TEST REPORT

APPLICANT	:	NiceRF Wireless Technology LTD.
PRODUCT NAME	:	Wireless voice intercom module
MODEL NAME	:	SA618F22-C1
BRAND NAME	:	G-NiceRF
STANDARD(S)	:	47 CFR Part 15 Subpart B
RECEIPT DATE	:	2024-10-10
TEST DATE	:	2024-10-22 to 2024-12-31
ISSUE DATE	:	2025-01-15

Edited by: Chen Bilian

Chen Bilian(Rapporteur)

Approved by: Xiao Xiong

Xiao Xiong(Supervisor)

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MORLAB

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DIRECTORY

1. Technical Information 3
1.1. Applicant and Manufacturer Information 3
1.2. Equipment Under Test (EUT) Description 3
2. Test Results 4
2.1. Applied Reference Documents 4
2.2. EUT Setup and Operating Conditions 5
3. 47 CFR Part 15B Requirements 6
3.1. Radiated Emission 6
Annex A Photographs of Test Setup 13
Annex B Test Uncertainty 14
Annex C Testing Laboratory Information 15

Change History		
Version	**Date**	**Reason for change**
1.0	2025-01-15	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	NiceRF Wireless Technology LTD.
Applicant Address:	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China
Manufacturer:	NiceRF Wireless Technology LTD.
Manufacturer Address:	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China

1.2. Equipment Under Test (EUT) Description

Product Name:	Wireless voice intercom module
EUT No.:	23#
Hardware Version:	V1.0
Software Version:	V1.0
Frequency Range:	902 MHz ~ 928 MHz

Note:

1. For a more detailed description, please refer to specification or user's manual supplied by the applicant and/or manufacturer.

2. Test Results

2.1. Applied Reference Documents

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B:

No.	Identity	Document Title
1	47 CFR Part 15	Radio Frequency Devices

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

No.	Section	Description	Test Date	Test Engineer	Result	Method Determination Remark
1	15.107	Conducted Emission	N/A	N/A	N/A[Note 1]	No deviation
2	15.109	Radiated Emission	2024.10.22 to 2024.12.31	Yuan Zihong	PASS	No deviation

Note 1: The test item is not applicable.

Note 2: The tests were performed according to the method of measurements prescribed in ANSI C63.4-2014.

Note 3: Additions to, deviation, or exclusions from the method shall be judged in the “method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

Note 4: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.

2.2. EUT Setup and Operating Conditions

Test Mode	
Mode 1 :	EUT + PC + USB Cable + Antenna + Power On Mode

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

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

3. 47 CFR Part 15B Requirements

3.1. Radiated Emission

3.1.1. Requirement

According to FCC section 15.109 (a), the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength Limitation at 3m Measurement Dist	
	(μV/m)	(dBμV/m)
30.0 - 88.0	100	20log 100
88.0 - 216.0	150	20log 150
216.0 - 960.0	200	20log 200
Above 960.0	500	20log 500

As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

Note:

1) The tighter limit shall apply at the boundary between two frequency range.
2) Limitation expressed indBμV/m is calculated by 20log Emission Level(μV/m).

