

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2440MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

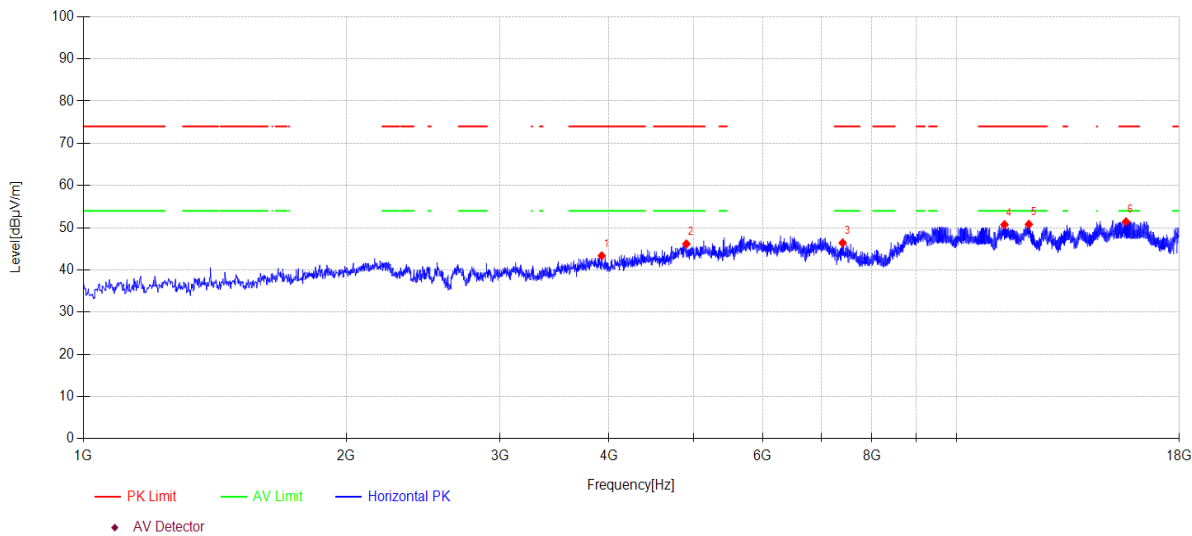
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3924.00	46.78	31.15	5.83	-40.40	43.36	74.00	30.64	PK	Horizontal
2	4904.90	45.60	33.01	7.68	-40.12	46.17	74.00	27.83	PK	Horizontal
3	7407.30	43.80	36.69	7.64	-41.72	46.41	74.00	27.59	PK	Horizontal
4	11349.60	40.77	39.25	9.96	-39.25	50.73	74.00	23.27	PK	Horizontal
5	12104.40	40.56	39.30	10.54	-39.60	50.80	74.00	23.20	PK	Horizontal
6	15637.00	37.76	38.56	14.24	-39.14	51.42	74.00	22.58	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2440MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

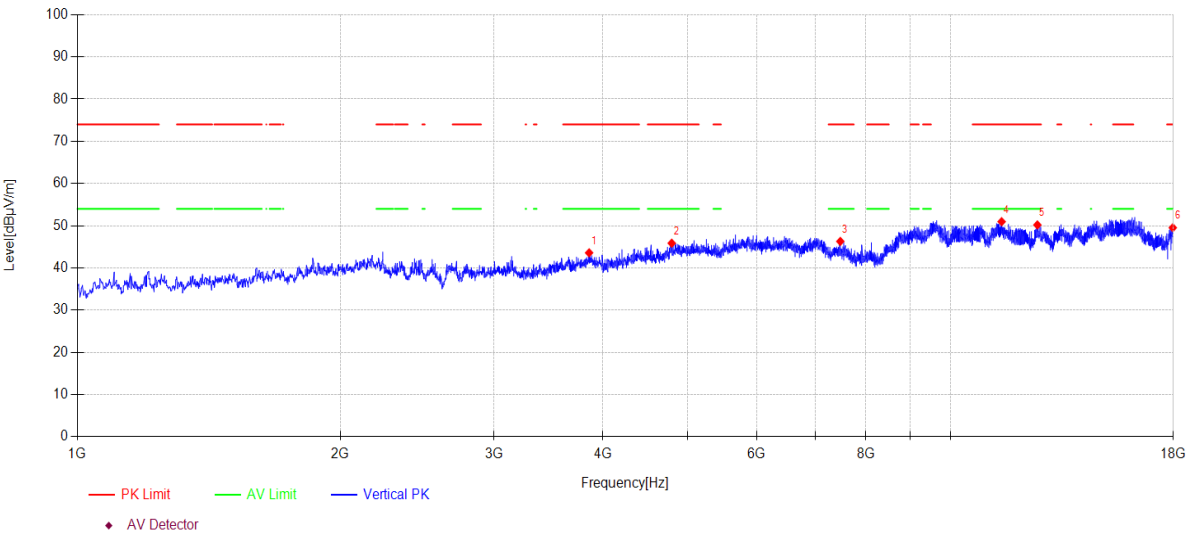
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3856.00	47.18	30.94	5.82	-40.36	43.58	74.00	30.42	PK	Vertical
2	4794.40	46.09	32.48	7.45	-40.16	45.86	74.00	28.14	PK	Vertical
3	7478.70	44.01	36.54	7.64	-41.90	46.29	74.00	27.71	PK	Vertical
4	11444.80	40.95	39.26	10.05	-39.30	50.96	74.00	23.04	PK	Vertical
5	12575.30	40.03	39.40	10.54	-39.78	50.19	74.00	23.81	PK	Vertical
6	17972.80	36.51	42.26	13.10	-42.34	49.53	74.00	24.47	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2480MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

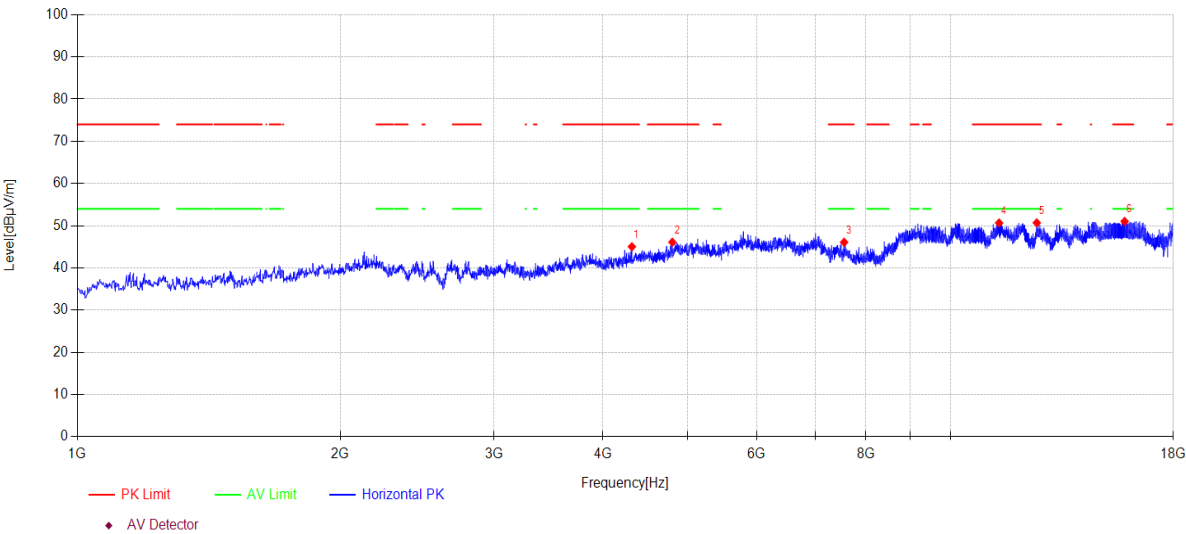
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4316.70	47.27	31.60	6.49	-40.33	45.03	74.00	28.97	PK	Horizontal
2	4802.90	46.21	32.58	7.47	-40.15	46.11	74.00	27.89	PK	Horizontal
3	7555.20	44.13	36.41	7.65	-42.09	46.10	74.00	27.90	PK	Horizontal
4	11368.30	40.67	39.27	9.98	-39.26	50.66	74.00	23.34	PK	Horizontal
5	12556.60	40.54	39.40	10.54	-39.78	50.70	74.00	23.30	PK	Horizontal
6	15829.10	36.94	38.24	15.11	-39.26	51.03	74.00	22.97	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2480MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

