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TEST REPORT

47 CFR Part 15, Subpart C 15.247

Report Reference No.: CTL2211015021-WFM1

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Product Name : Wireless Party Speaker

Model/Type reference : 100094813

List Model(s)..... : N/A

Trade Mark..... : **onn.™ onn**

FCC ID..... : **HBOPA2323**

Applicant's name : **SHENZHEN FENDA TECHNOLOGY CO., LTD.**

Address of applicant : Fenda Hi-Tech Park, Zhoushi Road, Shiyan Street, Baoan District, Shenzhen, China

Test Firm..... : **Shenzhen CTL Testing Technology Co., Ltd.**

Address of Test Firm : Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055

Test specification..... :

Standard : **47 CFR Part 15, Subpart C 15.247:** Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.

TRF Originator : Shenzhen CTL Testing Technology Co., Ltd.

Master TRF..... : Dated 2011-01

Date of receipt of test item : Sep 11, 2025

Date of Test Date..... : Sep 11, 2025- Sep 29, 2025

Date of Issue : Sep 29, 2025

Result..... : **Pass**

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TEST REPORT

Test Report No. :	CTL2211015021-WFM1	Sep 29, 2025
		Date of issue

Equipment under Test : Wireless Party Speaker

Sample No : CTL250814615001

Model /Type : 100094813

Listed Models : N/A

Applicant : **SHENZHEN FENDA TECHNOLOGY CO., LTD.**

Address : Fenda Hi-Tech Park, Zhoushi Road, Shiyan Street,
Baoan District, Shenzhen, China

Manufacturer : **SHENZHEN FENDA TECHNOLOGY CO., LTD.**

Address : Fenda Hi-Tech Park, Zhoushi Road, Shiyan Street,
Baoan District, Shenzhen, China

Test result	Pass *
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*In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

[illegible]

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

[47 CFR Part 15, Subpart C 15.247](#): Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

[ANSI C63.10: 2020](#): American National Standard for Testing Unlicensed Wireless Devices

[KDB 558074 D01 v05r02](#): KDB558074 D01 15.247 Meas Guidance v05r02

1.2. Test Description

47 CFR Part 15, Subpart C 15.247		
47 CFR Part 15, Subpart C 15.207	AC Power Conducted Emission	PASS
47 CFR Part 15, Subpart C 15.205/15.209	Radiated Emissions	PASS

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.10 and CISPR 32/EN 55032 requirements.

1.3.2 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9618B

CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9618B.

FCC-Registration No.: 399832

Designation No.: CN1216

Shenzhen CTL Testing Technology 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. Registration 399832.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Conducted Emission 0.15-30MHz	±3.20 dB	(1)
Radiated Emission 0.009~30MHz	±3.66dB	(1)
Radiated Emission 30~1000MHz	±4.08dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
20dB Emission Bandwidth	±1.9%	(1)
Carrier Frequency Separation	±1.9%	(1)

Maximum Power Spectral Density Level	± 0.98 dB	(1)
Number of Hopping Channel	$\pm 1.9\%$	(1)
Time of Occupancy	$\pm 0.11\%$	(1)
Max Peak Conducted Output Power	± 0.98 dB	(1)
Band-edge Spurious Emission	± 1.21 dB	(1)
Conducted RF Spurious Emission	9kHz-7GHz: ± 1.09 dB 7GHz-26.5GHz: ± 3.27 dB	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

2. GENERAL INFORMATION

2.1. Environmental conditions

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

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Wireless Party Speaker
Model/Type reference:	100094813
EUT Rated Voltage:	DC14.8V from battery or AC 120V/60Hz
Test Voltage:	DC14.8V from battery or AC 120V/60Hz
Bluetooth	
Version:	Supported BR/EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	1.94dBi

Note1: For more details, please refer to the user's manual of the EUT.

Note2: Antenna gain provided by the applicant.

