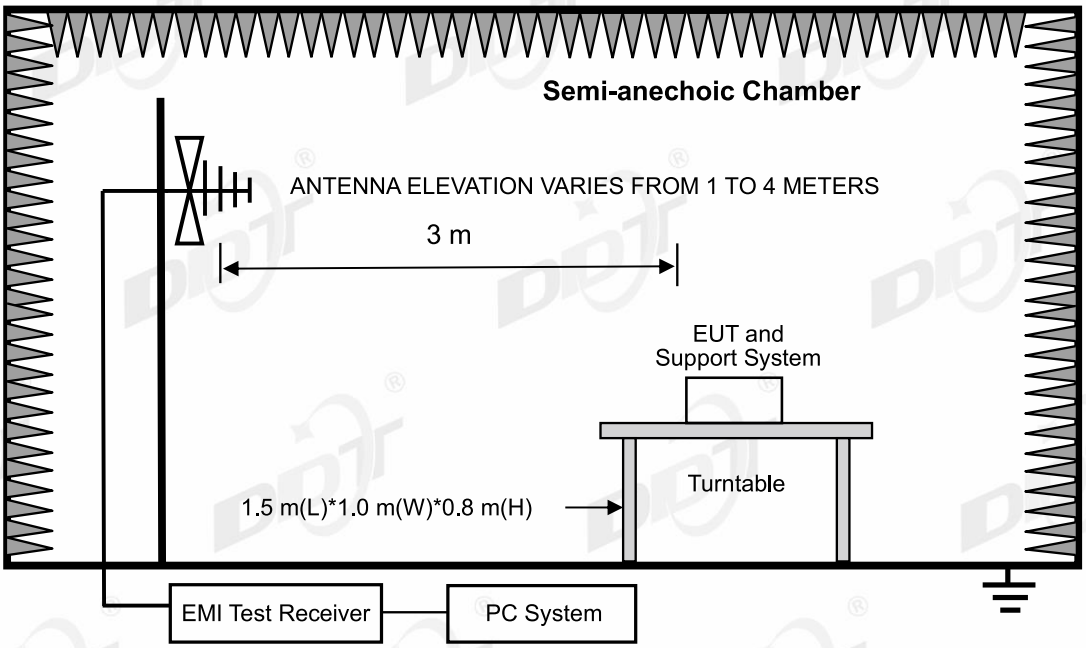


14.3. Limits

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

1Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2Above 38.6

(2) FCC 15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		mV/m	dB(mV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 dB(mV)/m (Peak) 54.0 dB(mV)/m (Average)	

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits

.

14.4. Assistant equipment used for test

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

14.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.

(2) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna (1 GHz-18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna (18 GHz-40 GHz)	1 m

According ANSI C63.10:2020 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30MHz, the trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.10:2020 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz,110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2020 clause 4.1.4.2.2 procedure for average measure.

(8) According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

(9) For 30 MHz ~ 25 GHz: (Scan with all mode, the worst case is reported)

(10) For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in worst mode.

(11) For 30 MHz ~ 25 GHz: (Scan with GFSK, π/4-DQPSK and 8DPSK, the worst case is record and reported)

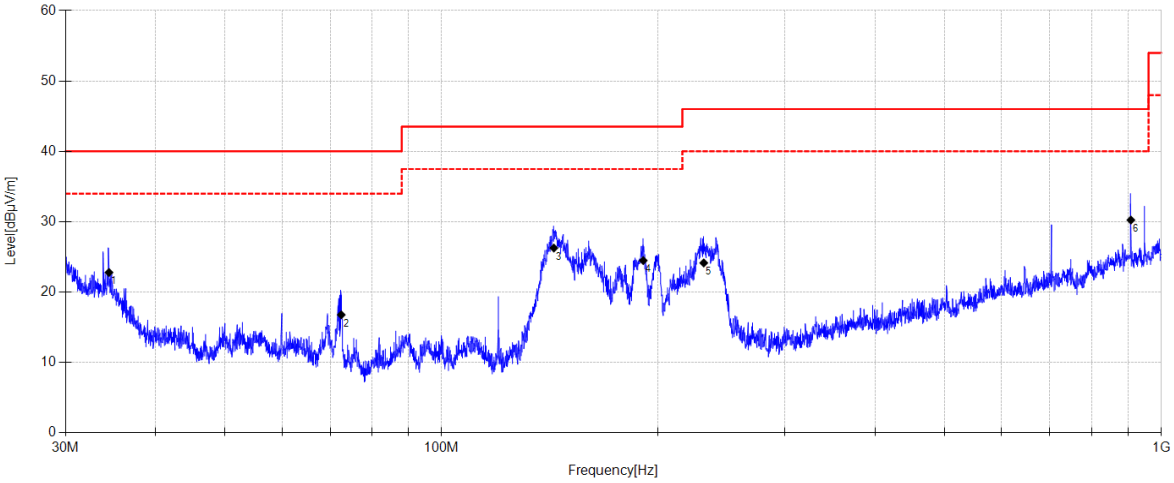
14.6. Test result

PASS. (See below detailed test result)

14.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC BELOW 1G\20241210-213824_H		
Memo:	Sample Number:S24120318-001		

