FCC CERTIFICATION TEST REPORT

Applicant	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Applicant	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone
Manufacturer	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Manufacturer	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone
Equipment under Test	:	Magnetic Power Bank
Model No.	:	J2921, J2922 ,J2923, J2924 ,J2925 ,J2926 ,J2927, J2928, J2929 ,J2930,N2921, N2922 ,N2923 ,N2924, N2925 ,N2926 ,N2927 ,N2928 ,N2929 ,N2930,Z2921 ,Z2922, Z2923, Z2924, Z2925 ,Z2926, Z2927, Z2928 ,Z2929 ,Z2930,PW-051C1W22W, W204, A2921, A2922, A2923
FCC ID	:	2BFS6-J2921
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C, ANSI C63.10:2013
Report No.	:	DDT-RE24061321-1E03
Issue Date	:	2024/07/12
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Model No.	:	J2921, J2922 ,J2923, J2924 ,J2925 ,J2926 ,J2927, J2928, J2929 ,J2930,N2921, N2922 ,N2923 ,N2924, N2925 ,N2926 ,N2927 ,N2928 ,N2929 ,N2930,Z2921 ,Z2922, Z2923, Z2924, Z2925 ,Z2926, Z2927, Z2928 ,Z2929 ,Z2930, PW-051C1W22W, W204, A2921, A2922, A2923
Manufacturer	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Manufacturer	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C,
ANSI C63.10:2013

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24061321-1E03		
Date of Receipt:	2024/06/17	**Date of Test:**	2024/06/17~2024/07/12

Prepared By:	**Approved By:**
Tiger Mo	Damon Hu
Tiger Mo/Engineer	**Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/07/12	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	20 dB Bandwidth	FCC Part 15: 15.215	/	Pass
2	Radiated Emission	FCC Part 15: 15.205, FCC Part 15: 15.209	/	Pass
3	Antenna Requirement	FCC Part 15: 15.203	/	Pass
4	Power Line Conducted Emissions	FCC Part 15: 15.207(a)	/	Pass
Note: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.				

2. General Test Information

2.1. Description of EUT

EUT Name	:	Magnetic Power Bank
Model Number	:	J2921, J2922 ,J2923, J2924 ,J2925 ,J2926 ,J2927, J2928, J2929 ,J2930,N2921, N2922 ,N2923 ,N2924, N2925 ,N2926 ,N2927 ,N2928 ,N2929 ,N2930,Z2921 ,Z2922, Z2923, Z2924, Z2925 ,Z2926, Z2927, Z2928 ,Z2929 ,Z2930, PW-051C1W22W, W204, A2921, A2922, A2923
Difference of model number	:	Above models are identical in schematic and structure, only the Model Number and appearance colour are different for all the models, therefore the test performed on the model PW-051C1W22W.
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	TYPE-C1/C2 Intput: 5V/3A, 9V/2.2A, 12V/1.65A, or DC 3.85V Polymer Li-ion built-in battery TYPE-C1/C2 output: 5V/3A, 9V/2.22A, 12V/1.67A, pps 5~11V 2A wireless charging output: 5W/7.5W/10W/15W
Hardware Version	:	PW-051C1W22W V1.1
Software Version	:	V1.6_0x1FB550AB(3).hex

Wireless charging Operation frequency	:	115 kHz-200kHz
Antenna Type	:	Inductive loop coil antenna

In section 15.31(m), regards to the operating frequency range less than 1 MHz, only one of channel was selected to perform the test.

Frequency(kHz)
125.96

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“⊠” means to be chosen or applicable; “□” means don’t to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test

Configuration diagram

2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:
According pre-test, the worst test modes were reported as below:
For mode 1: Tx mode (5W load, 7.5W load, 10W load, 15W load)
For mode 2: Standby mode
Note: Scan with mode 1 and mode 2, the worst case is mode 1 Tx mode (15W load) and recorded in this report

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	+15℃ to +35 ℃
Humidity range:	20% to 75%
Pressure range:	86 kPa to106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

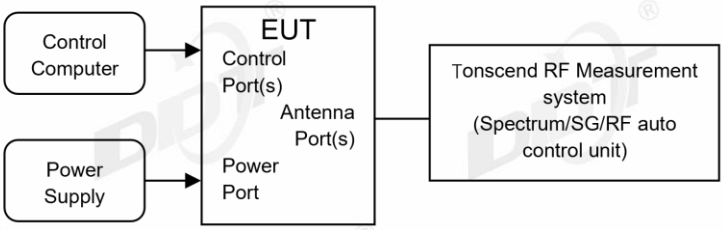
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Frequencies Stability	6.7 x 10^{-8} (Antenna couple method)
	5.5 x 10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.40 dB (3.6 GHz ≤ f < 8 GHz)
	1.66 dB (8 GHz ≤ f < 26.5 GHz)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 ℃
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V)
	4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz)
	4.40 dB (6 GHz - 18 GHz)
	3.54 dB (18 GHz - 26 GHz)
	4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz)
	3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3 Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☒ RF Connected Test (RF Measurement System 1#)				
SIGNAL ANALYZER	R&S	FSQ26	101272	2025/03/31
Wideband Radio Communication Tester	R&S	CMW500	120259	2025/07/08
MXG Vector Signal Generator	KEYSIGHT	N5182B	MY59100192	2025/03/31
MXG Vector Signal Generator	Agilent	N5182A	MY19060405	2025/03/31
RF Control Unit	Tonsend	JS0806-2	158060010	2025/03/31
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2025/04/22
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4 20 dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

