

TEST REPORT

Applicant : Shenzhen Kuangxiang Technology Co.,Ltd.

Address : 807, No. 51 Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen City, Guangdong Province China

Manufacturer : Shenzhen Semetor Electronics Co.,Ltd.

Address : 8th/9th Floor, Hongwei Technology Building, Building B, No. 2 Weiling Road, Egongling Community, Pinghu Street, Longgang District, Shenzhen City, Guangdong Province China

Product Name : 5-IN-1 MAGNETIC WIRELESS CHARGING SPEAKER

Model Number : K_21

Trademark : N/A

FCC ID : 2BL9Y-K21

Test Date : Apr, 20, 2026 to Apr, 28, 2026

Date of Report : Apr, 28, 2026

Test Result : This device described above has been tested by BKC, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report.

Test Procedure Used:

Standards : FCC CFR Title 47 Part 15 Subpart C
ANSI C63.10-2020+Cor 1+2023

Prepared by (Test Engineer):
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Revision History of This Test Report

[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name : 5-IN-1 MAGNETIC WIRELESS CHARGING SPEAKER

Model No. : K_21

Model Difference : N/A

Power supply : Input: 5V---3A 9V---3A 12V---3A 15V---3A
Wireless Output(Phone): 5W/7.5W/10W/15W/25W
Wireless Output(Smartwatch):2.5W
Wireless Output(Earbuds):5W
Battery:3.7V---500mAh

Operation frequency : 110-205KHz

Max. RF output power: : 80.84dBuV/m

Modulation : ASK

Antenna Type : Phone Coil ANT, The number of antenna turns is 11 Turns
Earphone Coil ANT, The number of antenna turns is 20 Turns
Watch Coil ANT, The number of antenna turns is 6 Turns

Hardware Version : 1.0

Software Version : 1.0.2.2

Intend use environment : Residential, commercial and light industrial environment

1.2. Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
/	/	/	/	/	/

1.3. Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna requirement	15.203	PASS
AC Power Line Conducted Emission	15.207	PASS
Spurious Emission	15.209(a)(f)	PASS
20dB Bandwidth	15.215	PASS
Remark: N/A is an abbreviation for Not Applicable. Measurement Uncertainty is not taken into account for conformity statement		

1.4. Special Accessories and Auxiliary Equipment

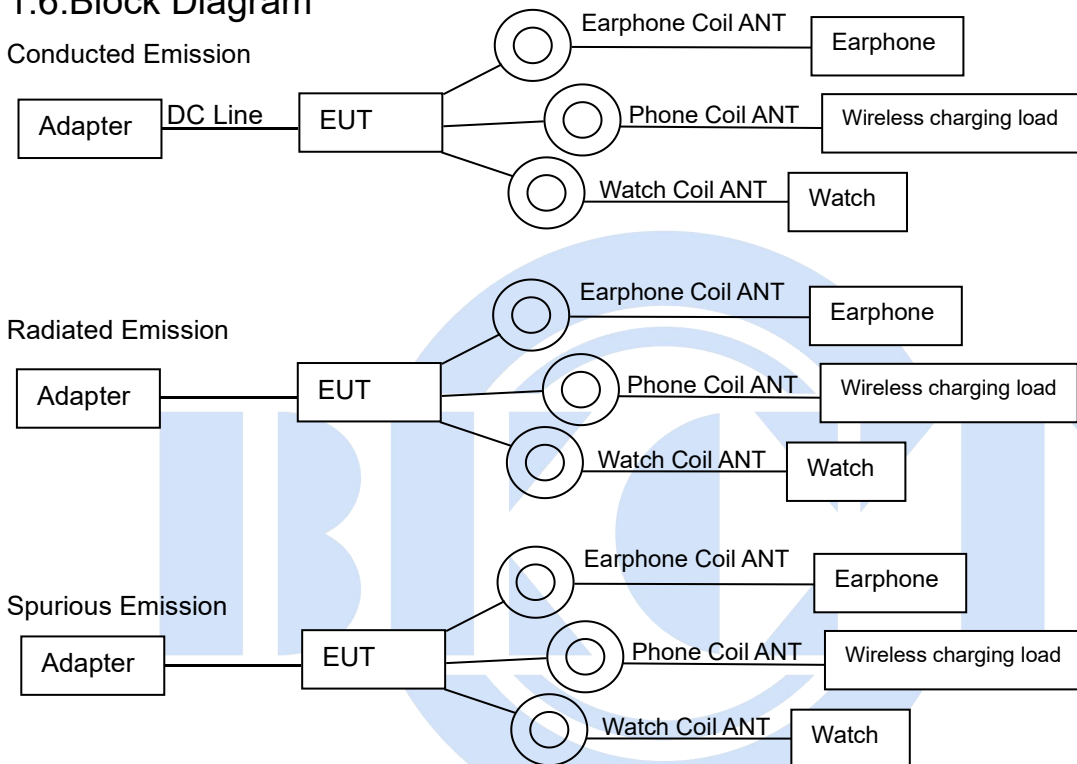
Description	Manufacturer	Model No.	Hardware Version	Software Version
Wireless charging load	/	W541	/	/
Adapter	/	HW088	/	/
Watch	/	Watch 10	/	/
Earbuds	/	Air pods pro	/	/

1.5.Test mode

The special RF test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode.

