TEST REPORT

Product Name	:	Magnetic Wireless Power Bank
Brand Mark	:	FUTEJING
Model No.	:	C007
FCC ID	:	2BD9K-C007
Report Number	:	BLA-EMC-202312-A3202
Date of Sample Receipt	:	2023/12/14
Date of Test	:	2023/12/18 to 2023/12/25
Date of Issue	:	2023/12/25
Test Standard	:	FCC PART 15 Subpart C
Test Result	:	Pass

Prepared for:

Shandong Battery Energy Co.,LTD
501, Liancheng International Building,No.758,Jingqi Road,
Huaiyin District, Jinan, Shandong

Prepared by:

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Review by: Sweely

Approved by: Blue Zheng

Date: 2023/12/25

BlueAsia of Technical Services(Shenzhen) Co.,Ltd. BLA

REPORT REVISE RECORD

Version No.	Date	Description
00	2023/12/25	Original

TABLE OF CONTENTS

1 TEST SUMMARY

Item	FCC Part No.	Description of Test	Result
1	FCC PART 15.207	Conducted emission	Pass
2	FCC PART 15.209	Radiated emission	Pass
3	FCC Part 15.215	20dB bandwidth	Pass

2 GENERAL INFORMATION

Applicant	Shandong Battery Energy Co.,LTD
Address	501, Liancheng International Building,No.758,Jingqi Road, Huaiyin District, Jinan, Shandong
Manufacturer	Shandong Battery Energy Co.,LTD
Address	501, Liancheng International Building,No.758,Jingqi Road, Huaiyin District, Jinan, Shandong
Factory	Shandong Zhichong Energy Storage Technology Co., LTD
Address	3542, Building 9, Taishan Science and Technology Industrial Park, Yitianmen Street, High-tech Zone, Tai 'an City, Shandong Province
Product Name	Magnetic Wireless Power Bank
Test Model No.	C007

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	JT9317-W002-15W-V1.3
Software Version	9317Q-1B54
Operation Frequency:	110-205KHz
Modulation type:	Backscatter modulation
Antenna Type:	Inductive loop coil Antenna
Antenna Gain:	0dBi (Max)
Supply Power:	Type-C Out/Input: 9V/2A;12V/1.5A Wireless Out/Input: 5W/7.5W/10W/15W (Max)

4 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
TM1	Keep the EUT in wireless discharging mode
Remark:Only the data of the worst mode would be recorded in this report.	

5 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission	±4.34dB
Radiated Emission	±4.24dB
Radiated Emission	±4.68dB
AC Power Line Conducted Emission	±3.45dB

6 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
AC Adapter	QCY	PB23GN202GBA	N/A	From lab
Wireless charging mutagen	YBZ	N/A	N/A	N/A

7 LABORATORY LOCATION

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

8 TEST INSTRUMENTS LIST

Test Equipment Of Radiated Spurious Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber 1	SKET	966	N/A	2023/11/16	2026/11/15
Chamber 2	SKET	966	N/A	2021/07/20	2024/07/19
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29
Receiver	R&S	ESR7	101199	2023/08/30	2024/08/29
Receiver	R&S	ESPI7	101477	2023/07/07	2024/07/06
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2022/10/12	2025/10/11
Horn Antenna	Schwarzbeck	BBHA9120D	01892 P:00331	2022/09/13	2025/09/12
Horn Antenna	Schwarzbeck	BBHA 9170	1106	2022/04/24	2024/04/23
Amplifier	SKET	LNPA_30M01G-30	SK2021060801	2023/07/07	2024/07/06
Amplifier	SKET	PA-000318G-45	N/A	2023/08/30	2024/08/29
Amplifier	SKET	LNPA_18G40G-50	SK2022071301	2023/07/14	2024/07/13
Filter group	SKET	2.4G/5G Filter group r	N/A	2023/07/07	2024/07/06
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2022/09/14	2025/09/13
1kHZ calibration audio source	SKET	MCS-ABT-C35	N/A	2023/09/04	2024/09/03
Free Field Microphone	SKET	MGS MP 663	0414	2023/09/04	2024/09/03
Audio shielding box	SKET	SB-ABT-C35	N/A	2023/03/30	2024/03/29
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A
Signal Generator DTV	ECREDIX	DSG-1000	N/A	N/A	N/A