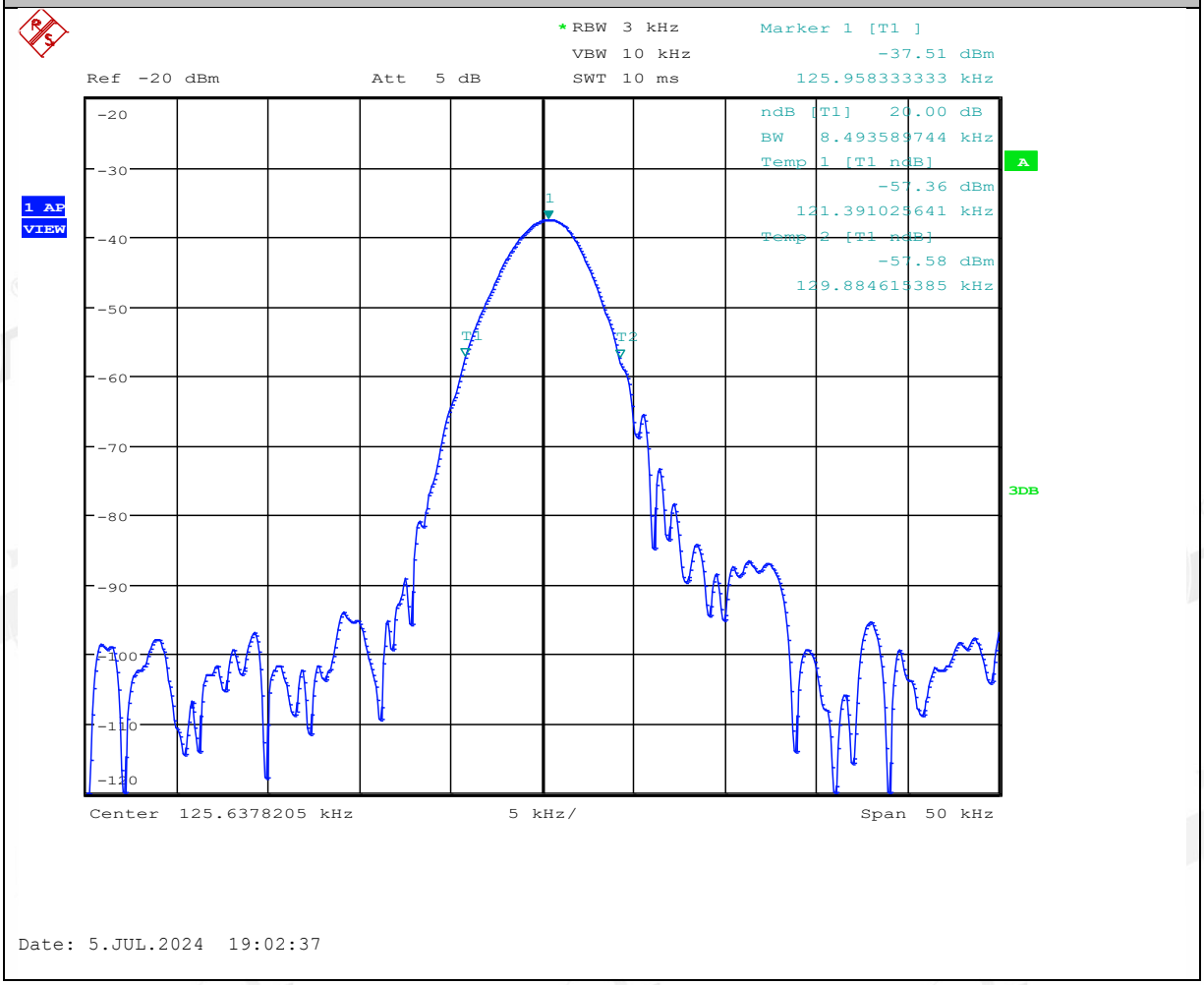
(2) The bandwidth of the fundamental frequency was measured by spectrum analyzer with 3kHz RBW and 10 kHz VBW. The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