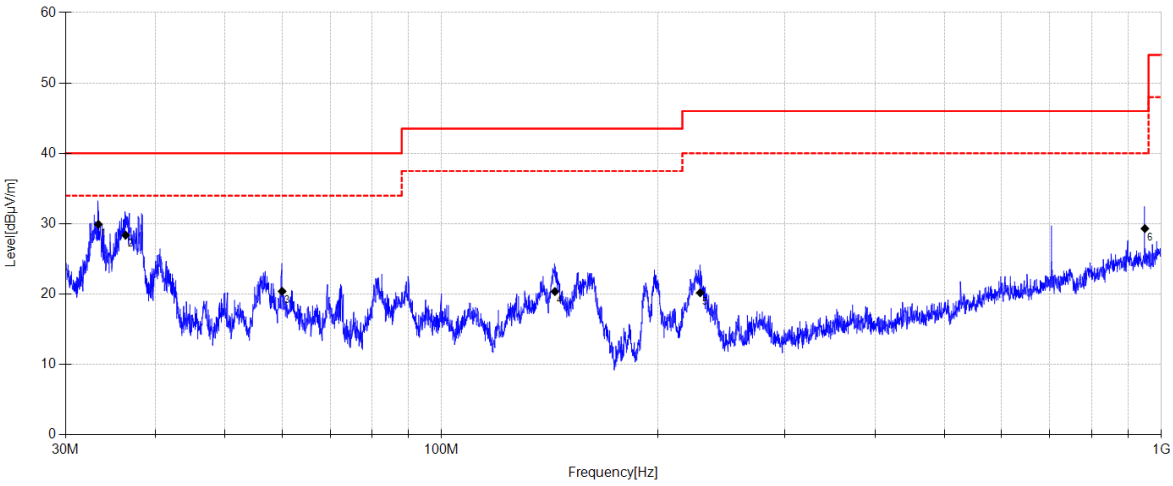


Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	34.492	38.53	11.57	3.79	22.79	40.00	17.21	QP	Horizontal
2	72.528	34.44	9.39	4.04	16.77	40.00	23.23	QP	Horizontal
3	143.181	43.81	9.14	4.45	26.26	43.50	17.24	QP	Horizontal
4	190.602	41.14	9.82	4.71	24.48	43.50	19.02	QP	Horizontal
5	231.299	38.8	11.70	4.90	24.14	46.00	21.86	QP	Horizontal
6	907.136	31.86	21.69	7.22	30.24	46.00	15.76	QP	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC BELOW 1G\20241210-213924_V		
Memo:	Sample Number:S24120318-001		



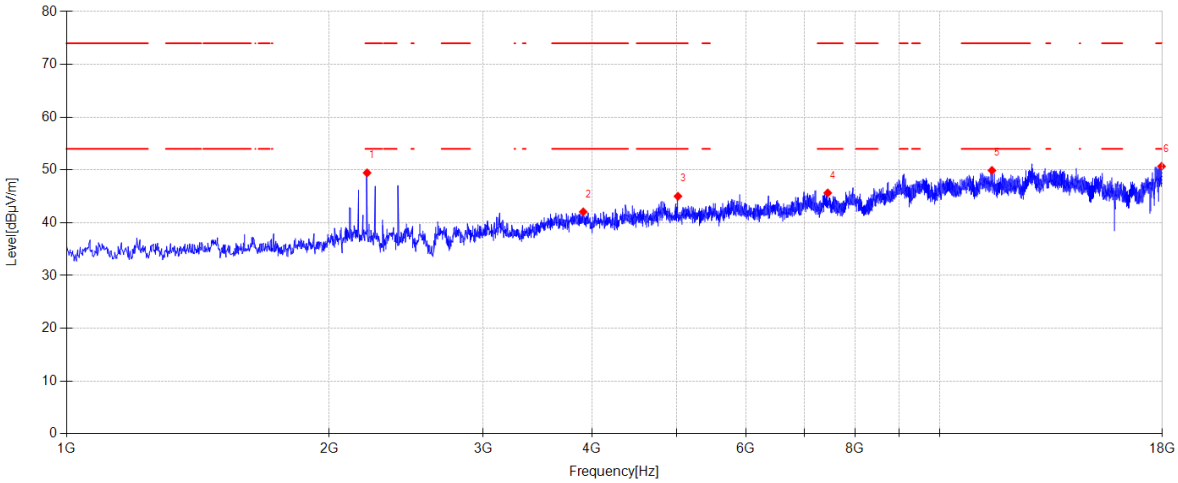
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	33.351	46.1	11.13	3.78	29.91	40.00	10.09	QP	Vertical
2	36.380	43.85	11.82	3.80	28.37	40.00	11.63	QP	Vertical
3	60.019	34.74	12.79	3.96	20.39	40.00	19.61	QP	Vertical
4	143.684	37.8	9.24	4.46	20.36	43.50	23.14	QP	Vertical
5	228.718	34.88	11.67	4.89	20.18	46.00	25.82	QP	Vertical
6	948.771	29.91	22.41	7.33	29.31	46.00	16.69	QP	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\1		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