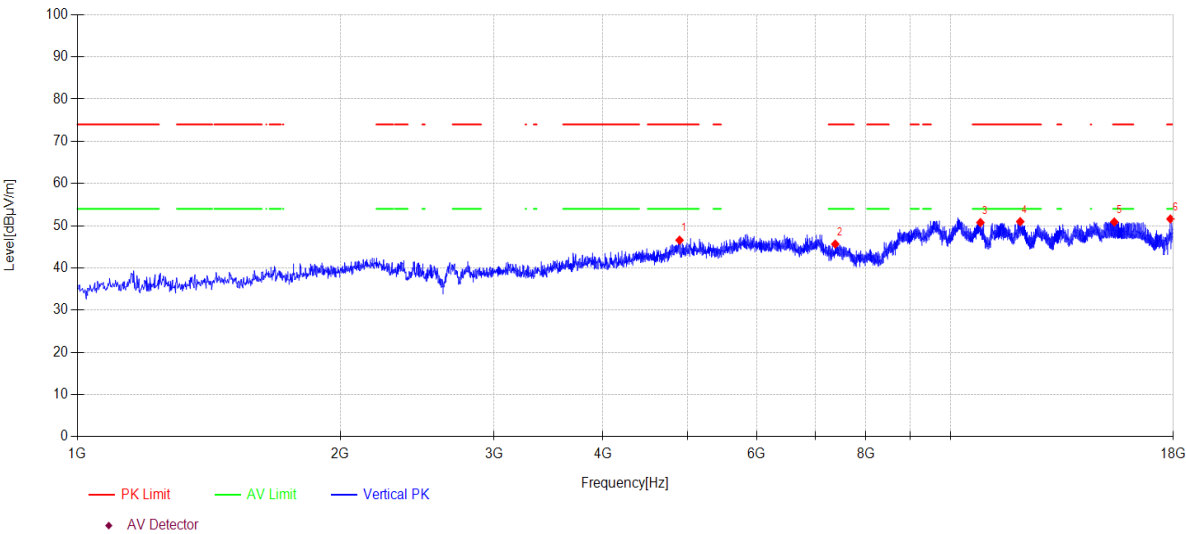
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4894.70	45.95	33.08	7.66	-40.12	46.57	74.00	27.43	PK	Vertical
2	7380.10	42.91	36.74	7.64	-41.65	45.64	74.00	28.36	PK	Vertical
3	10822.60	40.88	39.38	9.52	-39.02	50.76	74.00	23.24	PK	Vertical
4	12019.40	40.78	39.22	10.54	-39.57	50.97	74.00	23.03	PK	Vertical
5	15405.80	37.72	38.99	13.19	-39.00	50.90	74.00	23.10	PK	Vertical
6	17862.30	39.24	41.49	12.96	-42.09	51.60	74.00	22.40	PK	Vertical

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2404MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

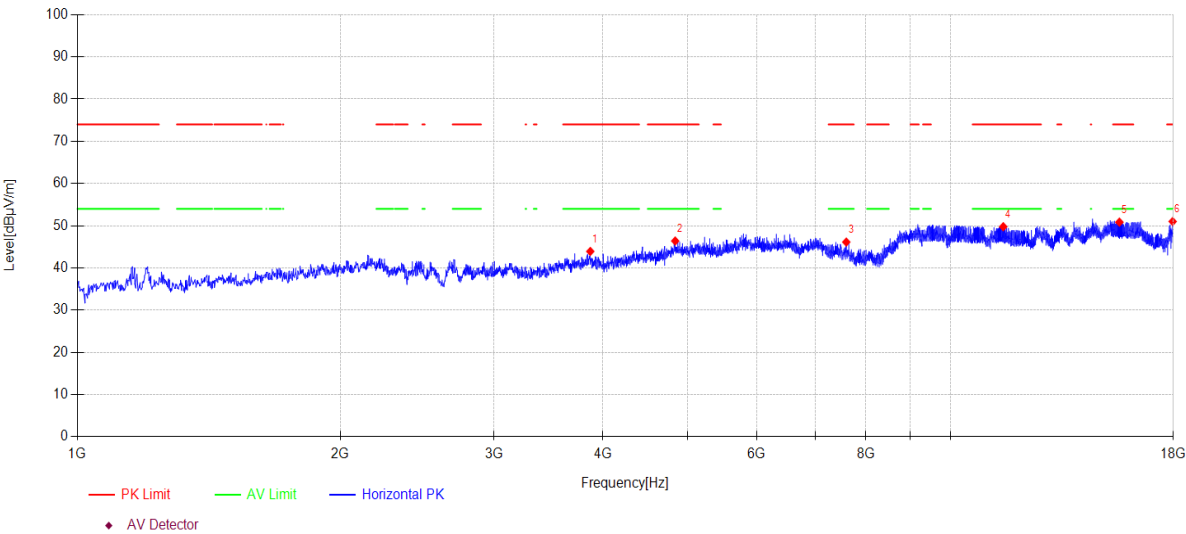
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3867.90	47.45	31.01	5.82	-40.37	43.91	74.00	30.09	PK	Horizontal
2	4838.60	45.49	33.50	7.54	-40.14	46.39	74.00	27.61	PK	Horizontal
3	7597.70	44.17	36.50	7.65	-42.19	46.13	74.00	27.87	PK	Horizontal
4	11494.10	39.79	39.21	10.09	-39.32	49.77	74.00	24.23	PK	Horizontal
5	15613.20	37.26	38.59	14.13	-39.13	50.85	74.00	23.15	PK	Horizontal
6	17967.70	38.00	42.24	13.09	-42.33	51.00	74.00	23.00	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2404MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

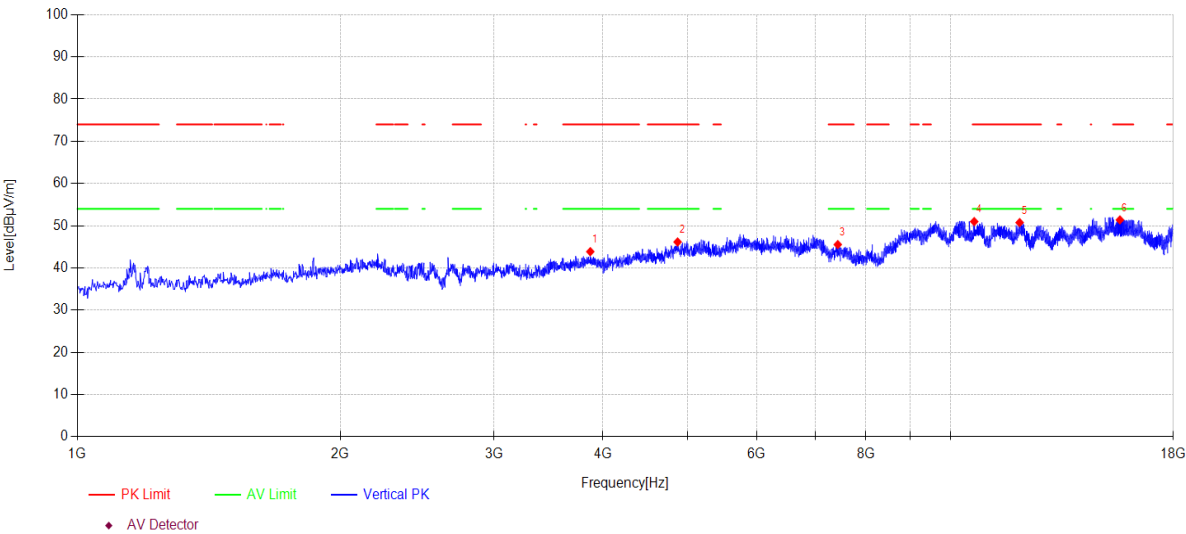
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3867.90	47.40	31.01	5.82	-40.37	43.86	74.00	30.14	PK	Vertical
2	4869.20	45.18	33.49	7.61	-40.13	46.15	74.00	27.85	PK	Vertical
3	7429.40	43.03	36.64	7.64	-41.77	45.54	74.00	28.46	PK	Vertical
4	10645.80	41.25	39.29	9.40	-38.96	50.98	74.00	23.02	PK	Vertical
5	12000.70	40.57	39.20	10.54	-39.56	50.75	74.00	23.25	PK	Vertical
6	15633.60	37.73	38.57	14.22	-39.14	51.38	74.00	22.62	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2440MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