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Shield room	SKET	833	N/A	2023/11/16	2025/11/15
Receiver	R&S	ESPI3	101082	2023/08/30	2024/08/29
LISN	R&S	ENV216	3560.6550.15	2023/08/30	2024/08/29
LISN	AT	AT166-2	AKK1806000003	2023/08/30	2024/08/29
ISN	TESEQ	ISNT8-cat6	53580	2023/08/30	2024/08/29
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01045	2023/07/07	2024/07/06
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01075	2023/07/07	2024/07/06
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of RF Conducted Test					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29
Spectrum	Agilent	N9020A	MY49100060	2023/08/30	2024/08/29
Spectrum	Agilent	N9020A	MY54420161	2023/08/30	2024/08/29
Signal Generator	Agilent	N5182A	MY47420955	2023/08/30	2024/08/29
Signal Generator	Agilent	N5181A	MY46240904	2023/07/07	2024/07/06
Signal Generator	R&S	CMW500	132429	2023/08/30	2024/08/29
BluetoothTester	Anritsu	MT8852B	06262047872	2023/08/30	2024/08/29
Power probe	DARE	RPR3006W	14I00889SN042	2023/09/01	2024/08/31
Power detection box	CDKMV	MW100-PSB	MW201020JYT	2023/07/07	2024/07/06
DCPowersupply	zhaoxin	KXN-305D	20K305D1221363	2023/08/30	2024/08/29
DCPowersupply	zhaoxin	RXN-1505D	19R1505D050168	2023/08/30	2024/08/29
2.4GHz/5GHz RF Test software	MTS	MTS 8310	Version 2.0.0.0	N/A	N/A
Audio Analyzer	Audio Precision	ATS-1	ATS141094	2023/07/07	2024/07/06

9 RADIATED SPURIOUS EMISSIONS

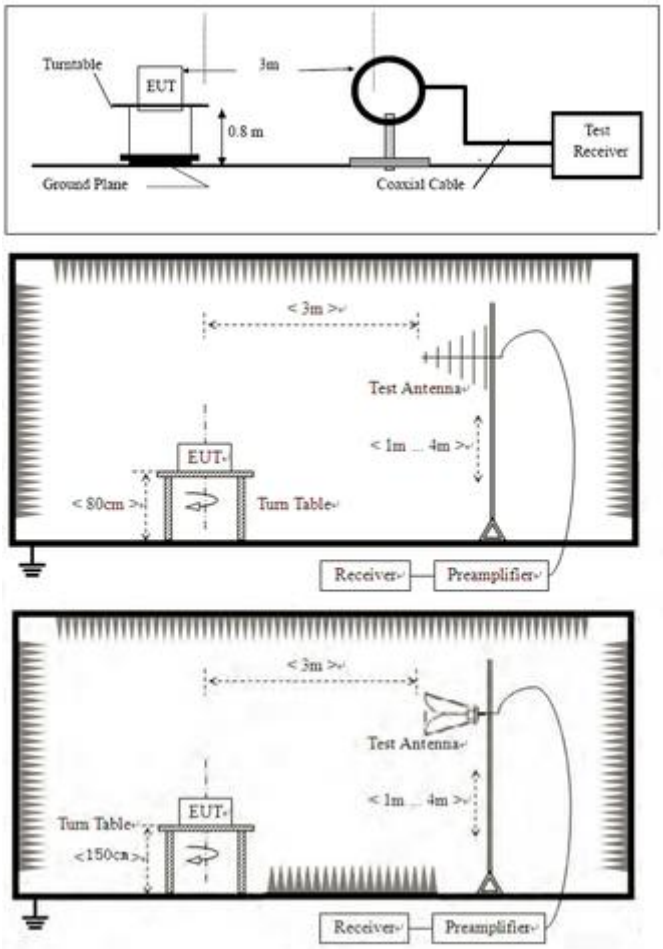
Test Standard	FCC PART 15.209
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TM1
Test Mode (Final Test)	TM1
Tester	York
Temperature	24℃
Humidity	51%