Test mode	Low channel	Middle channel	High channel
ASK	/	/	/
Note: /			

1.6.Block Diagram



1.7.Independent Operation Modes

Mode	Description	Remark
1	Wireless charging load charging: 5W	1%
		50%
		99%
2	Wireless charging load charging: 7.5W	1%
		50%
		99%
3	Wireless charging load charging: 10W	1%
		50%
		99%
4	Wireless charging load charging: 15W	1%
		50%
		99%

5	Wireless charging load charging: 25W	1%
		50%
		99%
6	Earphone charging: 5W	1%
		50%
		99%
7	Watch charging power: 2.5W	1%
		50%
		99%
8	Wireless charging load charging: 5W+Earphone charging: 5W+Watch charging power: 2.5W	1%
		50%
		99%
9	Wireless charging load charging: 7.5W+Earphone charging: 5W+Watch charging power: 2.5W	1%
		50%
		99%
10	Wireless charging load charging: 10W+Earphone charging: 5W+Watch charging power: 2.5W	1%
		50%
		99%
11	Wireless charging load charging: 15W+Earphone charging: 5W+Watch charging power: 2.5W	1%
		50%
		99%
12	Wireless charging load charging: 25W+Earphone charging: 5W+Watch charging power: 2.5W	1%
		50%
		99%
Note:1. All test modes were pre-tested, but we only recorded the worst case in this report(Mode 12).		

1.8.Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for radio frequency	$\pm 7 \times 10^{-8}$	
Conducted Emissions (150kHz~30MHz)	$\pm 2.54\text{dB}$	
Radiated Emission(9KHz~30MHz)	$\pm 1.6\text{ dB}$	
Radiated Emission(30MHz~1GHz)	Vertical: $\pm 4.14\text{dB}$ Horizontal: $\pm 4.25\text{dB}$	
Radiated Emission(1GHz~6GHz)	$\pm 3.9\text{dB}$	
Radiated Emission(6GHz~18GHz)	$\pm 4.3\text{dB}$	
Radiated Emission(18GHz~40GHz)	$\pm 3.38\text{dB}$	
Uncertainty for conducted RF Power	$\pm 0.20\text{dB}$	
Conducted spurious emissions	$\pm 0.24\text{dB}$	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	1%	
Bandwidth	$\pm 1.5 \times 10^{-6}$	
Time	$\pm 2\%$	
Duty Cycle	$\pm 2\%$	
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%		

1.9. Test Facility

Site Description		
Name of Firm	:	Shenzhen BKC Testing Co., Ltd.
Site Location	:	Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China.
ISED CAB identifier	:	CN0188
ISED Company Number	:	34333
FCC Designation Number	:	CN1416
FCC Test Firm Registration Number	:	701543

1.10. Test Equipment

Conducted Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	102762	Mar. 11. 2026	Mar. 10. 2027
2	EMI Test Receiver	R&S	ESCI	101424	Mar. 11. 2026	Mar. 10. 2027
3	Rf cables	HTEC	HCE 2M-CE	N/A	Mar. 11. 2026	Mar. 10. 2027
4	Coupling/Decoupling Network	Diamond	CX210	N/A	Mar. 11. 2026	Mar. 10. 2027
5	CE Testing software	EZ	EZ-EMC	/	/	/

Radiated Test Site(Below 1G and Above 1G)

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Antenna	Schwarzbeck	VULB 9168	01321	Mar. 20. 2025	Mar. 19. 2028
2	EMI Test Receiver	R&S	ESRP	101478	Mar. 11. 2026	Mar. 10. 2027
3	Preamplifier	HP	8447D	2727A05345	Mar. 11. 2026	Mar. 10. 2027
4	Double Ridged Broadband	SCHWARZBECK	BBHA 9120D	02621	Mar. 11. 2026	Mar. 19. 2028
5	Preamplifier	Schwarzbeck	BBV 9718D	00041	Mar. 11. 2026	Mar. 10. 2027
6	Rf cables	HUBER+SUHNER	8M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
7	Rf cables	HUBER+SUHNER	1.5M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
8	Rf cables	HUBER+SUHNER	1.5M-AP-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
9	Loop antenna	ANRF	ANRF-6603	091802	Mar. 09. 2025	Mar. 10. 2027
10	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027
11	Double Ridged Broadband Horn Antenna	COM-POWER	AH-1840	10100009	Mar. 11. 2026	Mar. 10. 2027

12	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
13	Band Stop Filter	Bafang	BSF5G	2024052610	Mar. 11. 2026	Mar. 10. 2027
14	RE Testing software	EZ	EZ-EMC	/		/