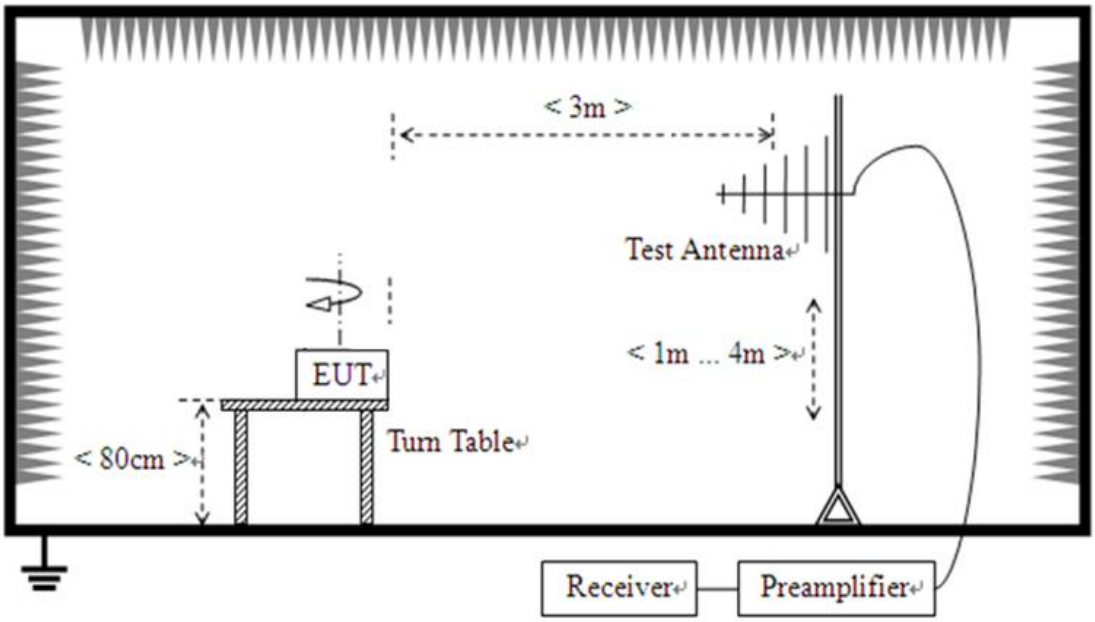
3.1.2. Frequency range of measurement

According to 15.33(b)(1), the frequency range of radiated measurement for the EUT is listed in the following table:

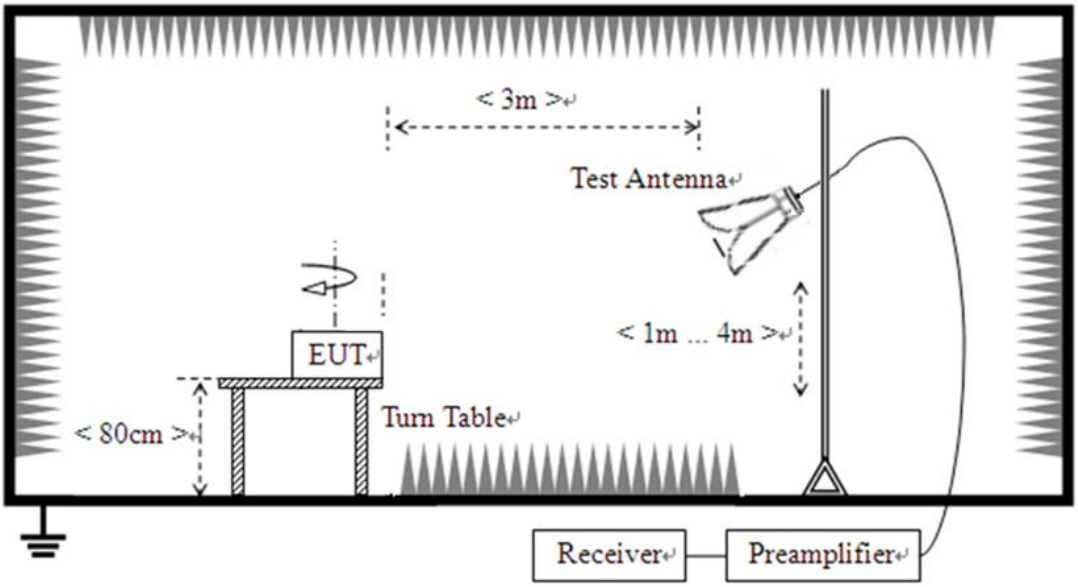
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30.
1.705–108	1000.
108–500	2000.
500–1000	5000.
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

3.1.3. Test Setup

1) For radiated emissions from 30MHz to 1GHz



2) For radiated emissions above 1GHz



The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower.

For the test Antenna:

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. 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. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.

For measurements below 1GHz the resolution bandwidth is set to 120 kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video bandwidth is set to 3MHz for peak measurements and as applicable for average measurements.