9.1 LIMITS

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

9.2 BLOCK DIAGRAM OF TEST SETUP



9.3 PROCEDURE

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

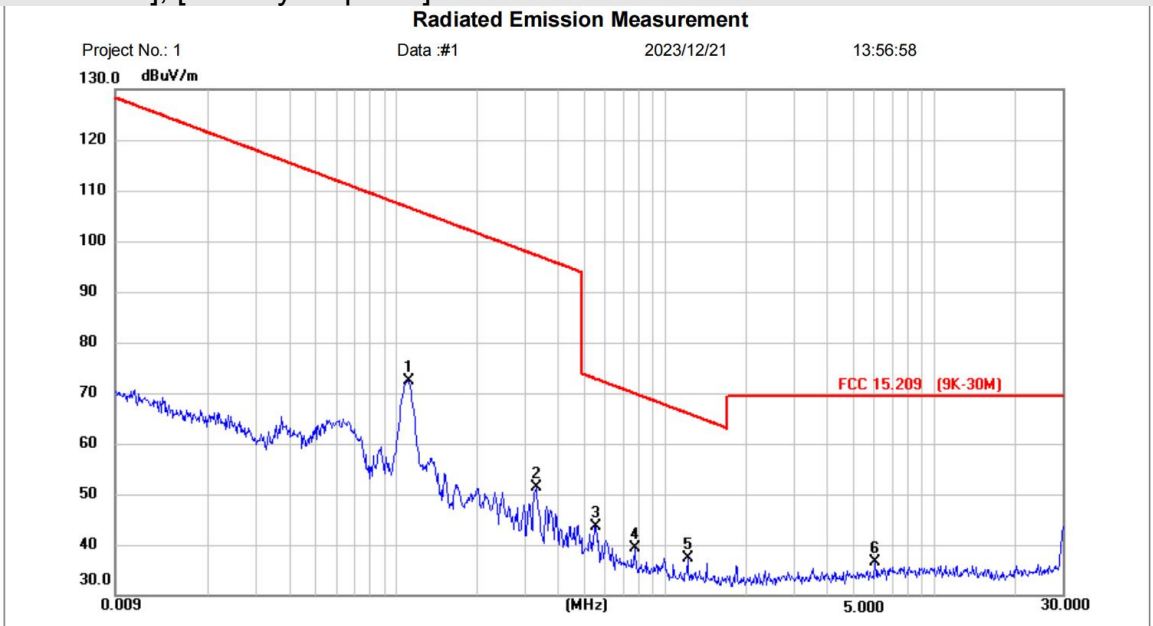
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.

Remark:
1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.fundamental frequency is blocked by filter, and only spurious emission is shown.
4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

9.4 TEST DATA

Below 1GHz

[TestMode: TX]; [Polarity: coplane]



Site
Limit: FCC 15.209 (9K-30M)
EUT: 5000mAh Magnetic Wireless Power Ba
M/N: C07
Mode: TM1
Note: X

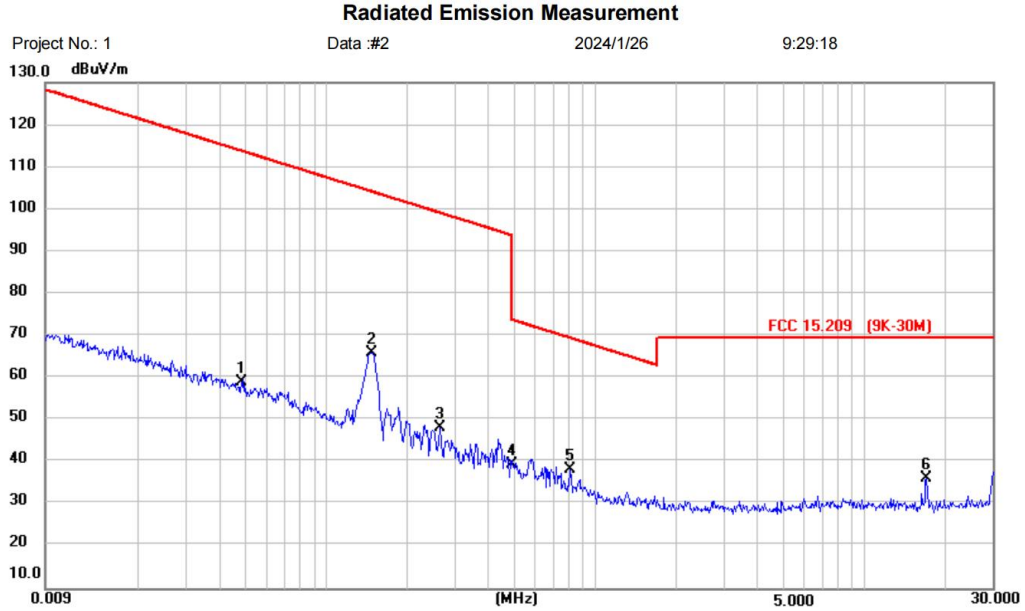
Polarization:
Power:

Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.1113	46.10	26.27	72.37	106.59	-34.22	peak	P	
2	0.3300	25.29	26.05	51.34	97.21	-45.87	peak	P	
3	0.5500	17.76	25.97	43.73	72.80	-29.07	peak	P	
4	0.7669	13.13	26.29	39.42	69.92	-30.50	peak	P	
5 *	1.2078	11.18	26.12	37.30	65.99	-28.69	peak	P	
6	6.0200	10.55	26.20	36.75	69.50	-32.75	peak	P	

Test Result: Pass

[TestMode: TX]; [Polarity: Coaxial]



Site
Limit: FCC 15.209 (9K-30M)
EUT: 5000mAh Magnetic Wireless Power Ba
M/N: C07
Mode: TM1
Note: Y

Polarization:
Power:

Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0482	39.02	19.89	58.91	113.82	-54.91	peak	P	
2	0.1478	45.74	20.19	65.93	104.15	-38.22	peak	P	
3	0.2649	28.17	20.06	48.23	99.11	-50.88	peak	P	
4	0.4909	19.51	19.91	39.42	73.78	-34.36	peak	P	
5 *	0.8052	17.99	20.32	38.31	69.50	-31.19	peak	P	
6	17.0028	16.20	19.95	36.15	69.50	-33.35	peak	P	

Test Result: Pass

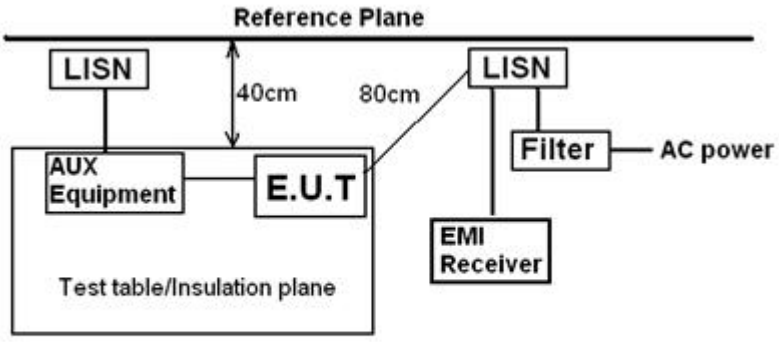
10 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

Test Standard	FCC PART 15.207
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TM1
Test Mode (Final Test)	TM1
Tester	York
Temperature	24℃
Humidity	51%

