RF TEST REPORT

Report No.:	20250117G01666X-W8
Product Name:	KEY TOOL MIDI
Model No. :	XDKMD
FCC ID:	2AI4T-XDKMD
Applicant:	Shenzhen Xhorse Electronics Co., Ltd.
Address:	Floor 28, Block A, Building NO.6, International Innovation Valley, Nanshan District, Shenzhen
Dates of Testing:	01/27/2025–04/11/2025
Issued by:	CCIC Southern Testing Co., Ltd.
Lab Location:	Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China. Query E-Mail: manager@ccic-set.com Feedback E-Mail: integrity@ccic-set.com Report Query Tel: 0755-26627338 Feedback Tel: 0755-86185963

Test Report

Product.....:	KEY TOOL MIDI
Trade Name .....:	Xhorse
Applicant.....:	Shenzhen Xhorse Electronics Co., Ltd.
Applicant Address.....:	Floor 28, Block A, Building NO.6, International Innovation Valley, Nanshan District, Shenzhen
Manufacturer.....:	Shenzhen Xhorse Electronics Co., Ltd.
Manufacturer Address.....:	Floor 28, Block A, Building NO.6, International Innovation Valley, Nanshan District, Shenzhen
Test Standards.....:	47 CFR FCC Part 15.225 ANSI C63.10-2020
Test Result.....:	Pass

Tested by .....: Chuiwang Zhang 2025.04.11

Chuiwang Zhang, Test Engineer

Reviewed by.....: Sun Jiaohui 2025.04.11

Sun Jiaohui, Senior Engineer

Approved by.....: Chris You 2025.04.11

Chris You, Manager

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Change History		
Issue	Date	Reason for change
1.0	2025.04.11	First edition

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	KEY TOOL MIDI
Operating Rang	13.56 MHz
Number of channel	1
Modulation Type	ASK
Antenna Type	Internal Antenna
Antenna Gain	2 dBi
Power supply	Rechargeable Li-ion Battery DC 3.7 V/6760 mAh

Note 1: The information of antenna gain and cable loss is provided by the manufacturer and our lab is not responsible for the accuracy of the antenna gain and cable loss information.

1.2. Test Standards and Results

The purpose of the report is to conduct testing according to the following FCC certification standards:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart C	Radio Frequency Devices
2	KDB 174176 D01 Line Conducted FAQ v01r01	AC Power-Line Conducted Emissions Frequently Asked Questions
3	ANSI C63.10-2020	American National Standard for Testing Unlicensed Wireless Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section in CFR 47	Description	Result
1	15.203	Antenna Requirement	PASS
2	15.207	Conducted Emission	PASS
3	15.225(d) 15.209	Radiated Emission	PASS
4	15.225(a) (b) (c) 15.31(f)	Field Strength of Radiated Emissions	PASS
5	15.225(e)	Frequency Stability	PASS
6	15.215(c)	20 dB & 99% Bandwidth	PASS

Note 1: The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10-2020.

1.3. Laboratory Facilities and Accreditation Certificate

☒**CCIC-SET Lab 1**

Address: Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China

FCC-Registration No.: CN1283

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until Jun. 30th, 2025.

ISED Registration: 11185A, CAB number: CN0064

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A on Aug. 04, 2016, valid time is until Jun. 30th, 2025.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

☐**CCIC-SET Lab 4**

Address: No.125, Hongmei Section, Wangsha Road, Hongmei Town, Dongguan City, Guangdong Province, China

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

1.4. Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15°C–35°C
Relative Humidity (%):	30%–60%
Atmospheric Pressure (kPa):	86 kPa–106 kPa

1. 47 CFR Part 15C Requirements

1.1. Antenna requirement

1.1.1. Applicable Standard

According to 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.

1.1.2. Antenna Information

Antenna Category: Internal Antenna

A internal Antenna was soldered to the antenna port of EUT via an adaptor cable, can't be removed.

Antenna General Information:

No.	EUT	Operating frequency range	Ant. Type	Ant. Gain
1	KEY TOOL MIDI	13.56 MHz	Internal	0

1.1.3. Result: comply

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

1.2. Field Strength of Radiated Emissions

1.2.1. Requirement

As per FCC Part 15.225.

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) Extrapolation Factor = 20 $\log_{10}(30/3)^2$ = 40dB.

1.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

1.2.3. Test Description

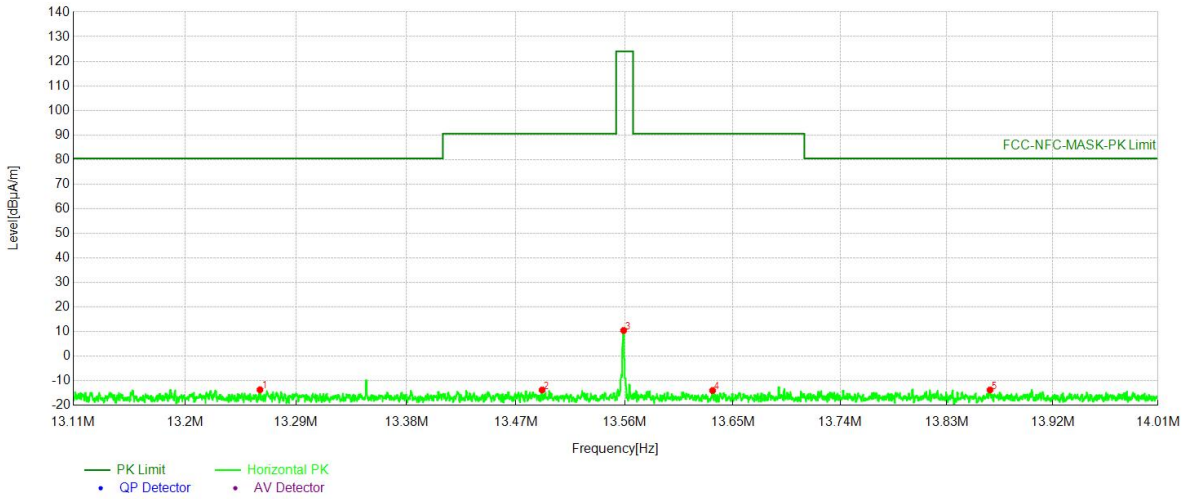
The measured Field Strength of Radiated Emissions was calculated by the reading of the spectrum analyzer and calibration.