3.1.4. Test Result

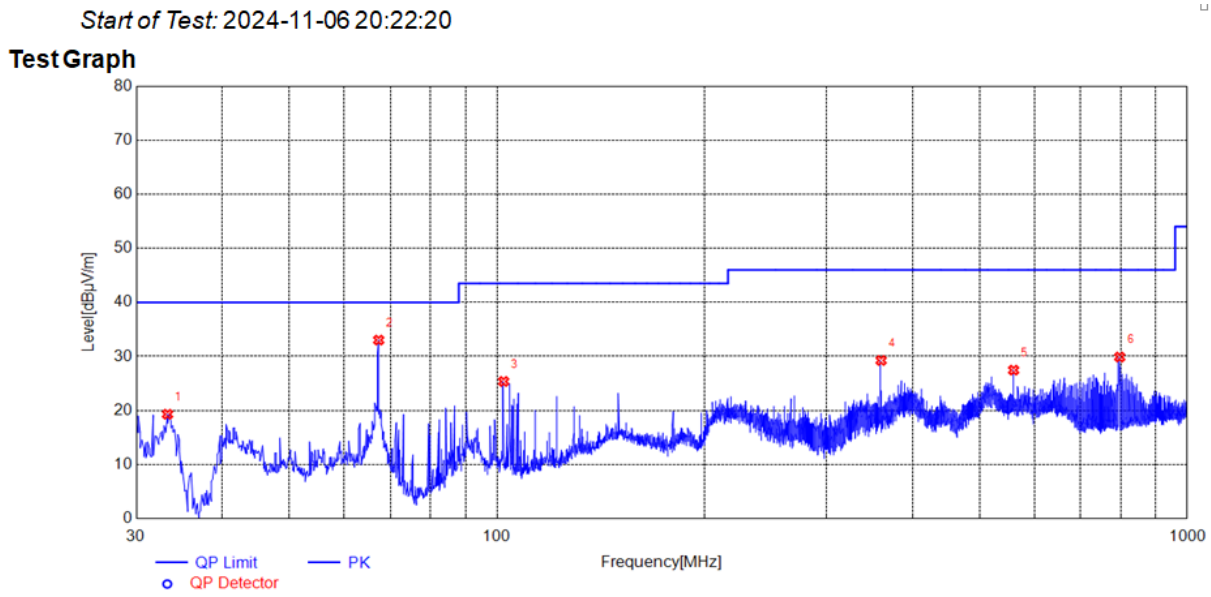
The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

The amplitude of emissions which are attenuated more than 20 dB below the permissible value need not be reported.

The measurement results are obtained as below:
$E\ [dB\mu V/m] = U_R\ [dB\mu V] + A_T[dB] + A_{Factor}\ [dB]$; $A_T = L_{Cable\ loss}\ [dB] - G_{preamp}\ [dB]$
A_T: Total correction Factor except Antenna
U_R: Receiver Reading
G_{preamp}: Preamplifier Gain
A_{Factor}: Antenna Factor at 3m