Note3: This report is based on test report CTL2211015021-WF with the following modifications. Description of modify and/or change(s):

1. The motherboard has changed the interface socket for connecting the light board, and the light board has been changed from a single-sided board to a double-sided board.
2. The RGB light has been changed to a 4-pin RGB light with its own driver chip, and the original light driver chip has been removed.

For the above described modification(s) the following testing are considered to be necessary:

Test Items
Conducted Emissions
Radiated Emissions

2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. There are 79 channels provided to the EUT and Channel 00/39/78 were selected to test.

Operation Frequency :

Channel	Frequency (MHz)
00	2402
01	2403
⋮	⋮
38	2440
39	2441
40	2442
⋮	⋮
77	2479
78	2480

Preliminary tests were performed in each mode and packet length of BT, and found worst case as bellow, finally test were conducted at those mode and recorded in this report.

Test Items	Worst case
Conducted Emissions	DH5 Low channel
Radiated Emissions and Band Edge	DH5 Low channel

Software Version: BT FCC Tool V2.24	
Test Mode	Power level
BT BR	4
BT EDR	4

2.4. Equipments Used during the Test

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Serial No.	Last calibration	Calibration Due
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2025/04/29	2026/04/28
LISN	ROHDE & SCHWARZ	ESH2-Z5	860014/010	2025/04/29	2026/04/28
Limitator	ROHDE & SCHWARZ	ESH3-Z2	100408	2025/04/29	2026/04/28
Software:					
Name of Software:			Version:		
ES-K1			V1.71		

Radiated Emission					
Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
Active Loop Antenna	Da Ze	ZN30900A	/	2024/04/30	2027/04/29
Double cone logarithmic antenna	Schwarzbeck	VULB 9168	824	2023/02/13	2026/02/12
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2024/11/25	2027/11/24
Horn Antenna	Ocean Microwave	OBH100400	26999002	2025/02/21	2028/02/20
Amplifier	MRT-AP01M06	MRT	S-001	2025/04/29	2026/04/28
Amplifier	Brief&Smart	LNA-4018	2104197	2025/04/30	2026/04/29
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2025/04/29	2026/04/28
Spectrum Analyzer	RS	FSP	1164.4391.38	2025/04/29	2026/04/28
Software:					
Name of Software:			Version:		
EZ EMC(Below 1GHz)			V1.1.4.2		
EZ EMC(Above 1GHz)			V1.1.4.2		

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.247 of the 47 CFR Part 15, Subpart C Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

3. TEST CONDITIONS AND RESULTS

3.1. Conducted Emissions Test

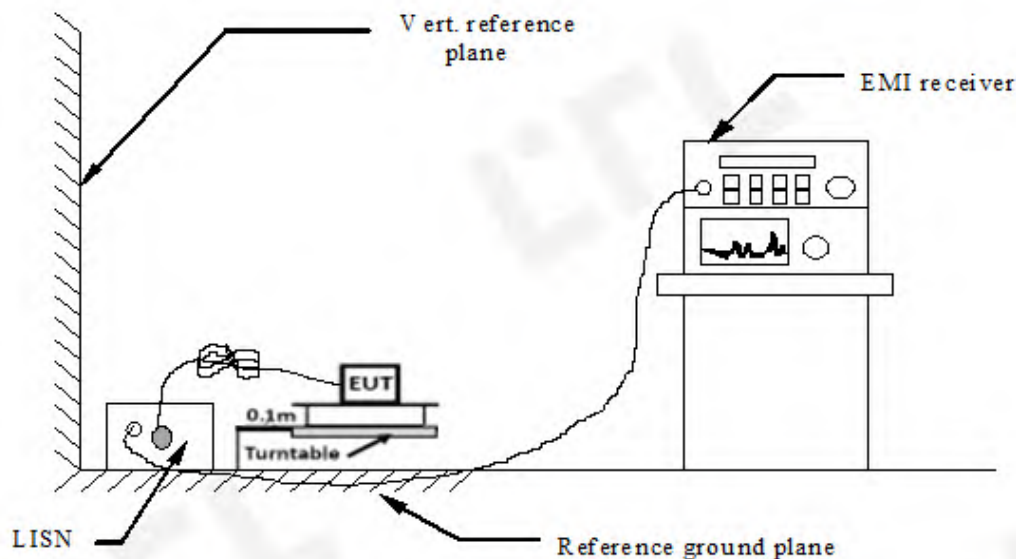
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency range (MHz)	Limit (dBuV)	
	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.

