

TEST REPORT

Product Name : Soundbar System / Karaoke Sound Bar
Brand Mark : VIZIO
Model : SK210X-0805
FCC ID : ESX-SK210X
Report Number : BLA-EMC-202406-A7104
Date of Sample Receipt : 2024/6/19
Date of Test : 2024/6/19 to 2024/8/27
Date of Issue : 2024/8/27
Test Standard : 47 CFR Part 15, Subpart C 15.249
Test Result : Pass

Prepared for:

Guangzhou Panyu Juda Car Audio Equipment Co., Ltd
NO.5 Building ,No.139,Zhouxing Street, Dongchong Town, Nansha District,
Guangzhou City, Guangdong Province, China

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District,
Shenzhen, Guangdong Province, China
TEL: +86-755-23059481

Compiled by:

Hugh

Approved by:

Blue Zheng

Review by:

Sueels

Date:

2024/8/27



The test report is effective only with both signature and specialized stamp and The result(s) shown in this report refer only to the sample(s) tested. Without written approval of BlueAsia, this report can't be reproduced except in full. The results described in this report do not represent the quality or characteristics of the sampled batch, nor do they represent any similar or identical products that are not explicitly stated.

REPORT REVISE RECORD

Version No.	Date	Description
00	2024/8/27	Original

BlueAsia

TABLE OF CONTENTS

1	TEST SUMMARY	5
2	GENERAL INFORMATION	6
3	GENERAL DESCRIPTION OF E.U.T.	6
4	TEST ENVIRONMENT	8
5	TEST MODE	8
6	MEASUREMENT UNCERTAINTY	8
7	DESCRIPTION OF SUPPORT UNIT	9
8	LABORATORY LOCATION	9
9	TEST INSTRUMENTS LIST	10
10	CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)	11
10.1	LIMITS	11
10.2	BLOCK DIAGRAM OF TEST SETUP	11
10.3	PROCEDURE	11
10.4	TEST DATA	13
11	RADIATED EMISSIONS	16
11.1	LIMITS	16
11.2	BLOCK DIAGRAM OF TEST SETUP	17
11.3	PROCEDURE	17
11.4	TEST DATA	18
12	RESTRICTED BAND AROUND FUNDAMENTAL FREQUENCY	26
12.1	LIMITS	26
12.2	BLOCK DIAGRAM OF TEST SETUP	27
12.3	PROCEDURE	27
12.4	TEST DATA	29
13	FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL (15.249(A))	33
13.1	LIMITS	33
13.2	BLOCK DIAGRAM OF TEST SETUP	34
13.3	PROCEDURE	34
13.4	TEST DATA	36

14	20DB BANDWIDTH	48
14.1	LIMITS	48
14.2	BLOCK DIAGRAM OF TEST SETUP	48
14.3	TEST DATA	48
15	ANTENNA REQUIREMENT	49
15.1	CONCLUSION	49
16	APPENDIX	50
	APPENDIX A: PHOTOGRAPHS OF TEST SETUP	52
	APPENDIX B: PHOTOGRAPHS OF EUT	54

1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209	Pass
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.5&6.6	47 CFR Part 15, Subpart C 15.249(a)	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	N/A	47 CFR Part 15, Subpart C 15.203	Pass

2 GENERAL INFORMATION

Applicant	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd
Address	NO.5 Building ,No.139,Zhouxing Street,Dongchong Town,Nansha District,Guangzhou City,Guangdong Province,China
Manufacturer	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd
Address	NO.5 Building ,No.139,Zhouxing Street,Dongchong Town,Nansha District,Guangzhou City,Guangdong Province,China
Factory	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd
Address	NO.5 Building ,No.139,Zhouxing Street,Dongchong Town,Nansha District,Guangzhou City,Guangdong Province,China
Product Name	Soundbar System / Karaoke Sound Bar
Test Model No.	SK210X-0805

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	VER:1
Software Version	N/A
Channel Spacing:	$\geq 1\text{MHz}$
Frequency Range:	2402MHz~2480MHz
Device type:	Non-specific short range devices
Modulation Type:	GFSK
Number of Channels:	79 (declared by the client)
Antenna Type:	PCB ANT
Antenna Gain:	5.41 dBi (Provided by the applicant)
Power supply or adapter information	Input: 100v-240v~50/60Hz, 50W Output: DC5V=0.5A

Operation Frequency each of channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		--

Test channel:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2441MHz
The Highest channel	2480MHz

4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25°C	AC120V

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation.
Remark: Full battery is used during all test except ac conducted emission	

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Unwanted Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Unwanted Radiated Emission (1GHz ~ 18GHz)	±4.44 dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
--	--	--	--	--

Note:
"--" means no any support device during testing.

8 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province,
China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