4.4. Test result

Freq. (kHz)	20 dB bandwidth Result (kHz)	Conclusion
125.96	8.49	Pass

4.1. Original test data

125.96 kHz

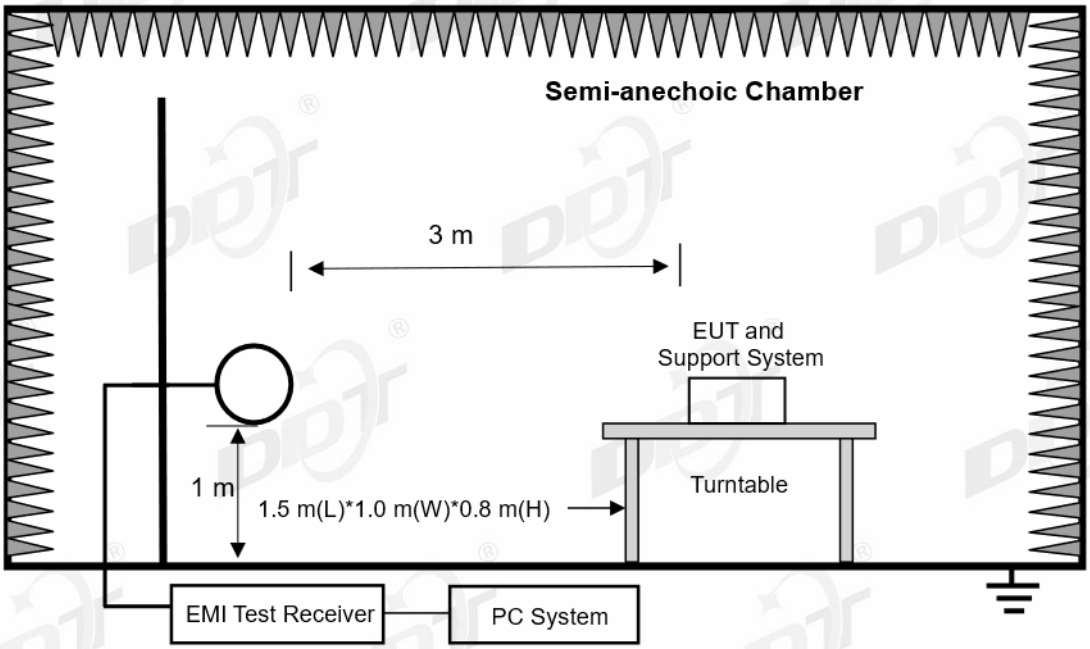


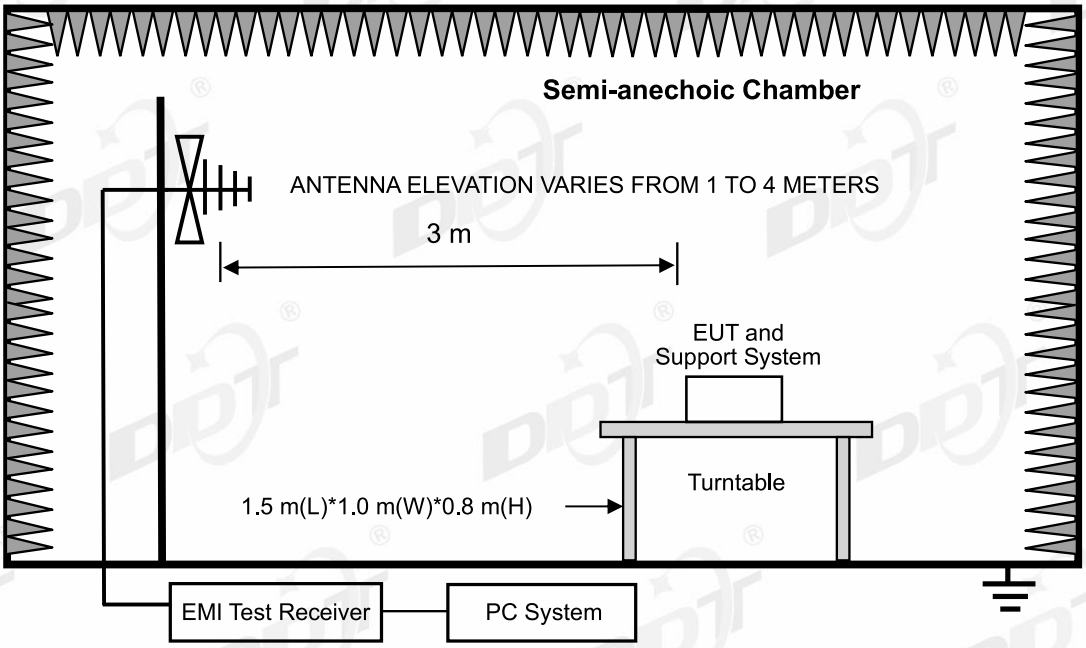
5. Radiated Emission

5.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2024/09/20
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2024/07/14
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2024/07/11
				2025/07/11
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31

5.2. Block diagram of test setup





5.3. Limits

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

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)= $Limit_{300m}$(dBuV/m) + 40Log(300m/3m) = $Limit_{300m}$(dBuV/m) + 80

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

5.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Dummy load	N/A	N/A	N/A	N/A
phone	Samsung	SM-G9730	N/A	N/A

5.5. 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

According ANSI C63.10:2013 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 C63.10:2013 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 C63.10:2013 clause 4.1.4.2.2 procedure for average measure.

(8) For portable device, X axis, Y axis, Z axis are tested, and worse setup is reported.

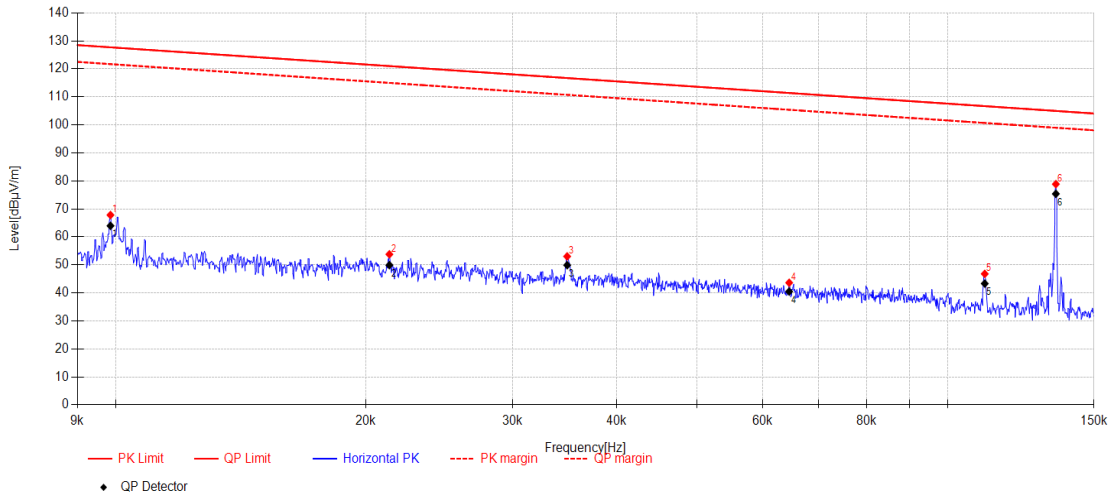
5.6. Test result

PASS. (See below detailed test result)

5.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 9K-30M\20240701-222558_H		
Memo:	X		



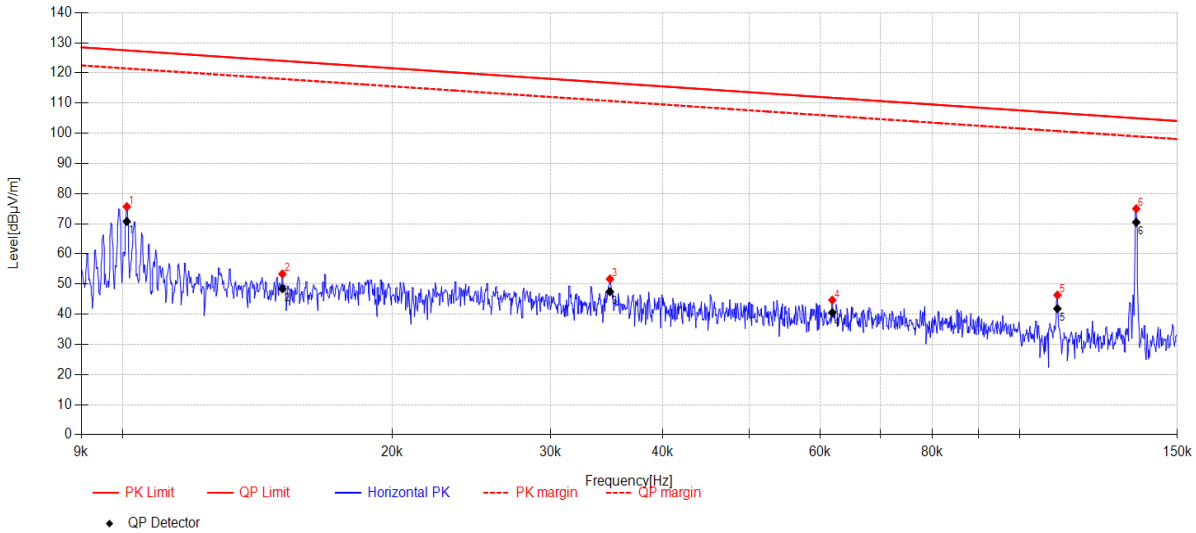
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	73.60	20.30	3.21	-29.30	67.81	127.72	59.91	PK	Horizontal
2	0.021	59.51	20.36	3.22	-29.32	53.77	121.01	67.24	PK	Horizontal
3	0.035	58.79	20.35	3.23	-29.34	53.03	116.74	63.71	PK	Horizontal
4	0.065	49.53	20.27	3.23	-29.40	43.63	111.40	67.77	PK	Horizontal
5	0.111	52.94	20.10	3.23	-29.48	46.79	106.70	59.91	PK	Horizontal
6	0.135	84.94	20.20	3.23	-29.52	78.85	105.00	26.15	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	69.74	20.30	3.21	-29.30	63.95	127.68	63.73	AV	Horizontal
2	0.021	55.65	20.36	3.22	-29.32	49.91	121.03	71.12	AV	Horizontal
3	0.035	55.65	20.35	3.23	-29.34	49.89	116.74	66.85	AV	Horizontal
4	0.065	46.39	20.27	3.23	-29.40	40.49	111.41	70.92	AV	Horizontal
5	0.111	49.47	20.10	3.23	-29.48	43.32	106.70	63.38	AV	Horizontal
6	0.135	81.47	20.20	3.23	-29.52	75.38	104.99	29.61	AV	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 9K-30M\20240701-222734_H		
Memo:	Y		



