Certificate #7130.01

FCC Radio Test Report

FCC ID: 2BGZ8-M001

This report concerns: Original Grant

Project No.	:	2409C114
Equipment	:	Wireless Power Bank
Brand Name	:	N/A
Test Model	:	M-001
Series Model	:	N/A
Applicant	:	Shenzhen Echarger technology Co., LTD.
Address	:	No.12,Yuling West Road, Longcheng Street Longgang District Shenzhen,Guangdong Province,China
Manufacturer	:	Shenzhen Echarger technology Co., LTD.
Address	:	No.12,Yuling West Road, Longcheng Street Longgang District Shenzhen,Guangdong Province,China
Factory	:	Shenzhen Echarger technology Co., LTD.
Address	:	No.12,Yuling West Road, Longcheng Street Longgang District Shenzhen,Guangdong Province,China
Date of Receipt	:	Sep. 10, 2024
Date of Test	:	Sep. 12, 2024 ~ Oct. 14, 2024
Issued Date	:	Oct. 28, 2024
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SSL2024091011
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Prepared by : Evan Yang

Evan Yang

Approved by : Chay Cai

Chay Cai

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents Page

Table of Contents

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-1-2409C114	R00	Original Report.	Oct. 28, 2024	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:
ANSI C63.10-2013

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	------
15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C	PASS	------
15.215(c)	Bandwidth	APPENDIX D	PASS	------
15.203	Antenna Requirement	------	PASS	Note(2)

NOTE:

(1) “N/A” denotes test is not applicable to this device.

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Dalang Town, Dongguan City, Guangdong People's Republic of China.
BTL's Registration Number for FCC: 747969
BTL's Designation Number for FCC: CN1377

2.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95.45% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. AC power line conducted emissions Measurement:

Test Site	Method	Measurement Frequency Range	*U*,(dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.88

B. Radiated emissions Measurement:

Test Site	Method	Measurement Frequency Range	*U*,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	*U*,(dB)
DG-CB03 (3m)	CISPR	30MHz ~ 200MHz	V	4.40
		30MHz ~ 200MHz	H	3.62
		200MHz ~ 1,000MHz	V	4.58
		200MHz ~ 1,000MHz	H	3.98

C. Other Measurement:

Test Item	Uncertainty
Bandwidth	0.90 %
Temperature	0.8 °C
Humidity	2.2 %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Date
AC Power Line Conducted Emissions	25°C	54%	AC 120V/60Hz	Hayden Chen	Sep. 18, 2024
Radiated Emissions-9kHz to 30MHz	23°C	45%	AC 120V/60Hz	Hayden Chen	Sep. 15, 2024
Radiated Emissions-30 MHz to 1GHz	22°C	51%	AC 120V/60Hz	Calvin Wen	Sep. 13, 2024
Bandwidth	23°C	57%	AC 120V/60Hz	Parker Yang	Oct. 14, 2024

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Power Bank
Brand Name	N/A
Test Model	M-001
Series Model	N/A
Model Difference(s)	N/A
Software Version	R9317ACQ
Hardware Version	HZ-XL24-V3
Power Source	Supplied from USB port and battery. Battery Model:
Power Rating	Rated Capacity: 5000mAh (3.7V/18.5WH) Wireless Output: 5W/7.5W/15W USB-C Input/Output: 5V/3A, 9V/2.22A, 12V/1.67A
Operation Frequency	110.5kHz-205kHz