9 TEST INSTRUMENTS LIST

Equipment No.	Equipment Name	Model No.	Manufacturer	S/N	Cal. Date	Next Cal. Date
BLA-EMC-008	Spectrum	FSP40	R&S	100817	2023/08/30	2024/08/29
BLA-EMC-009	EMI Receiver	ESR7	R&S	101199	2023/08/30	2024/08/29
BLA-EMC-011	LISN	ENV216	R&S	101372	2023/08/30	2024/08/29
BLA-EMC-012	broad band Antenna	VULB9168	Schwarz beck	00836 P:00227	2022/10/12	2025/10/11
BLA-EMC-013	Horn Antenna	BBHA9120D	Schwarz beck	01892	2022/09/13	2025/09/12
BLA-EMC-014	Amplifier	PA_000318G-4 5	SKET	PA2018043003	2023/08/30	2024/08/29
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2023/11/16	2024/11/15
BLA-EMC-028	Spectrum	N9020A	Agilent	MY53420839	2023/11/16	2024/11/15
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2023/08/30	2024/08/29
BLA-EMC-041	LISN	AT166-2	ATTEN	AKK1806000003	2023/08/30	2024/08/29
BLA-EMC-042	Power sensor	RPR3006W	DARE	14I00889SN042	2023/09/01	2024/08/31
BLA-EMC-043	Loop antenna	FMZB1519B	SCHNARZBE CK	00102	2022/09/14	2025/09/13
BLA-EMC-044	Wideband radio communication tester	CMW500	R&S	132429	2023/08/30	2024/08/29
BLA-EMC-045	Impedance stable network	ISNT8-cat6	TESEQ	53580	2023/08/30	2024/08/29
BLA-EMC-046	Filter bank	2.4G/5G Filter bank	SKET	N/A	2024/07/07	2025/07/06
BLA-EMC-061	Receiver	ESPI7	R&S	101477	2024/07/07	2025/07/06
BLA-EMC-062	Signal Generator	N5181A	Agilent	MY46240904	2024/07/07	2025/07/06
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2024/07/07	2025/07/06
BLA-EMC-065	broadband Antenna	VULB9168	Schwarz beck	01065P	2022/12/12	2025/12/11
BLA-EMC-066	Amplifier	LNPA_30M01G -30	SKET	SK2021060801	2024/07/07	2025/07/06
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2023/08/30	2024/08/29
BLA-EMC-080	Signal Generator	N5182A	Agilent	MY47420955	2023/08/30	2024/08/29
BLA-EMC-086	Amplifier	LNPA_18G40G- 50dB	SKET	SK2022071301	2023/08/14	2024/08/13
					2024/08/14	2025/08/13

10 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

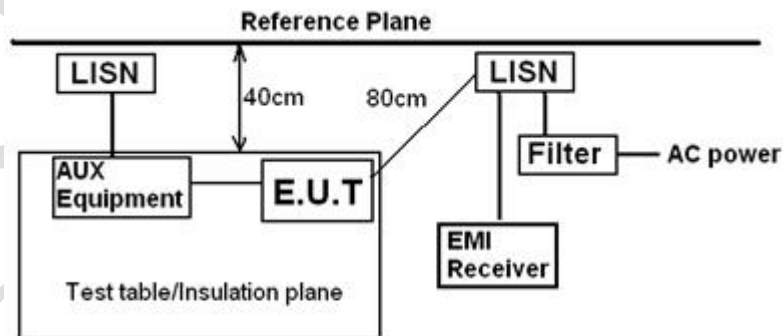
Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

10.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	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.

10.2 BLOCK DIAGRAM OF TEST SETUP



Remark:
 E.U.T: Equipment Under Test
 LISN: Line Impedance Stabilization Network
 Test table height=0.8m

10.3 PROCEDURE

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as

the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

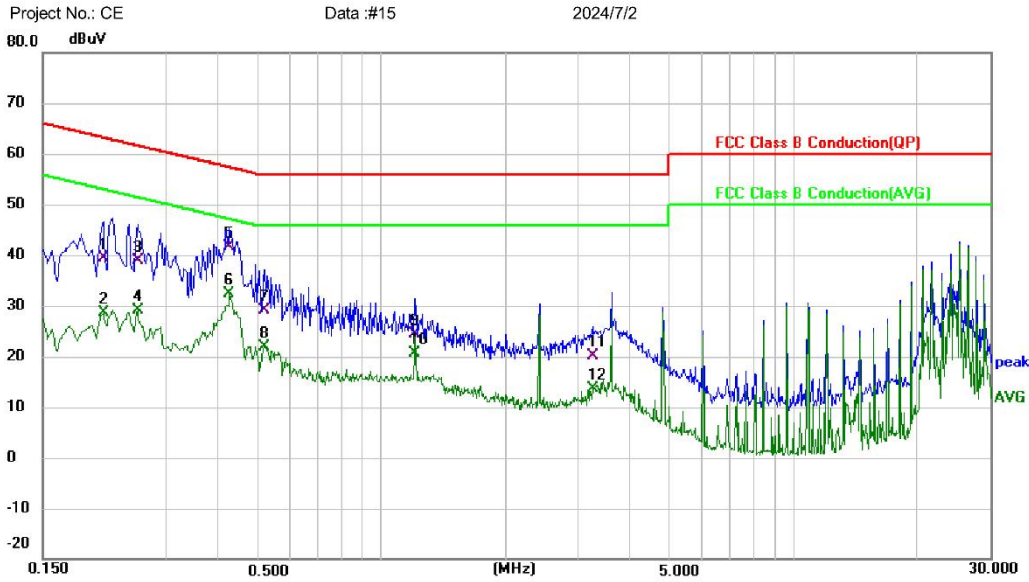
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor

[TestMode: TX]; [Line: Nutral] ;[Power:AC120V/60Hz]

Conducted Emission Measurement



Site	Phase: N	Temperature: (C)
Limit: FCC Class B Conduction(QP)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba	Distance:	RBW: 9 KHz
M/N: SV200M-0805, SV210X-0805, SK200M-0		VBW: 30 KHz
Mode: 2.4G TX		Sweep Time: 10 ms
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		0.2100	29.18	10.22	39.40	63.21	-23.81	QP			
2		0.2100	18.45	10.22	28.67	53.21	-24.54	AVG			
3		0.2540	28.52	10.38	38.90	61.63	-22.73	QP			
4		0.2540	18.72	10.38	29.10	51.63	-22.53	AVG			
5		0.4260	31.70	9.81	41.51	57.33	-15.82	QP			
6	*	0.4260	22.50	9.81	32.31	47.33	-15.02	AVG			
7		0.5180	19.25	9.82	29.07	56.00	-26.93	QP			
8		0.5180	12.03	9.82	21.85	46.00	-24.15	AVG			
9		1.2020	14.56	9.89	24.45	56.00	-31.55	QP			
10		1.2020	10.75	9.89	20.64	46.00	-25.36	AVG			
11		3.2540	10.07	10.05	20.12	56.00	-35.88	QP			
12		3.2540	3.47	10.05	13.52	46.00	-32.48	AVG			