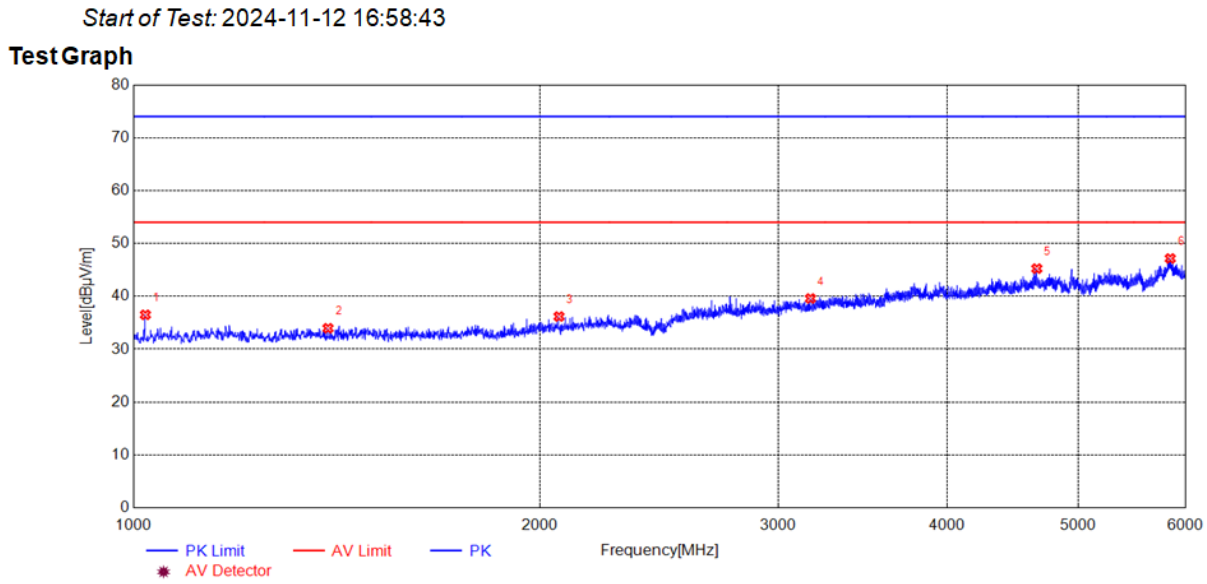
During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note: All radiated emission tests were performed in X, Y, Z axis direction, and only the worst axis test condition was recorded in this test report.



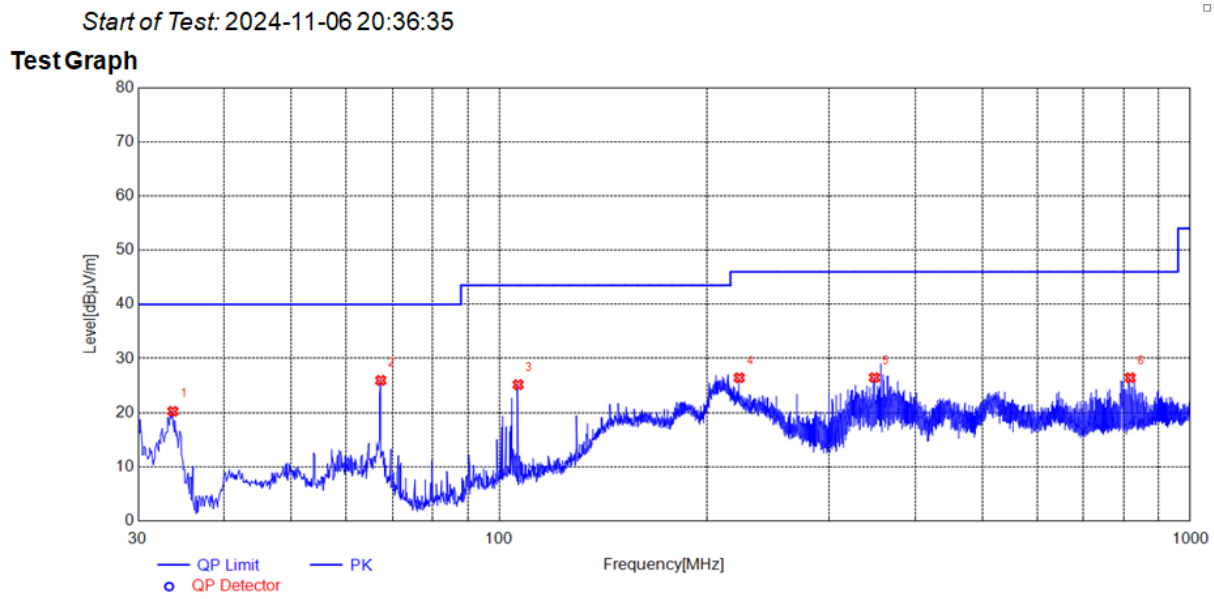
(Plot A: ANT-Vertical, 30MHz - 1GHz)