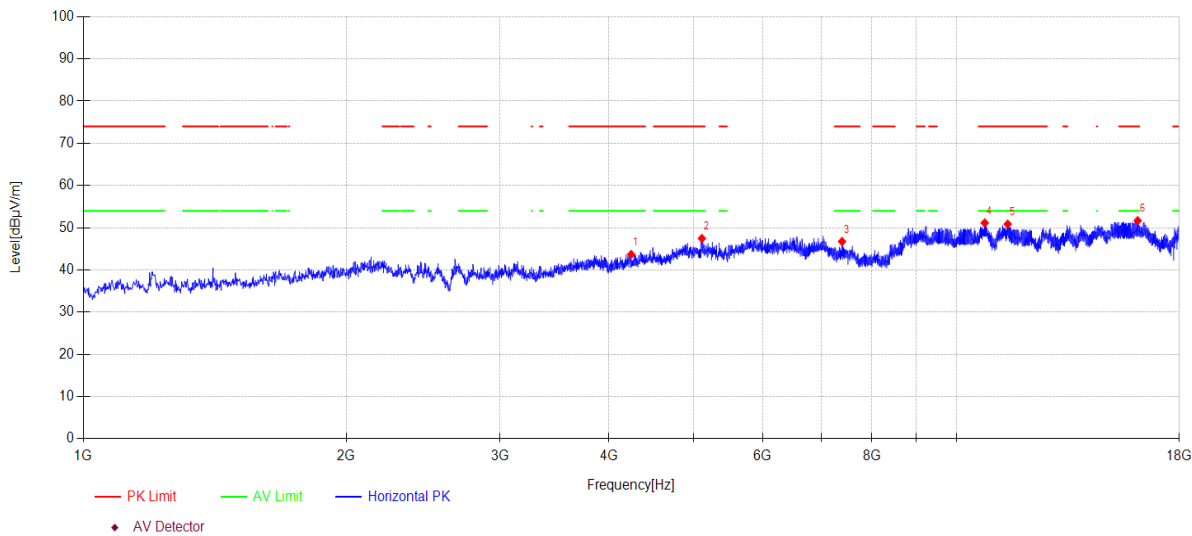
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	4240.20	46.34	31.36	6.34	-40.36	43.68	74.00	30.32	PK	Horizontal
2	5110.60	46.10	33.40	8.03	-40.07	47.46	74.00	26.54	PK	Horizontal
3	7395.40	44.09	36.71	7.64	-41.69	46.75	74.00	27.25	PK	Horizontal
4	10773.30	41.27	39.40	9.49	-39.01	51.15	74.00	22.85	PK	Horizontal
5	11446.50	40.86	39.25	10.05	-39.30	50.86	74.00	23.14	PK	Horizontal
6	16128.30	37.89	37.87	15.37	-39.46	51.67	74.00	22.33	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2440MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

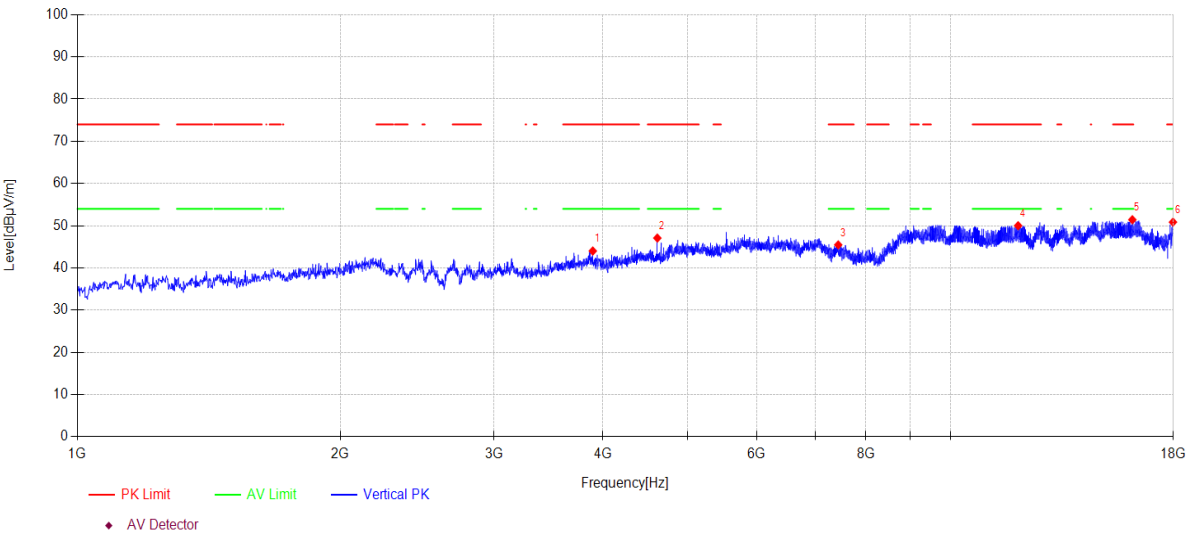
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3893.40	47.40	31.16	5.83	-40.38	44.01	74.00	29.99	PK	Vertical
2	4615.90	48.28	31.93	7.09	-40.22	47.08	74.00	26.92	PK	Vertical
3	7437.90	43.00	36.62	7.64	-41.79	45.47	74.00	28.53	PK	Vertical
4	11953.10	39.99	39.06	10.50	-39.54	50.01	74.00	23.99	PK	Vertical
5	16155.50	37.80	37.84	15.27	-39.49	51.42	74.00	22.58	PK	Vertical
6	17983.00	37.79	42.32	13.11	-42.36	50.86	74.00	23.14	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2478MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

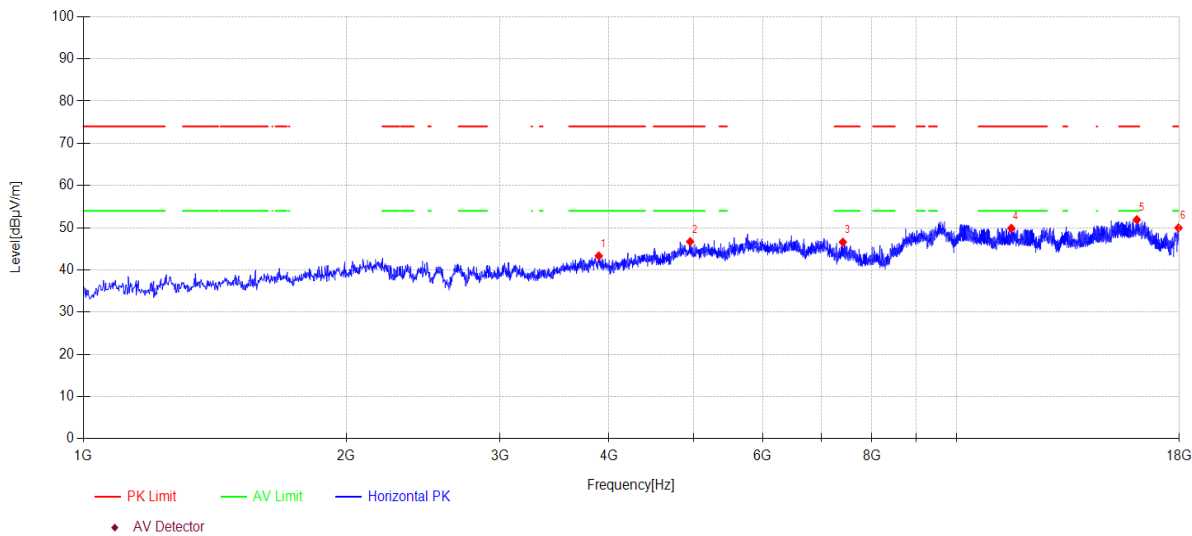
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3893.40	46.71	31.16	5.83	-40.38	43.32	74.00	30.68	PK	Horizontal
2	4954.20	45.91	33.11	7.78	-40.10	46.70	74.00	27.30	PK	Horizontal
3	7410.70	44.00	36.68	7.64	-41.73	46.59	74.00	27.41	PK	Horizontal
4	11555.30	39.99	39.09	10.14	-39.35	49.87	74.00	24.13	PK	Horizontal
5	16089.20	37.88	37.91	15.53	-39.43	51.89	74.00	22.11	PK	Horizontal
6	17960.90	37.00	42.20	13.08	-42.31	49.97	74.00	24.03	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2478MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

