

FCC Test Report

Applicant : Shenzhen Interthings Technology Co., Ltd.

Address : 701, Building 1, Lechuanghui Building, No. 1211
Guangang Road, Longhua District, Shenzhen,
China

Product Name : Wireless Chime

Report Date : Sept. 13, 2024

Shenzhen Anbotech Compliance Laboratory Limited



Shenzhen Anbotech Compliance Laboratory Limited

Address: Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park,
Sanwei Community, Hahqcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China,
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TEST REPORT

Applicant : Shenzhen Interthings Technology Co., Ltd.

Manufacturer : Shenzhen Interthings Technology Co., Ltd.

Product Name : Wireless Chime

Model No. : CH006, CH007

Trade Mark : N/A

Rating(s) : Input: DC 5V/1A

**Test Standard(s) : FCC 47 CFR Part 15 Subpart B
ANSI C63.4-2014**

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited.

Date of Receipt:

Jun. 18, 2024

Date of Test:

Jun. 18, 2024 to Jul. 01, 2024

Prepared By:

Nian xiu Chen

(Nianxiu Chen)

Approved & Authorized Signer:

Edward Pan

(Edward Pan)

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Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Sept. 13, 2024



1. General Information

1.1. Client Information

Applicant	:	Shenzhen Interthings Technology Co., Ltd.
Address	:	701, Building 1, Lechuanghui Building, No. 1211 Guanguang Road, Longhua District, Shenzhen, China
Manufacturer	:	Shenzhen Interthings Technology Co., Ltd.
Address	:	701, Building 1, Lechuanghui Building, No. 1211 Guanguang Road, Longhua District, Shenzhen, China
Factory	:	Shenzhen Interthings Technology Co., Ltd.
Address	:	701, Building 1, Lechuanghui Building, No. 1211 Guanguang Road, Longhua District, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	Wireless Chime
Model No.	:	CH006, CH007 (Note: All samples are the same except the model number, so we prepare "CH006" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	DC 5V from adapter input AC 120V/60Hz
Test Sample No.	:	1-1-1
Adapter	:	N/A
RF Specification		
Operation Frequency	:	433.92MHz(RX only)
Modulation Type	:	FSK
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. (2) All samples are the same except the model number, so we prepare "CH006" for test only.		

1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
Xiaomi 33W adapter	Xiaomi	MDY-11-EX	SA62212LA04358J



1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	Receive mode

1.5. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.4dB
Radiated emissions (30MHz~1000MHz)	Horizontal: 3.92dB; Vertical: 4.52dB
Radiated emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.6. Test Summary

Test Items	Test Modes	Status
Conducted emissions on AC mains	Mode1	P
Radiated emissions (Below 1GHz)	Mode1	P
Radiated emissions (Above 1GHz)	Mode1	P
Note: P: Pass N: N/A, not applicable		

1.7. Description of Test Facility

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

FCC-Registration No.: 434132

Shenzhen Anbotek Compliance Laboratory Limited, 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 No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.



1.8. Test Equipment List

Conducted emissions on AC mains

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2024-01-18	2025-01-17
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2024-01-17	2025-01-16
3	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/
4	EMI Test Receiver	Rohde & Schwarz	ESPI3	100926	2023-10-12	2024-10-11

Radiated emissions (Below 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Radiated emissions (Above 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2024-01-17	2025-01-16
5	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
6	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/