RF Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
2	Vector source	Agilent	N5182A	MY47420223	Mar. 11. 2026	Mar. 10. 2027
3	All instrument	Rohde & Schwarz	CMW 500	101131	Mar. 11. 2026	Mar. 10. 2027
4	control unit	MW	MW100-RFCB	MW200411B K-34	/	Mar. 10. 2027
5	RF Testing software	MW	MTS 8310	/	/	/
6	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027

Test software

Software name	RF Testing software
Software version	2.0.0.0
Software name	RE Testing software
Software version	EMEC-03A2 RE+
Software name	CE Testing software
Software version	EMEC-3A1+

2. Conducted emission at the mains terminals test

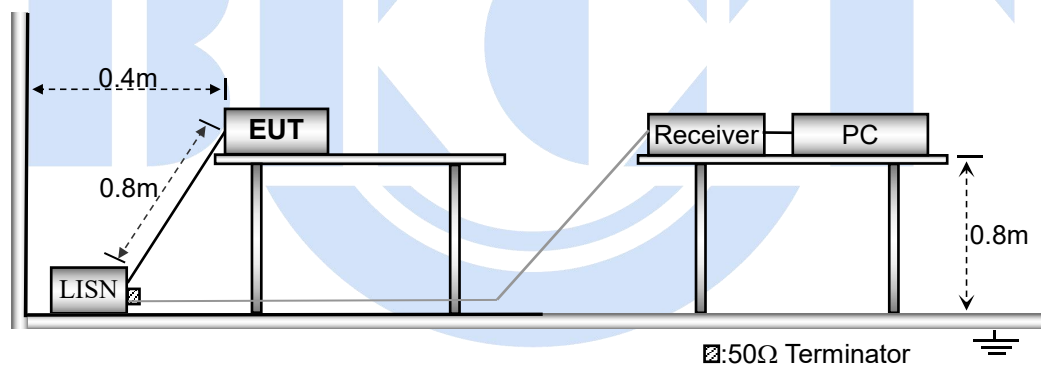
2.1.Limit

Test Requirement:	FCC Part15 C Section 15.207, RSS-Gen 8.8&RSS-216 5.3.2
Test Method:	ANSI C63.10-2020+Cor 1+2023
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.009 ~ 0.05	110	/
0.05 ~ 0.15	90 to 80*	/
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.2.Test Setup