*:Maximum data x:Over limit !:over margin <Reference Only

Receiver: ESPI_1 Spectrum Analyzer: ESPI

L.I.S.N:

Engineer Signature:

Test Result: Pass

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

BlueAsia

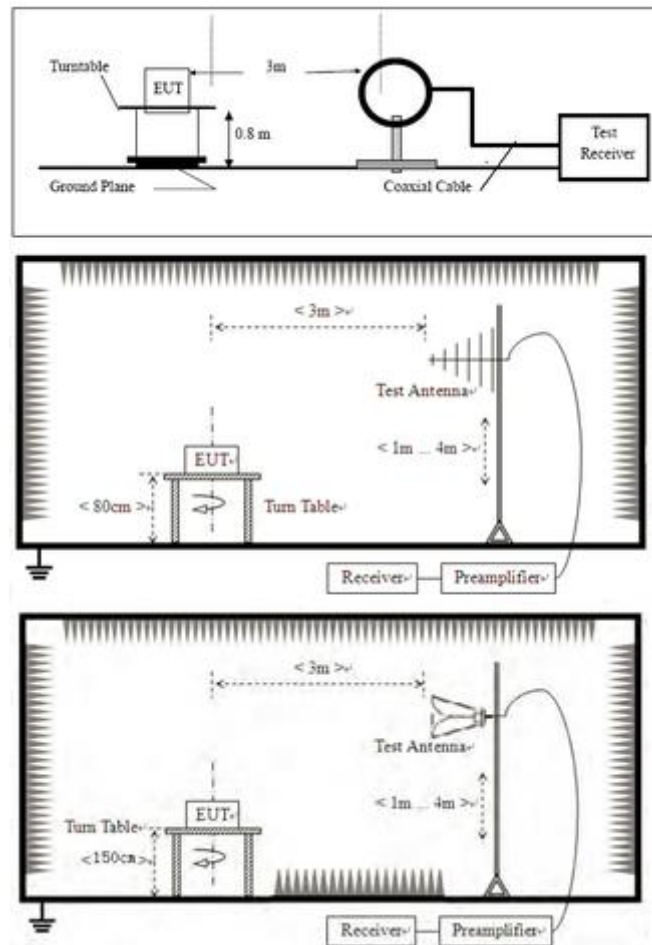
11 RADIATED EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.4&6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

11.1 LIMITS

Frequency	Field strength (microvolt/meter)	Limit (dB μ V/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	-	300
0.490MHz-1.705MHz	24000/F (kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

11.2 BLOCK DIAGRAM OF TEST SETUP

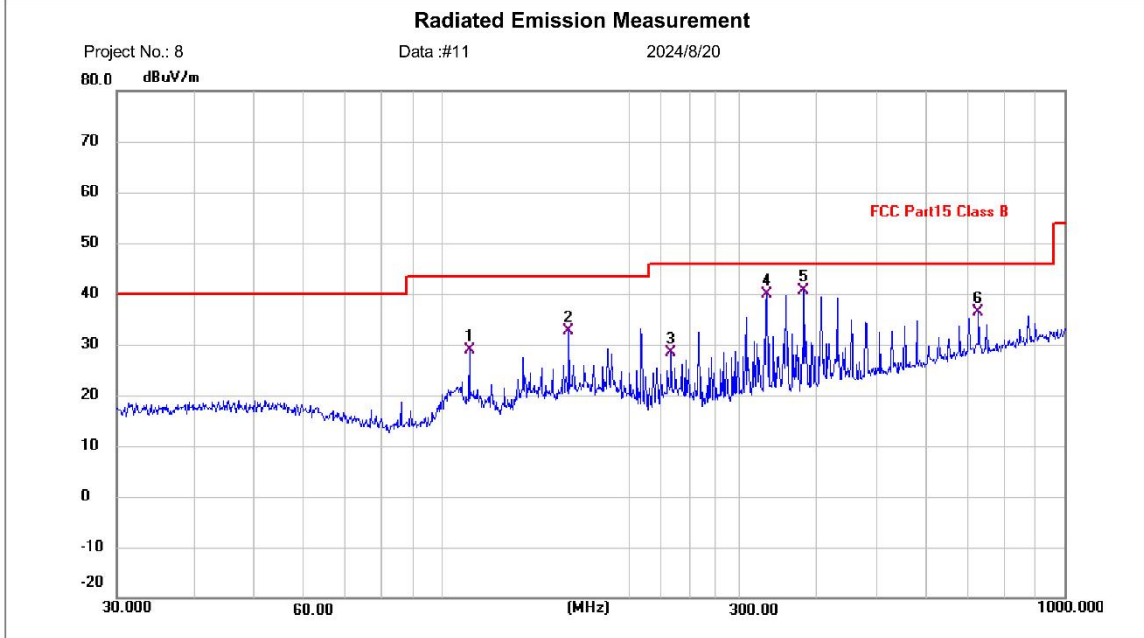


11.3 PROCEDURE

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

11.4 TEST DATA

[TestMode: TX below 1G]; [Polarity: Horizontal]