TEST CONFIGURATION

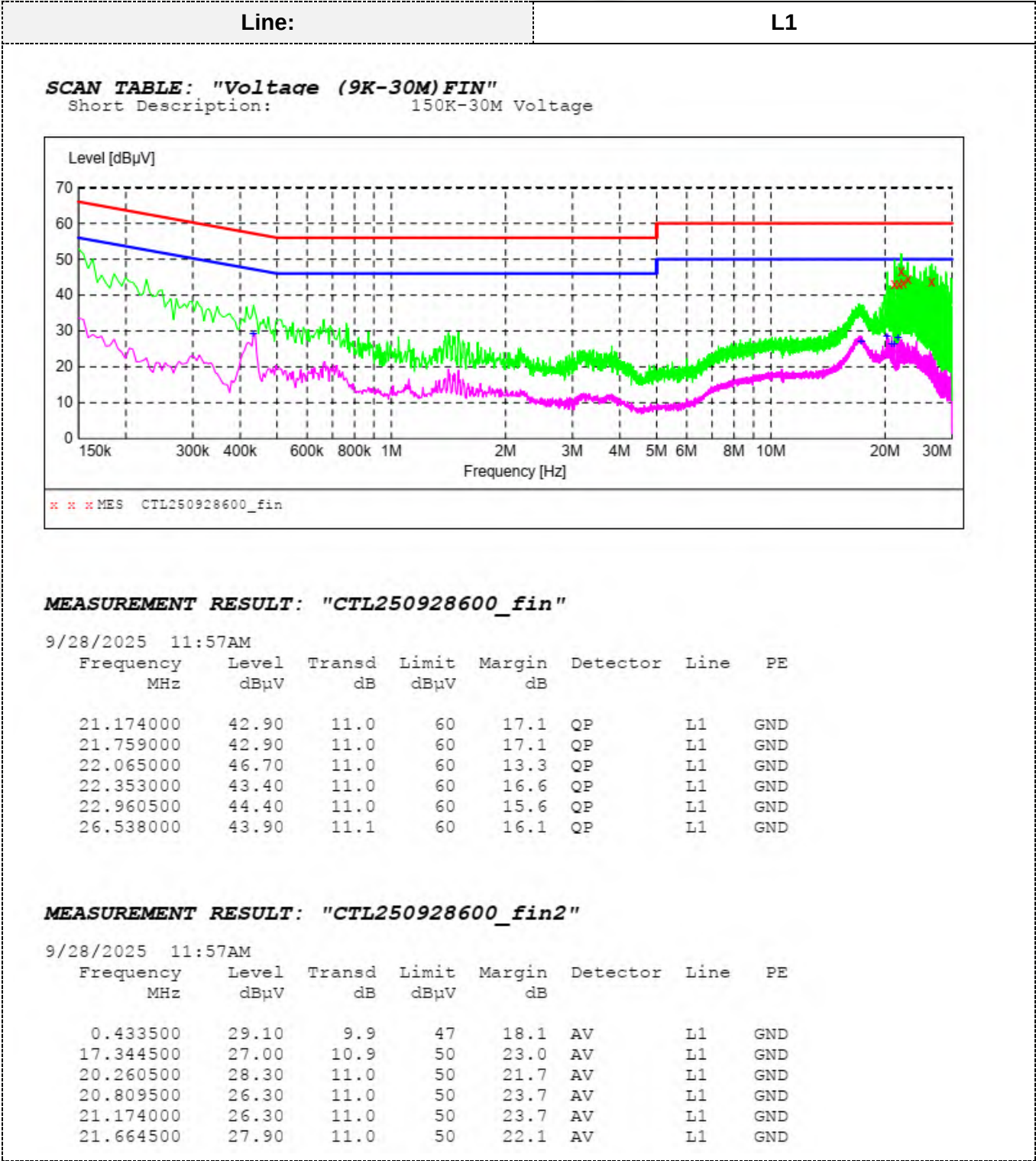


TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.1 meters is used and is placed on the ground plane as per ANSI C63.10:2020.
2. Support equipment, if needed, was placed as per ANSI C63.10:2020.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2020.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.

7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST RESULTS

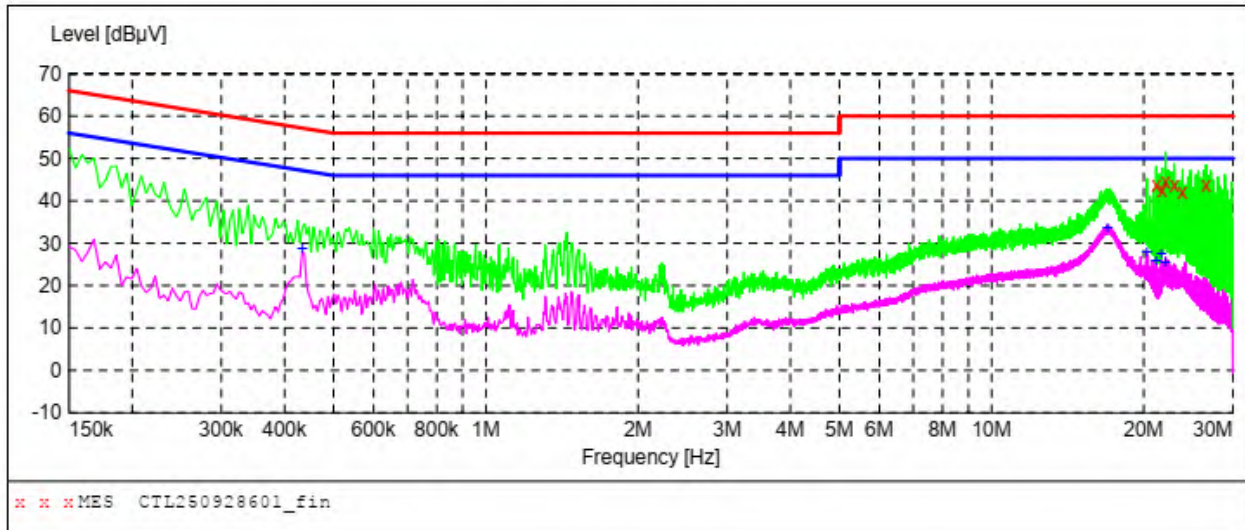


Line:

N

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL250928601_fin"**

9/28/2025 12:01PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
21.169500	43.80	11.0	60	16.2	QP	N	GND
21.754500	42.40	11.0	60	17.6	QP	N	GND
22.069500	44.60	11.0	60	15.4	QP	N	GND
22.960500	43.90	11.0	60	16.1	QP	N	GND
23.851500	42.10	11.0	60	17.9	QP	N	GND
26.538000	43.80	11.1	60	16.2	QP	N	GND

MEASUREMENT RESULT: "CTL250928601_fin2"

9/28/2025 12:01PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.433500	28.50	9.9	47	18.7	AV	N	GND
16.984500	33.30	10.9	50	16.7	AV	N	GND
20.260500	27.80	11.0	50	22.2	AV	N	GND
21.174000	25.90	11.0	50	24.1	AV	N	GND
21.664500	27.30	11.0	50	22.7	AV	N	GND
22.056000	25.10	11.0	50	24.9	AV	N	GND