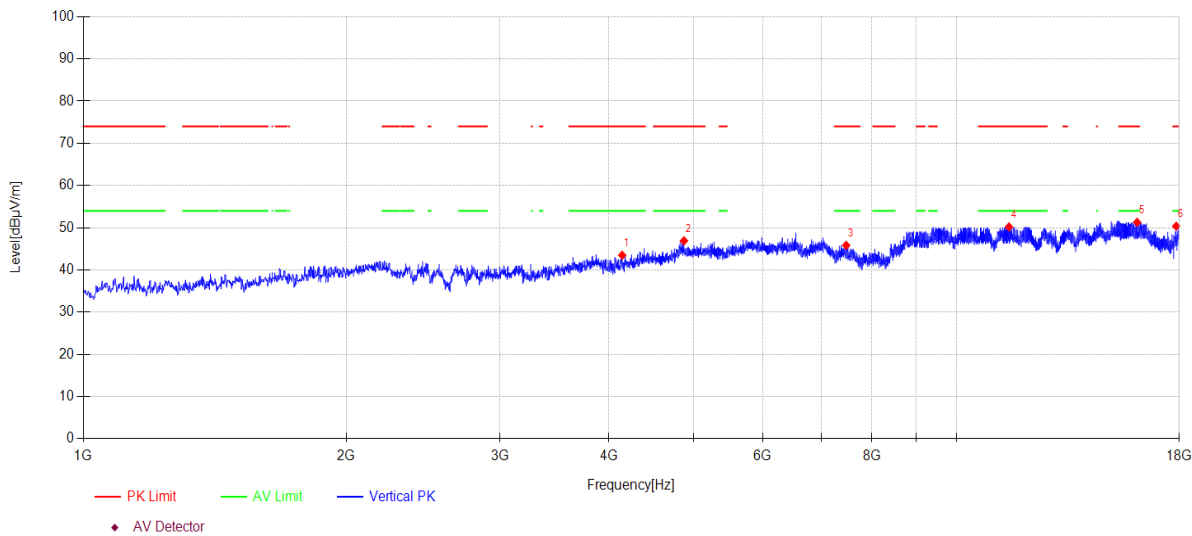
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4141.60	46.57	31.18	6.14	-40.40	43.49	74.00	30.51	PK	Vertical
2	4874.30	46.00	33.41	7.62	-40.13	46.90	74.00	27.10	PK	Vertical
3	7477.00	43.52	36.55	7.64	-41.89	45.82	74.00	28.18	PK	Vertical
4	11485.60	40.22	39.21	10.08	-39.32	50.19	74.00	23.81	PK	Vertical
5	16106.20	37.38	37.89	15.46	-39.45	51.28	74.00	22.72	PK	Vertical
6	17853.80	38.10	41.39	12.95	-42.07	50.37	74.00	23.63	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

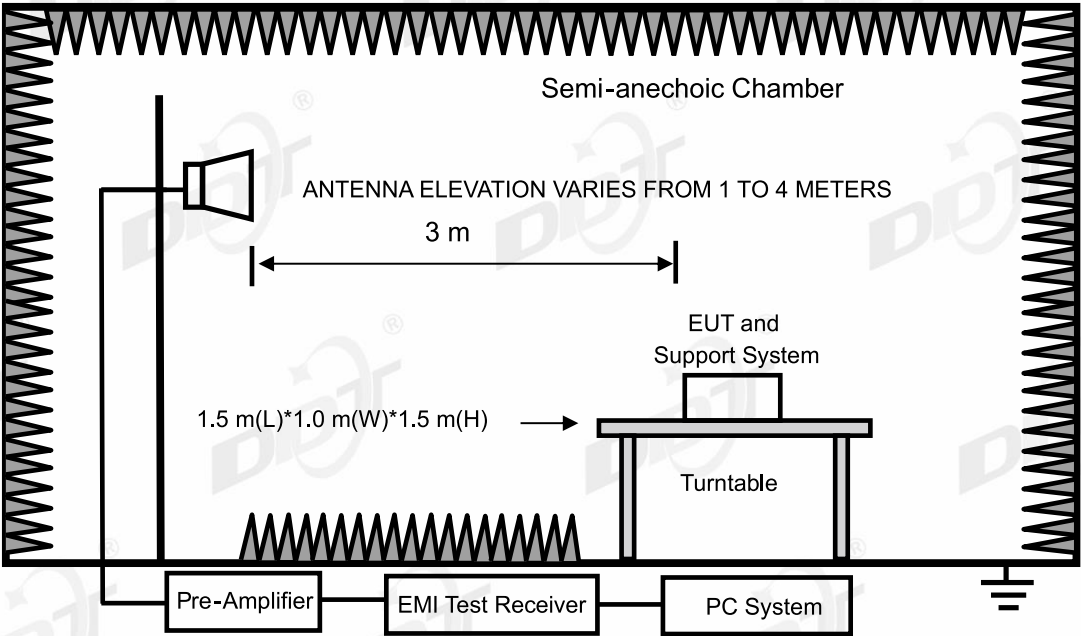
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13.Band Edge Compliance

13.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
High Pass filter	西安星博	XBLBQ-GTA67	DDT-ZC02179	2024/05/14
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2024/09/10
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2024/04/23
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2024/05/14
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2024/04/23
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2024/05/14
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2024/07/14
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2024/07/11
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2024/04/27
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2024/04/20
Hochgewinn-Hornantenne	Schwarzbeck Mess-Elektronik	BBHA 9120 D	DDT-ZC02129	2024/09/17
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2024/04/21
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2024/04/23
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2024/04/21
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2024/04/23
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2024/04/26
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/

13.2. Block diagram of test setup



13.3. Limits

All restriction band should comply with 15.209 and RSS-Gen section 8.9 limits, other emission should be at least 20 dB below the fundamental.

13.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

13.5. Test procedure

Same with Radiated Emission except change investigated frequency range.
Remark: All restriction band have been tested, and only the worst case is shown in report.

13.6. Test result

PASS. (See below detailed test result)

13.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2402MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

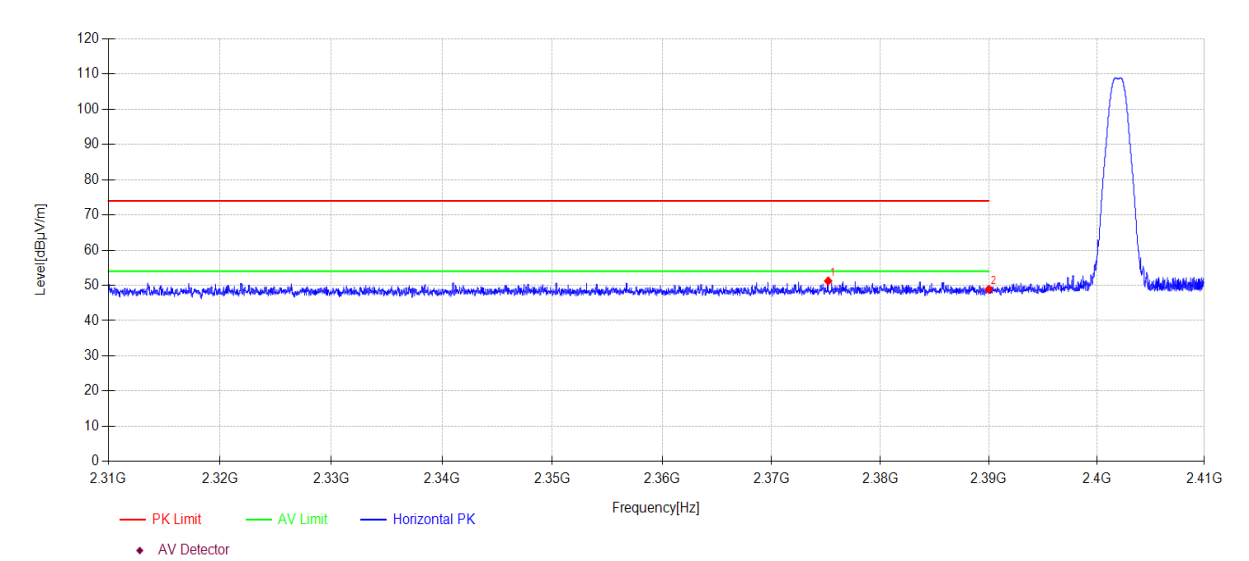
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Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2375.20	20.20	27.20	3.86	0.00	51.26	74.00	22.74	PK	Horizontal
2	2390.00	17.74	27.26	3.87	0.00	48.87	74.00	25.13	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2402MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