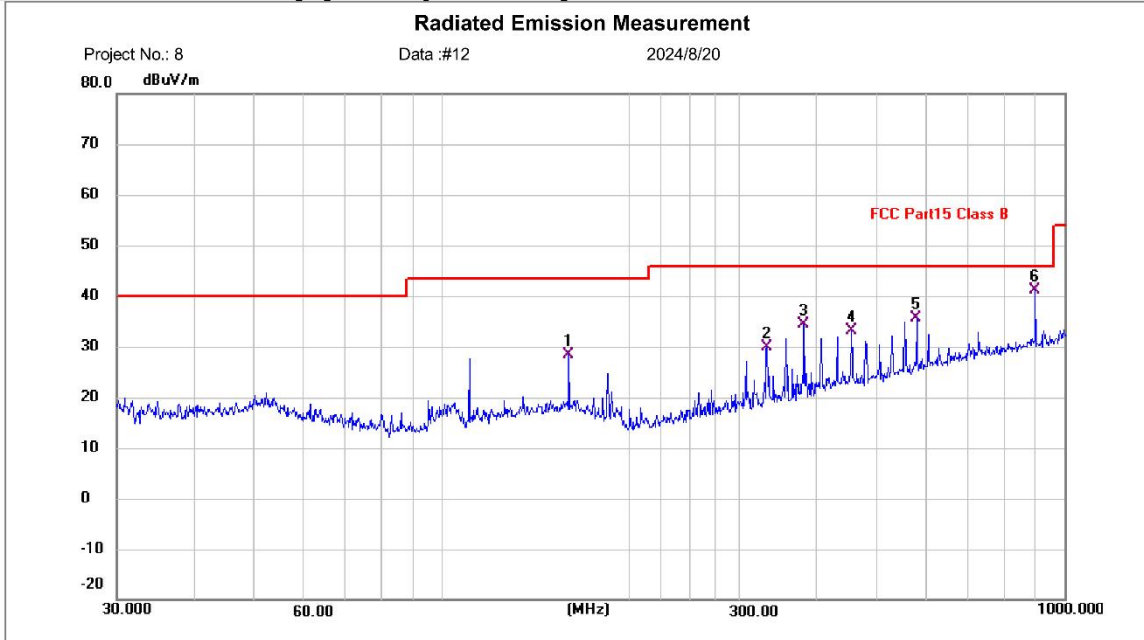
Site: Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 Class B Power: Humidity: %RH
 EUT: Soundbar System / Karaoke Sound Ba
 M/N: SV200M-0805, SV210X-0805, SK200M-0
 Mode: 2.4G TX
 Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	110.5687	11.86	17.13	28.99	43.50	-14.51	QP	P	
2	159.7844	12.16	20.41	32.57	43.50	-10.93	QP	P	
3	233.3487	11.13	17.32	28.45	46.00	-17.55	QP	P	
4	332.5187	18.31	21.48	39.79	46.00	-6.21	QP	P	
5 *	381.2487	18.22	22.39	40.61	46.00	-5.39	QP	P	
6	726.8052	7.25	29.08	36.33	46.00	-9.67	QP	P	

*:Maximum data x:Over limit !:over margin

Test Result: Pass

[TestMode: TX below 1G]; [Polarity: Vertical]



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 Class B Power: Humidity: %RH

EUT: Soundbar System / Karaoke Sound Ba

M/N: SV200M-0805, SV210X-0805, SK200M-0

Mode: 2.4G TX

Note:

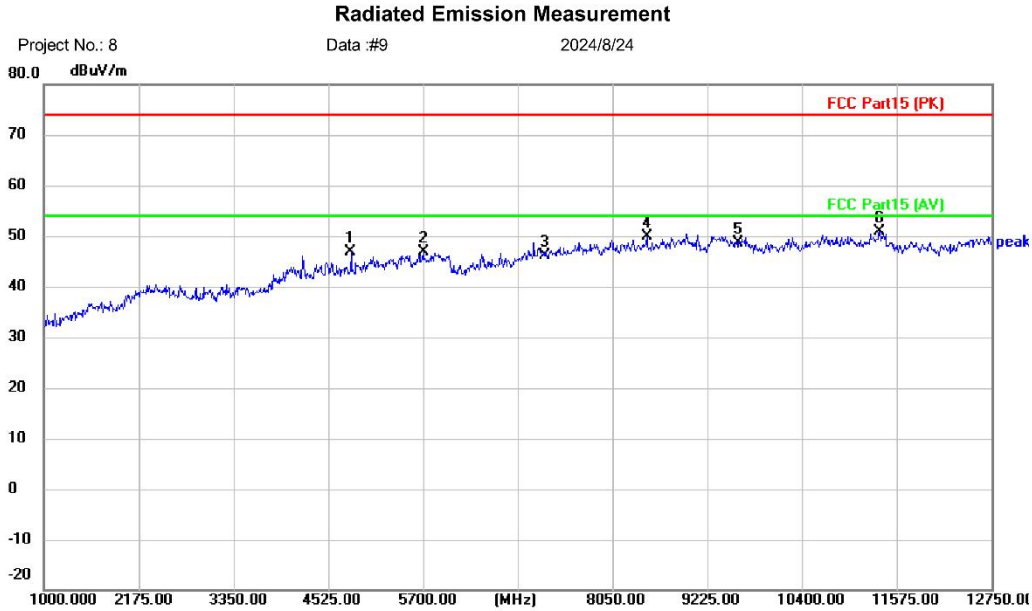
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	159.7844	8.05	20.41	28.46	43.50	-15.04	QP	P	
2	332.5187	8.28	21.48	29.76	46.00	-16.24	QP	P	
3	381.2487	11.89	22.39	34.28	46.00	-11.72	QP	P	
4	454.3100	8.74	24.34	33.08	46.00	-12.92	QP	P	
5	578.6699	9.60	26.13	35.73	46.00	-10.27	QP	P	
6 *	896.9965	10.43	30.79	41.22	46.00	-4.78	QP	P	