1.2.4. Test Setup

The radiated emission tests were performed in the 5-meter chamber test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC Part Subpart C limits.

1.2.5. Test Result

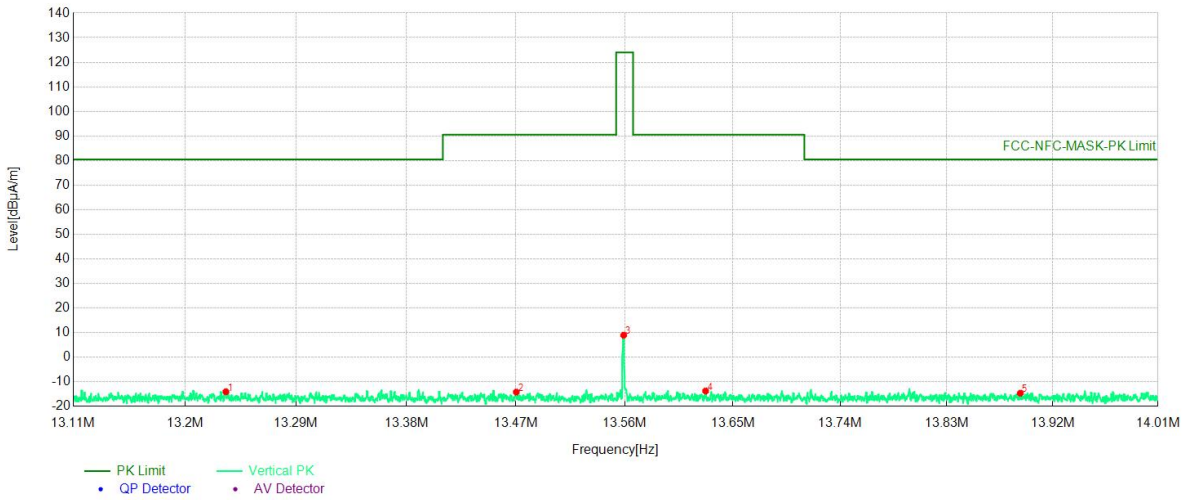
Field Strength of Radiated Emissions			
Test site:	5M anechoic chamber	Environment:	Temp: 23℃; Humi: 59%; 101kPa
Operator:	Gu Taocheng	Test Date:	2025.03.05
Test Mode:	NFC Tx	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin[dB µV/m]	Height [cm]	Angle [°]	Polarity
1	13.26	-13.62	-18.44	80.50	94.12	100	266	Horizont
2	13.49	-13.69	-18.40	90.50	104.19	100	360	Horizont
3	13.56	10.50	-18.41	124.00	113.50	100	161	Horizont
4	13.63	-13.91	-18.41	90.50	104.41	100	54	Horizont
5	13.87	-13.69	-18.39	80.50	94.19	100	54	Horizont

Test Result : Pass

Field Strength of Radiated Emissions			
Test site:	5M anechoic chamber	Environment:	Temp: 23℃; Humi: 59%; 101kPa
Operator:	Gu Taocheng	Test Date:	2025.03.05
Test Mode:	NFC Tx	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin[dB µV/m]	Height [cm]	Angle [°]	Polarity
1	13.23	-13.99	-18.43	80.50	94.49	100	199	Vertical
2	13.47	-14.13	-18.41	90.50	104.63	100	326	Vertical
3	13.56	8.99	-18.41	124.00	115.01	100	83	Vertical
4	13.63	-13.71	-18.41	90.50	104.21	100	292	Vertical
5	13.89	-14.61	-18.39	80.50	95.11	100	108	Vertical

Test Result : Pass

1.3. 20 dB & 99% Bandwidth

1.3.1. Requirement

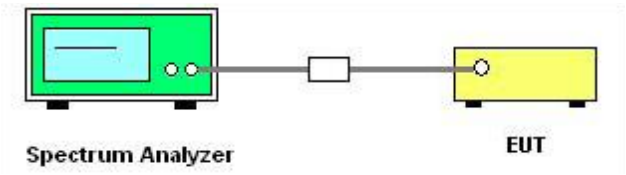
Per 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emissions in the specific band (13.553-13.567MHz).