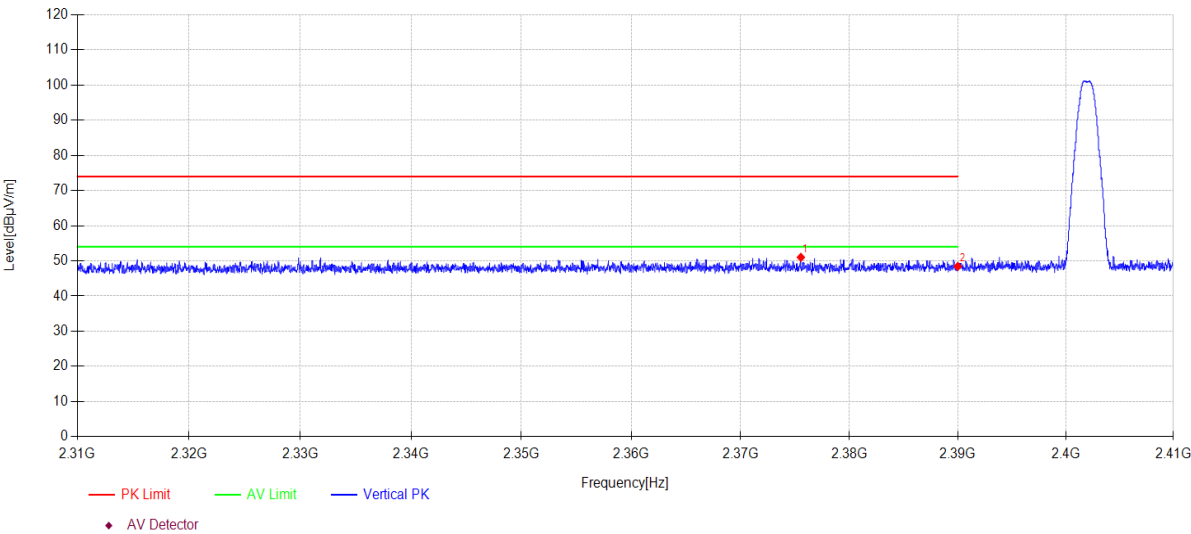
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\32

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2375.54	19.96	27.20	3.86	0.00	51.02	74.00	22.98	PK	Vertical
2	2390.00	17.32	27.26	3.87	0.00	48.45	74.00	25.55	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2404MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

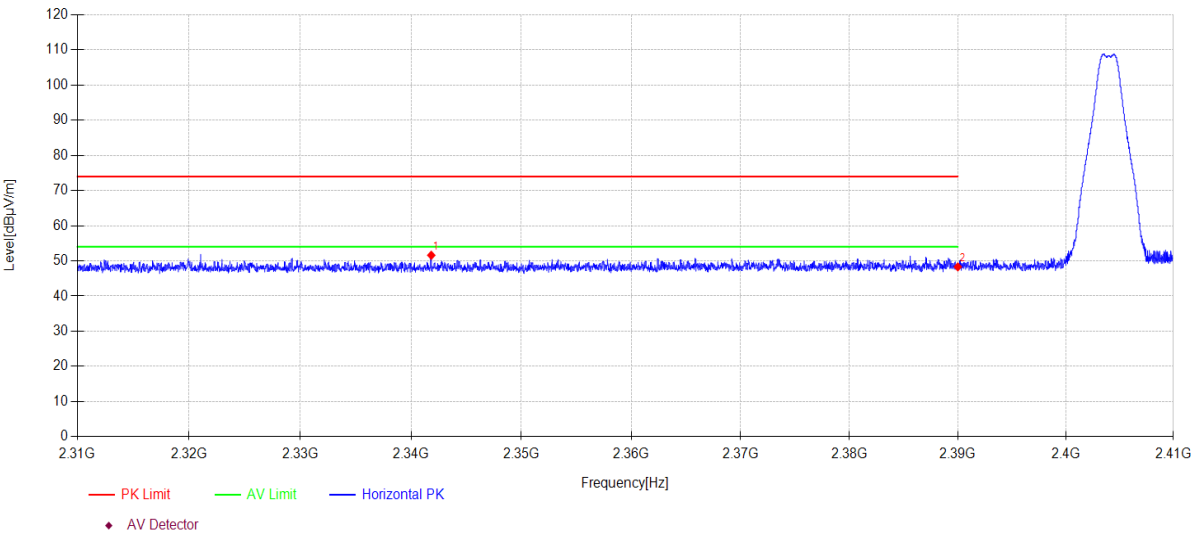
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\33

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2341.83	20.72	27.05	3.83	0.00	51.60	74.00	22.40	PK	Horizontal
2	2390.00	17.17	27.26	3.87	0.00	48.30	74.00	25.70	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2404MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

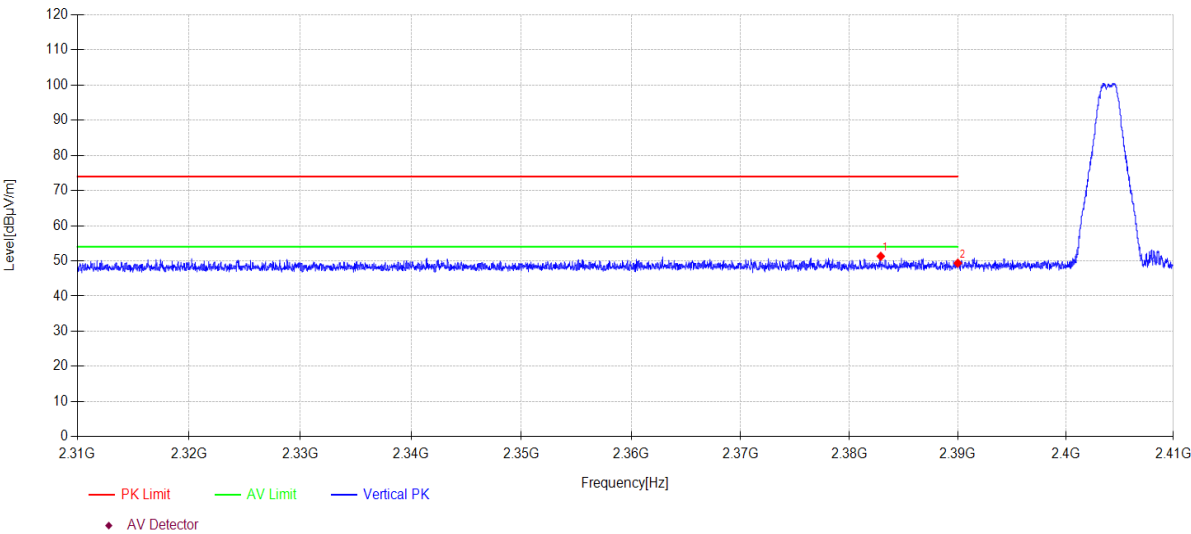
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\34

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2382.89	20.22	27.23	3.86	0.00	51.31	74.00	22.69	PK	Vertical
2	2390.00	18.23	27.26	3.87	0.00	49.36	74.00	24.64	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2480MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

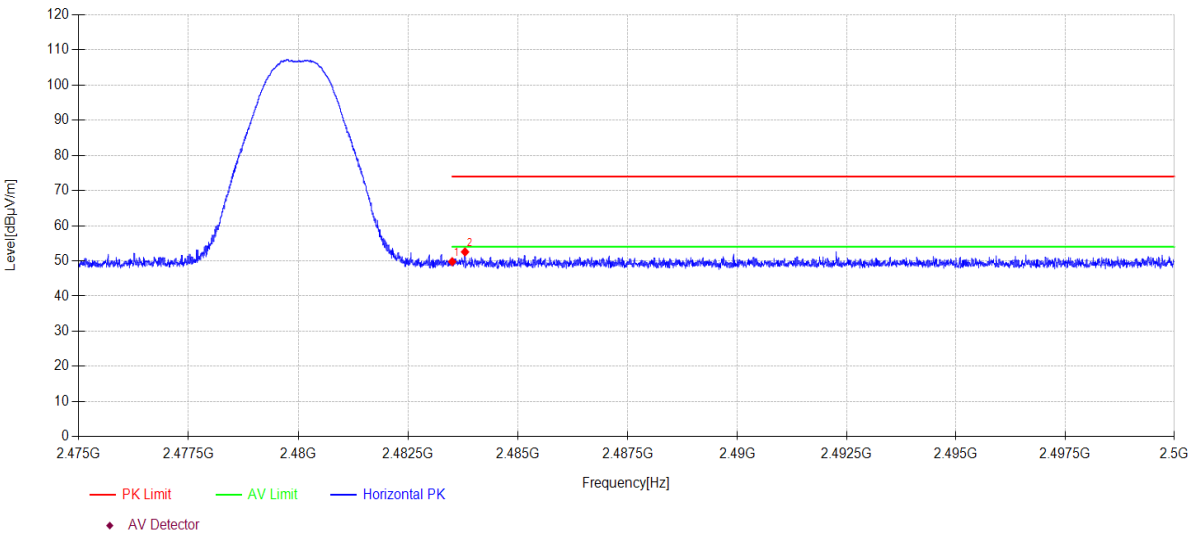
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\37