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX Mode

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 1	TX Mode

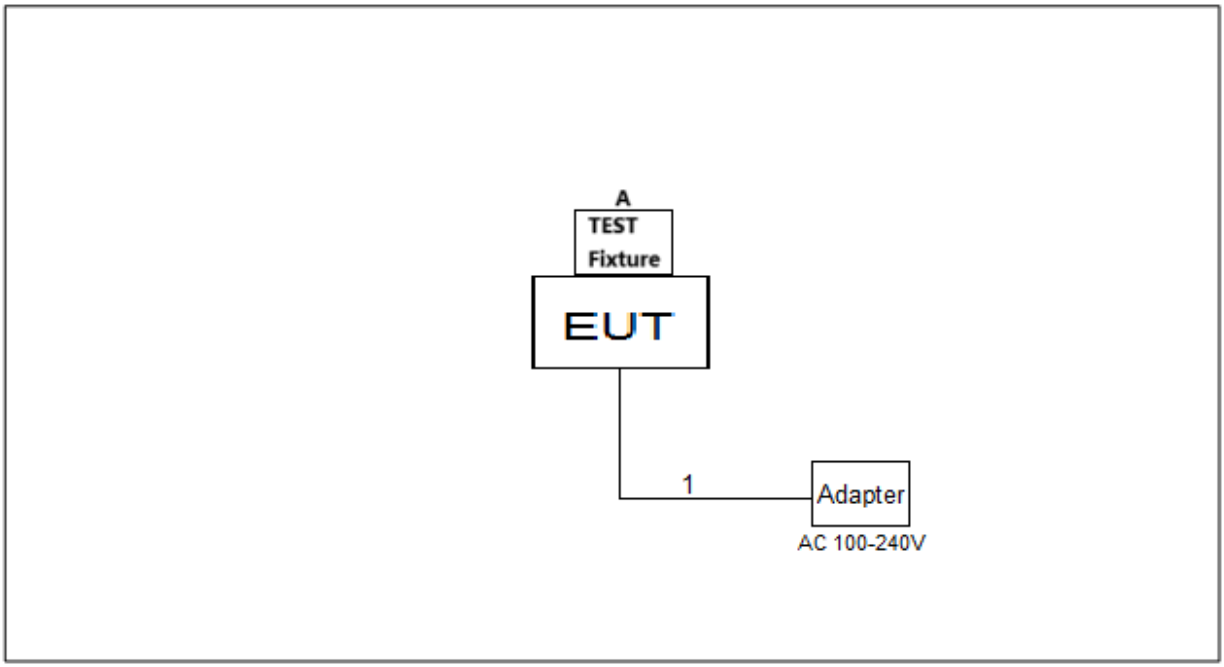
Radiated emissions test	
Final Test Mode	Description
Mode 1	TX Mode

Bandwidth test	
Final Test Mode	Description
Mode 1	TX Mode

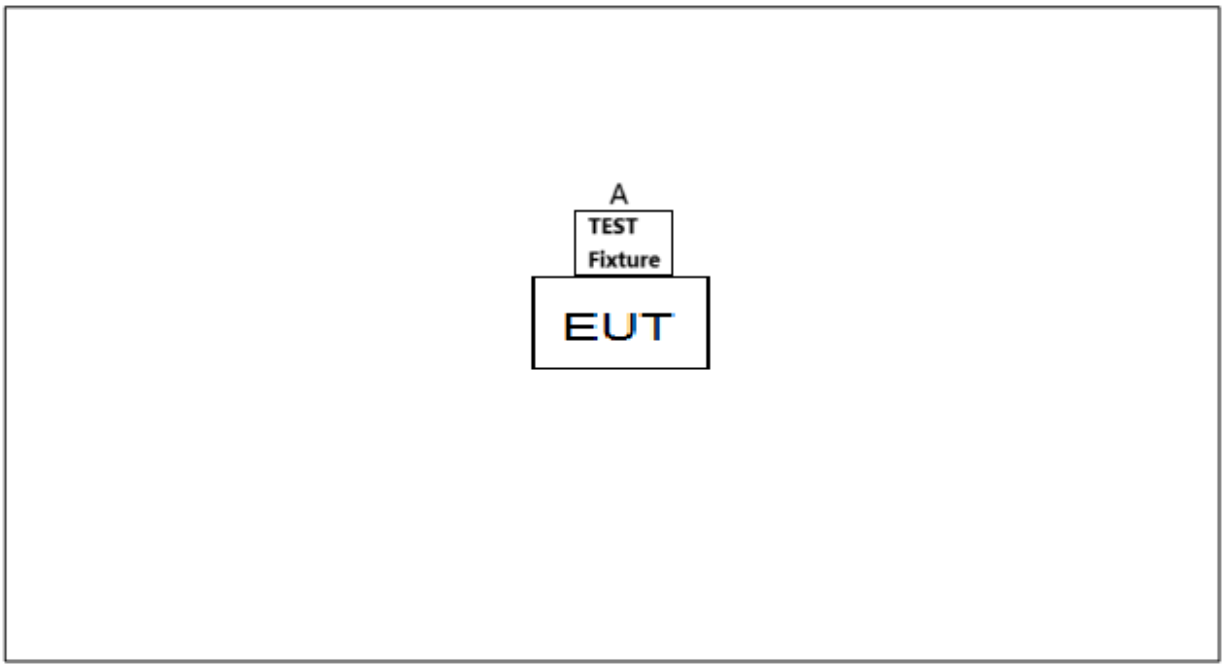
Note:
1) The EUT has the maximum average output power when the support unit is in low power and being charged by EUT.