*:Maximum data x:Over limit !:over margin

Test Result: Pass

Above 1GHz:

[TestMode: TX low channel]; [Polarity: Horizontal]



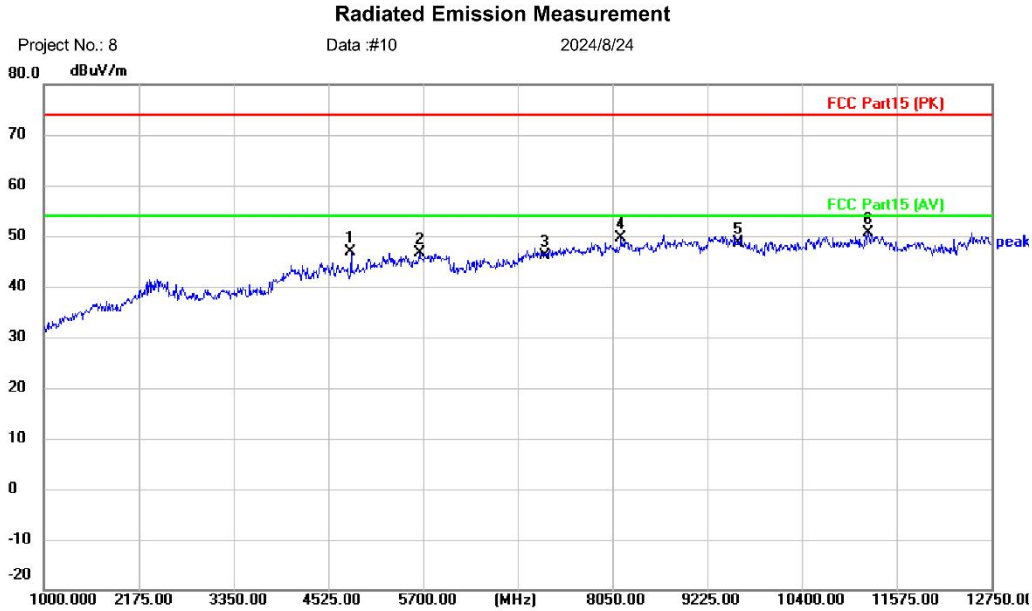
Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX L		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4804.000	41.19	5.64	46.83	74.00	-27.17	peak	
2		5700.000	38.88	8.03	46.91	74.00	-27.09	peak	
3		7206.000	36.89	9.24	46.13	74.00	-27.87	peak	
4		8473.000	39.03	10.77	49.80	74.00	-24.20	peak	
5		9608.000	36.30	12.31	48.61	74.00	-25.39	peak	
6	*	11363.50	38.16	12.65	50.81	74.00	-23.19	peak	

*:Maximum data x:Over limit !:over margin		(Reference Only)
Receiver: ESR_1	Spectrum Analyzer: FSP40	
Antenna: EZ 9120D 1G-18G	Engineer Signature:	

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



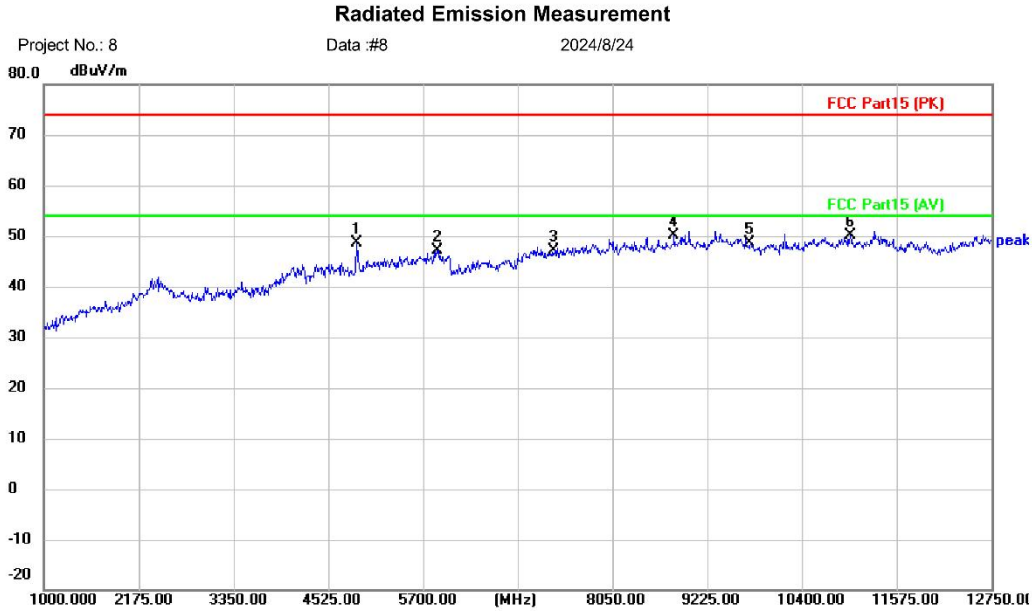
Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX L		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4804.000	41.27	5.64	46.91	74.00	-27.09	peak	
2		5653.000	38.81	7.76	46.57	74.00	-27.43	peak	
3		7206.000	36.89	9.24	46.13	74.00	-27.87	peak	
4		8155.750	39.76	9.87	49.63	74.00	-24.37	peak	
5		9608.000	36.20	12.31	48.51	74.00	-25.49	peak	
6	*	11222.50	38.05	12.70	50.75	74.00	-23.25	peak	

*:Maximum data x:Over limit !:over margin		(Reference Only)
Receiver: ESR_1	Spectrum Analyzer: FSP40	
Antenna: EZ 9120D 1G-18G	Engineer Signature:	