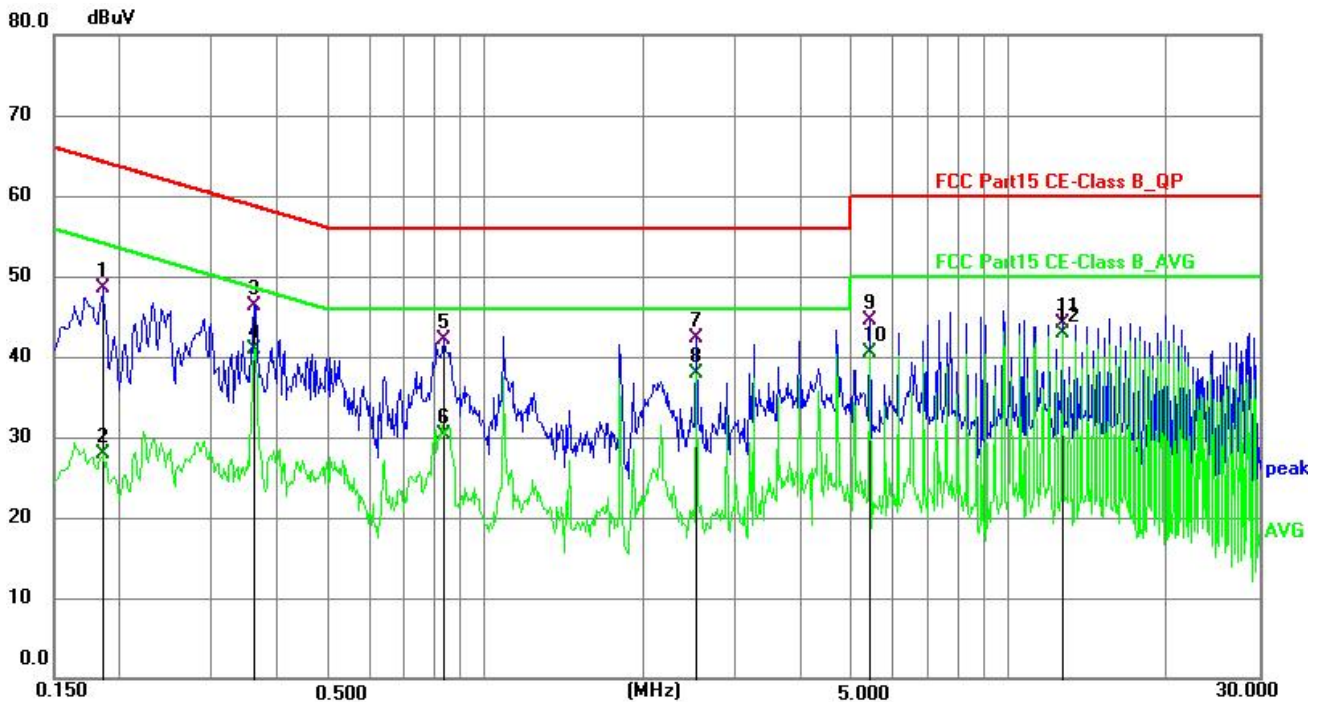


2.3.Test Procedure

1. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

2.4.Test Result

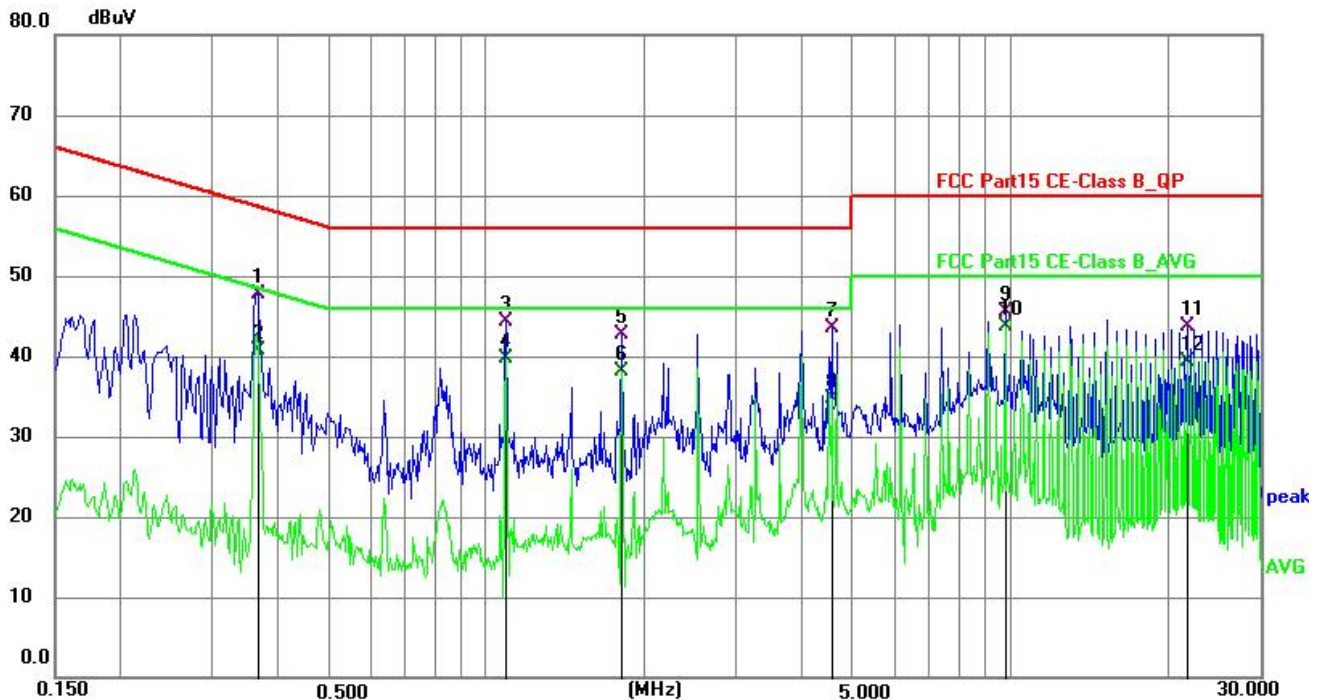
Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1859	38.72	9.79	48.51	64.22	-15.71	QP	P	
2	0.1859	18.16	9.79	27.95	54.22	-26.27	AVG	P	
3	0.3613	36.57	9.77	46.34	58.70	-12.36	QP	P	
4	0.3613	31.14	9.77	40.91	48.70	-7.79	AVG	P	
5	0.8338	32.40	9.76	42.16	56.00	-13.84	QP	P	
6	0.8338	20.54	9.76	30.30	46.00	-15.70	AVG	P	
7	2.5259	32.61	9.78	42.39	56.00	-13.61	QP	P	
8	2.5259	28.09	9.78	37.87	46.00	-8.13	AVG	P	
9	5.4195	34.78	9.80	44.58	60.00	-15.42	QP	P	
10	5.4195	30.69	9.80	40.49	50.00	-9.51	AVG	P	
11	12.6463	34.40	9.74	44.14	60.00	-15.86	QP	P	
12 *	12.6463	33.08	9.74	42.82	50.00	-7.18	AVG	P	