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.50	18.31	27.53	3.94	0.00	49.78	74.00	24.22	PK	Horizontal
2	2483.79	21.07	27.54	3.94	0.00	52.55	74.00	21.45	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 1M 2480MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

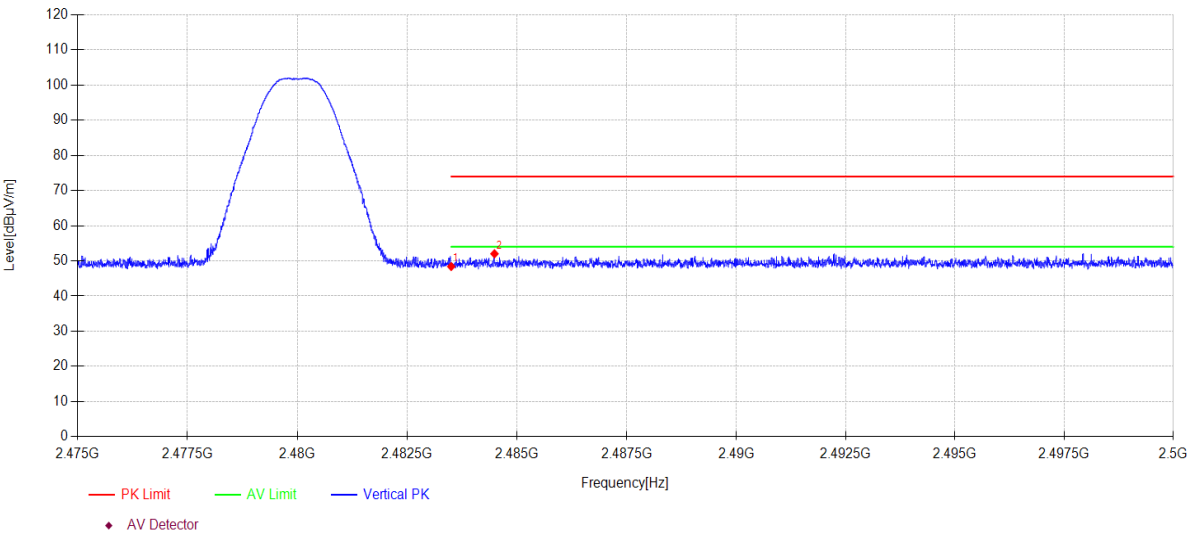
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\38

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.50	16.94	27.53	3.94	0.00	48.41	74.00	25.59	PK	Vertical
2	2484.49	20.55	27.54	3.94	0.00	52.03	74.00	21.97	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2478MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

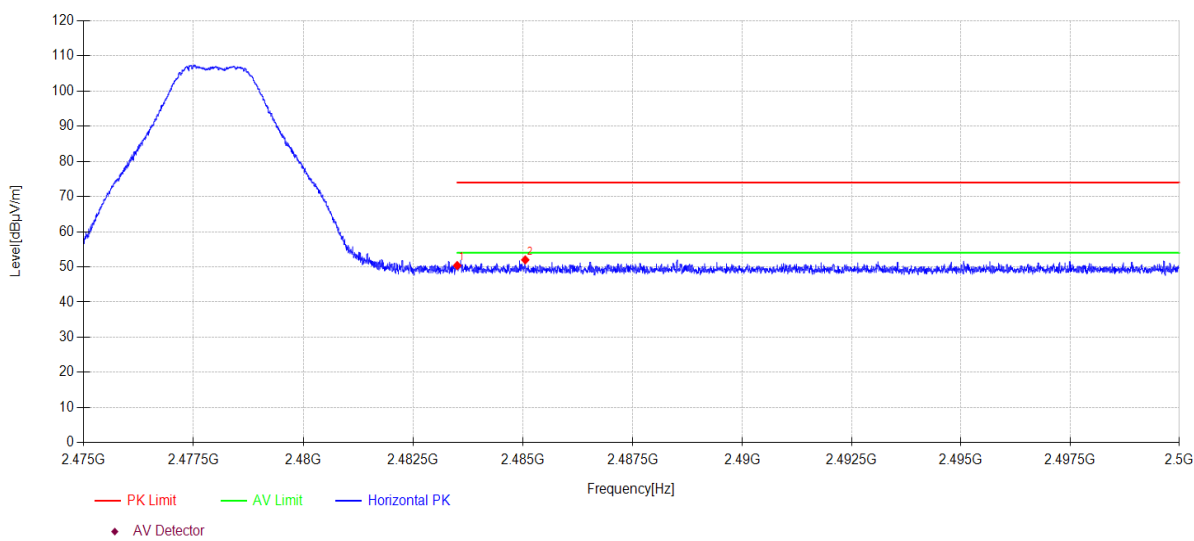
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\35

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.50	18.91	27.53	3.94	0.00	50.38	74.00	23.62	PK	Horizontal
2	2485.05	20.52	27.54	3.94	0.00	52.00	74.00	22.00	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-01-27

Tested By:

Bairong

EUT:

Wireless Speaker

Model Number:

BOOMBOX 3 Wi-Fi

Test Mode:

BLE 2M 2478MHz TX

Power Supply:

AC 120V/60Hz

Condition:

Temp:21.5°C;Humi:39.7%

Test Site:

DDT 3# Chamber

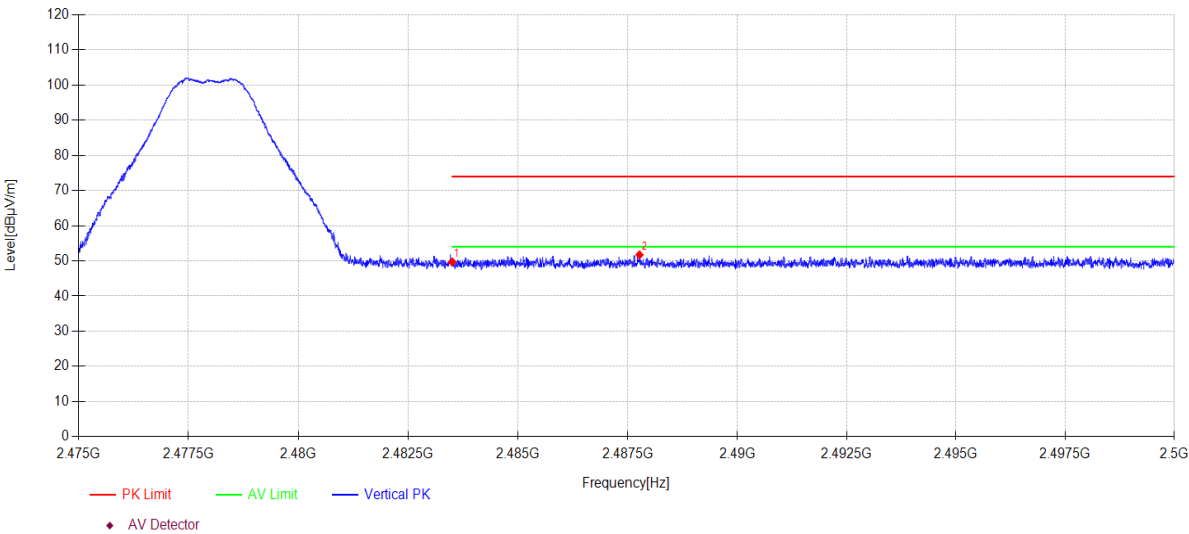
File Path:

d:\ts\2024 report data\Q23111312-2E BOOMBOX 3 Wi-Fi\FCC ABOVE 1G\36

Memo:

Sample Number:S23111312-02

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.50	18.22	27.53	3.94	0.00	49.69	74.00	24.31	PK	Vertical
2	2487.77	20.24	27.55	3.94	0.00	51.73	74.00	22.27	PK	Vertical

Note:

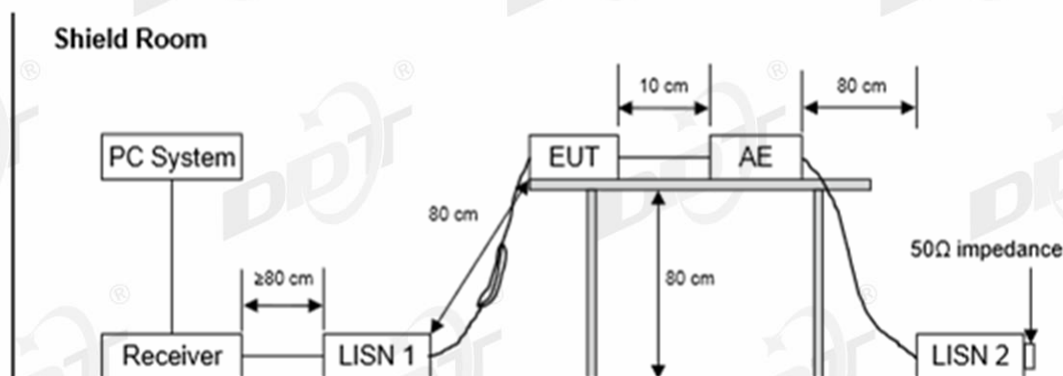
- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

14. Power Line Conducted Emissions

14.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
/	/	/	/	/

14.2. Block diagram of test setup



14.3. Limits

Frequency	Quasi-Peak Level dB(mV)	Average Level dB(mV)
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

14.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

14.5. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

14.6. Test result

PASS. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

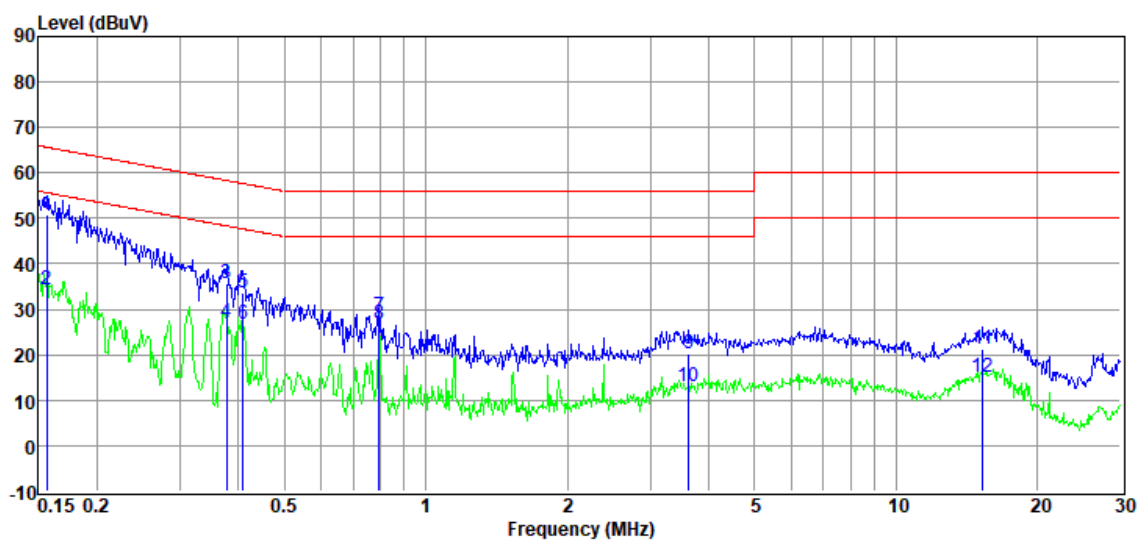
Note2: “” means Peak detection; “” means Average detection.

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded the worst case.

14.7. Test data

TR-4-E-010 Conducted Emission Test Result

Test Site	: DDT 1# Shield Room	D:\2023 CE report data\Q23111312-2E BB3\FCC CE.EM6
Test Date	: 2023-11-15	Tested By : Junchang Du
EUT	: Wireless Speaker	Model Number : BOOMBOX 3 Wi-Fi
Power Supply	: AC 120V/60Hz	Test Mode : BLE1M TX
Condition	: TEMP:26.2°C, RH:58.9%	LISN : 2023 1# ENV216/LINE
Memo	: Sample Number:S23111312-02	



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.16	30.28	9.81	0.92	9.68	50.69	65.65	-14.96	QP	LINE
2	0.16	13.86	9.81	0.92	9.68	34.27	55.65	-21.38	Average	LINE
3	0.38	15.47	9.75	0.86	9.70	35.78	58.34	-22.56	QP	LINE
4	0.38	6.79	9.75	0.86	9.70	27.10	48.34	-21.24	Average	LINE
5	0.41	13.49	9.76	0.85	9.71	33.81	57.68	-23.87	QP	LINE
6	0.41	6.42	9.76	0.85	9.71	26.74	47.68	-20.94	Average	LINE
7	0.80	8.28	9.82	0.74	9.72	28.56	56.00	-27.44	QP	LINE
8	0.80	6.58	9.82	0.74	9.72	26.86	46.00	-19.14	Average	LINE
9	3.62	0.17	9.64	0.57	9.78	20.16	56.00	-35.84	QP	LINE
10	3.62	-6.81	9.64	0.57	9.78	13.18	46.00	-32.82	Average	LINE
11	15.31	1.26	9.78	0.29	9.88	21.21	60.00	-38.79	QP	LINE
12	15.31	-4.85	9.78	0.29	9.88	15.10	50.00	-34.90	Average	LINE

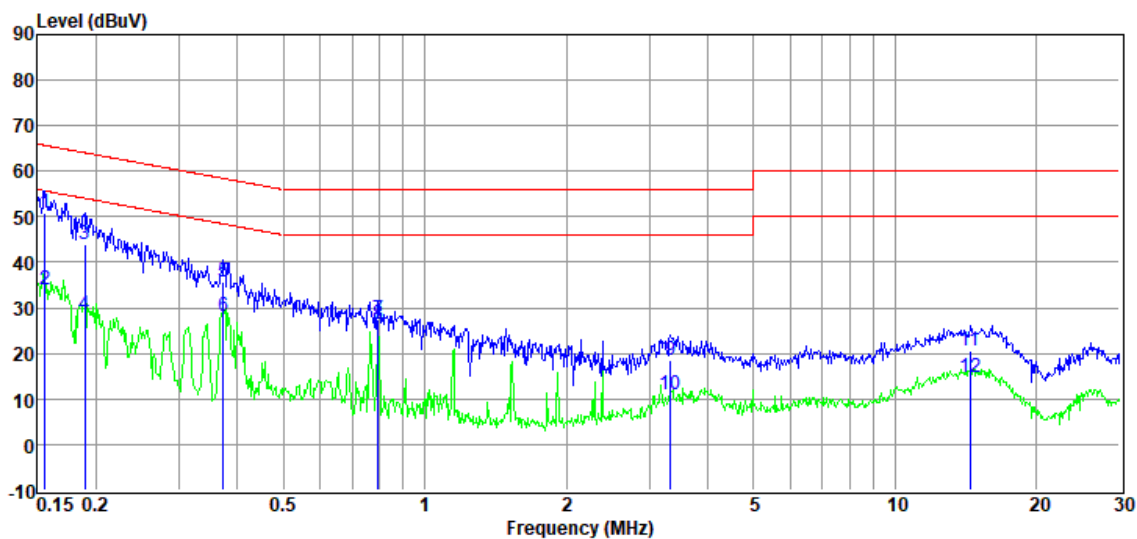
Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2023 CE report data\Q23111312-2E BB3\FCC CE.EM6**
Test Date : 2023-11-15 **Tested By** : Junchang Du
EUT : Wireless Speaker **Model Number** : BOOMBOX 3 Wi-Fi
Power Supply : AC 120V/60Hz **Test Mode** : BLE1M TX
Condition : TEMP:26.2°C, RH:58.9% **LISN** : 2023 1# ENV216/NEUTRAL
Memo : Sample Number:S23111312-02

Data: 8



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBμV)	Limit Line (dBμV)	Over Limit (dB)	Detector	Phase
1	0.16	30.35	9.85	0.92	9.68	50.80	65.69	-14.89	QP	NEUTRAL
2	0.16	13.56	9.85	0.92	9.68	34.01	55.69	-21.68	Average	NEUTRAL
3	0.19	23.45	9.77	0.91	9.69	43.82	64.06	-20.24	QP	NEUTRAL
4	0.19	8.08	9.77	0.91	9.69	28.45	54.06	-25.61	Average	NEUTRAL
5	0.37	15.29	9.70	0.86	9.70	35.55	58.43	-22.88	QP	NEUTRAL
6	0.37	7.72	9.70	0.86	9.70	27.98	48.43	-20.45	Average	NEUTRAL
7	0.80	7.11	9.80	0.74	9.72	27.37	56.00	-28.63	QP	NEUTRAL
8	0.80	6.23	9.80	0.74	9.72	26.49	46.00	-19.51	Average	NEUTRAL
9	3.33	-1.53	9.72	0.58	9.78	18.55	56.00	-37.45	QP	NEUTRAL
10	3.33	-9.16	9.72	0.58	9.78	10.92	46.00	-35.08	Average	NEUTRAL
11	14.44	0.68	9.77	0.26	9.87	20.58	60.00	-39.42	QP	NEUTRAL
12	14.44	-5.09	9.77	0.26	9.87	14.81	50.00	-35.19	Average	NEUTRAL