Test Result: Pass

[TestMode: TX mid channel]; [Polarity: Vertical]



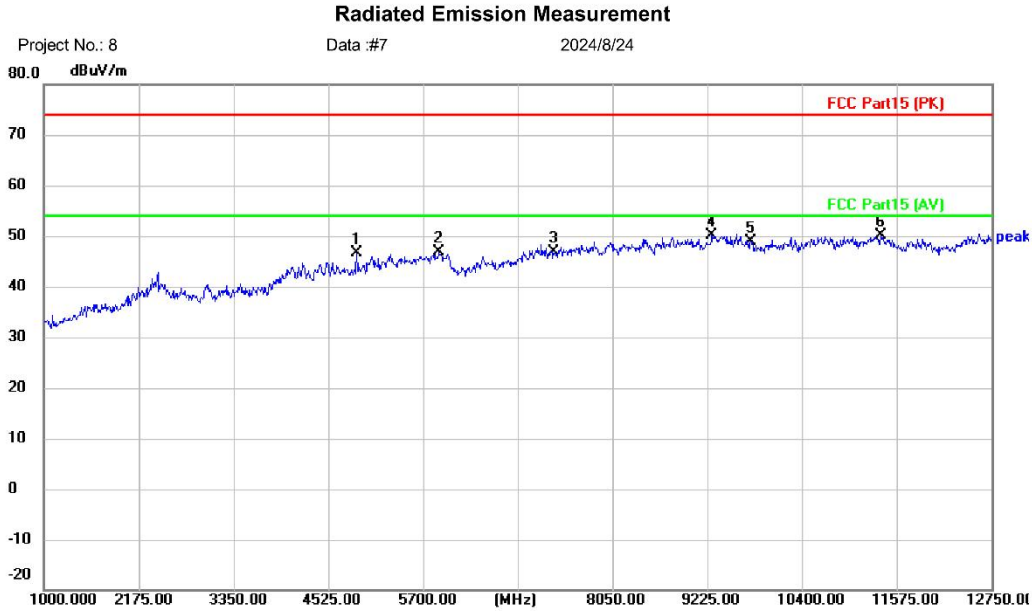
Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX M		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4877.500	42.80	5.72	48.52	74.00	-25.48	peak	
2		5876.250	38.63	8.54	47.17	74.00	-26.83	peak	
3		7323.000	37.69	9.43	47.12	74.00	-26.88	peak	
4	*	8813.750	38.50	11.70	50.20	74.00	-23.80	peak	
5		9764.000	36.34	12.21	48.55	74.00	-25.45	peak	
6		10999.25	36.69	13.48	50.17	74.00	-23.83	peak	

*:Maximum data x:Over limit !:over margin			(Reference Only)
Receiver:	ESR_1	Spectrum Analyzer:	FSP40
Antenna:	EZ 9120D 1G-18G	Engineer Signature:	

Test Result: Pass

[TestMode: TX mid channel]; [Polarity: Horizontal]



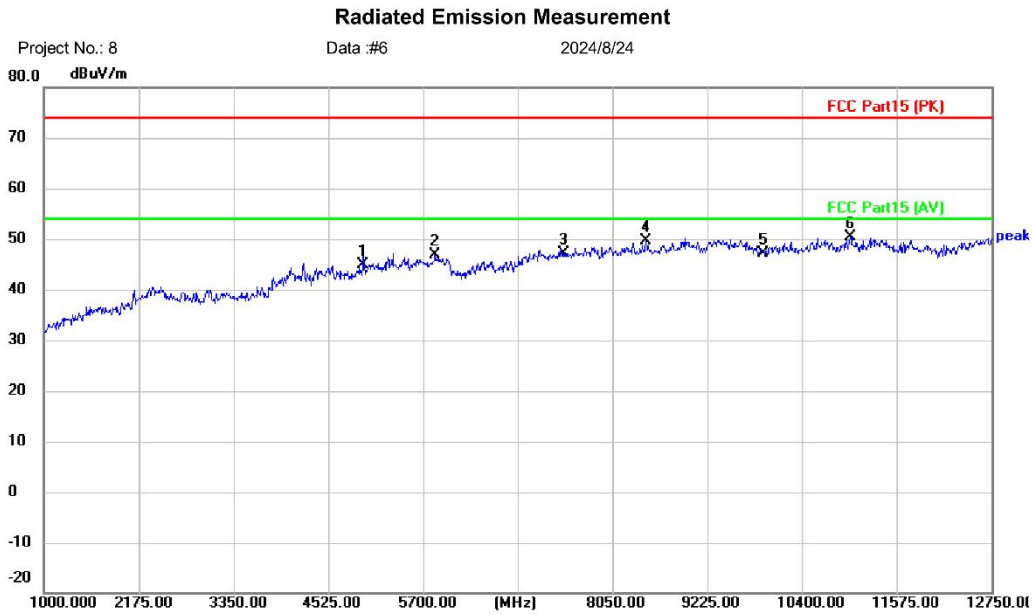
Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX M		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4877.500	40.91	5.72	46.63	74.00	-27.37	peak	
2		5899.750	38.12	8.66	46.78	74.00	-27.22	peak	
3		7326.000	37.49	9.43	46.92	74.00	-27.08	peak	
4		9283.750	37.37	12.70	50.07	74.00	-23.93	peak	
5		9768.000	36.59	12.22	48.81	74.00	-25.19	peak	
6	*	11375.25	37.54	12.63	50.17	74.00	-23.83	peak	

*:Maximum data x:Over limit !:over margin		(Reference Only)
Receiver: ESR_1	Spectrum Analyzer: FSP40	
Antenna: EZ 9120D 1G-18G	Engineer Signature:	