3.2. Radiated Emissions and Band Edge

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

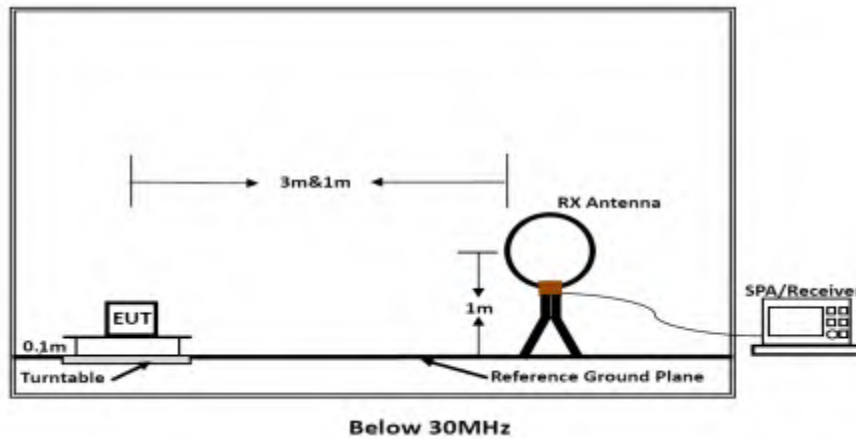
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

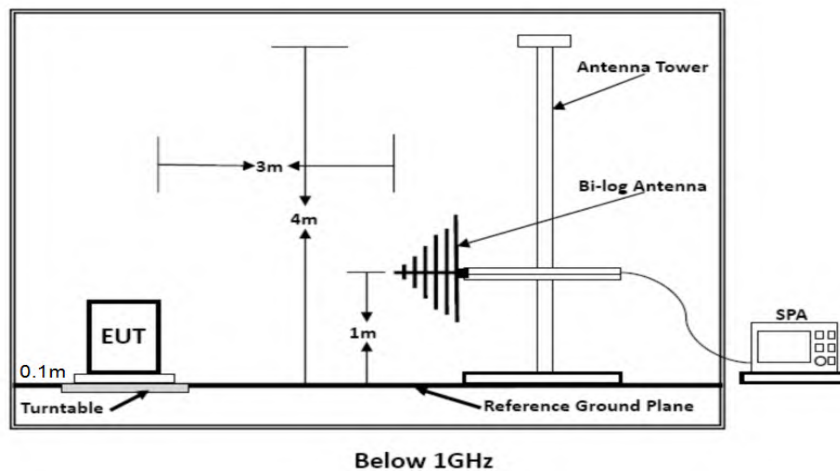
Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	$2400/F(\text{KHz})$
0.49-1.705	3	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	$24000/F(\text{KHz})$
1.705-30	3	$20\log(30)+40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

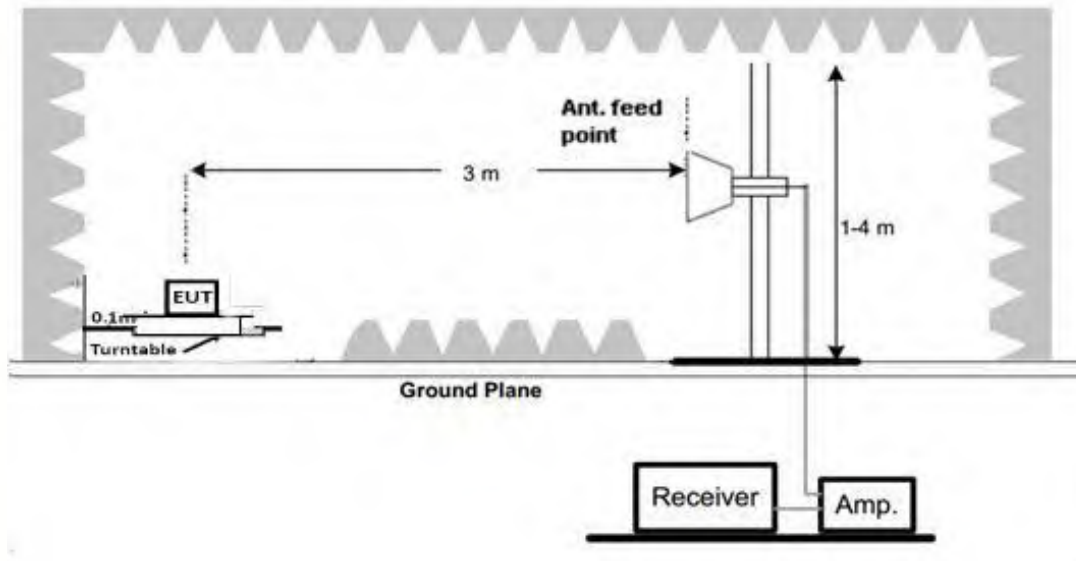
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz