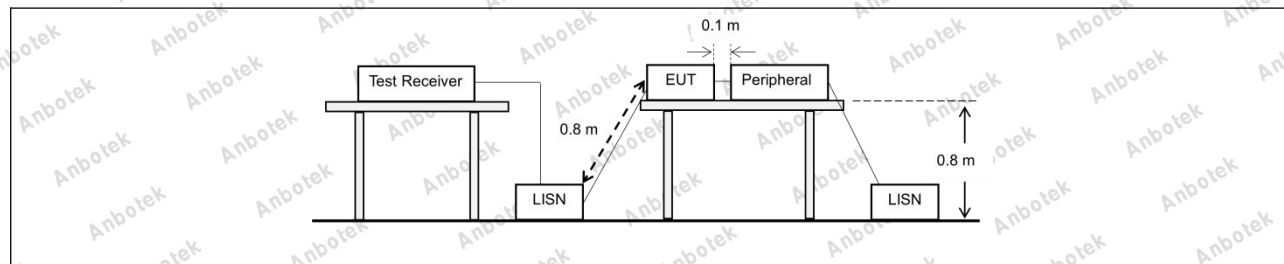
2. Conducted emissions on AC mains

Test Requirement:	15.107, Class B		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dBμV)	
		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 Method:	ANSI C63.4-2014		
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor		

2.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Receive mode

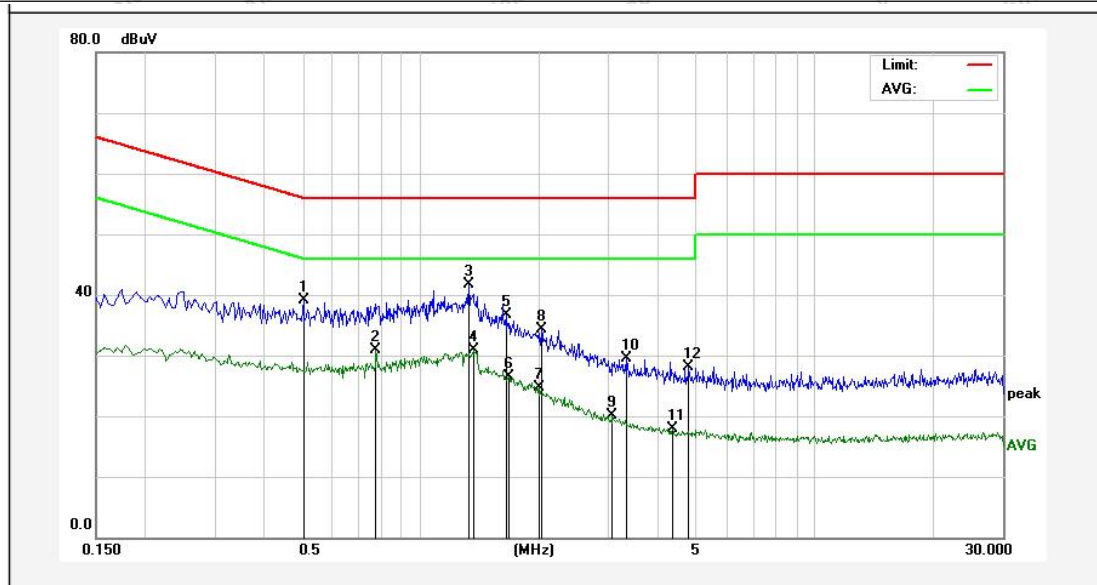
2.2. Test Setup



2.3. Test Data

Temperature:	24.7 °C	Humidity:	57 %	Atmospheric Pressure:	101 kPa
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TM1 / Line: Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.5020	21.25	17.86	39.11	56.00	-16.89	QP	
2	0.7740	13.10	17.87	30.97	46.00	-15.03	AVG	
3	1.3260	23.76	17.86	41.62	56.00	-14.38	QP	
4	1.3700	13.06	17.86	30.92	46.00	-15.08	AVG	
5	1.6500	18.82	17.85	36.67	56.00	-19.33	QP	
6	1.6740	8.61	17.85	26.46	46.00	-19.54	AVG	
7	2.0059	6.89	17.85	24.74	46.00	-21.26	AVG	
8	2.0300	16.37	17.85	34.22	56.00	-21.78	QP	
9	3.0700	2.18	17.85	20.03	46.00	-25.97	AVG	
10	3.3260	11.61	17.85	29.46	56.00	-26.54	QP	
11	4.3380	0.12	17.85	17.97	46.00	-28.03	AVG	
12	4.7819	10.23	17.86	28.09	56.00	-27.91	QP	