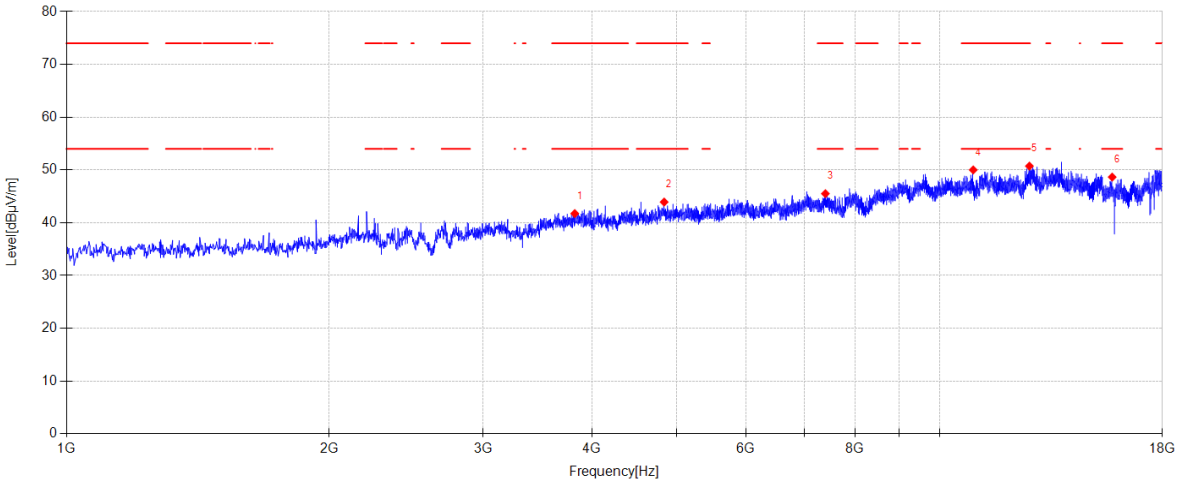
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2210.400	55.48	27.70	4.72	-38.45	49.45	74.00	24.55	PK	Horizontal
2	3908.700	45.47	31.18	5.07	-39.66	42.06	74.00	31.94	PK	Horizontal
3	5017.100	45.72	33.23	5.66	-39.60	45.01	74.00	28.99	PK	Horizontal
4	7448.100	42.96	36.60	6.68	-40.60	45.64	74.00	28.36	PK	Horizontal
5	11485.600	41.75	39.21	8.44	-39.49	49.91	74.00	24.09	PK	Horizontal
6	17964.300	35.37	42.22	13.09	-40.00	50.68	74.00	23.32	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\2		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



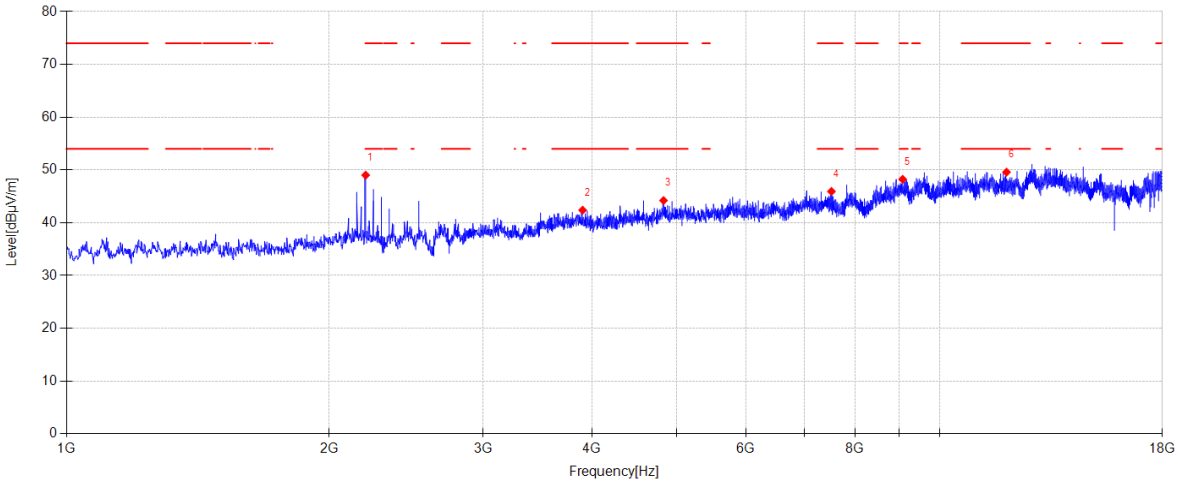
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	3822.000	45.51	30.79	5.08	-39.64	41.74	74.00	32.26	PK	Vertical
2	4838.600	44.48	33.50	5.55	-39.61	43.92	74.00	30.08	PK	Vertical
3	7402.200	42.80	36.70	6.65	-40.64	45.51	74.00	28.49	PK	Vertical
4	10931.400	41.65	39.30	8.10	-39.04	50.01	74.00	23.99	PK	Vertical
5	12677.300	41.93	39.55	9.11	-39.86	50.73	74.00	23.27	PK	Vertical
6	15771.300	39.69	38.36	10.00	-39.40	48.65	74.00	25.35	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2441MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\3		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



