth measurement

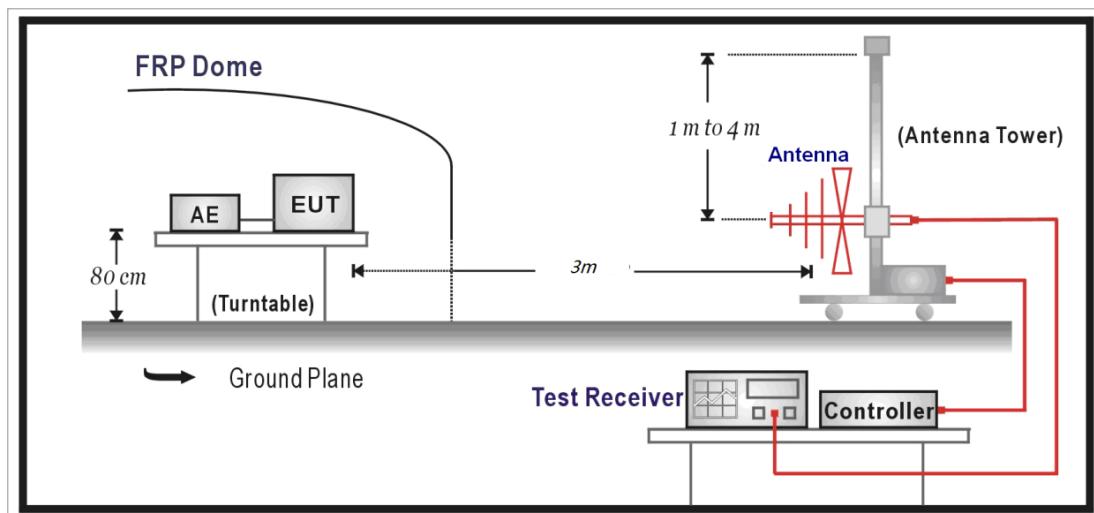
Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency.

Test Setup:



Limits:

According to FCC 15.235(b), The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in § 15.209, whichever permits the higher emission levels.

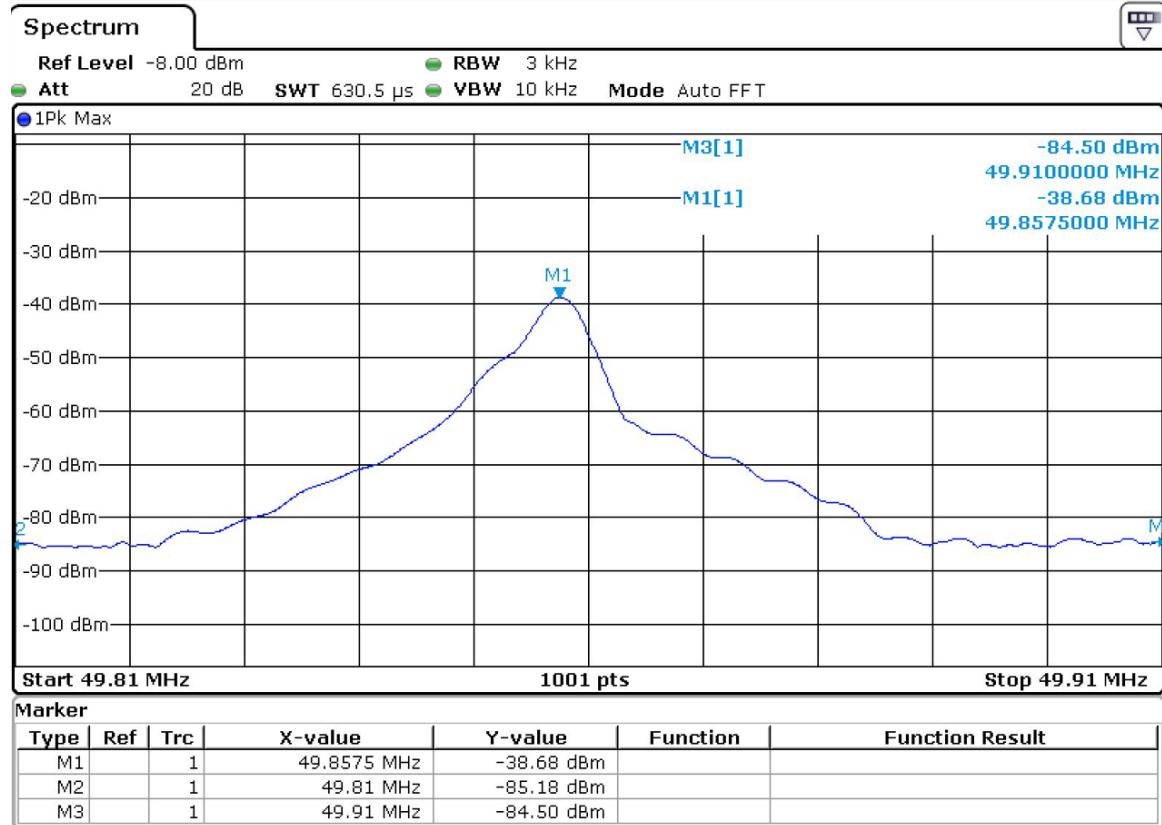
Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

Frequency (MHz)	Reading(dBm)	Results(dB)	Limit (dB)	PASS/FAIL
49.81	-85.18	46.50	≥26	PASS
49.91	-84.50	45.82	≥26	PASS

The plots of test results are attached as below.



6. Appendix A

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
5m Semi-Anechoic Chamber	SAC-5	SAC-5-2.0	EM-000557	COMTEST	2024/11/02
EMI Test Receiver	ESR7	102235	VGDY-0956	R&S	2024/02/22
loop antenna	HLA 6121	540046	EM-000546	TESEQ	2024/06/05
Broadband Antenna	VULB 9163	9163-676	EM-000382	SCHWARZBECK	2024/06/10
Temperature and humidity meter	MHO-C201	/	DZ-000249-2	Seconds test	2024/09/23

The End

Important

1. The test report is invalid without the official stamp of CVC;
2. Any part photocopies of the test report are forbidden without the written permission from CVC;
3. The test report is invalid without the signatures of Approval and Reviewer;
4. The test report is invalid if altered;
5. Objections to the test report must be submitted to CVC within 15 days;
6. Generally, commission test is responsible for the tested samples only;
7. As for the test result, “—” or “N” means “not applicable”, “ / ” means “not test”, “P” means “pass” and “F” means “fail”.

The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented.

Lab address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, Guangdong, P.R. China

Post Code: 510663 Tel: 020 32293888

Fax: 020 32293889 E-mail: office@cvc.org.cn

<http://www.cvc.org.cn>