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4960.000	38.33	6.60	44.93	74.00	-29.07	peak	
2		5852.750	38.52	8.42	46.94	74.00	-27.06	peak	
3		7440.000	37.44	9.64	47.08	74.00	-26.92	peak	
4		8461.250	38.85	10.70	49.55	74.00	-24.45	peak	
5		9920.000	34.98	12.14	47.12	74.00	-26.88	peak	
6	*	10999.25	36.99	13.48	50.47	74.00	-23.53	peak	

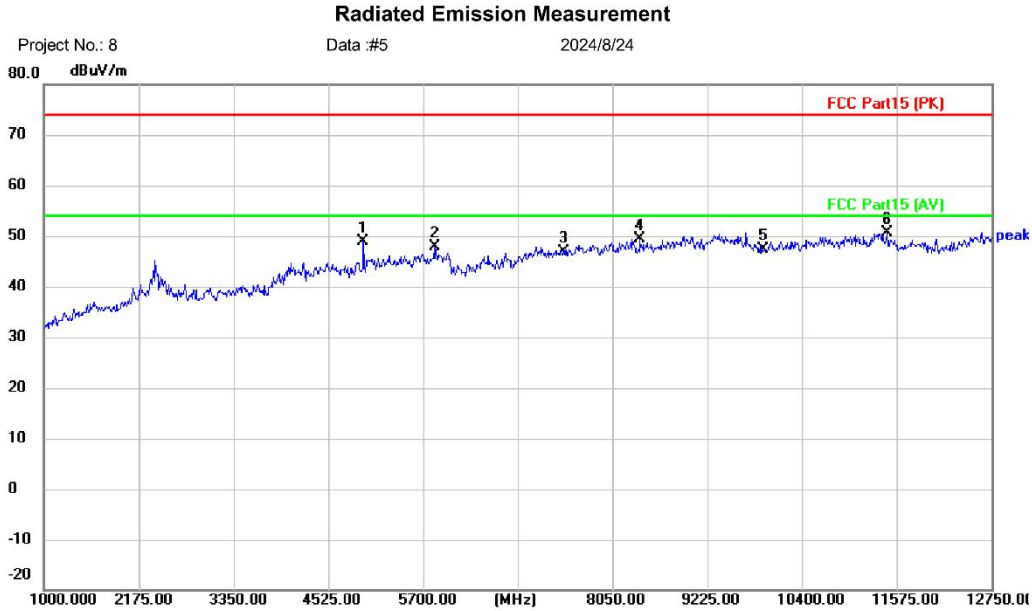
*:Maximum data x:Over limit !:over margin <Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Antenna: EZ 9120D 1G-18G Engineer Signature:

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: 2.4G TX H		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4959.750	42.36	6.60	48.96	74.00	-25.04	peak	
2		5841.000	39.55	8.31	47.86	74.00	-26.14	peak	
3		7440.000	37.13	9.64	46.77	74.00	-27.23	peak	
4		8390.750	39.20	10.23	49.43	74.00	-24.57	peak	
5		9920.000	35.13	12.14	47.27	74.00	-26.73	peak	
6	*	11457.50	37.97	12.62	50.59	74.00	-23.41	peak	

*:Maximum data x:Over limit !:over margin				(Reference Only)
Receiver:	ESR_1	Spectrum Analyzer:	FSP40	
Antenna:	EZ 9120D 1G-18G	Engineer Signature:		

Test Result: Pass

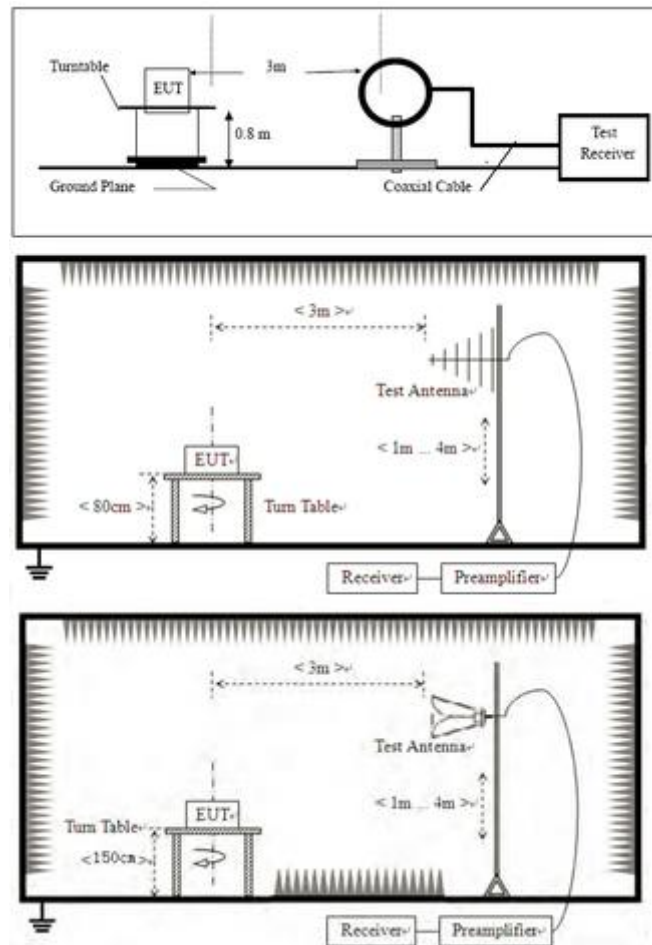
12 RESTRICTED BAND AROUND FUNDAMENTAL FREQUENCY

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.4&6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