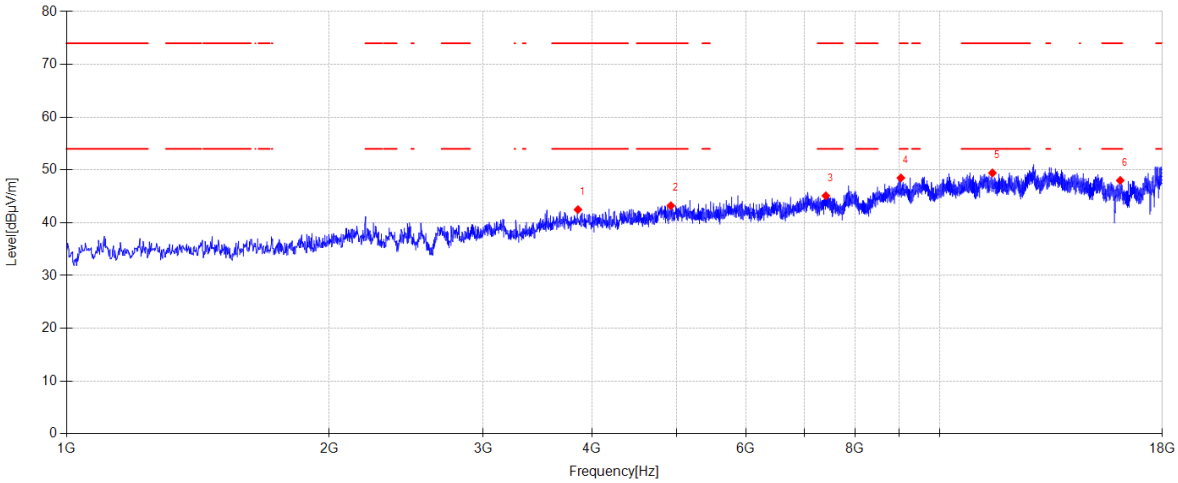
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2201.900	54.94	27.78	4.72	-38.43	49.01	74.00	24.99	PK	Horizontal
2	3901.900	45.77	31.20	5.07	-39.66	42.38	74.00	31.62	PK	Horizontal
3	4830.100	44.99	33.28	5.55	-39.61	44.21	74.00	29.79	PK	Horizontal
4	7521.200	43.28	36.46	6.72	-40.53	45.93	74.00	28.07	PK	Horizontal
5	9075.000	41.32	38.45	7.32	-38.86	48.23	74.00	25.77	PK	Horizontal
6	11934.400	41.80	39.00	8.72	-39.93	49.59	74.00	24.41	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2441MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\4		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



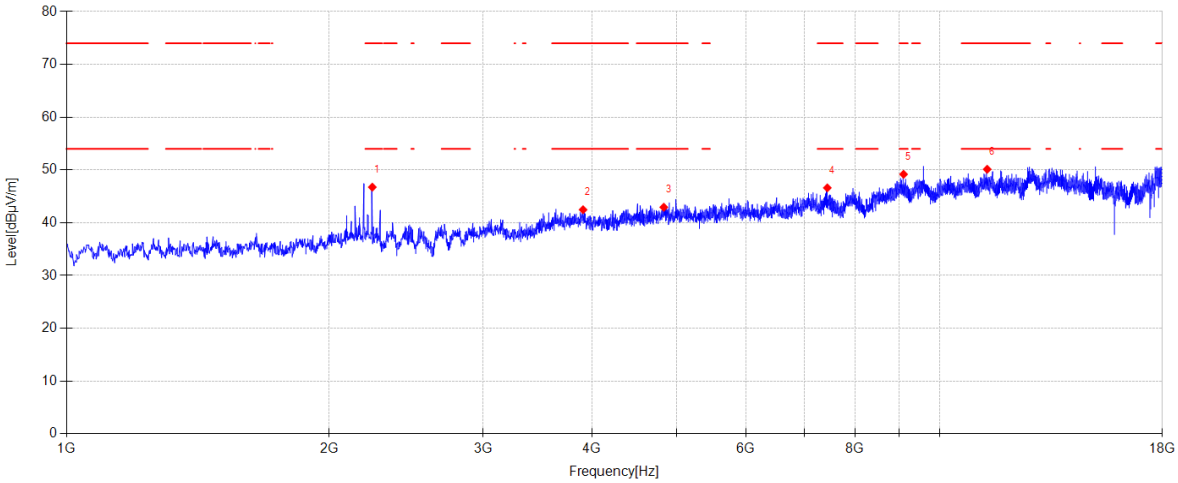
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	3854.300	46.13	30.93	5.07	-39.65	42.48	74.00	31.52	PK	Vertical
2	4925.300	44.17	33.05	5.61	-39.61	43.22	74.00	30.78	PK	Vertical
3	7410.700	42.40	36.68	6.66	-40.63	45.11	74.00	28.89	PK	Vertical
4	9032.500	41.64	38.37	7.31	-38.83	48.49	74.00	25.51	PK	Vertical
5	11499.200	41.29	39.20	8.44	-39.50	49.43	74.00	24.57	PK	Vertical
6	16107.900	39.43	37.89	10.17	-39.48	48.01	74.00	25.99	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2480MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\5		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