No.	Fre. MHz	Pk dBµV/m	QP dBµV/m	AV dBµV/m	Limit-PK dBµV/m	Limit-QP dBµV/m	Limit-AV dBµV/m	ANT	Verdict
1	33.2983	19.30	N.A	N.A	N.A	40.00	N.A	V	PASS
2	67.3487	33.02	N.A	N.A	N.A	40.00	N.A	V	PASS
3	102.1752	25.36	N.A	N.A	N.A	43.50	N.A	V	PASS
4	360.0270	29.25	N.A	N.A	N.A	46.00	N.A	V	PASS
5	560.0610	27.46	N.A	N.A	N.A	46.00	N.A	V	PASS
6	797.9288	29.88	N.A	N.A	N.A	46.00	N.A	V	PASS



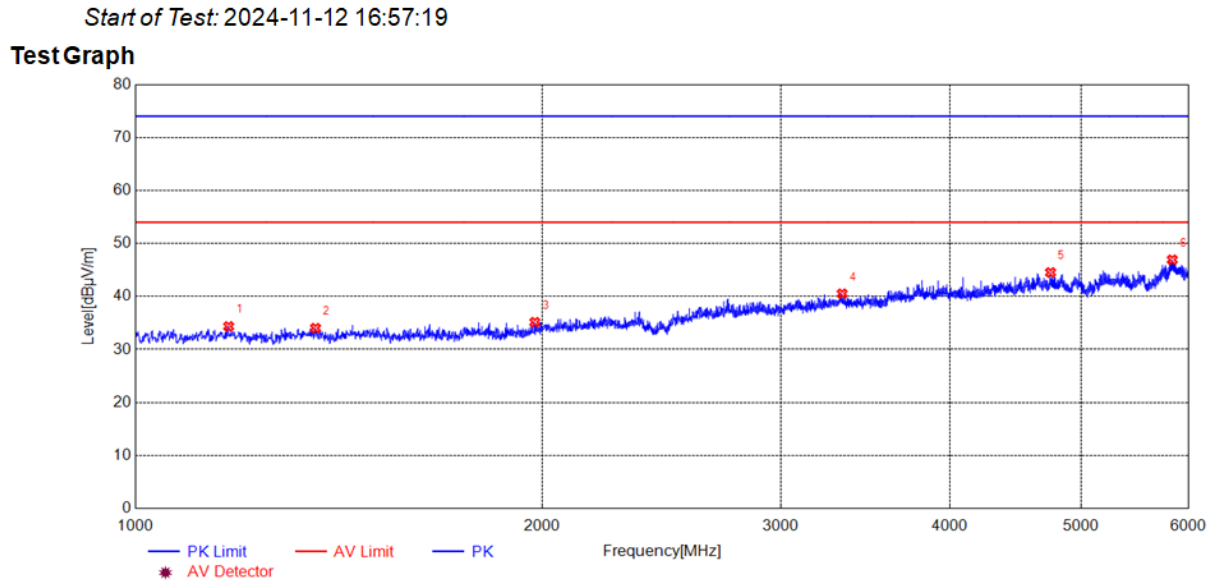
(Plot B: ANT-Vertical, 1GHz - 6GHz)

No.	Fre. MHz	Pk dBµV/m	QP dBµV/m	AV dBµV/m	Limit-PK dBµV/m	Limit-QP dBµV/m	Limit-AV dBµV/m	ANT	Verdict
1	1020.8368	36.51	N.A	N.A	74.00	N.A	54.00	V	PASS
2	1393.3989	33.96	N.A	N.A	74.00	N.A	54.00	V	PASS
3	2065.1775	36.18	N.A	N.A	74.00	N.A	54.00	V	PASS
4	3169.5283	39.59	N.A	N.A	74.00	N.A	54.00	V	PASS
5	4660.6101	45.24	N.A	N.A	74.00	N.A	54.00	V	PASS
6	5849.9750	47.16	N.A	N.A	74.00	N.A	54.00	V	PASS



(Plot C: ANT- Horizontal, 30MHz - 1GHz)