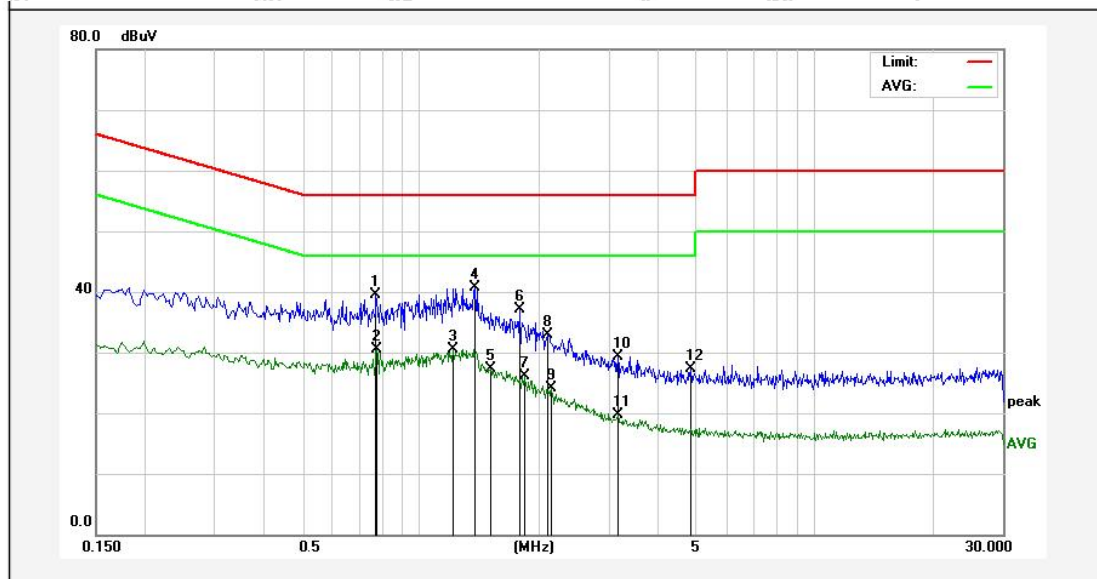


Temperature: 24.7 °C

Humidity: 57 %

Atmospheric Pressure: 101 kPa

TM1 / Line: Neutral



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.7740	21.66	17.87	39.53	56.00	-16.47	QP	
2	0.7780	12.59	17.87	30.46	46.00	-15.54	AVG	
3	1.2100	12.74	17.85	30.59	46.00	-15.41	AVG	
4	1.3779	22.81	17.86	40.67	56.00	-15.33	QP	
5	1.5100	9.47	17.85	27.32	46.00	-18.68	AVG	
6	1.7820	19.16	17.86	37.02	56.00	-18.98	QP	
7	1.8300	8.29	17.86	26.15	46.00	-19.85	AVG	
8	2.1099	15.06	17.85	32.91	56.00	-23.09	QP	
9	2.1460	6.20	17.85	24.05	46.00	-21.95	AVG	
10	3.1700	11.50	17.85	29.35	56.00	-26.65	QP	
11	3.1700	1.79	17.85	19.64	46.00	-26.36	AVG	
12	4.8340	9.53	17.86	27.39	56.00	-28.61	QP	