1.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

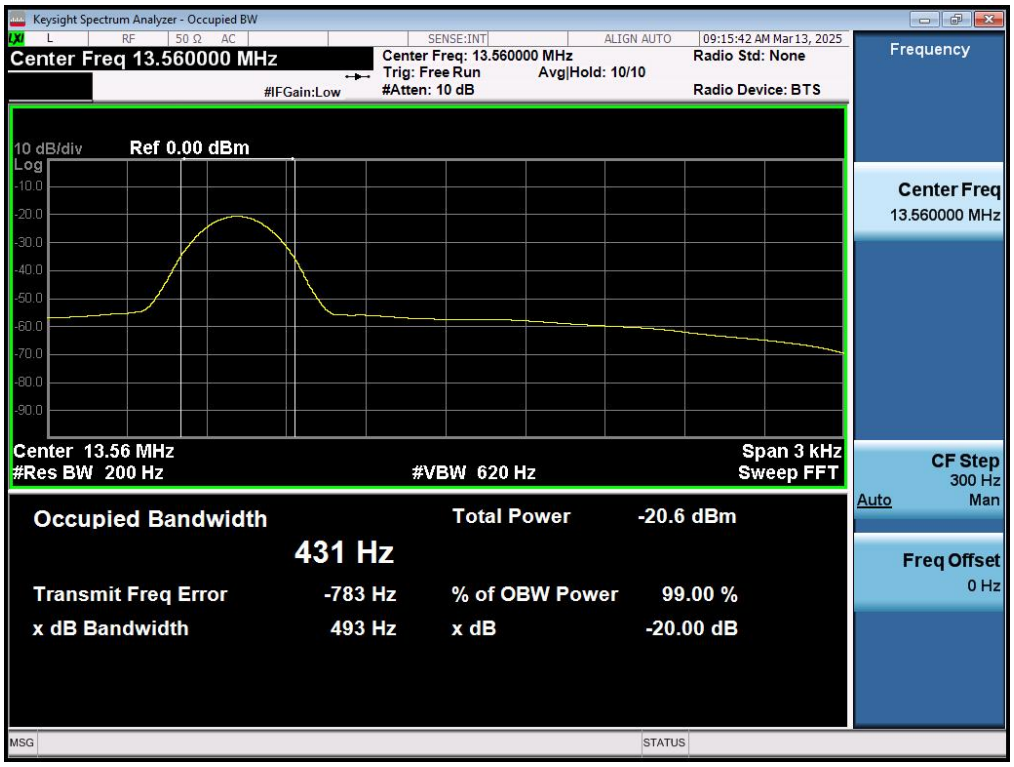
1.3.3. Test Setup



1. The EUT which is powered by the AC 120V/60Hz is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss and Atten as the factor is calibrated to correct the reading.
2. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
3. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
4. Use the spectrum analyzer “Channel Bandwidth” function to easurement the 20dB EBW and 99% OBW.

1.3.4. Test Results

Test Frequency(MHz)	99% OBW (kHz)	20dB EBW(kHz)	20dB EBW Limit (kHz)	Results
13.56	0.431	0.493	11.2	Pass
Note: For 13.56MHz, permitted Band is 14 kHz, so the Limit is 11.2 kHz.				



Note: Because the measured signal is CW adjusting the RBW per C63.10-2020 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

1.4. Frequency Stability

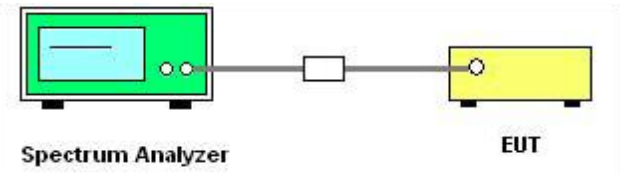
1.4.1. Requirement

According to FCC section 15.225(e), the frequency tolerance of the carrier signal shall be maintained within ±0.01%(100ppm) of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

1.4.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

1.4.3. Test Setup



The EUT is powered by AC 120V/60Hz,which is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

1.4.4. Test Procedures

1. Frequency Stability vs. Temperature: The EUT is powered by AC 120V/60Hz, than antenna was connected to a Spectrum Analyzer. The EUT was placed inside the temperature chamber.
2. After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.
3. Frequency Stability vs. Voltage: An external variable AC power supply Source. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the end point. The output frequency was recorded for each voltage.

1.4.5. Test Results

Test Mode: Continuous Transmitting

Test Environment		Frequency Reading (MHz)	Frequency Error (%)	Frequency Error (ppm)	Limit (%)	Result
Power (V_{DC})	Temperature (^{O}C)					
7.68	-20	13.55927	-0.0000538348	-53.8348	±0.01% (±100ppm)	Pass
	-10	13.55921	-0.0000582596	-58.2596		Pass
	0	13.55921	-0.0000582596	-58.2596		Pass
	10	13.55922	-0.0000575221	-57.5221		Pass
	20	13.55921	-0.0000582596	-58.2596		Pass
	30	13.55926	-0.0000545723	-54.5723		Pass
	40	13.55921	-0.0000582596	-58.2596		Pass
	50	13.55923	-0.0000567847	-56.7847		Pass
6.52	20	13.55921	-0.0000582596	-58.2596		Pass
8.32	20	13.55923	-0.0000567847	-56.7847		Pass

1.5. AC Power Line Conducted Emission

1.5.1. Requirement

According to FCC section 15.207, 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 within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

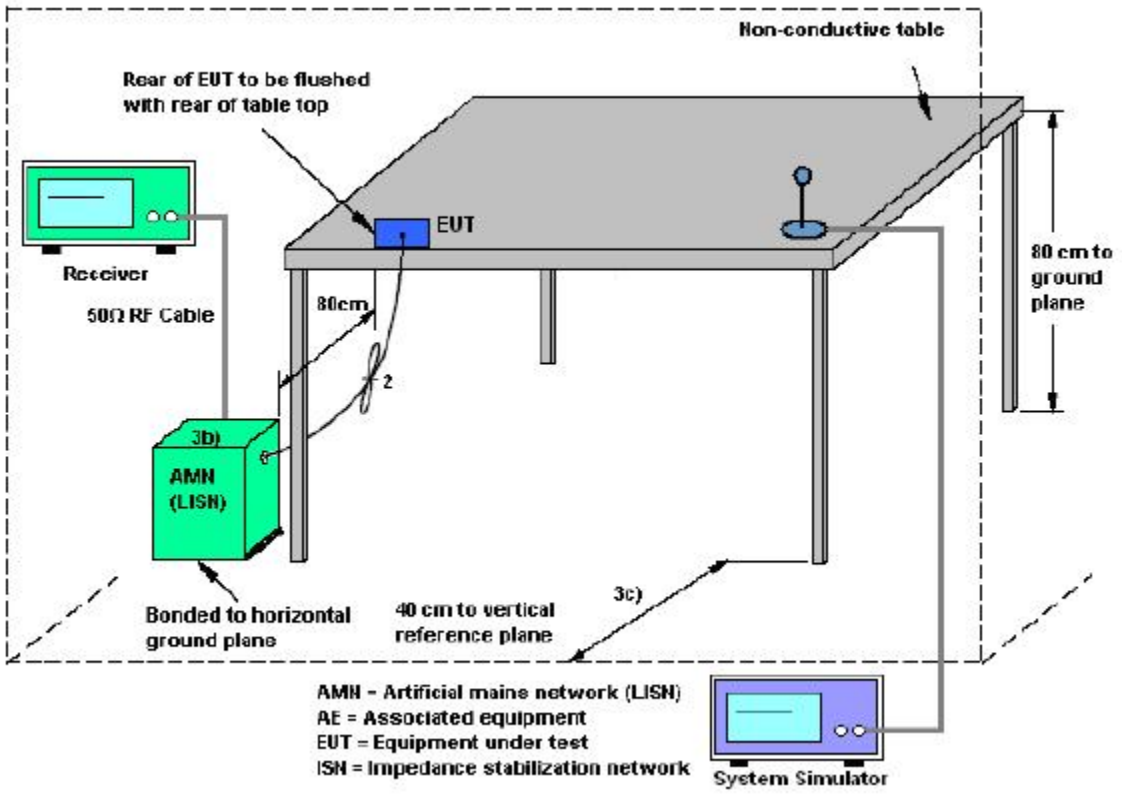
Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:
(a) The lower limit shall apply at the band edges.
(b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