No.	Fre. MHz	Pk dBµV/m	QP dBµV/m	AV dBµV/m	Limit-PK dBµV/m	Limit-QP dBµV/m	Limit-AV dBµV/m	ANT	Verdict
1	33.6864	20.24	N.A	N.A	N.A	40.00	N.A	H	PASS
2	67.3487	25.95	N.A	N.A	N.A	40.00	N.A	H	PASS
3	106.4436	25.17	N.A	N.A	N.A	43.50	N.A	H	PASS
4	222.3702	26.43	N.A	N.A	N.A	46.00	N.A	H	PASS
5	348.9679	26.46	N.A	N.A	N.A	46.00	N.A	H	PASS
6	818.3978	26.44	N.A	N.A	N.A	46.00	N.A	H	PASS

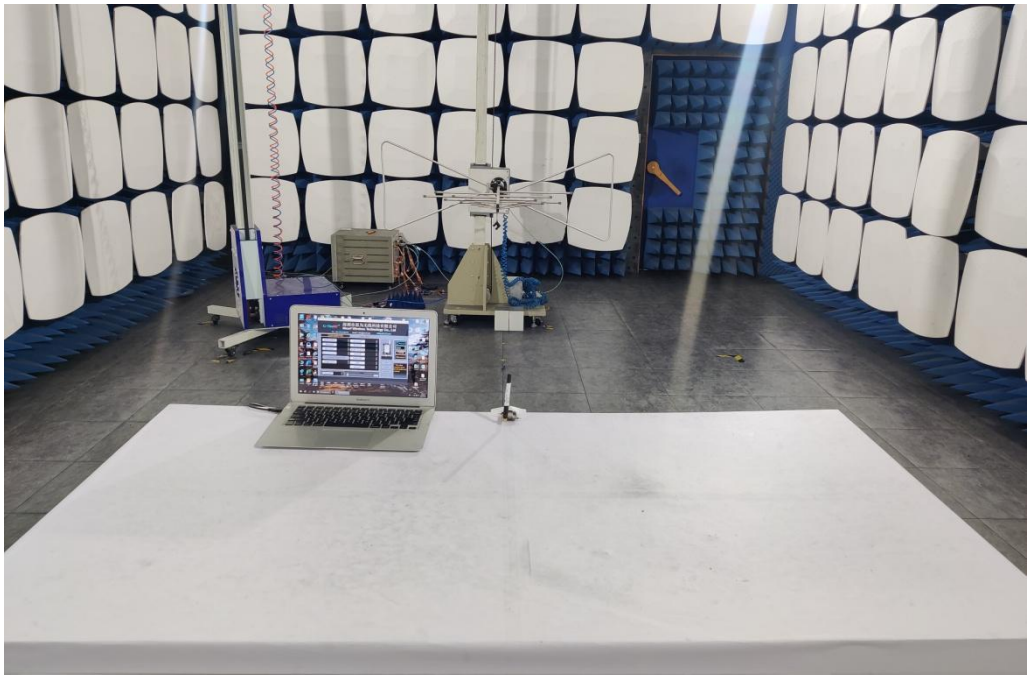


(Plot D: ANT- Horizontal, 1GHz - 6GHz)