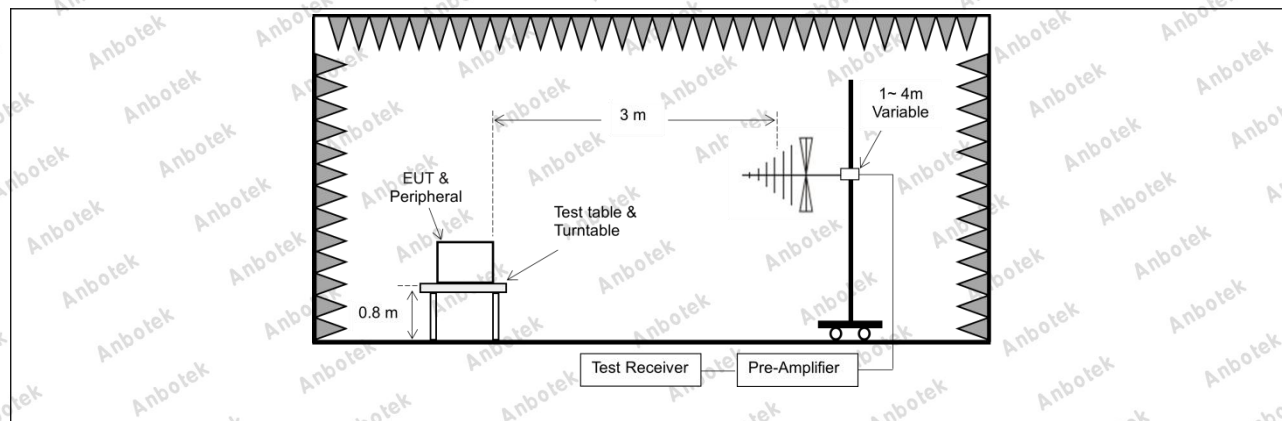
3. Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B				
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:				
	Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
		(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
	30 – 88	100	40	30	29.5
	88 – 216	150	43.5	45	33.1
	216 – 960	200	46	60	35.6
	Above 960	500	54	150	43.5
Test Method:	ANSI C63.4-2014				
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor				

3.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Receive mode

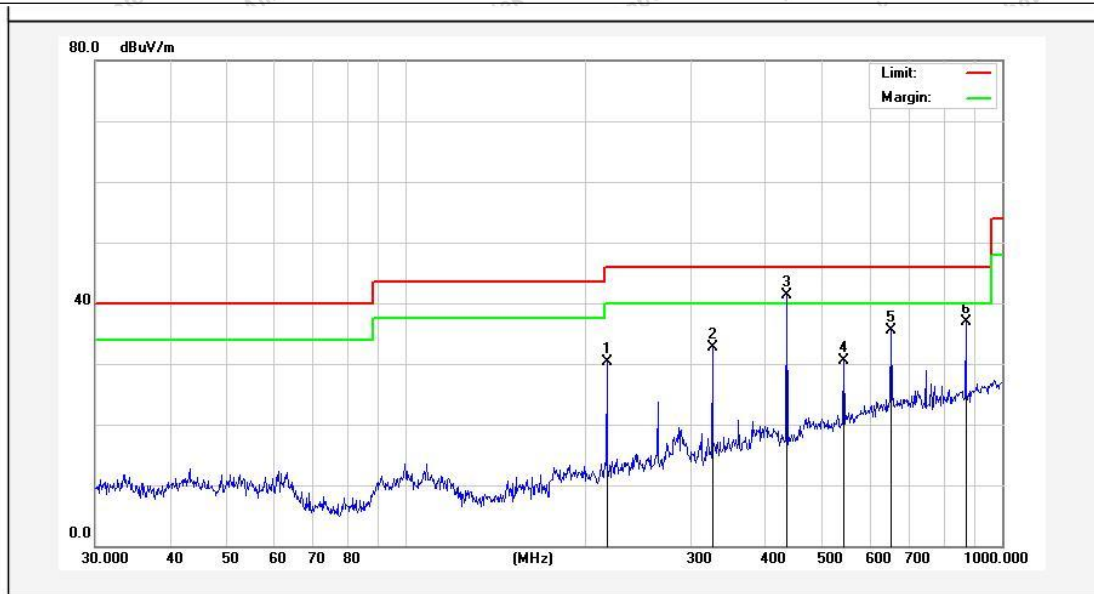
3.2. Test Setup



3.3. Test Data

Temperature:	24.7 °C	Humidity:	57 %	Atmospheric Pressure:	101 kPa
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TM1 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	216.7828	49.62	-19.25	30.37	46.00	-15.63	QP			
2	325.5957	48.27	-15.57	32.70	46.00	-13.30	QP			
3	434.0649	54.76	-13.48	41.28	46.00	-4.72	QP			
4	543.2740	41.76	-11.30	30.46	46.00	-15.54	QP			
5	651.9416	44.75	-9.24	35.51	46.00	-10.49	QP			
6	869.1299	43.83	-6.94	36.89	46.00	-9.11	QP			