1.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

1.5.3. Test Setup



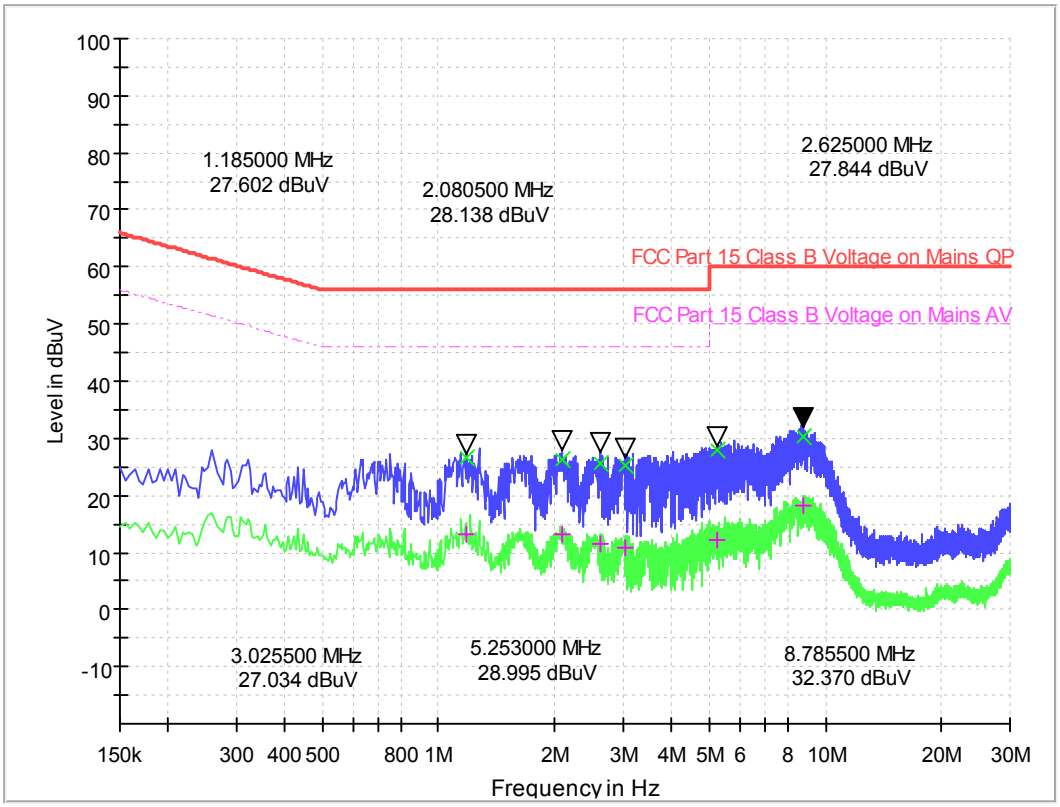
1.5.4. Test Procedures

1. The EUT was placed 0.4 meters from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 micrometry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

1.5.5. Test Results

The EUT configuration of the emission tests is NFC Tx + USB Cable (Charging from Adapter).

Project Information			
Test site:	Shield ROOM 1	Environment:	Temp: 23℃; Humi: 53%; 101kPa
Operator:	CAIFUJIE	Test Date:	2025.02.08
Test Mode:	NFC - TX	Test Part:	L Line