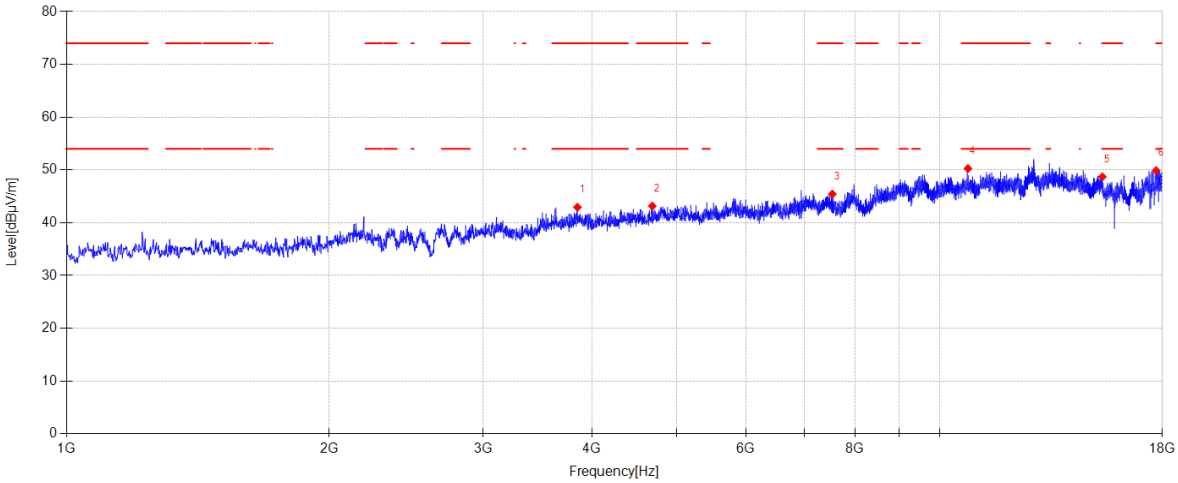
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2241.000	53.09	27.39	4.74	-38.48	46.74	74.00	27.26	PK	Horizontal
2	3907.000	45.86	31.19	5.07	-39.66	42.46	74.00	31.54	PK	Horizontal
3	4833.500	43.62	33.37	5.55	-39.61	42.93	74.00	31.07	PK	Horizontal
4	7439.600	43.92	36.62	6.67	-40.60	46.61	74.00	27.39	PK	Horizontal
5	9097.100	42.24	38.49	7.33	-38.88	49.18	74.00	24.82	PK	Horizontal
6	11341.100	41.89	39.24	8.34	-39.34	50.13	74.00	23.87	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2480MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\6		
Memo:	Sample Number:S24120318-001 Power Setting:6		

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	3849.200	46.60	30.90	5.08	-39.64	42.94	74.00	31.06	PK	Vertical
2	4689.000	45.16	32.16	5.46	-39.62	43.16	74.00	30.84	PK	Vertical
3	7538.200	42.80	36.42	6.73	-40.52	45.43	74.00	28.57	PK	Vertical
4	10780.100	41.98	39.40	8.02	-39.13	50.27	74.00	23.73	PK	Vertical
5	15368.400	39.13	39.25	9.73	-39.40	48.71	74.00	25.29	PK	Vertical
6	17707.600	37.12	40.43	12.36	-40.03	49.88	74.00	24.12	PK	Vertical

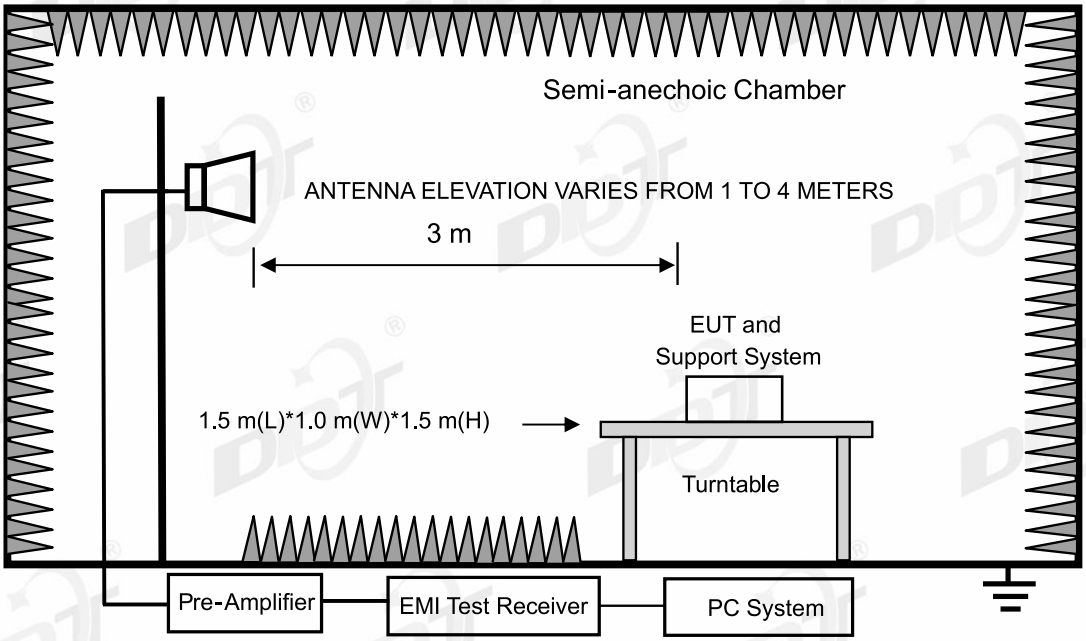
Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

15.Band Edge Compliance

15.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To	Cal. Interval
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31	1 Year
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22	1 Year
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31	1 Year
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31	1 Year
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11	2 Year
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22	1 Year
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11	1 Year
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22	1 Year
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18	2 Year
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31	1 Year
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/	/
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31	1 Year
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31	1 Year
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26	1 Year
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31	1 Year

15.2. Block diagram of test setup



15.3. Limits

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

15.4. Assistant equipment used for test

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

15.5. 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.