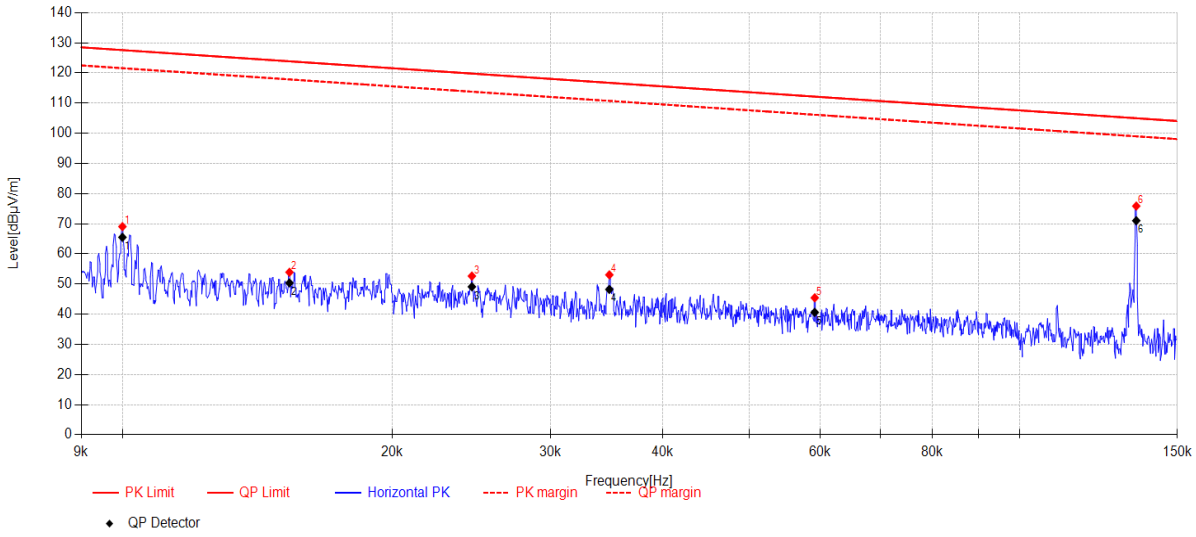
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	81.42	20.31	3.21	-29.30	75.64	127.50	51.86	PK	Horizontal
2	0.015	59.10	20.33	3.22	-29.31	53.34	124.03	70.69	PK	Horizontal
3	0.035	57.42	20.35	3.23	-29.34	51.66	116.73	65.07	PK	Horizontal
4	0.062	50.57	20.26	3.23	-29.39	44.67	111.77	67.10	PK	Horizontal
5	0.110	52.48	20.10	3.23	-29.47	46.34	106.75	60.41	PK	Horizontal
6	0.135	81.07	20.20	3.23	-29.52	74.98	105.00	30.02	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	76.52	20.31	3.21	-29.30	70.74	127.51	56.77	AV	Horizontal
2	0.015	54.2	20.33	3.22	-29.31	48.44	124.02	75.58	AV	Horizontal
3	0.035	53.24	20.35	3.23	-29.34	47.48	116.72	69.24	AV	Horizontal
4	0.062	46.39	20.26	3.23	-29.39	40.49	111.77	71.28	AV	Horizontal
5	0.110	47.97	20.10	3.23	-29.47	41.83	106.76	64.93	AV	Horizontal
6	0.135	76.56	20.20	3.23	-29.52	70.47	104.99	34.52	AV	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 9K-30M\20240701-222800_H		
Memo:	Z		



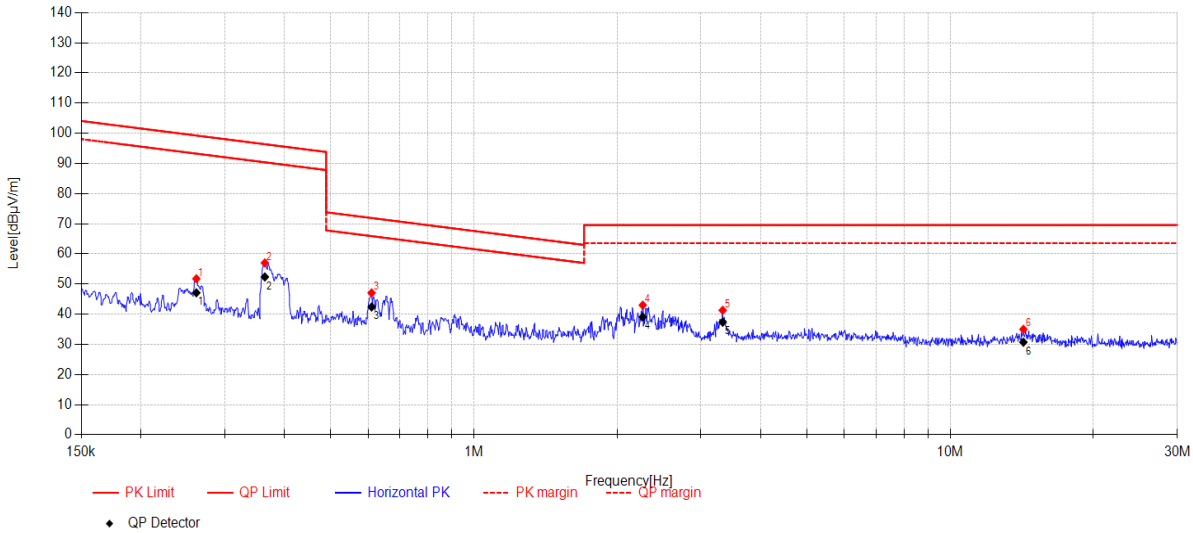
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	74.83	20.30	3.21	-29.30	69.04	127.59	58.55	PK	Horizontal
2	0.015	59.68	20.33	3.22	-29.31	53.92	123.87	69.95	PK	Horizontal
3	0.025	58.38	20.37	3.22	-29.33	52.64	119.80	67.16	PK	Horizontal
4	0.035	58.81	20.35	3.23	-29.34	53.05	116.74	63.69	PK	Horizontal
5	0.059	51.35	20.25	3.23	-29.39	45.44	112.16	66.72	PK	Horizontal
6	0.135	81.94	20.20	3.23	-29.52	75.85	105.00	29.15	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.010	71.28	20.30	3.21	-29.30	65.49	127.60	62.11	AV	Horizontal
2	0.015	56.13	20.33	3.22	-29.31	50.37	123.85	73.48	AV	Horizontal
3	0.025	54.83	20.37	3.22	-29.33	49.09	119.81	70.72	AV	Horizontal
4	0.035	53.98	20.35	3.23	-29.34	48.22	116.74	68.52	AV	Horizontal
5	0.059	46.52	20.25	3.23	-29.39	40.61	112.17	71.56	AV	Horizontal
6	0.135	77.11	20.20	3.23	-29.52	71.02	104.99	33.97	AV	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 9K-30M\20240701-222840_H		
Memo:	Z		