10.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

10.2 BLOCK DIAGRAM OF TEST SETUP



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

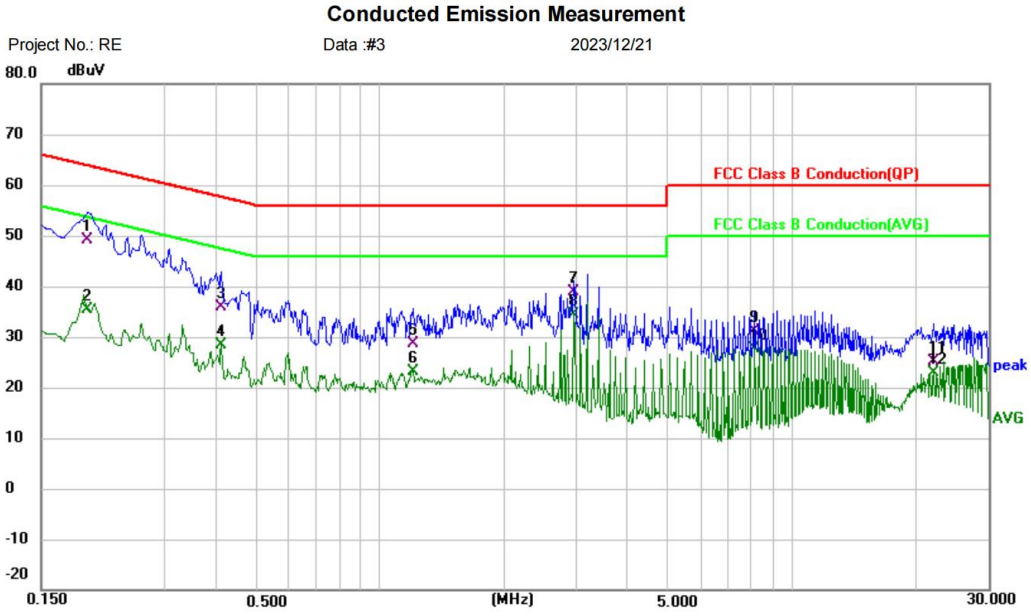
10.3 PROCEDURE

1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

10.4 TEST DATA

[TestMode: TM1]; [Line: Nutral]; [Power:120V/60Hz]

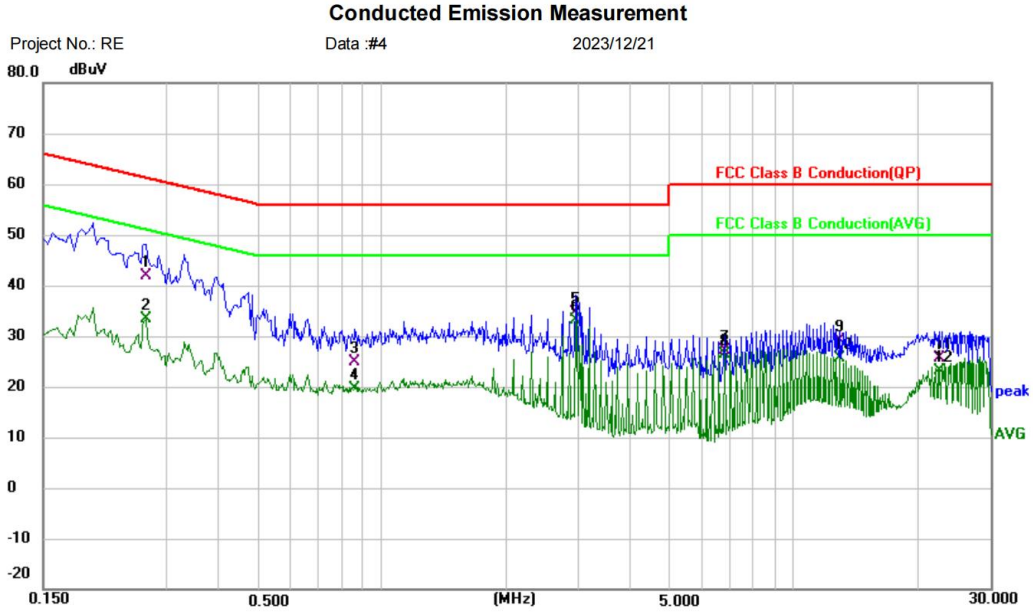


Site	Phase:	*L1*	Temperature: (C)
Limit: FCC Class B Conduction(QP)	Power:		Humidity: %RH
EUT: 5000mAh Magnetic Wireless Power Ba	Distance:	RBW: 9 KHz	
M/N: C07		VBW: 30 KHz	Sweep Time: 10 ms
Mode: TM1			
Note:			