15.6. Test result

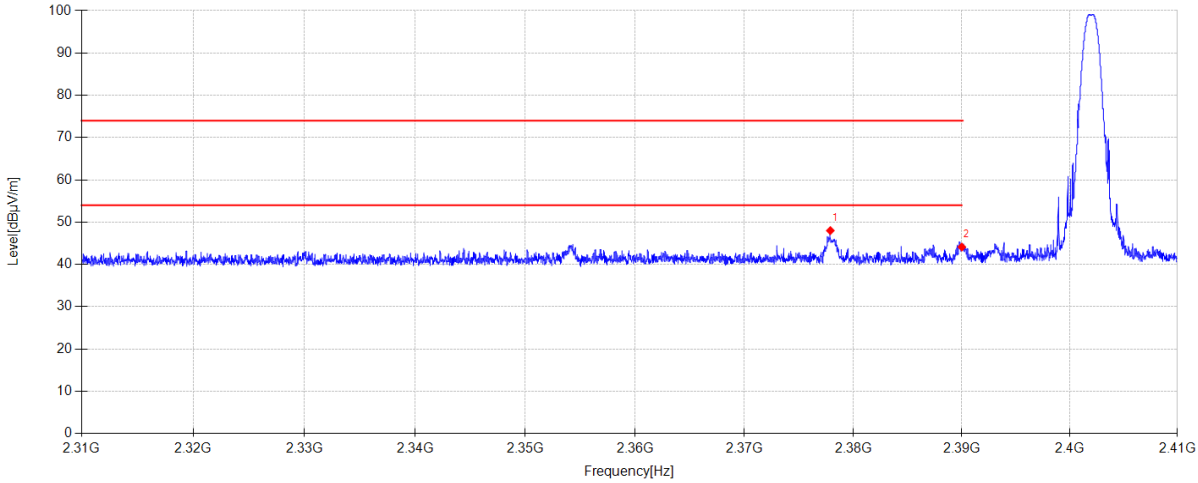
PASS. (See below detailed test result)

15.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\7		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



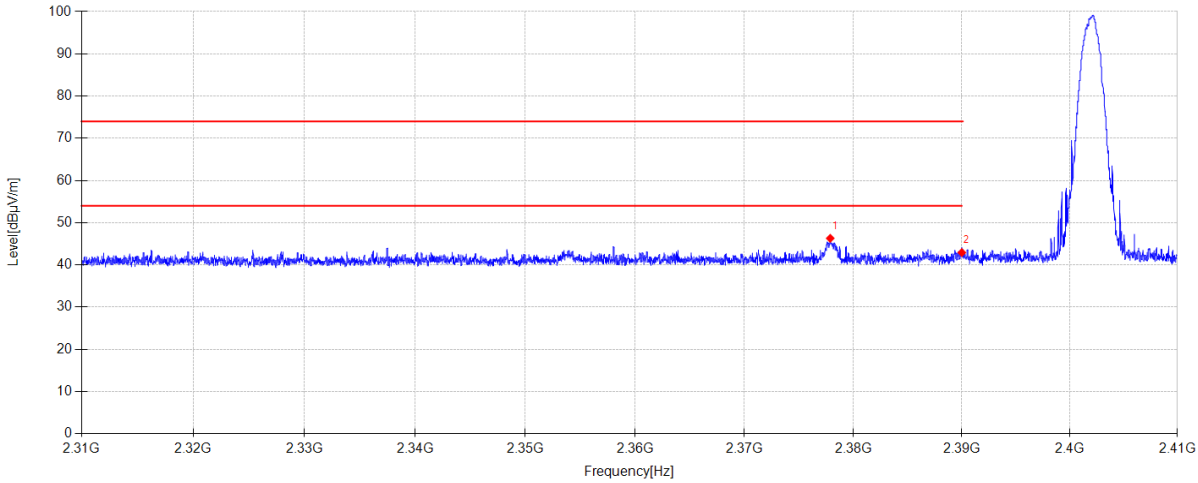
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2377.880	17.24	27.21	3.56	0.00	48.01	74.00	25.99	PK	Horizontal
2	2390.000	13.29	27.26	3.57	0.00	44.12	74.00	29.88	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX 2DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\8		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