Conducted Emission At The Mains Terminals Test Data

Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3659	38.09	9.70	47.79	58.59	-10.80	QP	P	
2	0.3659	31.09	9.70	40.79	48.59	-7.80	AVG	P	
3	1.0905	34.62	9.68	44.30	56.00	-11.70	QP	P	
4	1.0905	29.95	9.68	39.63	46.00	-6.37	AVG	P	
5	1.8148	32.97	9.69	42.66	56.00	-13.34	QP	P	
6	1.8148	28.51	9.69	38.20	46.00	-7.80	AVG	P	
7	4.5689	33.75	9.72	43.47	56.00	-12.53	QP	P	
8	4.5689	24.99	9.72	34.71	46.00	-11.29	AVG	P	
9	9.7888	35.77	9.70	45.47	60.00	-14.53	QP	P	
10 *	9.7888	33.99	9.70	43.69	50.00	-6.31	AVG	P	
11	21.7635	34.02	9.76	43.78	60.00	-16.22	QP	P	
12	21.7635	29.63	9.76	39.39	50.00	-10.61	AVG	P	

Note:

1. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission
2. Margin = Reading level + Correct Factor - Llimit

3. Radiated Spurious Emissions

3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 ,RSS-216 5.3.3& RSS GEN 8.9
Test Method: ANSI C63.10-2020+Cor 1+2023
Test Result: PASS
Measurement Distance: 3m

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

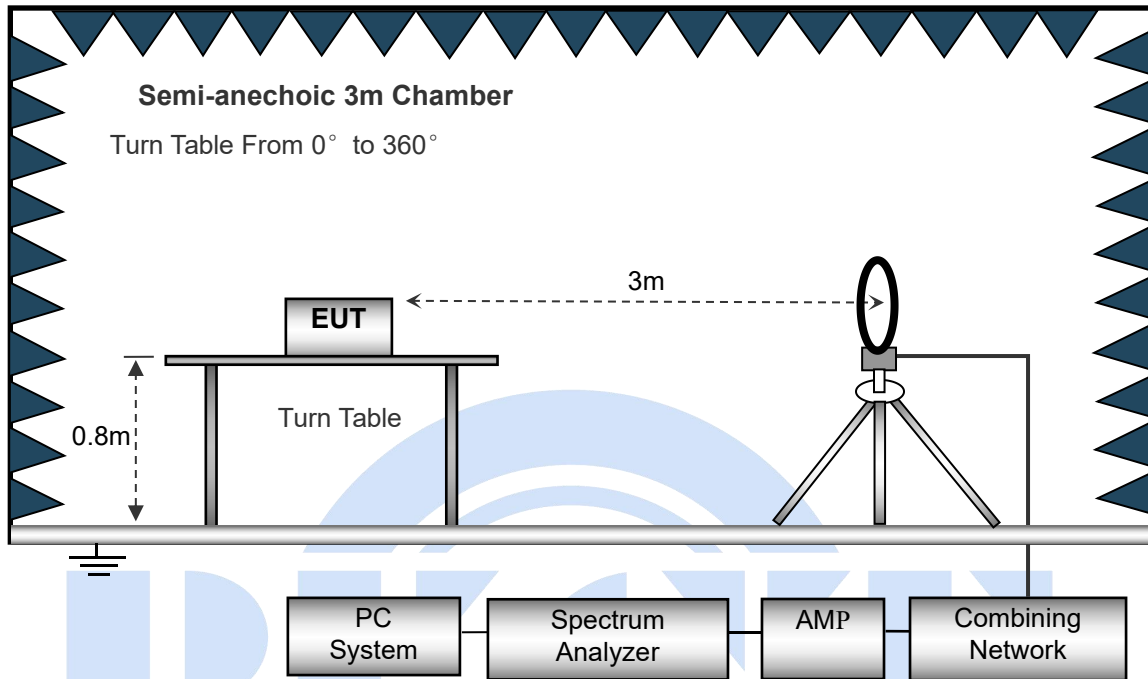
Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log(2400/F(\text{kHz})) + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log(24000/F(\text{kHz})) + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log(30) + 40$
30 ~ 88	100	3	100	$20\log(100)$
88 ~ 216	150	3	150	$20\log(150)$
216 ~ 960	200	3	200	$20\log(200)$
Above 960	500	3	500	$20\log(500)$