**Test Procedure**

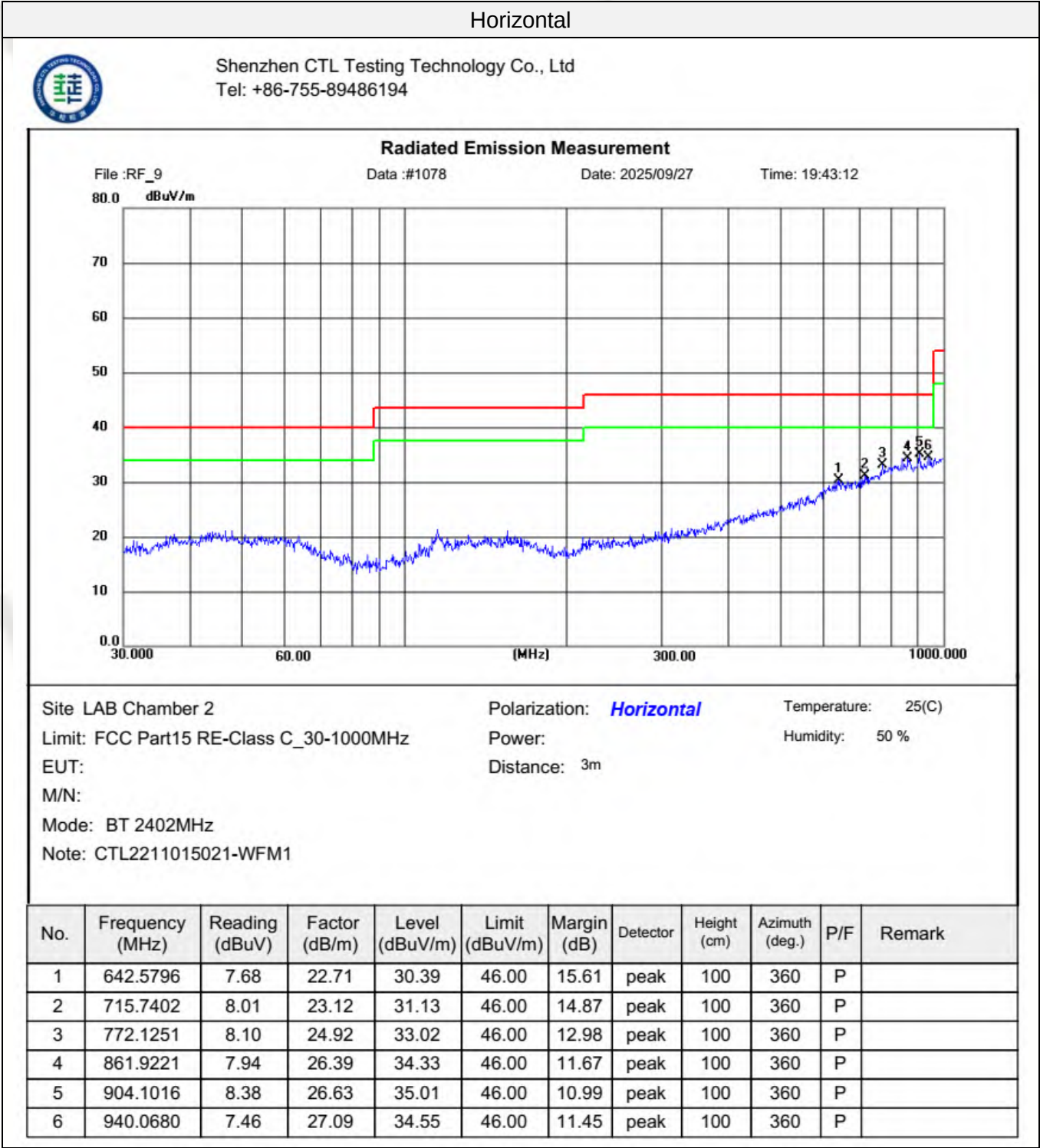
1. Below 1GHz measurement the EUT is placed on a turntable which is 0.1m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