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

For AC power line conducted emissions and Radiated Emissions-9kHz to 30MHz



For Radiated Emissions-30 MHz to 1GHz



3.4 SUPPORT UNITS

For AC power line conducted emissions

Item	Equipment	Brand	Model No.	Series No.
A	Test Fixture	N/A	N/A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	0.2m

For Radiated Emissions-9kHz to 30MHz

Item	Equipment	Brand	Model No.	Series No.
A	Test Fixture	N/A	N/A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	0.5m

For Radiated Emissions-30 MHz to 1GHz

Item	Equipment	Brand	Model No.	Series No.
A	Test Fixture	N/A	N/A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
-	-	-	-	-

3.5 CUSTOMER INFORMATION DESCRIPTION

Except for AC power line conducted emissions and radiated emissions, the results of all test items include cable losses. All cable losses are provided by the testing laboratory.

4. AC POWER LINE CONDUCTED EMISSIONS TEST

4.1 LIMIT

Frequency of Emission (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56*	56 to 46*
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note:

(1) The tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

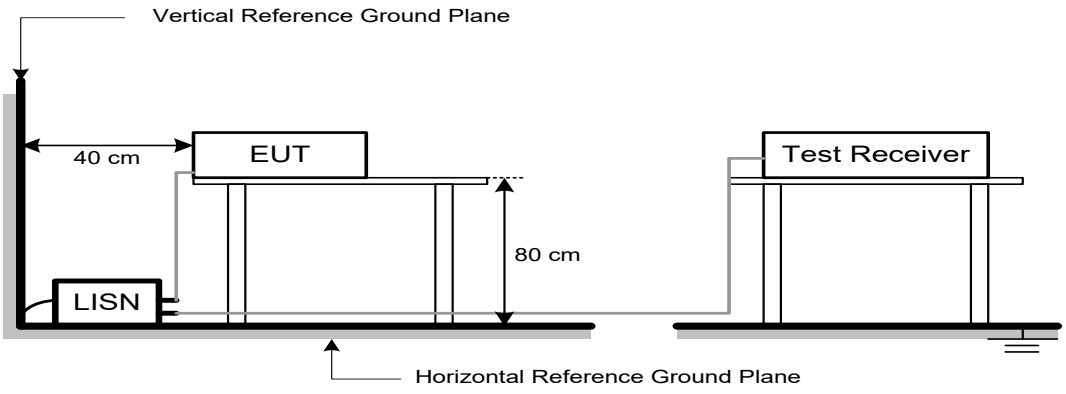
4.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

No deviation

4.4 TEST SETUP



4.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform.In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.

(2) Measuring frequency range from 150 kHz to 30 MHz.

5. RADIATED EMISSION TEST

5.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT(9 kHz-1000 MHz)

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

Note:

(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

5.2 TEST PROCEDURE

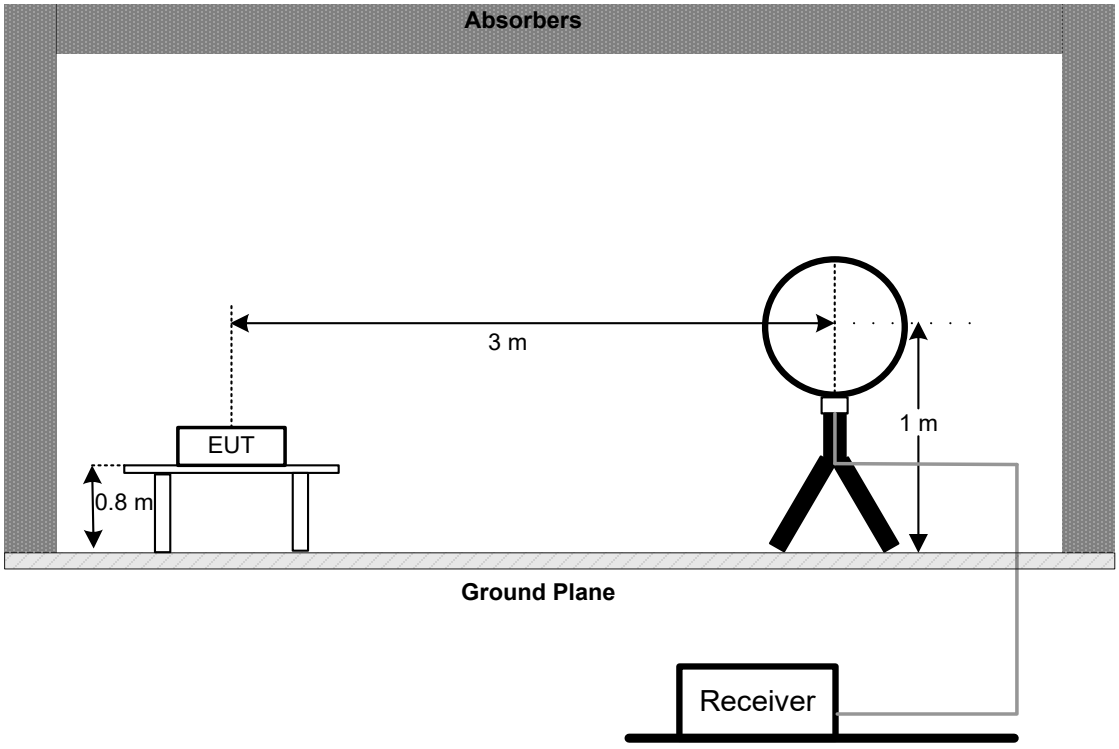
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
c. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
d. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.3 DEVIATION FROM TEST STANDARD

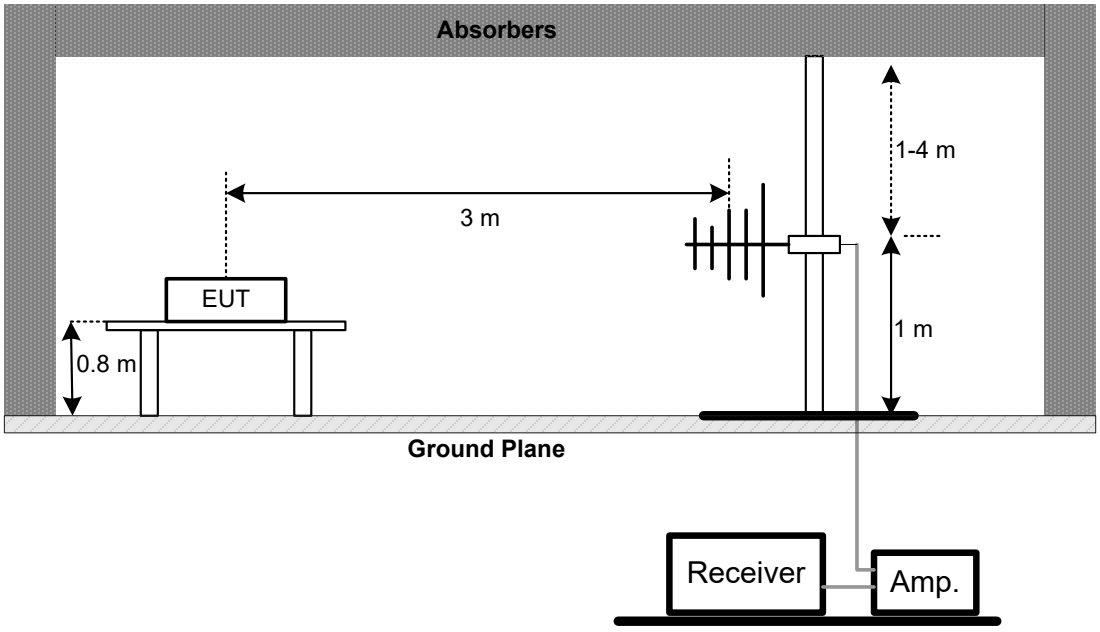
No deviation.