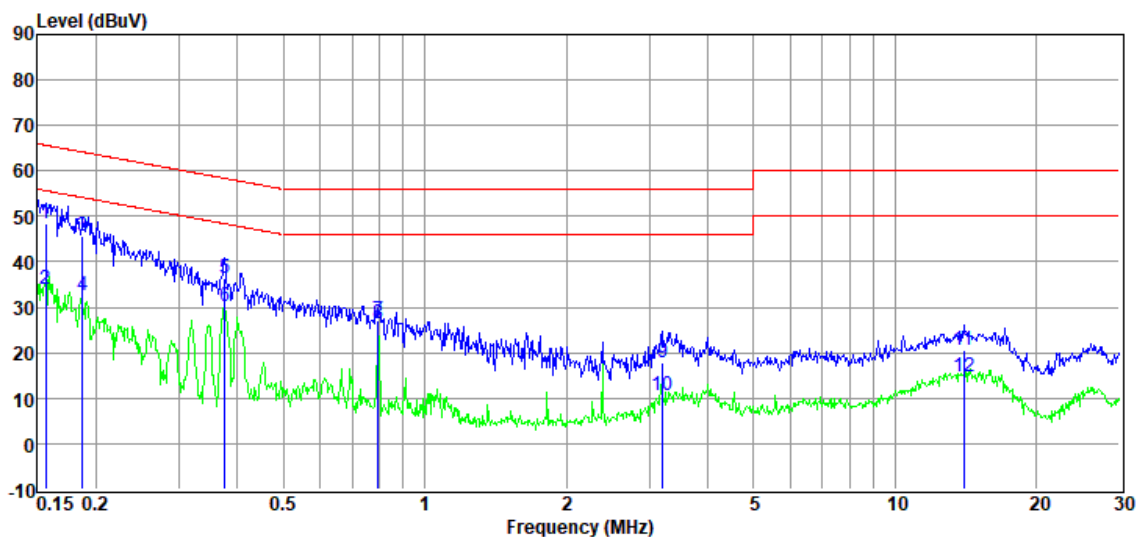
Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2023 CE report data\Q23111312-2E BB3\FCC CE.EM6**
Test Date : 2023-11-15 **Tested By** : Junchang Du
EUT : Wireless Speaker **Model Number** : BOOMBOX 3 Wi-Fi
Power Supply : AC 120V/60Hz **Test Mode** : BLE 2M TX
Condition : TEMP:26.2°C, RH:58.9% **LISN** : 2023 1# ENV216/NEUTRAL
Memo : Sample Number:S23111312-02

Data: 10



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.16	28.13	9.85	0.92	9.68	48.58	65.65	-17.07	QP	NEUTRAL
2	0.16	13.64	9.85	0.92	9.68	34.09	55.65	-21.56	Average	NEUTRAL
3	0.19	25.37	9.78	0.91	9.69	45.75	64.15	-18.40	QP	NEUTRAL
4	0.19	12.37	9.78	0.91	9.69	32.75	54.15	-21.40	Average	NEUTRAL
5	0.38	16.11	9.71	0.86	9.70	36.38	58.39	-22.01	QP	NEUTRAL
6	0.38	9.97	9.71	0.86	9.70	30.24	48.39	-18.15	Average	NEUTRAL
7	0.80	6.99	9.80	0.74	9.72	27.25	56.00	-28.75	QP	NEUTRAL
8	0.80	6.18	9.80	0.74	9.72	26.44	46.00	-19.56	Average	NEUTRAL
9	3.21	-2.35	9.72	0.58	9.78	17.73	56.00	-38.27	QP	NEUTRAL
10	3.21	-9.34	9.72	0.58	9.78	10.74	46.00	-35.26	Average	NEUTRAL
11	13.99	0.72	9.77	0.25	9.87	20.61	60.00	-39.39	QP	NEUTRAL
12	13.99	-5.04	9.77	0.25	9.87	14.85	50.00	-35.15	Average	NEUTRAL

Note:

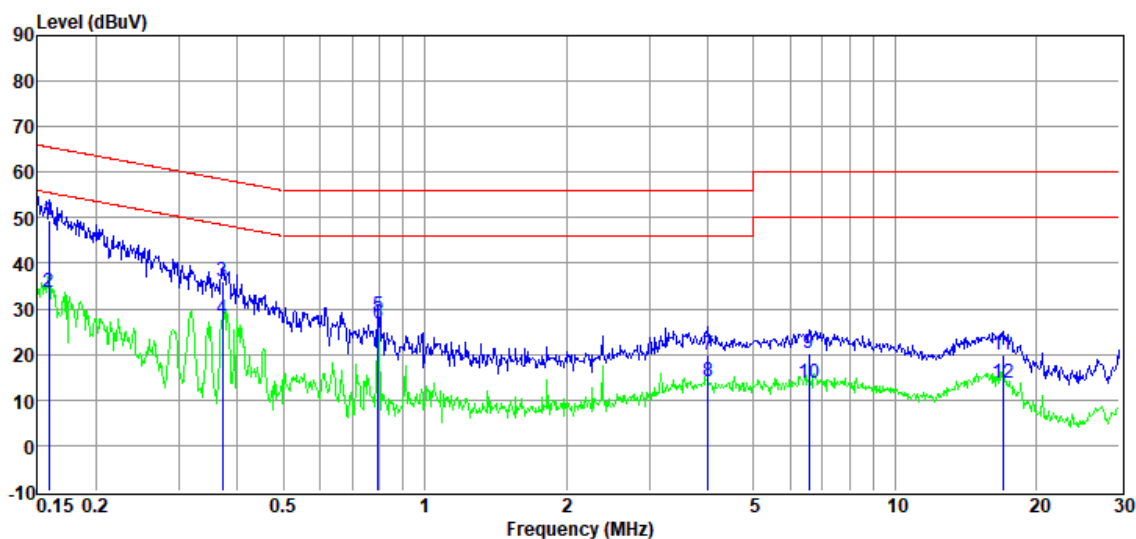
1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room
Test Date : 2023-11-15
EUT : Wireless Speaker
Power Supply : AC 120V/60Hz
Condition : TEMP:26.2°C, RH:58.9%
Memo : Sample Number:S23111312-02

D:\2023 CE report data\Q23111312-2E BB3\FCC CE.EM6
Tested By : Junchang Du
Model Number : BOOMBOX 3 Wi-Fi
Test Mode : BLE 2M TX
LISN : 2023 1# ENV216/LINE

Data: 12



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Detector	Phase
1	0.16	29.20	9.80	0.92	9.68	49.60	65.52	-15.92	QP	LINE
2	0.16	13.34	9.80	0.92	9.68	33.74	55.52	-21.78	Average	LINE
3	0.37	15.59	9.74	0.86	9.70	35.89	58.47	-22.58	QP	LINE
4	0.37	7.62	9.74	0.86	9.70	27.92	48.47	-20.55	Average	LINE
5	0.80	8.14	9.82	0.74	9.72	28.42	56.00	-27.58	QP	LINE
6	0.80	6.58	9.82	0.74	9.72	26.86	46.00	-19.14	Average	LINE
7	4.01	-0.19	9.65	0.56	9.78	19.80	56.00	-36.20	QP	LINE
8	4.01	-5.95	9.65	0.56	9.78	14.04	46.00	-31.96	Average	LINE
9	6.56	0.44	9.68	0.46	9.80	20.38	60.00	-39.62	QP	LINE
10	6.56	-6.10	9.68	0.46	9.80	13.84	50.00	-36.16	Average	LINE
11	16.93	-0.31	9.83	0.34	9.90	19.76	60.00	-40.24	QP	LINE
12	16.93	-6.46	9.83	0.34	9.90	13.61	50.00	-36.39	Average	LINE

Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

16. Photos of the EUT

Please refer to DDT-Q23111312-1E appendix I

-----End Report-----