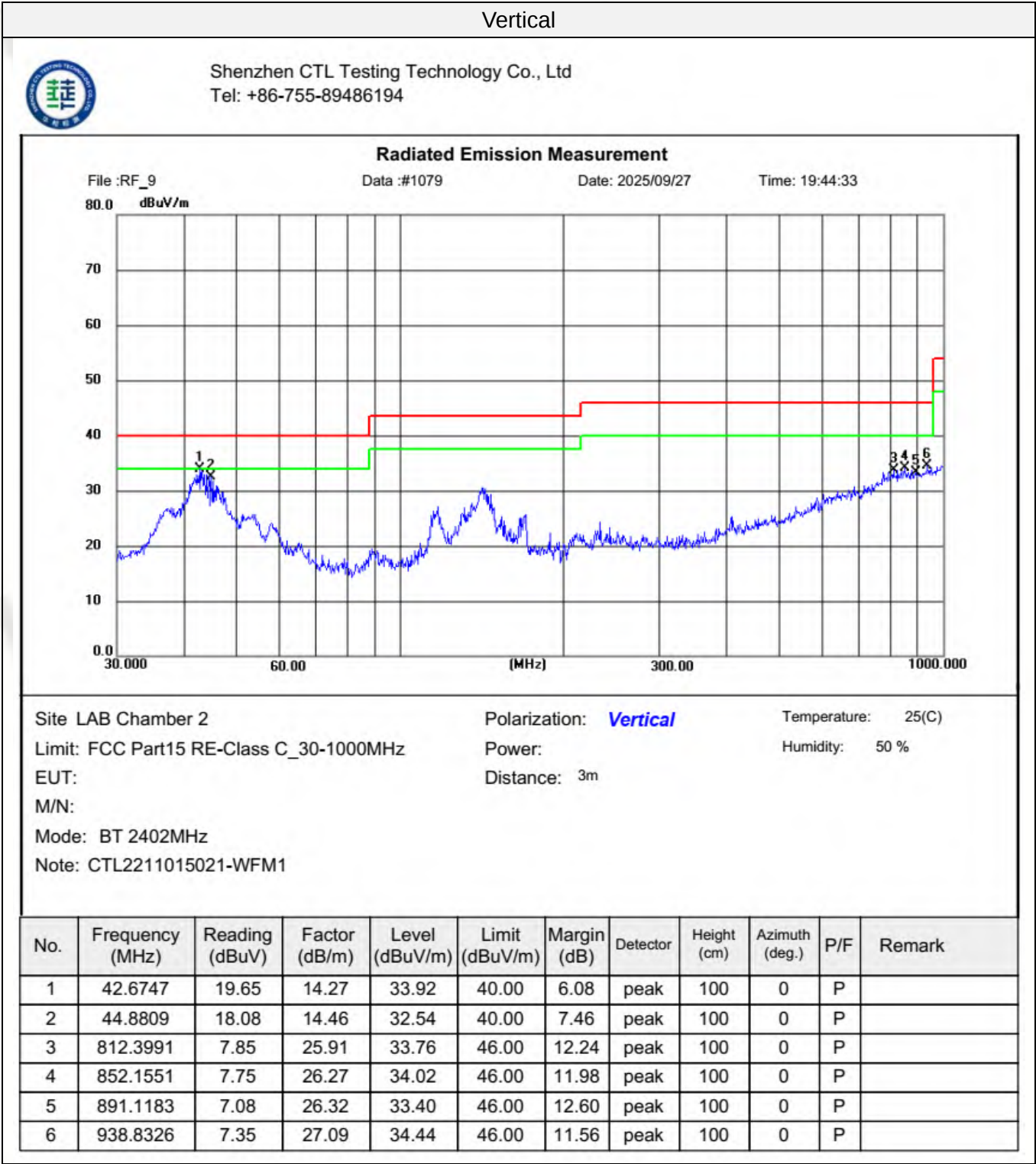
TEST RESULTS

Remark:

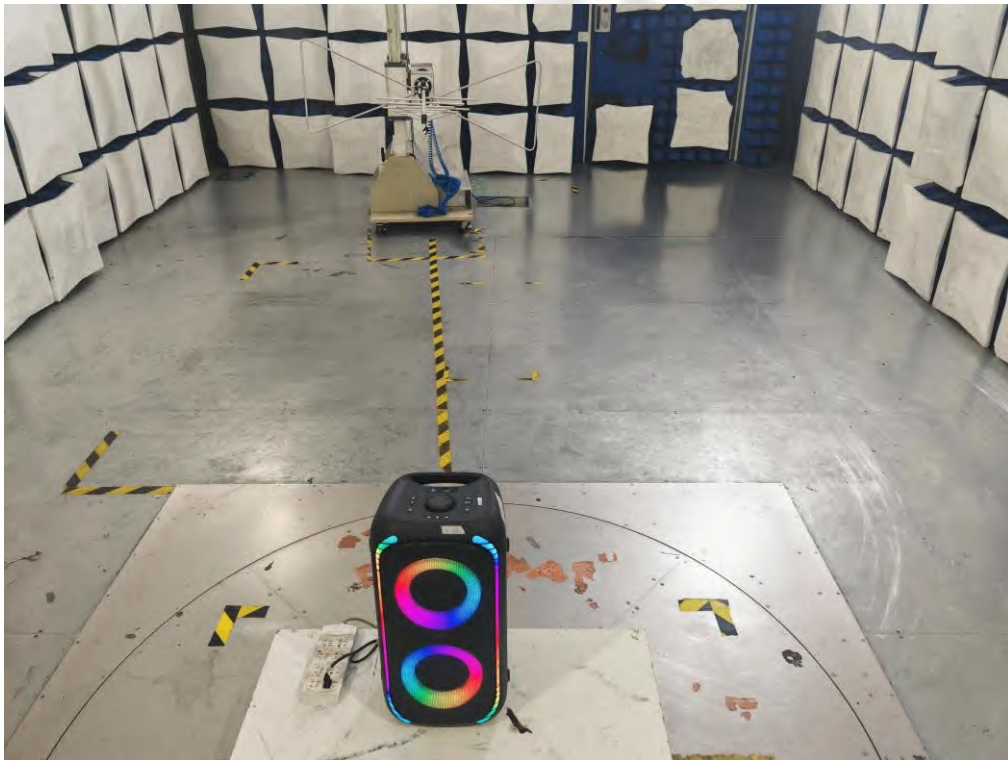
1. For below 1GHz testing recorded worst at GFSK DH5 low channel.
2. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, Found the emission level are attenuated 20dB below the limits from 9 kHz to 30MHz, so it does not recorded in report.

For 30MHz-1GHz





4. Test Setup Photos of the EUT



5. Photos of the EUT

External Photos of EUT









Internal Photos of EUT

FM Antenna