5.4 TEST SETUP

9 kHz-30 MHz



30 MHz to 1 GHz



5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX B

Remark:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).

(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

5.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

6. BANDWIDTH

6.1 LIMIT

Section	Test Item	Limit
15.215(c)	20 dB Bandwidth	-

6.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

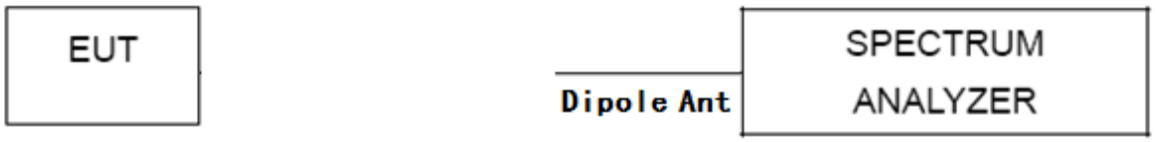
b. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Span Frequency	Between 2 times and 5 times the BW
RBW	Range of 1% to 5% of the BW
VBW	Approximately 3 times RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX D.

7. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI TEST RECEIVER	R&S	ESCI	100382	Dec. 22, 2024
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Dec. 22, 2024
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
4	Cable	N/A	SFT205-NMNM-9M-001	9M	Nov. 27, 2024
5	643 Shield Room	ETS	6*4*3	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60 B-034	Mar. 30, 2025
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 22, 2024
3	Cable	N/A	RW2350-3.8A-NMBM-1.5M	N/A	Jun. 09, 2025
4	Cable	N/A	LMR400-NMNM-8M	N/A	Sept. 09, 2025
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	966 Chamber room	ETS	9*6*6	N/A	May 16, 2025

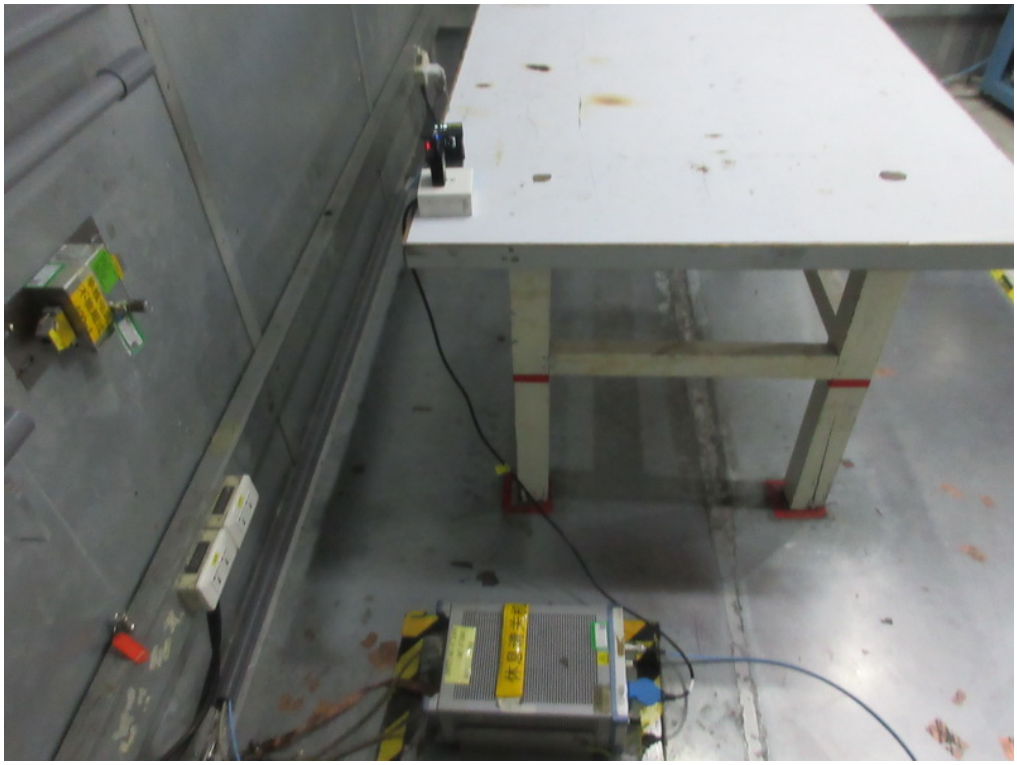
Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	1462	Dec. 13, 2024
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 13, 2024
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	Nov. 17, 2024
4	Cable	RegalWay	LMR400-NMNM-12.5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jun. 06, 2025
7	Receiver	Agilent	N9038A	MY52130039	Dec. 22, 2024
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	966 Chamber room	CM	9*6*6	N/A	May 16,2025