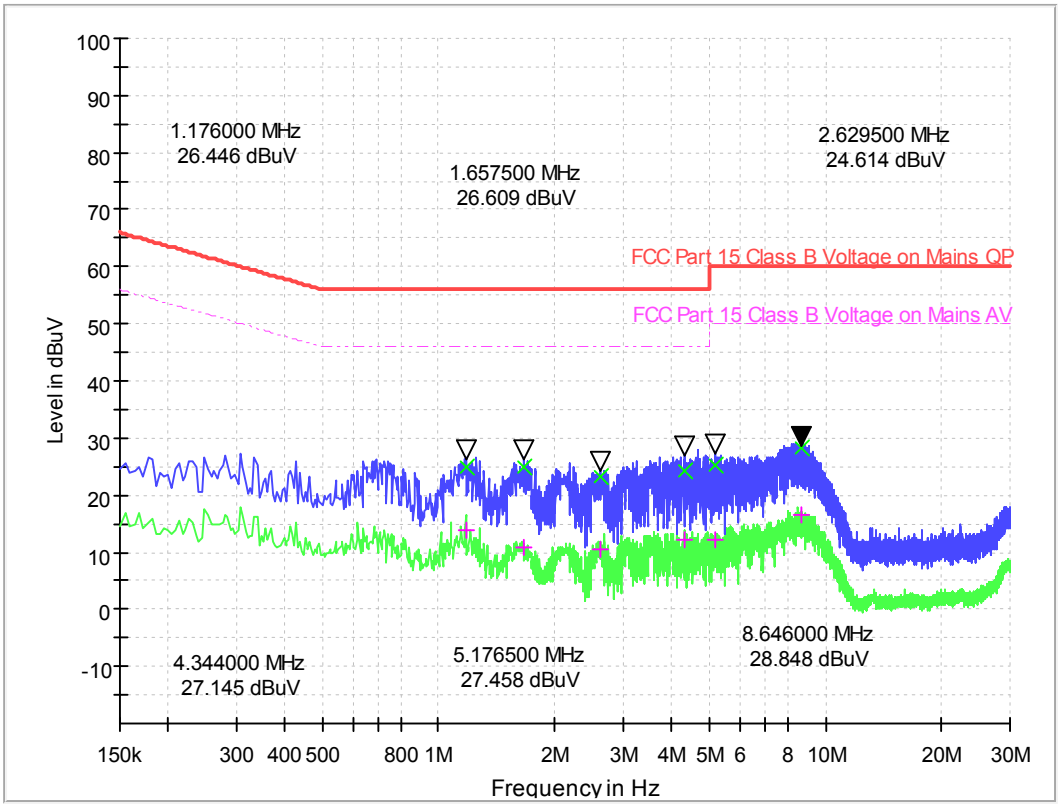


Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Corr.Factor (dB)	Margin - QPK	Limit - QPK (dBµV)	Margin - AV (dB)	Limit - AV (dBµV)
1.185000	26.67	13.05	10.0	29.33	56.0	32.96	46.0
2.080500	26.30	13.19	10.1	29.70	56.0	32.81	46.0
2.625000	25.75	11.48	10.1	30.25	56.0	34.52	46.0
3.025500	25.16	11.00	10.2	30.84	56.0	35.00	46.0
5.253000	27.92	12.03	10.4	32.08	60.0	37.97	50.0
8.785500	30.32	18.10	10.5	29.68	60.0	31.90	50.0

Test Result : Pass

Note: Final Level = Receiver Read level + Correction factor.

Project Information			
Test site:	Shield ROOM 1	Environment:	Temp: 23℃; Humi: 53%; 101kPa
Operator:	CAIFUJIE	Test Date:	2025.02.08
Test Mode:	NFC - TX	Test Part:	N Line



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Corr.Factor (dB)	Margin - QPK	Limit - QPK (dBµV)	Margin - AV (dB)	Limit - AV (dBµV)
1.176000	24.84	13.86	10.0	31.16	56.0	32.14	46.0
1.657500	24.80	10.76	10.0	31.20	56.0	35.24	46.0
2.629500	23.28	10.52	10.1	32.72	56.0	35.48	46.0
4.344000	24.22	12.07	10.3	31.78	56.0	33.93	46.0
5.176500	25.36	12.31	10.4	34.64	60.0	37.69	50.0
8.646000	28.36	16.65	10.5	31.64	60.0	33.35	50.0

Test Result : Pass

Note: Final Level = Receiver Read level + Correction factor.

1.6. Radiated Emission

1.6.1. Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level. If the transmitter uses an RMS average conducted power limit, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the estricted bands, as defi ned in §15.205(a), must also comply with the radiated emission limits specifi ed in §15.209(a).

§15.209(a) Radiated emission limits:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

1. The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC Part Subpart C limits.

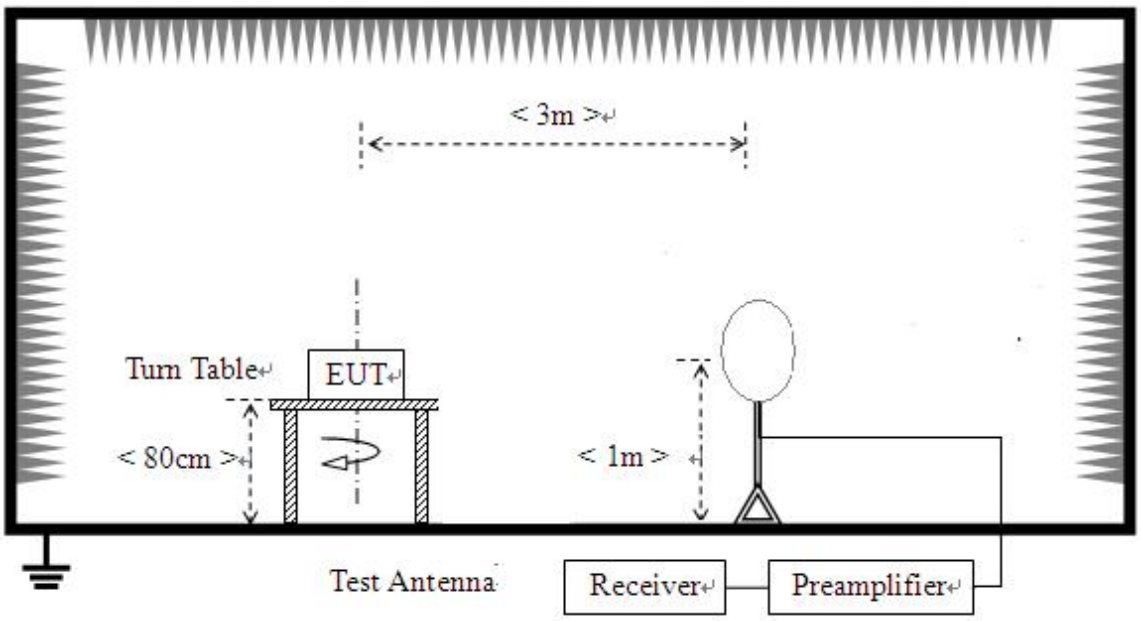
2. The EUT was connected to a 120VAC/60Hz power source.