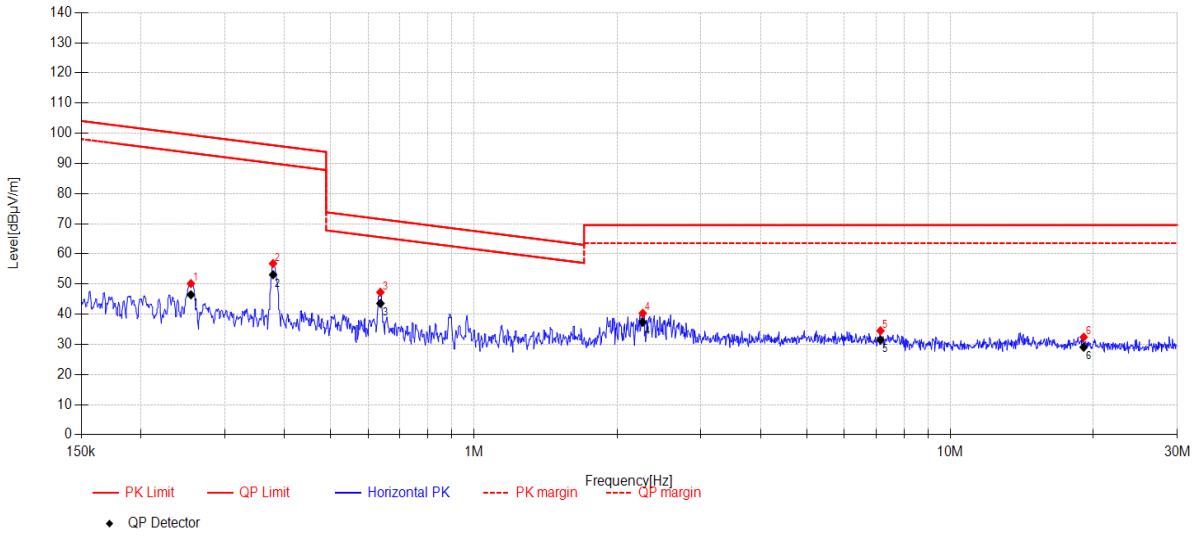
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.262	58.04	20.20	3.24	-29.73	51.75	99.25	47.50	PK	Horizontal
2	0.364	63.52	20.20	3.25	-29.96	57.01	96.38	39.37	PK	Horizontal
3	0.610	54.15	20.20	3.26	-30.55	47.06	71.89	24.83	PK	Horizontal
4	2.263	51.01	20.14	3.32	-31.47	43.00	69.54	26.54	PK	Horizontal
5	3.332	49.27	20.10	3.37	-31.45	41.29	69.54	28.25	PK	Horizontal
6	14.256	42.16	20.40	3.66	-31.24	34.98	69.54	34.56	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.262	53.38	20.20	3.24	-29.73	47.09	99.25	52.16	AV	Horizontal
2	0.364	58.86	20.20	3.25	-29.96	52.35	96.38	44.03	AV	Horizontal
3	0.610	49.49	20.20	3.26	-30.55	42.40	71.89	29.49	QP	Horizontal
4	2.263	47.07	20.14	3.32	-31.47	39.06	69.54	30.48	QP	Horizontal
5	3.332	45.33	20.10	3.37	-31.45	37.35	69.54	32.19	QP	Horizontal
6	14.256	37.89	20.40	3.66	-31.24	30.71	69.54	38.83	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 9K-30M\20240701-223014_H		
Memo:	Y		



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	0.255	56.43	20.20	3.24	-29.72	50.15	99.48	49.33	PK	Horizontal
2	0.379	63.34	20.20	3.25	-29.99	56.80	96.03	39.23	PK	Horizontal
3	0.637	54.44	20.20	3.26	-30.62	47.28	71.52	24.24	PK	Horizontal
4	2.263	48.30	20.14	3.32	-31.47	40.29	69.54	29.25	PK	Horizontal
5	7.143	42.22	20.11	3.52	-31.36	34.49	69.54	35.05	PK	Horizontal
6	19.076	39.55	20.30	3.68	-31.16	32.37	69.54	37.17	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.255	52.72	20.20	3.24	-29.72	46.44	99.48	53.04	AV	Horizontal
2	0.379	59.63	20.20	3.25	-29.99	53.09	96.03	42.94	AV	Horizontal
3	0.637	50.73	20.20	3.26	-30.62	43.57	71.53	27.96	QP	Horizontal
4	2.263	45.3	20.14	3.32	-31.47	37.29	69.54	32.25	QP	Horizontal
5	7.143	39.22	20.11	3.52	-31.36	31.49	69.54	38.05	QP	Horizontal
6	19.076	36.23	20.30	3.68	-31.16	29.05	69.54	40.49	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
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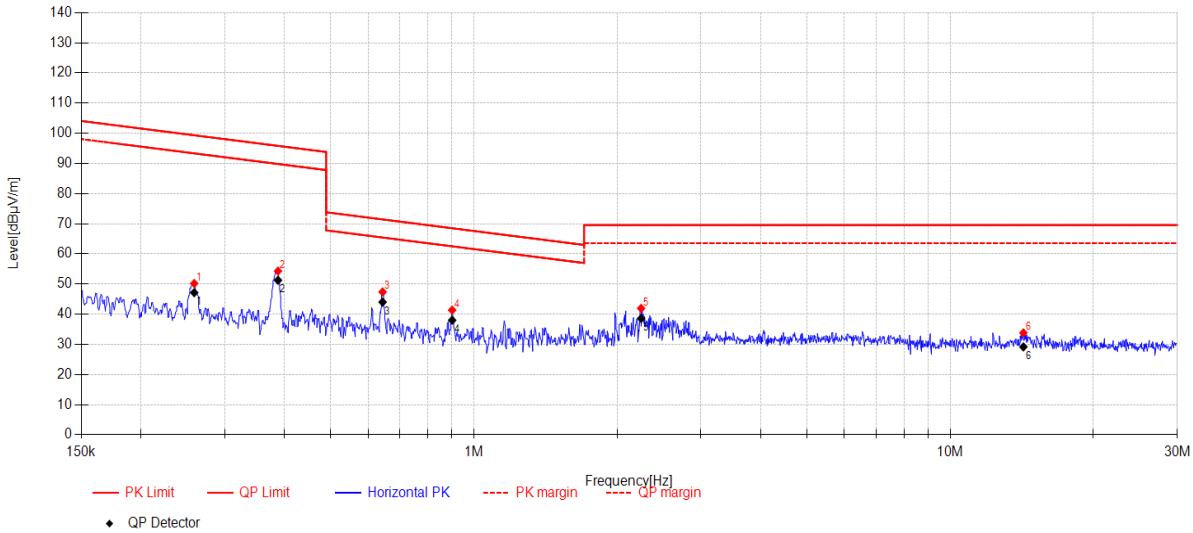
Memo:	X		