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	Aug. 20, 2025

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

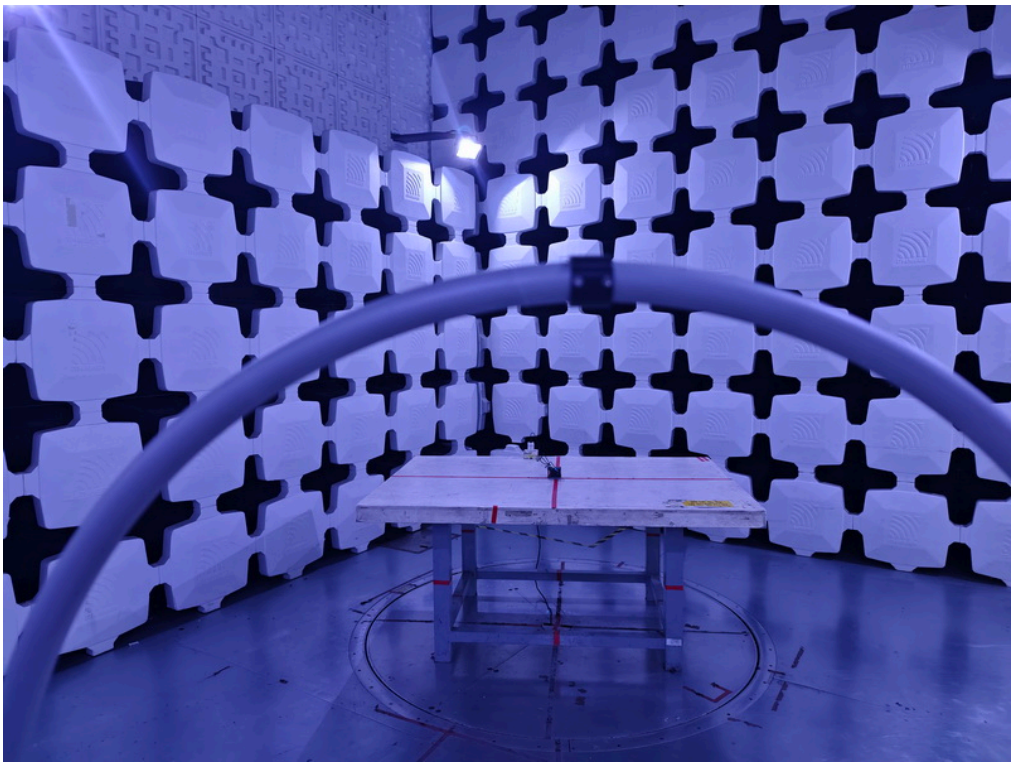
8. EUT TEST PHOTO