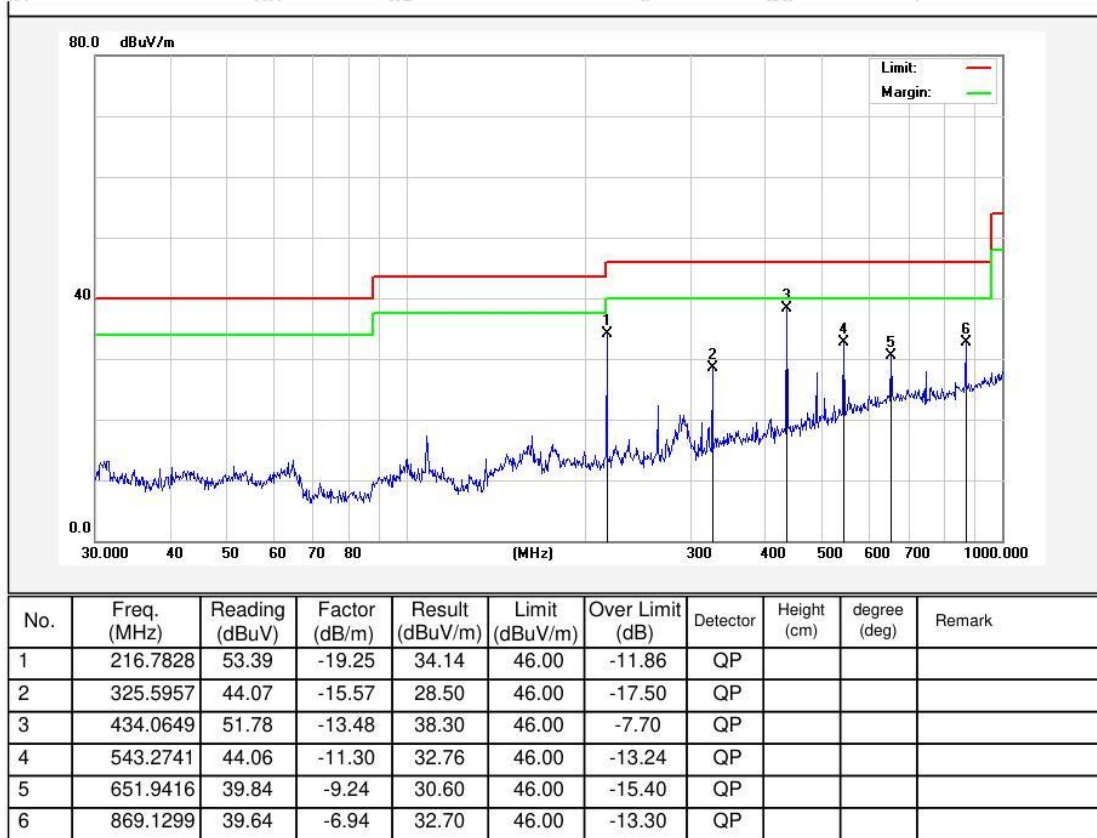


Temperature: 24.7 °C

Humidity: 57 %

Atmospheric Pressure: 101 kPa

TM1 / Polarization: Vertical



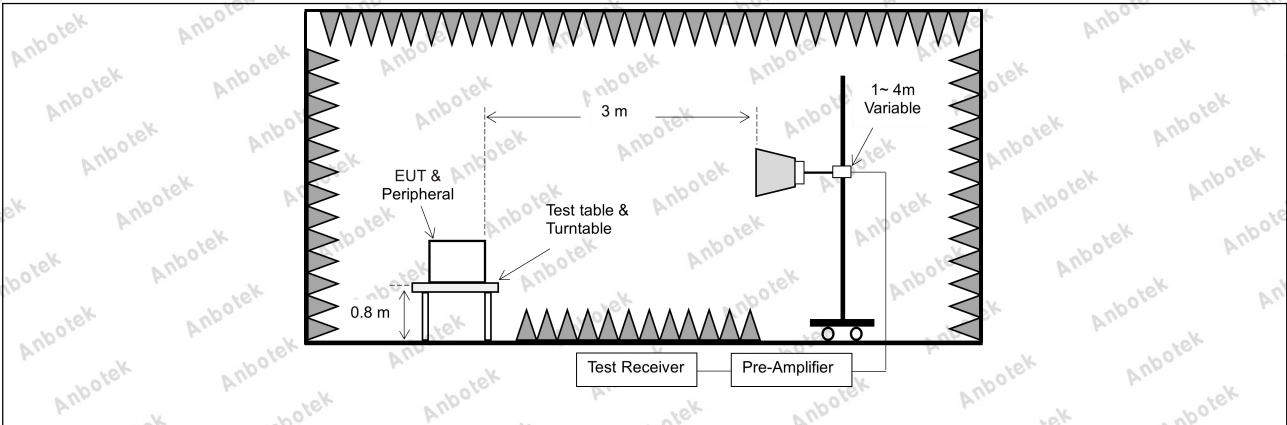
4. Radiated emissions (Above 1GHz)

Test Requirement:	15.109, Class B		
Test Limit:	Frequency of emission (MHz)	Field strength @3m	
	Above 1GHz	Average (uV/m)	Peak (dBuV/m)
		500	74
Test Method:	ANSI C63.4-2014		