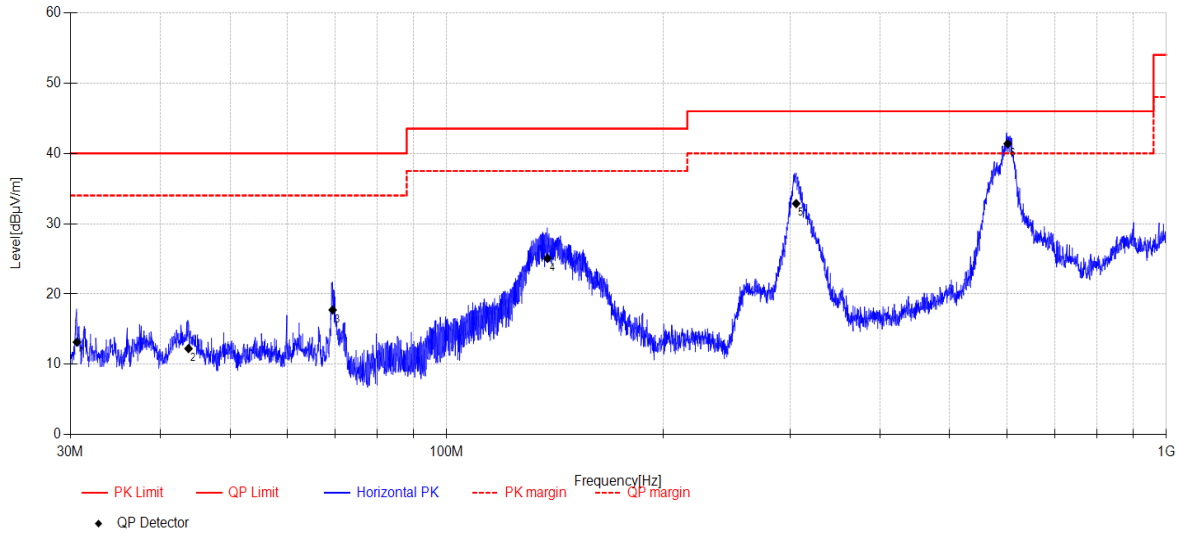
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.259	56.48	20.20	3.24	-29.73	50.19	99.34	49.15	PK	Horizontal
2	0.388	60.87	20.20	3.25	-30.01	54.31	95.82	41.51	PK	Horizontal
3	0.644	54.55	20.20	3.26	-30.63	47.38	71.43	24.05	PK	Horizontal
4	0.901	49.15	20.20	3.27	-31.26	41.36	68.51	27.15	PK	Horizontal
5	2.246	49.94	20.14	3.32	-31.47	41.93	69.54	27.61	PK	Horizontal
6	14.256	40.99	20.40	3.66	-31.24	33.81	69.54	35.73	PK	Horizontal

Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	0.259	53.43	20.20	3.24	-29.73	47.14	99.34	52.20	AV	Horizontal
2	0.388	57.82	20.20	3.25	-30.01	51.26	95.82	44.56	AV	Horizontal
3	0.644	51.18	20.20	3.26	-30.63	44.01	71.43	27.42	QP	Horizontal
4	0.901	45.78	20.20	3.27	-31.26	37.99	68.51	30.52	QP	Horizontal
5	2.246	46.57	20.14	3.32	-31.47	38.56	69.54	30.98	QP	Horizontal
6	14.256	36.33	20.40	3.66	-31.24	29.15	69.54	40.39	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24061321-2E\FCC BELOW1G 30M-1G\20240701-223455_H		
Memo:			



Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	30.638	30.04	10.36	3.76	-30.99	13.17	40.00	26.83	QP	Horizontal
2	43.778	26.24	12.96	3.84	-30.79	12.25	40.00	27.75	QP	Horizontal
3	69.443	34.1	10.19	4.02	-30.57	17.74	40.00	22.26	QP	Horizontal
4	138.054	43.13	8.31	4.43	-30.79	25.08	43.50	18.42	QP	Horizontal
5	305.967	44.29	13.62	5.24	-30.29	32.86	46.00	13.14	QP	Horizontal
6	601.926	45.72	19.18	6.37	-29.90	41.37	46.00	4.63	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:	2024-07-01	**Tested By**:	Genliu
EUT:	Magnetic Power Bank	**Model Number**:	PW-051C1W22W
Test Mode:	Working mode	**Power Supply**:	Battery
Condition:	Temp:22.5°C;Humi:56.3%	**Test Site**:	DDT 3# Chamber
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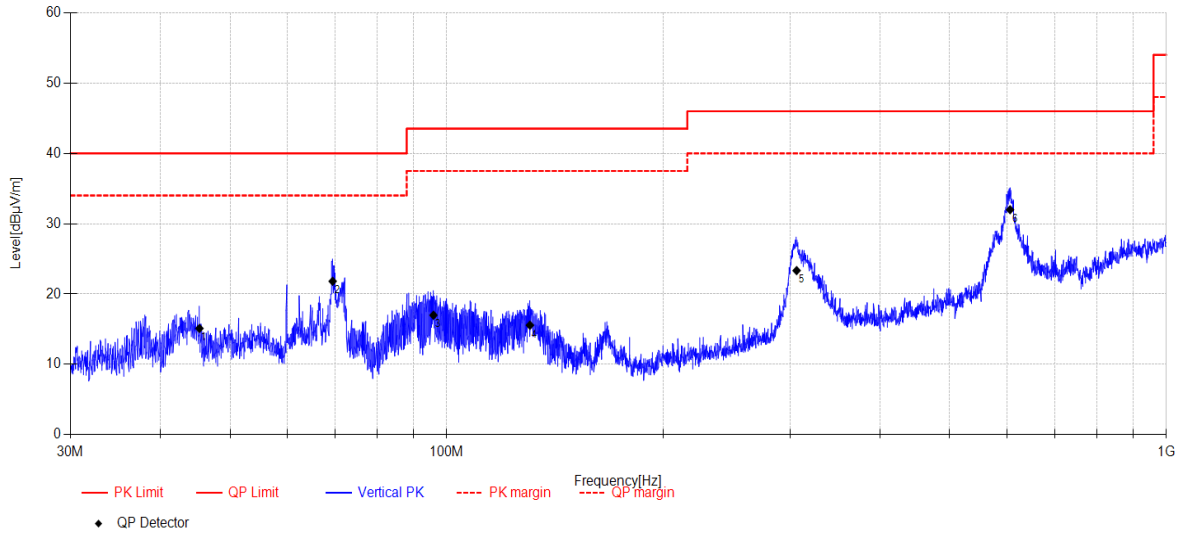
Memo:			



Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	45.340	29.15	12.89	3.85	-30.77	15.12	40.00	24.88	QP	Vertical
2	69.443	38.18	10.19	4.02	-30.57	21.82	40.00	18.18	QP	Vertical
3	95.874	32.87	10.76	4.19	-30.82	17.00	43.50	26.50	QP	Vertical
4	130.524	32.86	9.15	4.38	-30.81	15.58	43.50	27.92	QP	Vertical
5	306.396	34.79	13.59	5.25	-30.29	23.34	46.00	22.66	QP	Vertical
6	606.570	36.37	19.13	6.39	-29.90	31.99	46.00	14.01	QP	Vertical

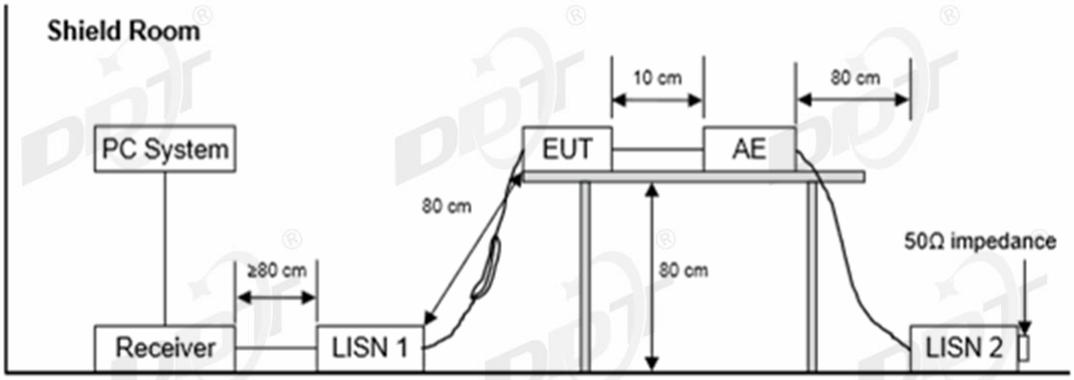
Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

6. Power Line Conducted Emissions

6.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
EMI Test Receiver	R&S	ESCI/E3	DDT-ZC01297	2024/07/11
				2025/07/08
RF Cable	Yuhu Technology	Z806-NJ-NJ-6M	DDT-ZC02004	2024/07/14
				2025/07/08
Three-phase artificial power network	SCHWARZBECK	NSLK 8163	DDT-ZC01572	2024/07/11
				2025/07/08
Two Line V-Network	R&S	ENV216	DDT-ZC02056	2024/07/11
				2025/07/08
Two Line V-Network	R&S	ENV216	DDT-ZC02059	2024/07/11
				2025/07/08
Pulse Limiter	SCHWARZBECK	VTSD 9561	DDT-ZC02128	2024/07/14
				2025/07/08
Condected Radiated Software	Audix	E3	DDT-ZC00562	/
Δ-shaped artificial power network	SCHWARZBECK	PVDC 8301	DDT-ZC03939	2025/03/31

6.2. Block diagram of test setup



6.3. 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.

6.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Dummy load	N/A	N/A	N/A	N/A
phone	Samsung	SM-G9730	N/A	N/A

6.5. 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.

6.6. 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.

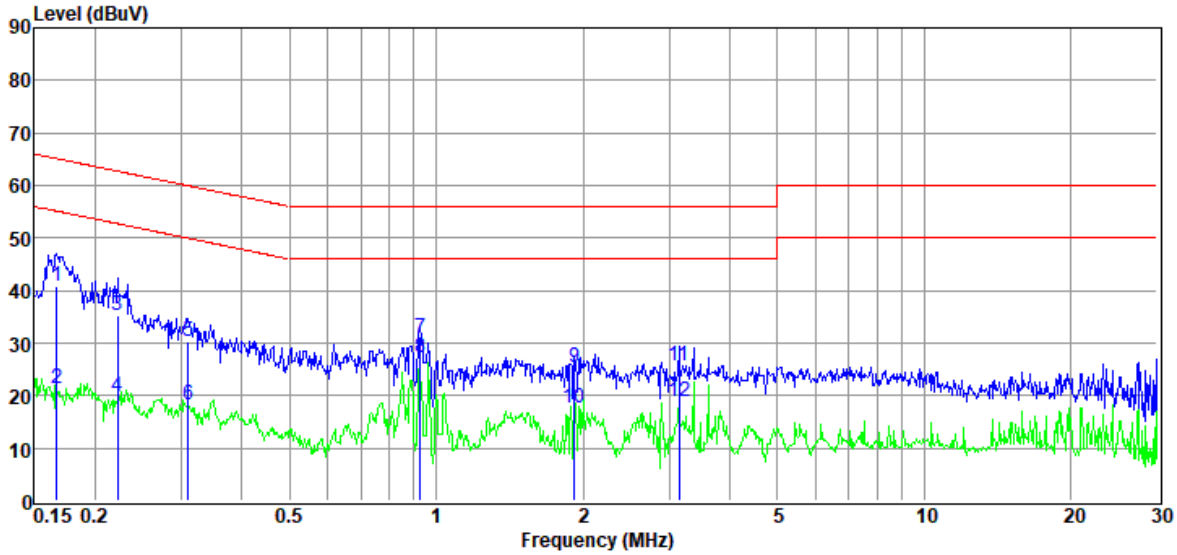
Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded the worst case.