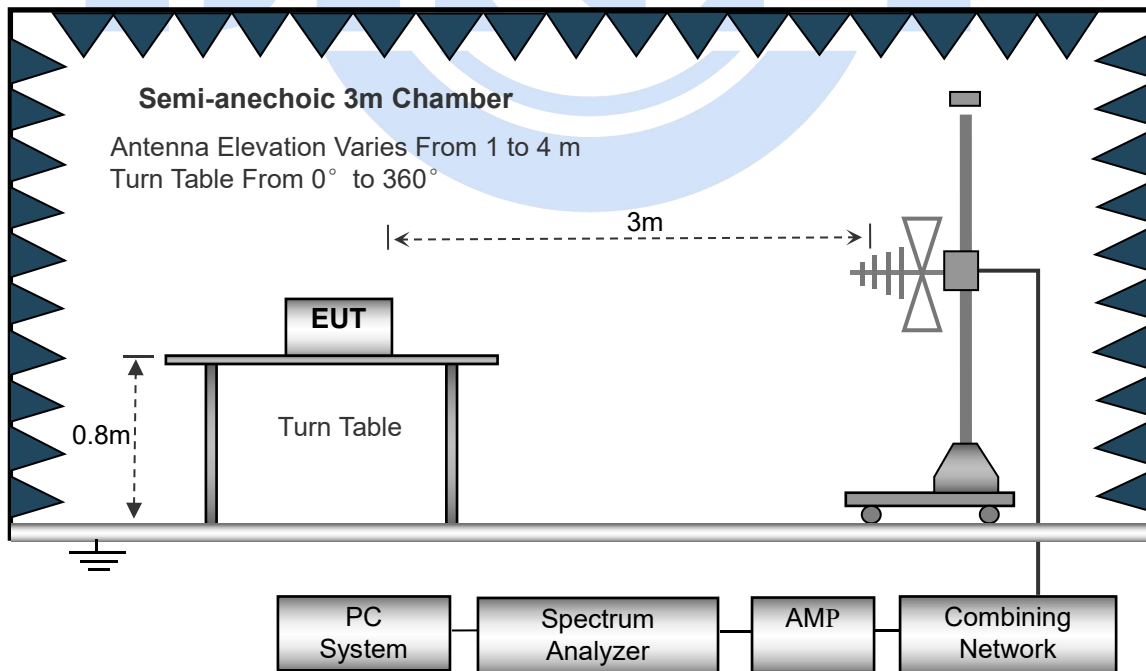
3.2. Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

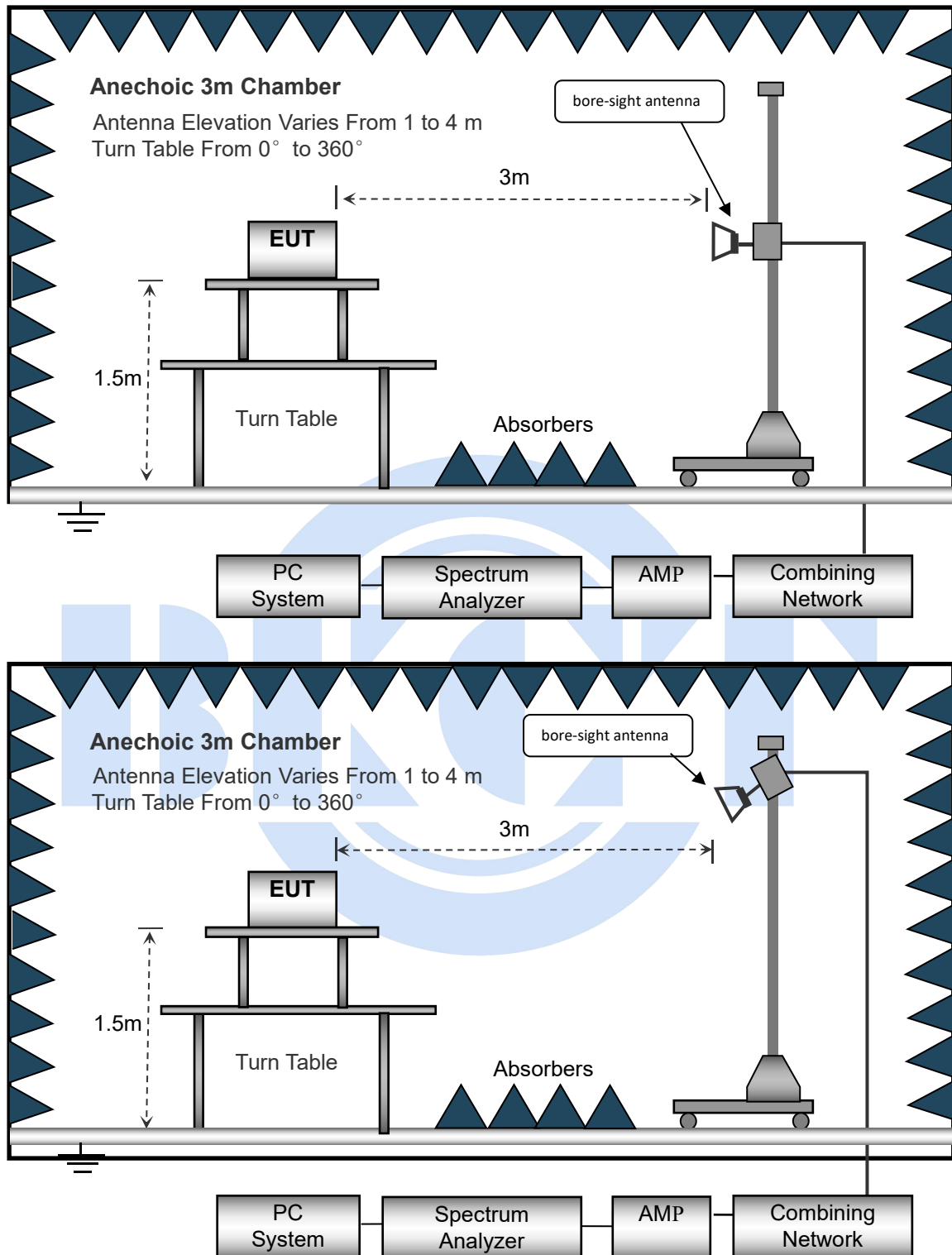
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



3.3. Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.