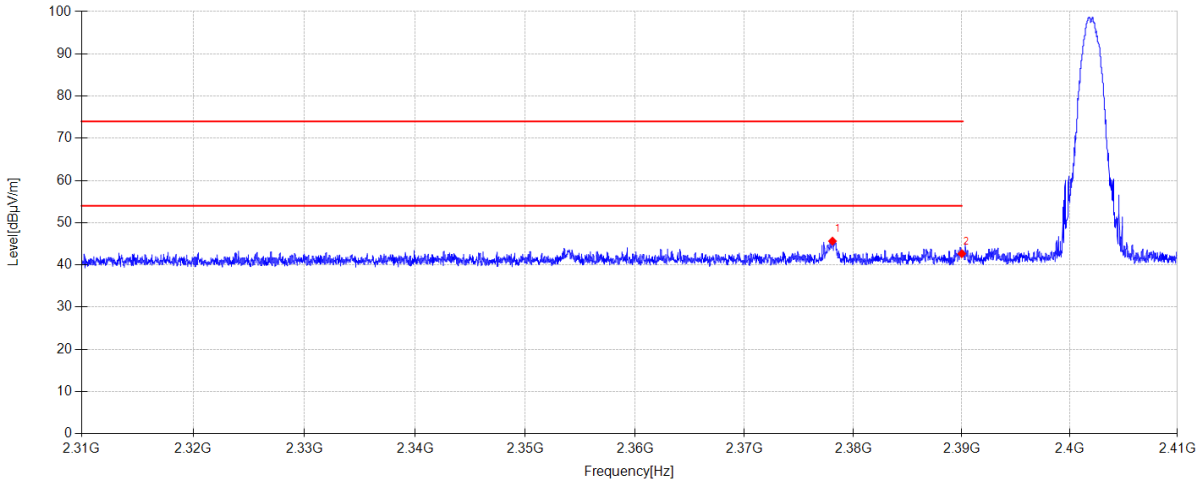
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2377.870	15.54	27.21	3.56	0.00	46.31	74.00	27.69	PK	Horizontal
2	2390.000	12.10	27.26	3.57	0.00	42.93	74.00	31.07	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX 3DH5 2402MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\9		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



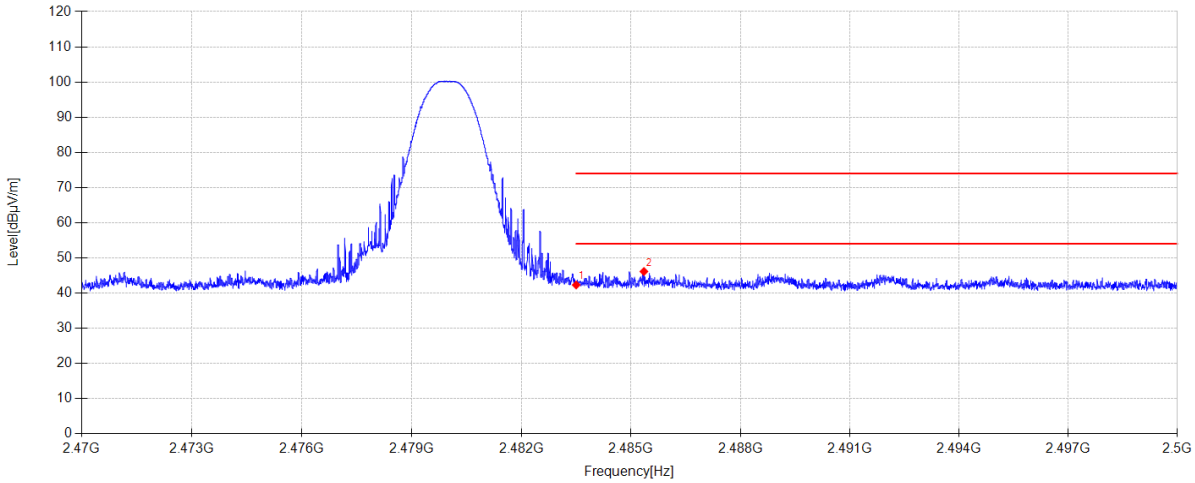
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2378.080	14.87	27.21	3.56	0.00	45.64	74.00	28.36	PK	Horizontal
2	2390.000	11.84	27.26	3.57	0.00	42.67	74.00	31.33	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX DH5 2480MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\10		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



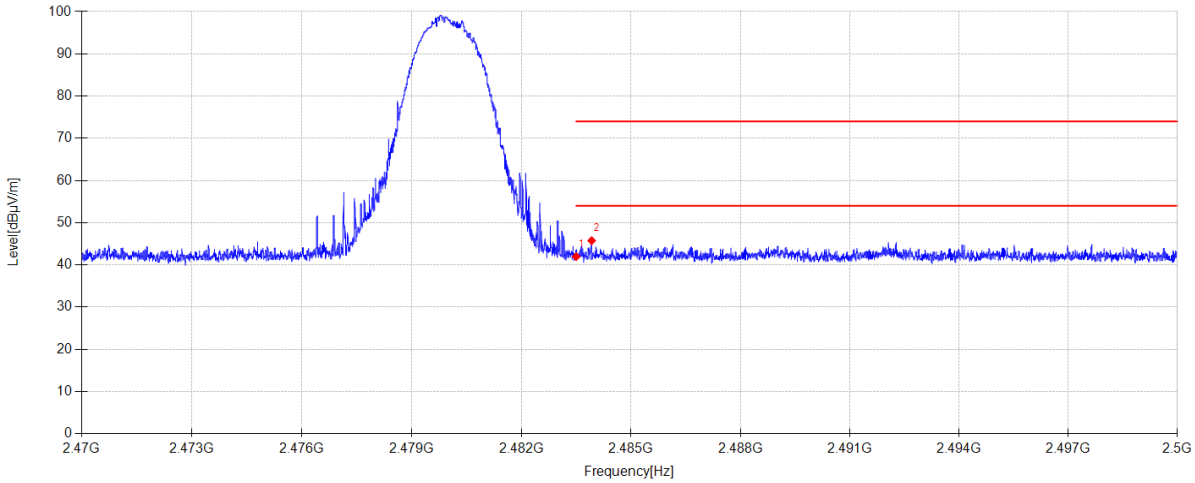
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2483.500	11.16	27.53	3.62	0.00	42.31	74.00	31.69	PK	Horizontal
2	2485.354	14.97	27.54	3.62	0.00	46.13	74.00	27.87	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX 2DH5 2480MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\11		
Memo:	Sample Number:S24120318-001 Power Setting:6		