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1		0.1940	38.76	10.30	49.06	63.86	-14.80	QP			
2		0.1940	24.96	10.30	35.26	53.86	-18.60	AVG			
3		0.4100	25.85	9.97	35.82	57.65	-21.83	QP			
4		0.4100	18.46	9.97	28.43	47.65	-19.22	AVG			
5		1.2020	18.77	9.86	28.63	56.00	-27.37	QP			
6		1.2020	13.34	9.86	23.20	46.00	-22.80	AVG			
7		2.9580	28.86	10.07	38.93	56.00	-17.07	QP			
8	*	2.9580	24.42	10.07	34.49	46.00	-11.51	AVG			
9		8.1059	19.97	11.11	31.08	60.00	-28.92	QP			
10		8.1059	16.64	11.11	27.75	50.00	-22.25	AVG			
11		22.1380	10.27	14.84	25.11	60.00	-34.89	QP			
12		22.1380	8.02	14.84	22.86	50.00	-27.14	AVG			

Test Result: Pass

[TestMode: TM1]; [Line: Line]; [Power:120V/60Hz]



Site	Phase:	*N*	Temperature: (C)
Limit: FCC Class B Conduction(QP)	Power:		Humidity: %RH
EUT: 5000mAh Magnetic Wireless Power Ba	Distance:	RBW: 9 KHz	
M/N: C07		VBW: 30 KHz	Sweep Time: 10 ms
Mode: TM1			
Note:			

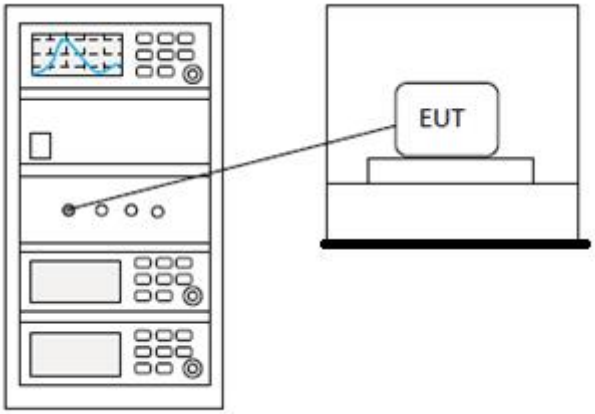
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1		0.2660	31.32	10.44	41.76	61.24	-19.48	QP			
2		0.2660	23.03	10.44	33.47	51.24	-17.77	AVG			
3		0.8580	14.94	9.89	24.83	56.00	-31.17	QP			
4		0.8580	9.84	9.89	19.73	46.00	-26.27	AVG			
5		2.9580	24.58	10.05	34.63	56.00	-21.37	QP			
6	*	2.9580	23.19	10.05	33.24	46.00	-12.76	AVG			
7		6.7940	16.22	10.94	27.16	60.00	-32.84	QP			
8		6.7940	15.34	10.94	26.28	50.00	-23.72	AVG			
9		12.9260	29.69	-0.55	29.14	60.00	-30.86	QP			
10		12.9260	26.15	-0.55	25.60	50.00	-24.40	AVG			
11		22.5620	10.78	14.78	25.56	60.00	-34.44	QP			
12		22.5620	8.44	14.78	23.22	50.00	-26.78	AVG			

Test Result: Pass

11 20DB BANDWIDTH

Test Standard	FCC Part 15.215
Test Method	ANSI C63.10 (2013) Section 7.8.7
Test Mode (Pre-Scan)	TM1
Test Mode (Final Test)	TM1
Tester	York
Temperature	24℃
Humidity	51%