1.6.2. Measuring Instruments

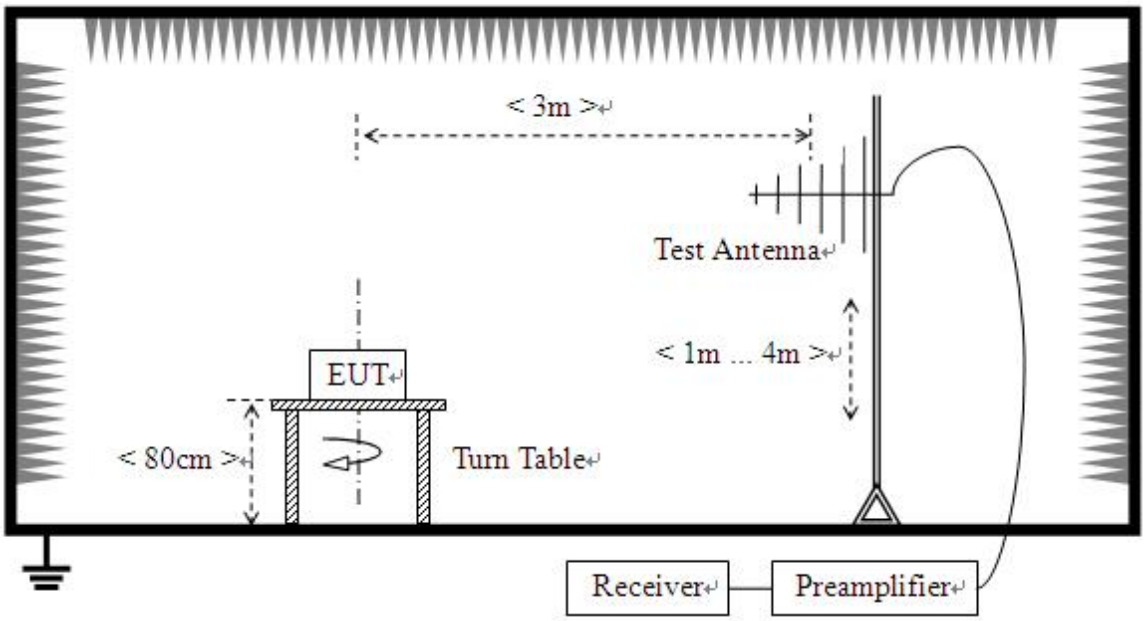
The measuring equipment is listed in the section 3 of this test report.

1.6.3. Test Setup

For radiated emissions from 9 kHz to 30 MHz



For radiated emissions from 30MHz to 1GHz



The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10:2013. The EUT was set-up on insulator 80cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10:2013.

For the Test Antenna:

(a) In the frequency range of 9 kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.

(b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz). Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

1.6.4. Test Results

According to ANSI C63.10-2020 selection 4.2.2, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak limit, it is unnecessary to perform an quasi-peak measurement.

The measurement results are obtained as below:

$E\ [dB\mu V/m] = U_R + A_T + A_{Factor}\ [dB]$; $A_T = L_{Cable\ loss}\ [dB] - G_{preamp}\ [dB]$

A_T: Total correction Factor except Antenna

U_R: Receiver Reading

G_{preamp}: Preamplifier Gain

A_{Factor}: Antenna Factor at 3m

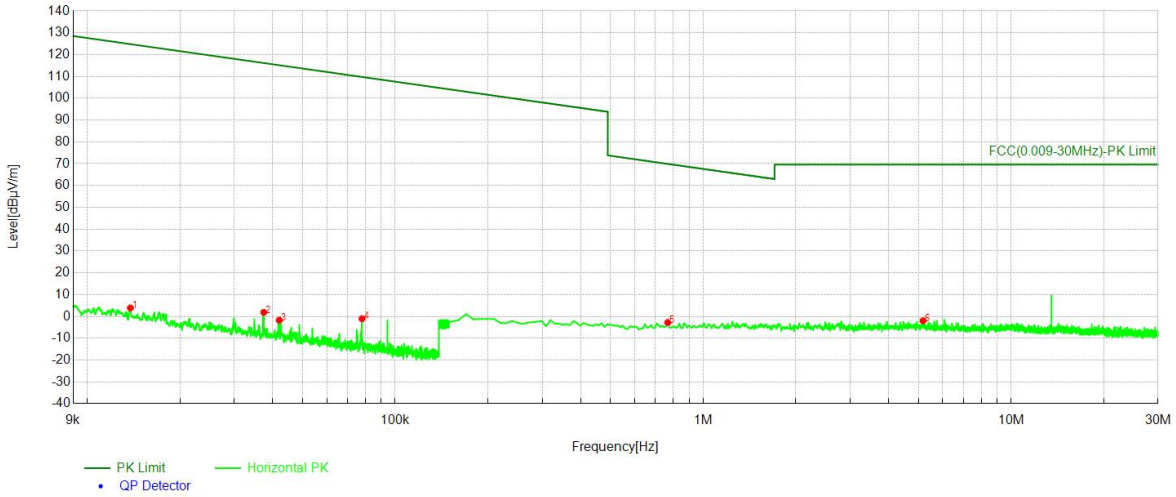
$L_{Cable\ loss}$: Cable loss

During the test, the total correction Factor AT and A_{Factor} were built in test software.

The radiated frequency ranges from 9 kHz to1 GHz.

For 9 kHz to 30MHz

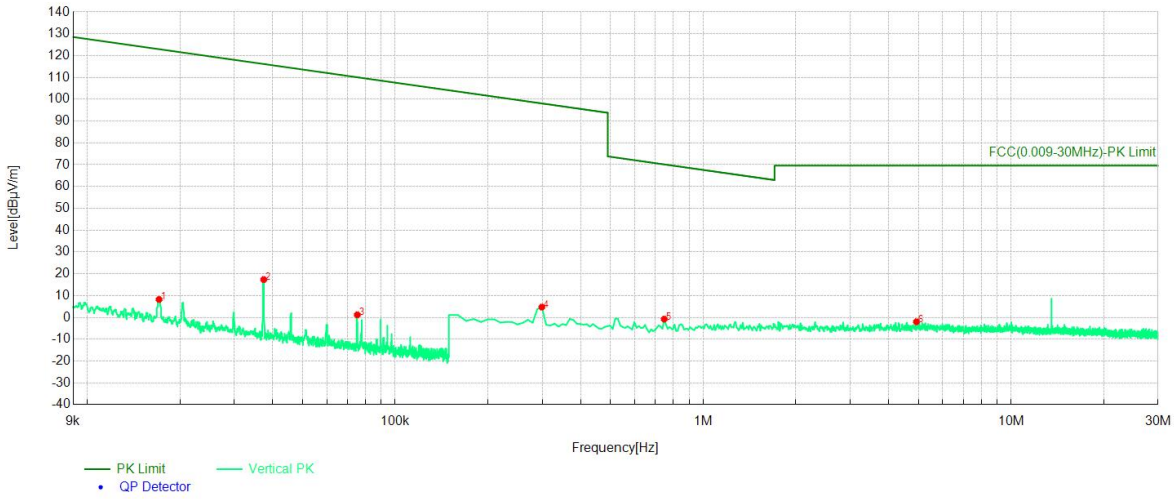
Test site:	5M anechoic chamber	Environment:	Temp: 23℃; Humi: 59%; 101kPa
Operator:	Gu Taocheng	Test Date:	2025.03.05
Test Mode:	NFC - Tx	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dBµV/m]	Height [cm]	Angle [°]	Polarity
1	0.01	3.89	-19.19	124.81	120.92	100	269	Horizontal
2	0.04	1.83	-19.20	116.14	114.31	100	334	Horizontal
3	0.04	-1.74	-19.18	115.15	116.89	100	175	Horizontal
4	0.08	-1.07	-19.10	109.77	110.84	100	300	Horizontal
5	0.77	-2.79	-18.78	69.91	72.70	100	199	Horizontal
6	5.18	-2.00	-18.52	69.54	71.54	100	86	Horizontal