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. For below 1GHz test, Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. For above 1GHz test, Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor		

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Receive mode

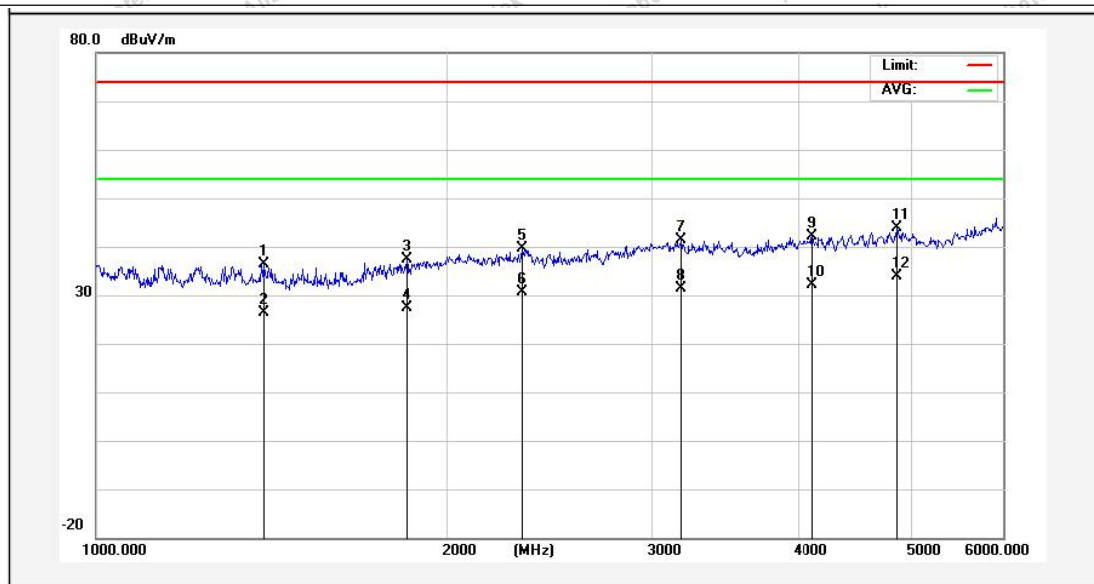
4.2. Test Setup



4.3. Test Data

Temperature:	23 °C	Humidity:	56 %	Atmospheric Pressure:	101 kPa
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TM1 / Polarization: Horizontal