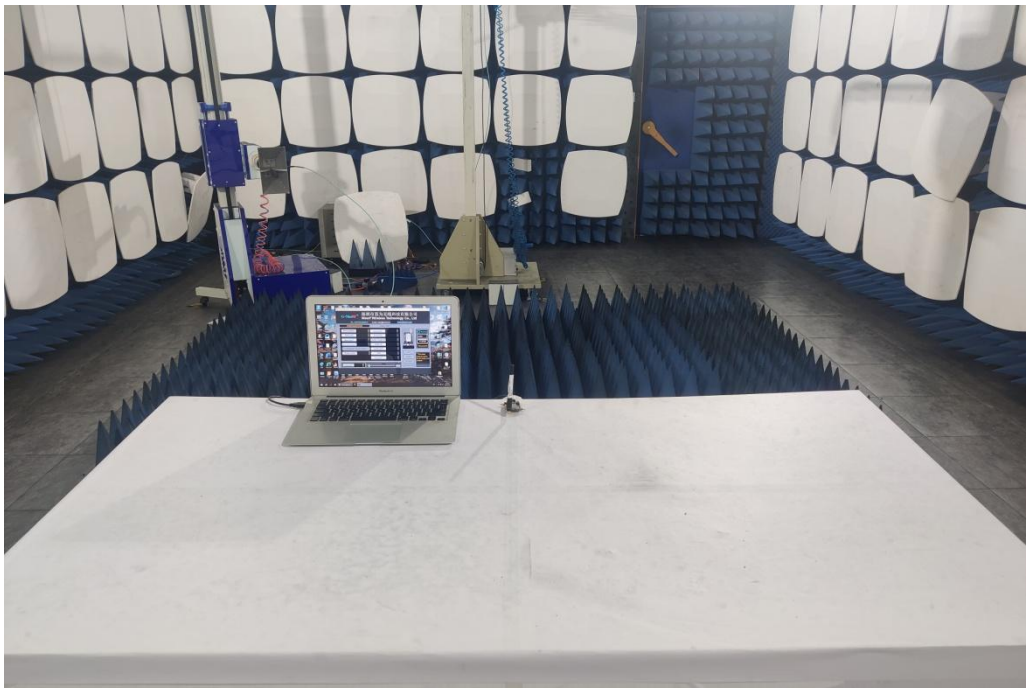
No.	Fre. MHz	Pk dBµV/m	QP dBµV/m	AV dBµV/m	Limit-PK dBµV/m	Limit-QP dBµV/m	Limit-AV dBµV/m	ANT	Verdict
1	1172.5288	34.35	N.A	N.A	74.00	N.A	54.00	H	PASS
2	1359.2265	34.02	N.A	N.A	74.00	N.A	54.00	H	PASS
3	1974.3291	35.14	N.A	N.A	74.00	N.A	54.00	H	PASS
4	3330.3884	40.52	N.A	N.A	74.00	N.A	54.00	H	PASS
5	4748.1247	44.53	N.A	N.A	74.00	N.A	54.00	H	PASS
6	5840.8068	46.93	N.A	N.A	74.00	N.A	54.00	H	PASS

Annex A Photographs of Test Setup

1. Radiated Emission(30MHz-1GHz)



2. Radiated Emission (above 1GHz)



Annex B Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Radiated Emission Measurement

Measuring Uncertainty for a Level of Confidence of 95%(U=2Uc(y))	30MHz-200MHz	±5.06dB
	200MHz-1000MHz	±5.04dB
	1GHz-6GHz	±5.18dB
	6GHz-18GHz	±5.48dB

Annex C Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Accreditation Certificate

Accredited Testing Laboratory:	The FCC designation number is CN1192. Test firm registration number is 226174. (Shenzhen Morlab Communications Technology Co., Ltd.)

4. Test Software Utilized

Model	Version Number	Producer
TS+ -[JS32-RE]	Version 2.5.0.6	Tonscend

5. Test Equipments Utilized

Description	Model	Serial No.	Manufacturer	Cal. Date	Due. Date
Bi-Log Antenna	VULB 9163	9163-519	SCHWARZBECK	2024/6/22	2025/6/21
Horn Antenna	BBHA 9120D	01774	SCHWARZBECK	2024/6/22	2025/6/21
Receiver	N9038A	MY56400093	KEYSIGHT	2024/1/25	2025/1/24
Preamplifier	S020180L3203	61171/61172	LUCIX CORP.	2024/5/30	2025/5/29
Preamplifier	S10M100L3802	46732	LUCIX CORP.	2024/5/30	2025/5/29
RF Coaxial Cable	PE330	MRE001	Pasternack	N/A	N/A
RF Coaxial Cable	CLU18	MRE002	Pasternack	N/A	N/A
RF Coaxial Cable	CLU18	MRE003	Pasternack	N/A	N/A
System Simulator	CMW500	152038	R&S	2024/9/11	2025/9/10

6. Ancillary Equipments Utilized

Description	Model	Serial No.	Manufacturer
PC	A1370	N/A	APPLE
USB Cable	N/A	N/A	N/A
Antenna	915M	N/A	N/A

END OF REPORT