Test Result : Pass

Test site:	5M anechoic chamber	Environment:	Temp: 23℃; Humi: 59%; 101kPa
Operator:	Gu Taocheng	Test Date:	2025.03.05
Test Mode:	NFC - Tx	Polarization:	Vertical

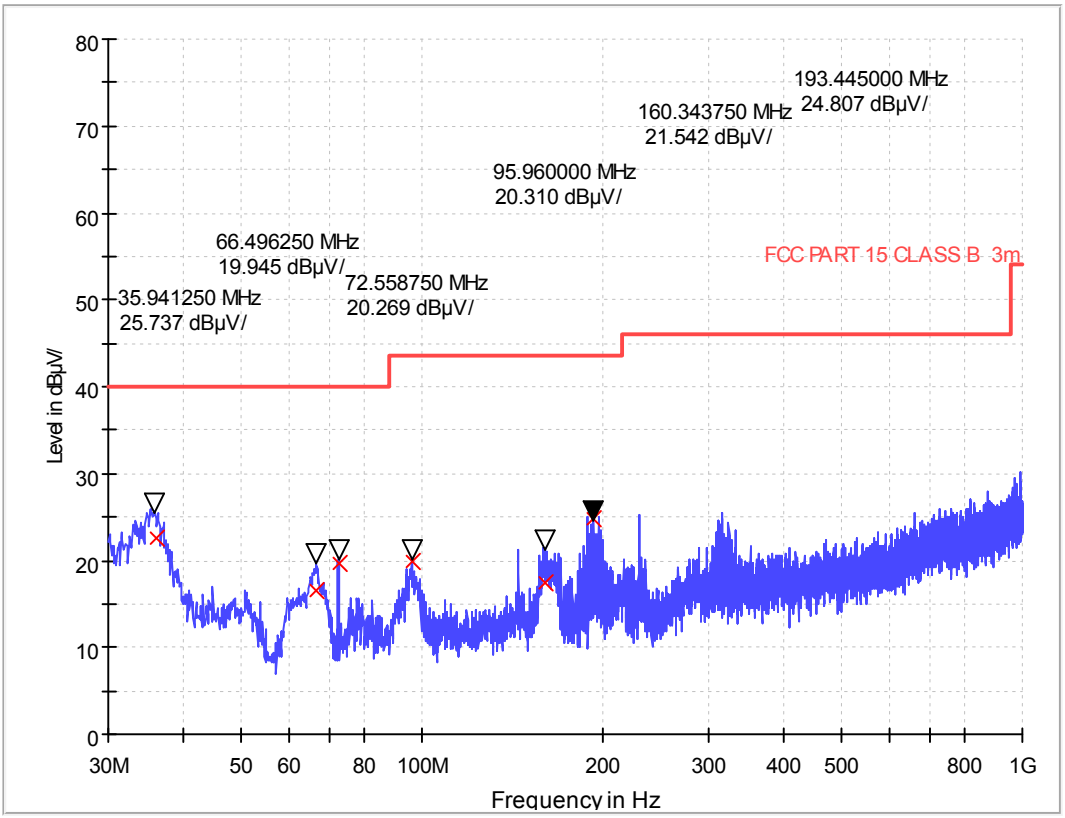


NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dBµV/m]	Height [cm]	Angle [°]	Polarity
1	0.02	8.23	-19.21	122.93	114.70	100	253	Vertical
2	0.04	17.35	-19.20	116.14	98.79	100	295	Vertical
3	0.08	1.19	-19.10	110.07	108.88	100	227	Vertical
4	0.30	4.73	-18.96	98.08	93.35	100	287	Vertical
5	0.75	-0.79	-18.78	70.14	70.93	100	360	Vertical
6	4.93	-2.00	-18.51	69.54	71.54	100	248	Vertical

Test Result : Pass

For 30MHz to 1000MHz

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi: 48%; 101kPa
Operator:	HuangChaoMing	Test Date:	2025.02.10
Test Mode:	NFC - TX	Polarization:	Horizontal