12.1 LIMITS

Frequency	Limit (dB μ V/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

12.2 BLOCK DIAGRAM OF TEST SETUP



12.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not

have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

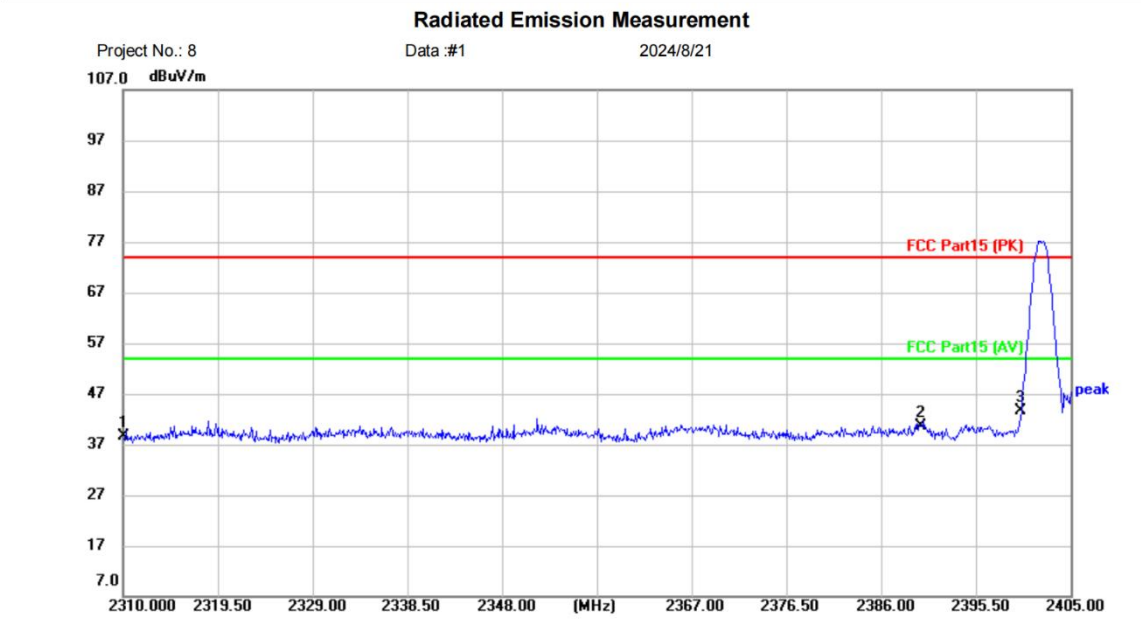
j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

BlueAsia

12.4 TEST DATA

[TestMode: TX low channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: L TX		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2310.000	41.58	-2.87	38.71	74.00	-35.29	peak	
2		2390.000	43.11	-2.44	40.67	74.00	-33.33	peak	
3	*	2400.000	46.04	-2.37	43.67	74.00	-30.33	peak	

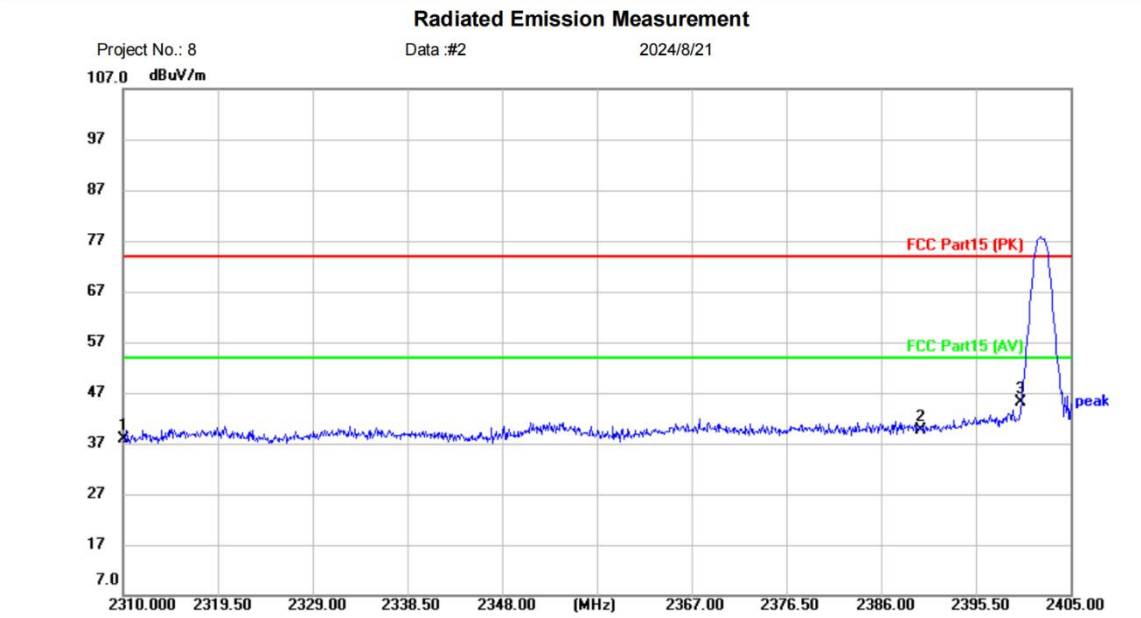
*:Maximum data x:Over limit !:over margin <Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Antenna: EZ 9120D 1G-18G 2024 Engineer Signature:

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Soundbar System / Karaoke Sound Ba		
M/N: SV200M-0805, SV210X-0805, SK200M-0		
Mode: L TX		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2310.000	40.77	-2.87	37.90	74.00	-36.10	peak	
2		2390.000	42.13	-2.44	39.69	74.00	-34.31	peak	
3	*	2400.000	47.54	-2.37	45.17	74.00	-28.83	peak	

*:Maximum data x:Over limit !:over margin <Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Antenna: EZ 9120D 1G-18G 2024 Engineer Signature:

Test Result: Pass