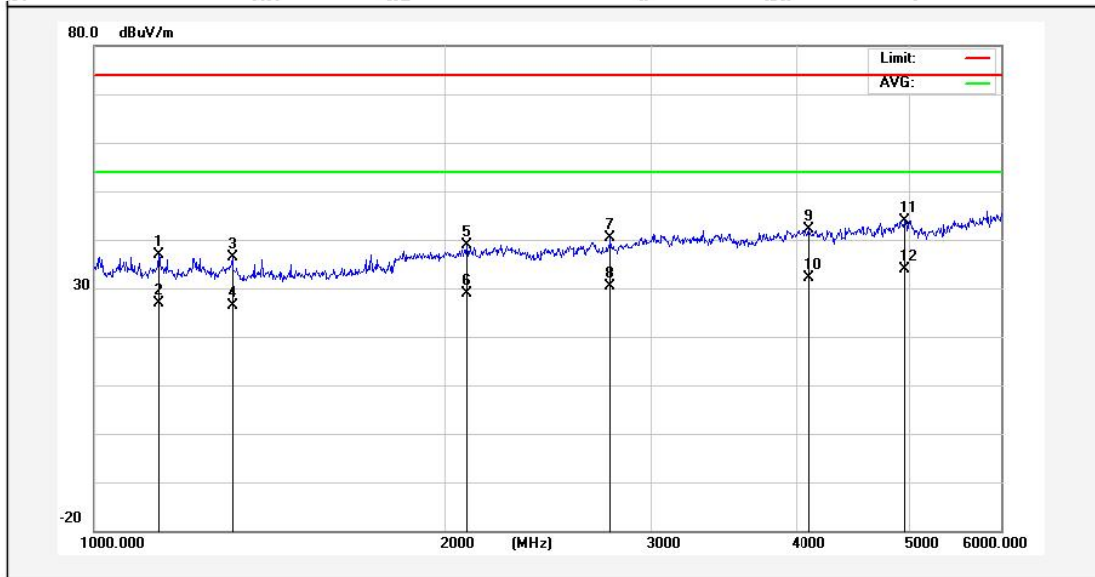


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1393.022	56.24	-19.92	36.32	74.00	-37.68	peak			
2	1393.022	46.24	-19.92	26.32	54.00	-27.68	AVG			
3	1848.868	56.39	-18.97	37.42	74.00	-36.58	peak			
4	1848.868	46.39	-18.97	27.42	54.00	-26.58	AVG			
5	2321.299	57.09	-17.49	39.60	74.00	-34.40	peak			
6	2321.299	48.09	-17.49	30.60	54.00	-23.40	AVG			
7	3176.198	56.10	-14.84	41.26	74.00	-32.74	peak			
8	3176.198	46.10	-14.84	31.26	54.00	-22.74	AVG			
9	4118.504	54.51	-12.44	42.07	74.00	-31.93	peak			
10	4118.504	44.51	-12.44	32.07	54.00	-21.93	AVG			
11	4865.277	54.43	-10.57	43.86	74.00	-30.14	peak			
12	4865.277	44.43	-10.57	33.86	54.00	-20.14	AVG			



Temperature:	23 °C	Humidity:	56 %	Atmospheric Pressure:	101 kPa
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TM1 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1135.661	64.37	-27.54	36.83	74.00	-37.17	peak			
2	1135.661	54.37	-27.54	26.83	54.00	-27.17	AVG			
3	1313.043	63.36	-27.09	36.27	74.00	-37.73	peak			
4	1313.043	53.36	-27.09	26.27	54.00	-27.73	AVG			
5	2088.431	63.86	-25.08	38.78	74.00	-35.22	peak			
6	2088.431	53.86	-25.08	28.78	54.00	-25.22	AVG			
7	2771.839	63.92	-23.54	40.38	74.00	-33.62	peak			
8	2771.839	53.92	-23.54	30.38	54.00	-23.62	AVG			
9	4111.131	61.60	-19.47	42.13	74.00	-31.87	peak			
10	4111.131	51.60	-19.47	32.13	54.00	-21.87	AVG			
11	4962.119	61.34	-17.43	43.91	74.00	-30.09	peak			
12	4962.119	51.34	-17.43	33.91	54.00	-20.09	AVG			



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_EMC

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