3.4. Test Result

Measurement data:

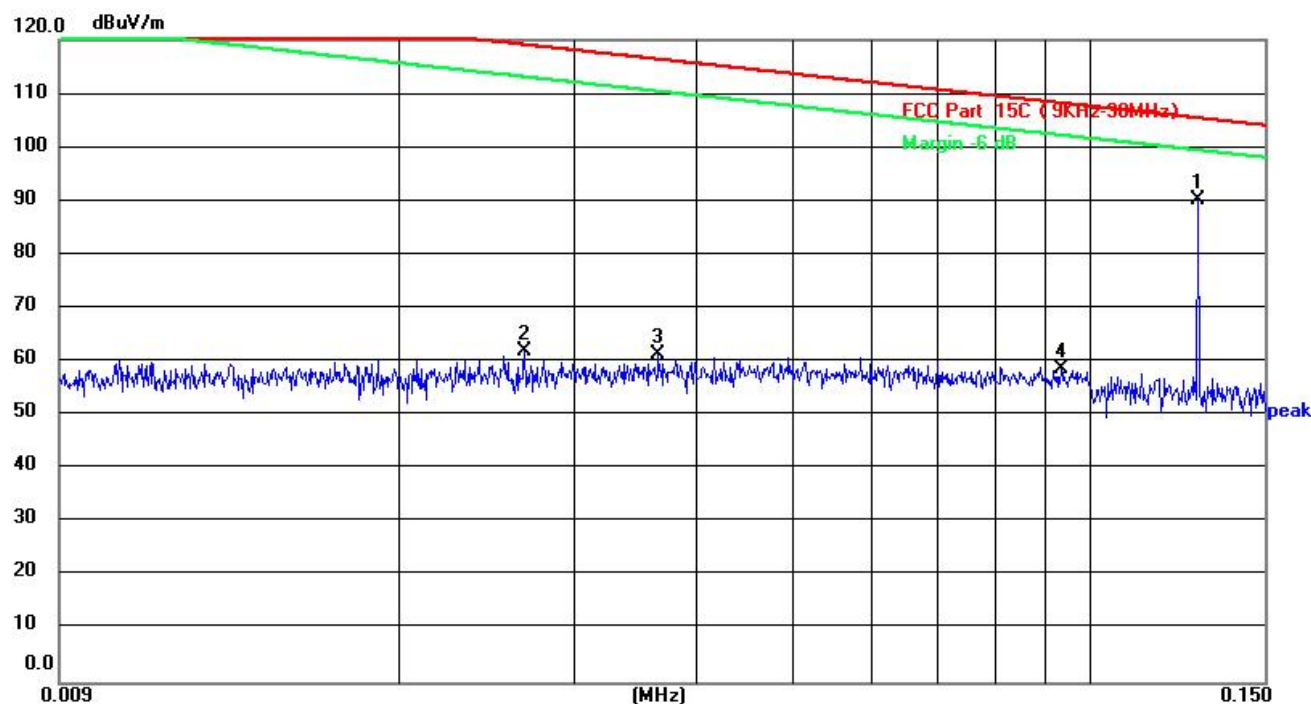
Note: Limit dBuV/m @3m = Limit dBuV/m @300m + 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

$\text{dBuV/m} = 20 \log (\mu\text{V/m})$

Test Frequency : 9 kHz~30 MHz

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Z axis
Test Voltage :	AC 120V/60Hz	Test Mode	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	0.1285	70.14	20.05	90.19	105.42	-15.23	peak
2	0.0267	41.64	20.28	61.92	119.07	-57.15	peak
3	0.0365	40.92	20.28	61.20	116.36	-55.16	peak
4	0.0933	38.50	20.08	58.58	108.20	-49.62	peak

Note1:

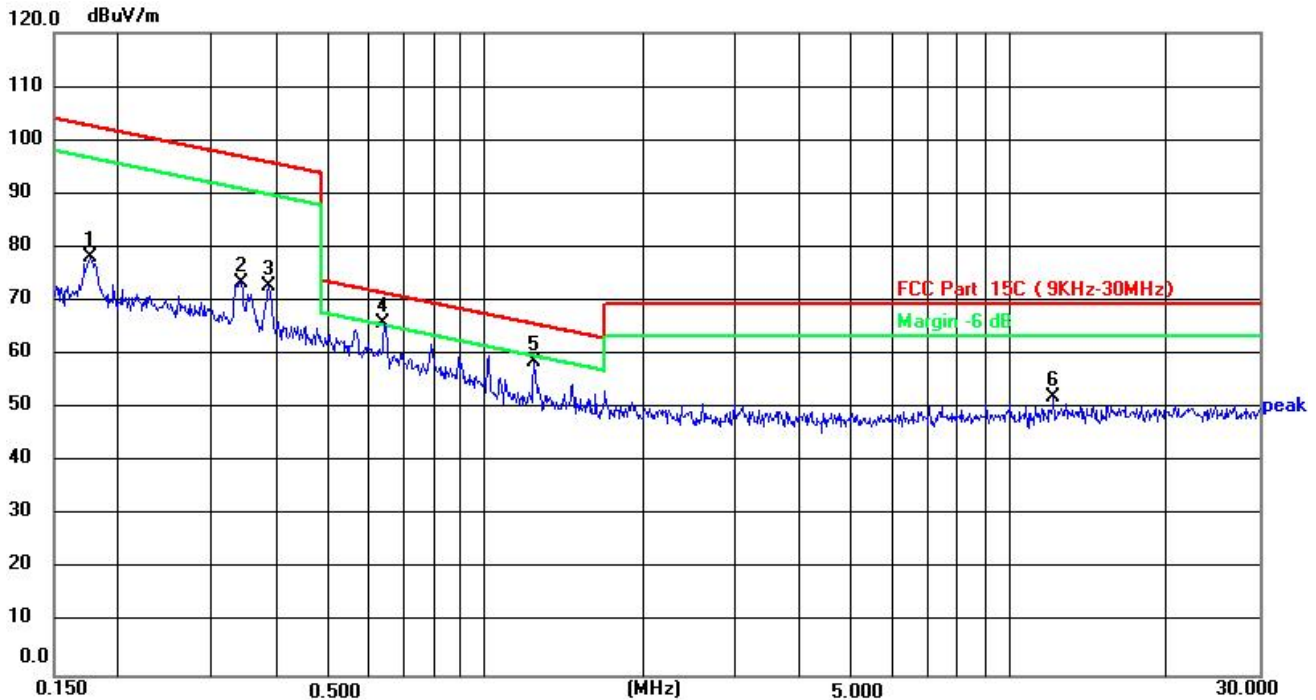
Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Margin = Emission Level- Limit.

Note2:*On behalf of the fundamental frequency

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Z axis
Test Voltage :	AC 120V/60Hz	Test Mode	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1763	58.04	20.02	78.06	102.68	-24.62	peak
2	0.3415	53.28	20.02	73.30	96.94	-23.64	peak
3	0.3862	52.75	20.02	72.77	95.87	-23.10	peak
4 *	0.6419	45.86	19.96	65.82	71.45	-5.63	peak
5	1.2403	38.61	19.94	58.55	65.73	-7.18	peak
6	12.1304	31.70	20.32	52.02	69.54	-17.52	peak

Note1:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Margin = Emission Level- Limit.

Test Frequency : 30MHz ~ 1GHz

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.3253	40.64	-16.59	24.05	40.00	-15.95	QP
2	86.5027	52.52	-20.89	31.63	40.00	-8.37	QP
3	175.0364	54.87	-17.46	37.41	43.50	-6.09	QP
4 !	251.1802	58.79	-17.84	40.95	46.00	-5.05	QP
5 *	327.8872	57.67	-15.93	41.74	46.00	-4.26	QP
6	387.9920	49.02	-14.92	34.10	46.00	-11.90	QP

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode	Mode 12



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	40.8444	52.86	-16.29	36.57	40.00	-3.43	QP
2 !	49.5328	54.43	-16.63	37.80	40.00	-2.20	QP
3 !	58.4074	55.81	-17.39	38.42	40.00	-1.58	QP
4 *	67.6751	57.80	-18.89	38.91	40.00	-1.09	QP
5 !	169.0053	56.78	-16.63	40.15	43.50	-3.35	QP
6	286.9823	53.21	-16.79	36.42	46.00	-9.58	QP

4. -20 dB Bandwidth Measurement

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.215&RSS-Gen Section 6.7

Test Method: ANSI C63.10-2020+Cor 1+2023

4.2.Test Setup



4.3.Test Procedure

1. Set the spectrum analyzer: RBW = 1%-5% OBW
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by -20 dB relative to the maximum level measured in the fundamental emission

4.4.Test Result

Mode	Frequency (MHz)	Antenna	-20dB OBW (MHz)
TX	0.129	Ant1	0.000053



5. Antenna Requirement

According to the FCC Part 15 Paragraph 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. This product has an coil antenna fulfill the requirement of this section.



6. Test Photographs

Please see Attachment BKC26041868E-5.

7. Appendix I: Photos of the EUT

Please see Attachment BKC26041868E-6 and BKC26041868E-7.