Test Graph



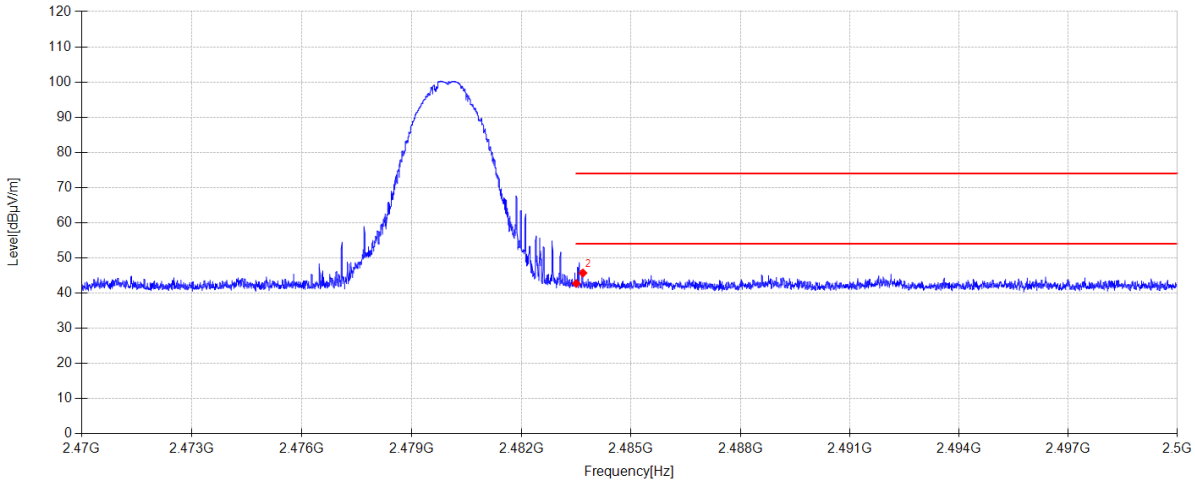
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2483.500	10.83	27.53	3.62	0.00	41.98	74.00	32.02	PK	Horizontal
2	2483.923	14.60	27.54	3.62	0.00	45.76	74.00	28.24	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:	2024-12-10	**Tested By**:	Gen Liu
EUT:	JENSEN 3-Zone Wall Stereo	**Model Number**:	JWM65
Test Mode:	TX 3DH5 2480MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.5°C;Humi:50.2%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24120318-4E\FCC ABOVE 1G\12		
Memo:	Sample Number:S24120318-001 Power Setting:6		

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	2483.500	11.58	27.53	3.62	0.00	42.73	74.00	31.27	PK	Horizontal
2	2483.686	14.56	27.53	3.62	0.00	45.71	74.00	28.29	PK	Horizontal

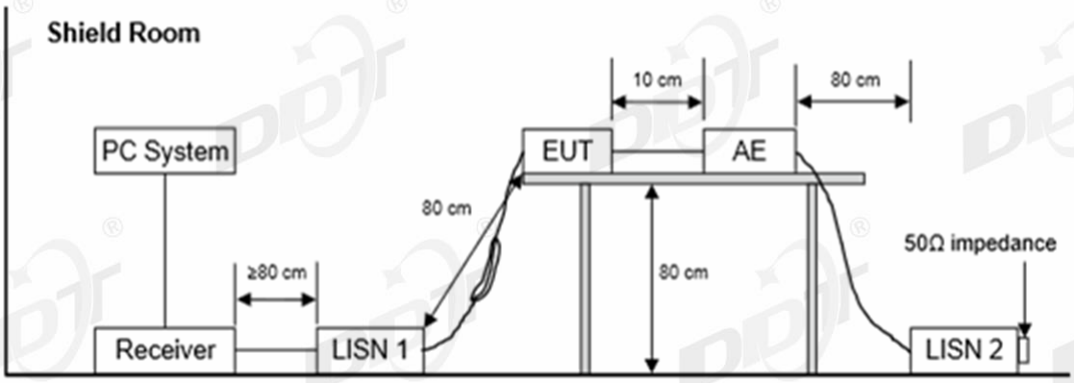
Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

16.Power Line Conducted Emissions

16.1. Test equipment

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

16.2. Block diagram of test setup



16.3. Limits

Frequency	Quasi-Peak Level dB(uV)	Average Level dB(uV)
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.

16.4. Assistant equipment used for test

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

16.5. 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.

16.6. Test data

Not applicable. EUT is DC powered.

18. Photos of the EUT

Please refer to DDT-Q24120318-1E appendix I

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