6.7. Test data

TR-4-E-010 Conducted Emission Test Result

Test Site	: DDT 6# Shield Room	D:\2024 Report Date\Q24061321-2E\CE.EM6	
Test Date	: 2024-06-27	**Tested By**	: Antony Zeng
EUT	: Magnetic Power Bank	**Model Number**	: PW-051C1W22W
Power Supply	: AC 120V/60Hz	**Test Mode**	: TX mode
Condition	: Temp:21.9°C,Humi:56.2%	**LISN**	: 2023 ENV 216 3#/NEUTRAL
Memo	:		

Data: 2



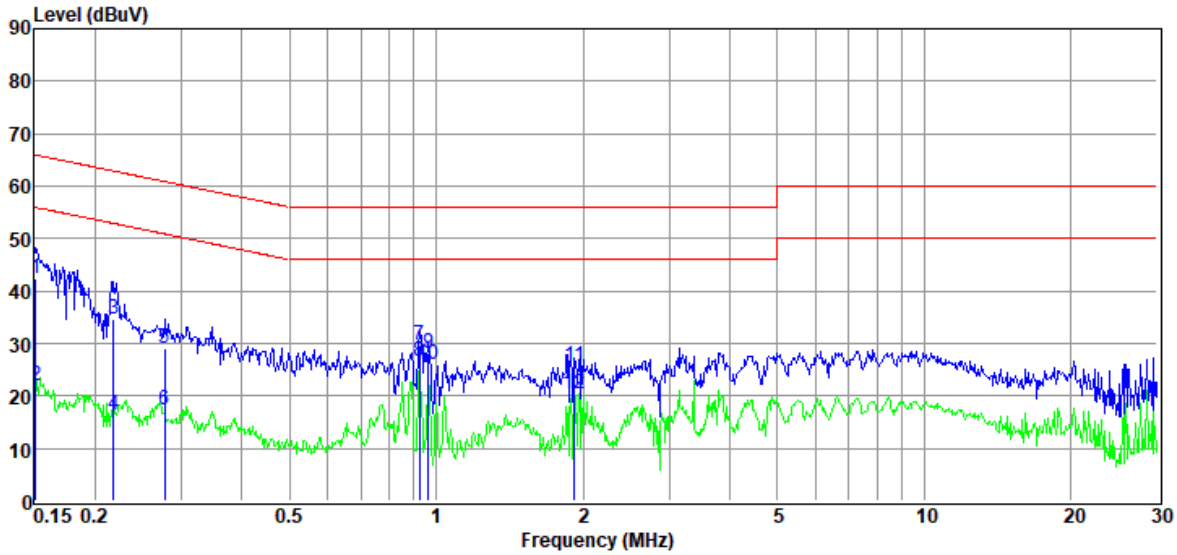
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBµV)	Limit Line (dBµV)	Over Limit (dB)	Detector	Phase
1	0.17	20.92	9.77	0.11	9.94	40.74	65.12	-24.38	QP	NEUTRAL
2	0.17	1.66	9.77	0.11	9.94	21.48	55.12	-33.64	Average	NEUTRAL
3	0.22	15.33	9.89	0.11	9.94	35.27	62.74	-27.47	QP	NEUTRAL
4	0.22	-0.16	9.89	0.11	9.94	19.78	52.74	-32.96	Average	NEUTRAL
5	0.31	10.27	9.82	0.12	9.95	30.16	59.97	-29.81	QP	NEUTRAL
6	0.31	-1.73	9.82	0.12	9.95	18.16	49.97	-31.81	Average	NEUTRAL
7	0.93	10.86	9.96	0.23	9.97	31.02	56.00	-24.98	QP	NEUTRAL
8	0.93	7.14	9.96	0.23	9.97	27.30	46.00	-18.70	Average	NEUTRAL
9	1.92	4.96	10.00	0.26	9.99	25.21	56.00	-30.79	QP	NEUTRAL
10	1.92	-2.48	10.00	0.26	9.99	17.77	46.00	-28.23	Average	NEUTRAL
11	3.14	5.83	9.63	0.26	10.00	25.72	56.00	-30.28	QP	NEUTRAL
12	3.14	-1.09	9.63	0.26	10.00	18.80	46.00	-27.20	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 6# Shield Room	D:\2024 Report Date\Q24061321-2E\CE.EM6	
Test Date	: 2024-06-27	**Tested By**	: Antony Zeng
EUT	: Magnetic Power Bank	**Model Number**	: PW-051C1W22W
Power Supply	: AC 120V/60Hz	**Test Mode**	: TX mode
Condition	: Temp:21.9°C,Humi:56.2%	**LISN**	: 2023 ENV 216 3#/LINE
Memo	:		

Data: 4



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	0.15	22.33	9.88	0.10	9.94	42.25	65.96	-23.71	QP	LINE
2	0.15	2.16	9.88	0.10	9.94	22.08	55.96	-33.88	Average	LINE
3	0.22	14.92	9.80	0.11	9.94	34.77	62.88	-28.11	QP	LINE
4	0.22	-3.45	9.80	0.11	9.94	16.40	52.88	-36.48	Average	LINE
5	0.28	9.19	9.69	0.12	9.95	28.95	60.90	-31.95	QP	LINE
6	0.28	-2.50	9.69	0.12	9.95	17.26	50.90	-33.64	Average	LINE
7	0.92	9.71	9.68	0.23	9.97	29.59	56.00	-26.41	QP	LINE
8	0.92	6.62	9.68	0.23	9.97	26.50	46.00	-19.50	Average	LINE
9	0.96	8.25	9.69	0.24	9.97	28.15	56.00	-27.85	QP	LINE
10	0.96	6.16	9.69	0.24	9.97	26.06	46.00	-19.94	Average	LINE
11	1.92	5.56	9.80	0.26	9.99	25.61	56.00	-30.39	QP	LINE
12	1.92	0.47	9.80	0.26	9.99	20.52	46.00	-25.48	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.

8. Photos of the EUT

Please refer to DDT-Q24061321-1E appendix I

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