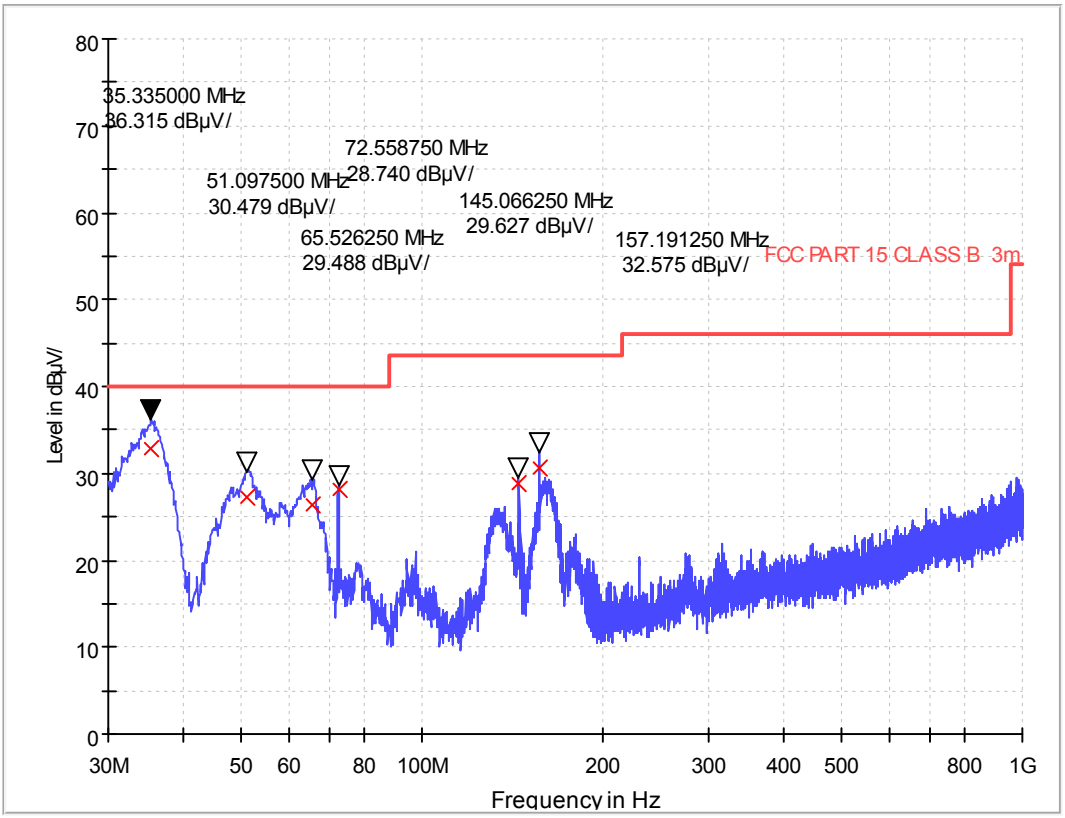
Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarity	Corr. (dB/m)	Margin - QPK(dB)	Limit - QPK (dBµV/m)
35.960000	22.48	120.000	100.0	H	16.2	17.52	40.0
66.480000	16.45	120.000	100.0	H	6.0	23.55	40.0
72.560000	19.59	120.000	100.0	H	6.8	20.41	40.0
95.960000	19.91	120.000	100.0	H	9.7	23.59	43.5
160.360000	17.49	120.000	100.0	H	12.0	26.01	43.5
193.440000	24.85	120.000	100.0	H	11.7	18.65	43.5

Test Result : Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. Only the antenna height (from 1m to 4m) at maximum reading are recorded.

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi: 48%; 101kPa
Operator:	HuangChaoMing	Test Date:	2025.02.10
Test Mode:	NFC - TX	Polarization:	Vertical



Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarity	Corr. (dB/m)	Margin - QPK(dB)	Limit - QPK (dBµV/m)
35.320000	32.83	120.000	100.0	V	16.5	7.17	40.0
51.080000	27.18	120.000	100.0	V	8.5	12.82	40.0
65.520000	26.47	120.000	100.0	V	6.0	13.53	40.0
72.560000	28.13	120.000	100.0	V	6.8	11.87	40.0
145.080000	28.78	120.000	100.0	V	11.9	14.72	43.5
157.200000	30.71	120.000	100.0	V	12.0	12.79	43.5

Test Result : Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. Only the antenna height (from 1m to 4m) at maximum reading are recorded.

2. List of measuring equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	5M Anechoic Chamber	Albatross	SAC-5MAC 12.8x6.8x6.4m	A0304210	2023.08.01	2026.07.31
2	EMI Test Receiver	ROHDE&SCHWARZ	ESW26	A180502935	2024.05.23	2025.05.22
3	Loop Antenna	Schwarz beck	HFH2-Z2	A0304220	2022.05.02	2025.05.01
4	Broadband antenna (30MHz~1GHz)	R&S	HL562	A0304224	2023.06.08	2026.06.07
5	EMI Horn Ant. (1-18G)	ETC	MCTD-1209	A150402241	2023.05.16	2026.05.15
6	Horn antenna (18GHz~26.5GHz)	AR	AT4510	A0804450	2023.06.01	2026.05.31
7	Amplifier 30M~1GHz	TESEQ	CBA1G-600B	A190503534	2024.09.05	2025.09.04
8	Amplifier 1G~18GHz	MILMEGA	AS0104R-800/400	A160302517	2024.05.25	2025.05.24
9	Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2024.12.31	2025.12.30
10	Test Receiver	R&S	ESIB7	A0501375	2025.01.13	2026.01.12
11	Broadband Ant.	ETC	MCTD 2786	A150402240	2023.05.22	2026.05.21
12	3M Anechoic Chamber	Albatross	SAC-3MAC 9*6*6m	A0412375	2024.02.27	2027.02.26
13	Test Receiver	KEYSIGHT	N9038A	A141202036	2024.06.05	2025.06.04
14	LISN	ROHDE&SCHWARZ	ENV216	A140701847	2024.05.23	2025.05.22
15	Cable(9kHz~30MHz)	/	/	C230800587	2023.08.21	2026.08.20
16	Cable(30MHz~18GHz)	/	XSMJA750-SMNM(RA)-12M	C230800588	2023.08.21	2026.08.20
17	Cable(18GHz~40GHz)	/	SUCOFLEX102	C230800590	2023.08.21	2026.08.20

3. Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence . The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of AC Power Line Conducted Emission Measurement (150kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	2.8dB

Uncertainty of Radiated Emission Measurement (9kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	3.5dB

Uncertainty of Radiated Emission Measurement (30MHz~1GHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	3.91dB

Uncertainty of Radiated Emission Measurement (1GHz~18GHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	4.5dB

Uncertainty of Radiated Emission Measurement (18GHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	4.9dB

Uncertainty of RF Conducted Measurement (9kHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	1.2dB

Uncertainty of Occupied Bandwidth Measurement

Measuring Uncertainty for a level of confidence of 95%(U=2Uc(y))	1.2%

END OF REPORT