11.1 BLOCK DIAGRAM OF TEST SETUP

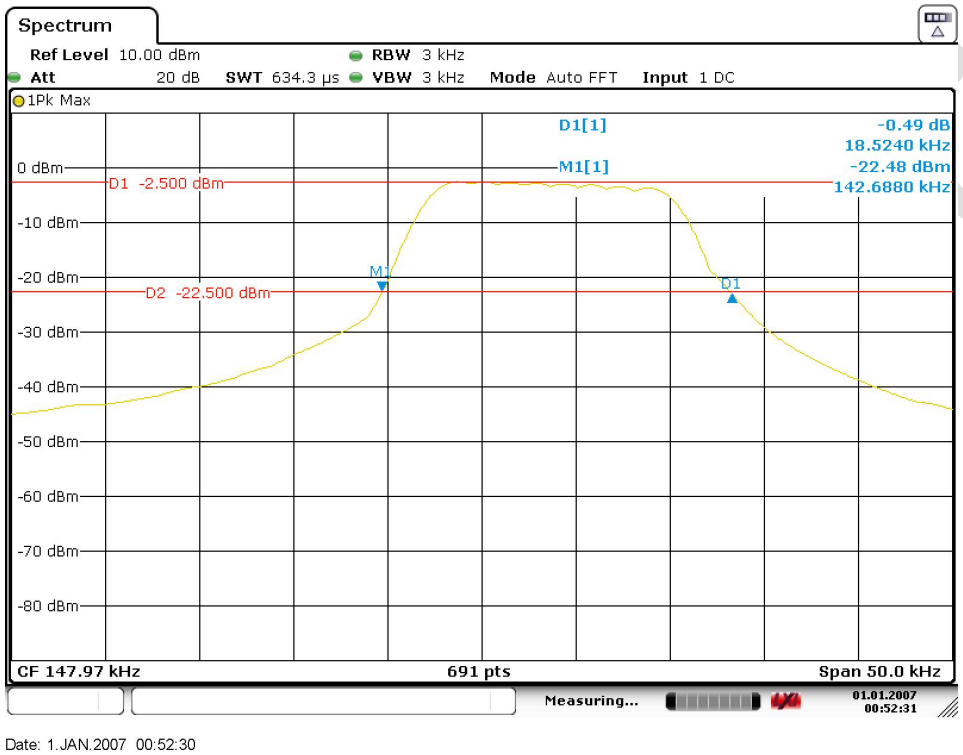


11.2 TEST DATA

Frequency (kHz)	20dB emission bandwidth (kHz)
147.97	18.524

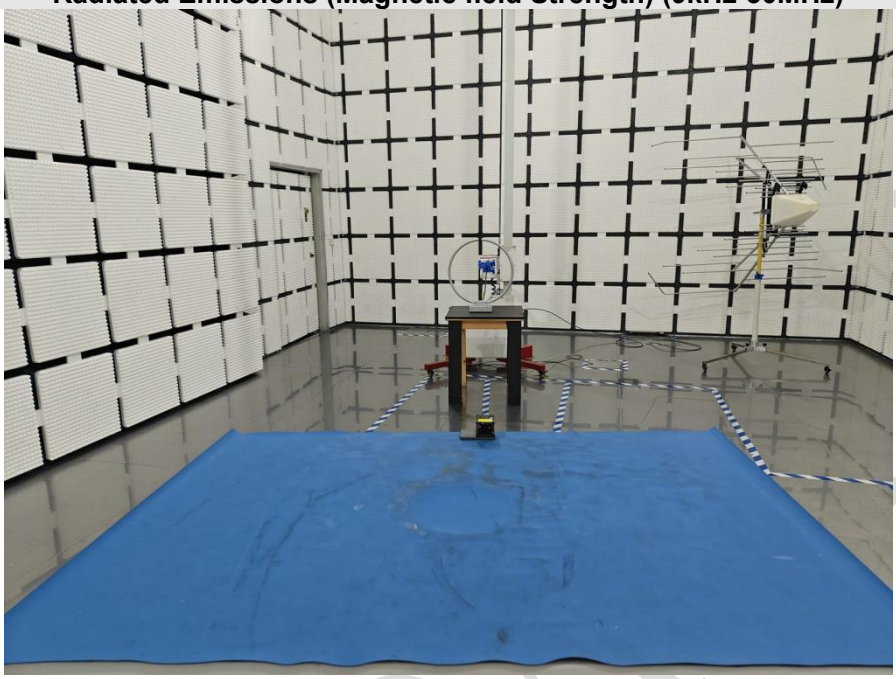
Test plots as below

KHz



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)



Conducted Emissions at Mains Terminals (150kHz-30MHz)

APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202312-A3201

----END OF REPORT----