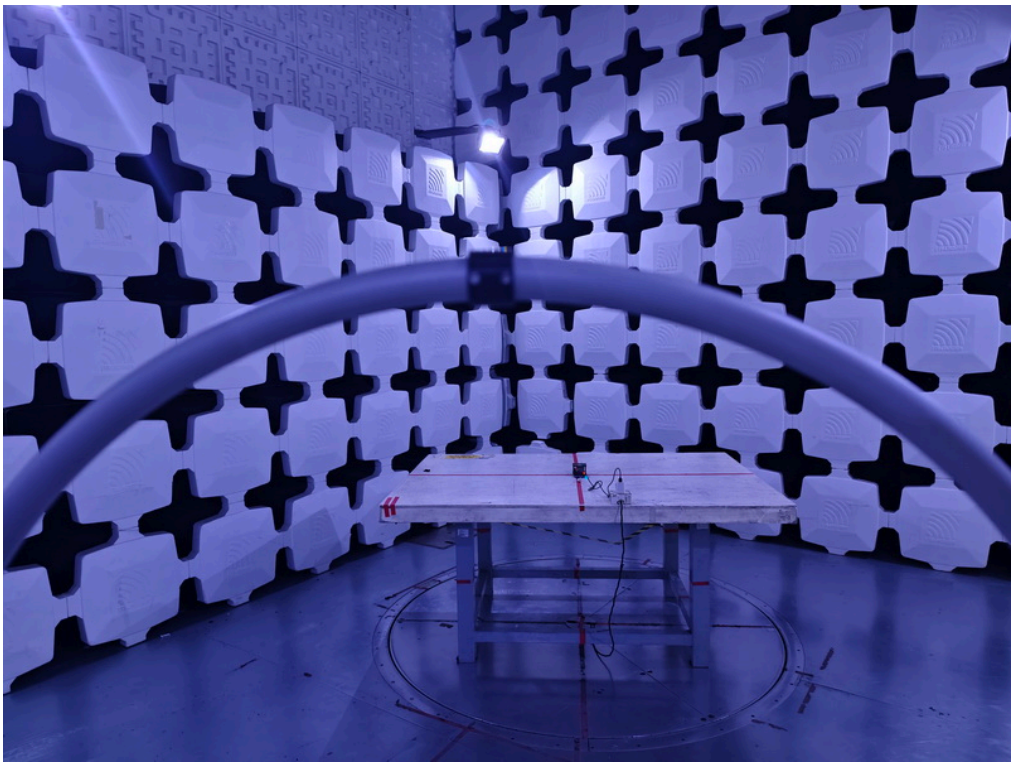
AC Power Line Conducted Emissions Test Photos



Radiated Emissions Test Photos

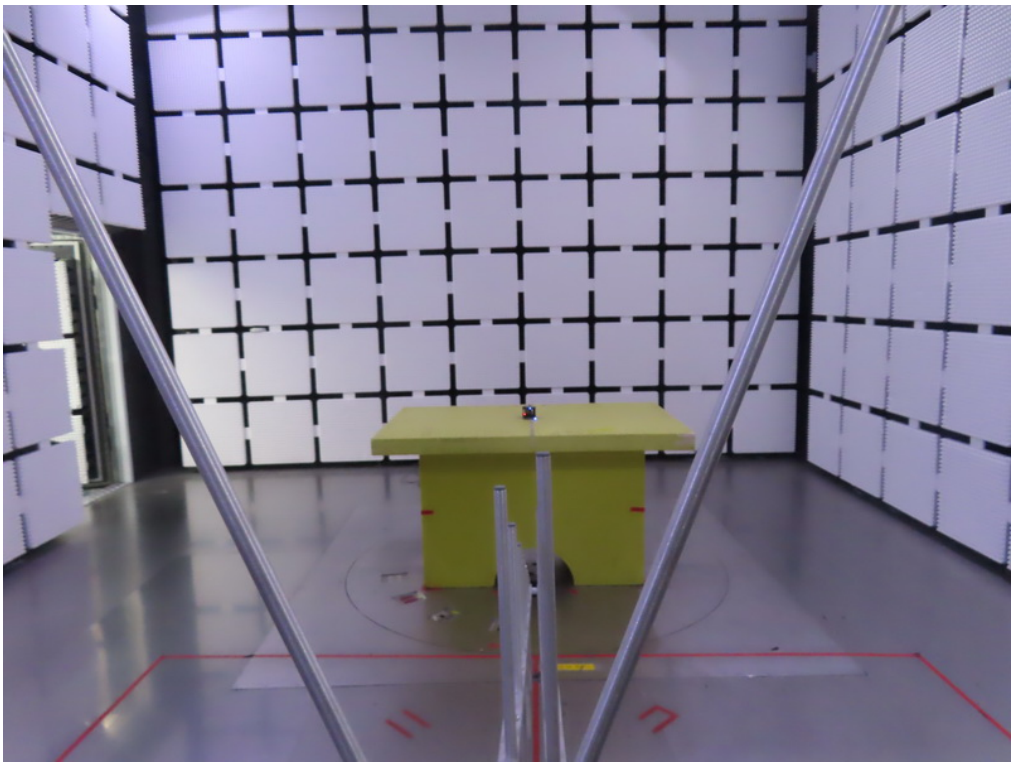
9 kHz to 30 MHz

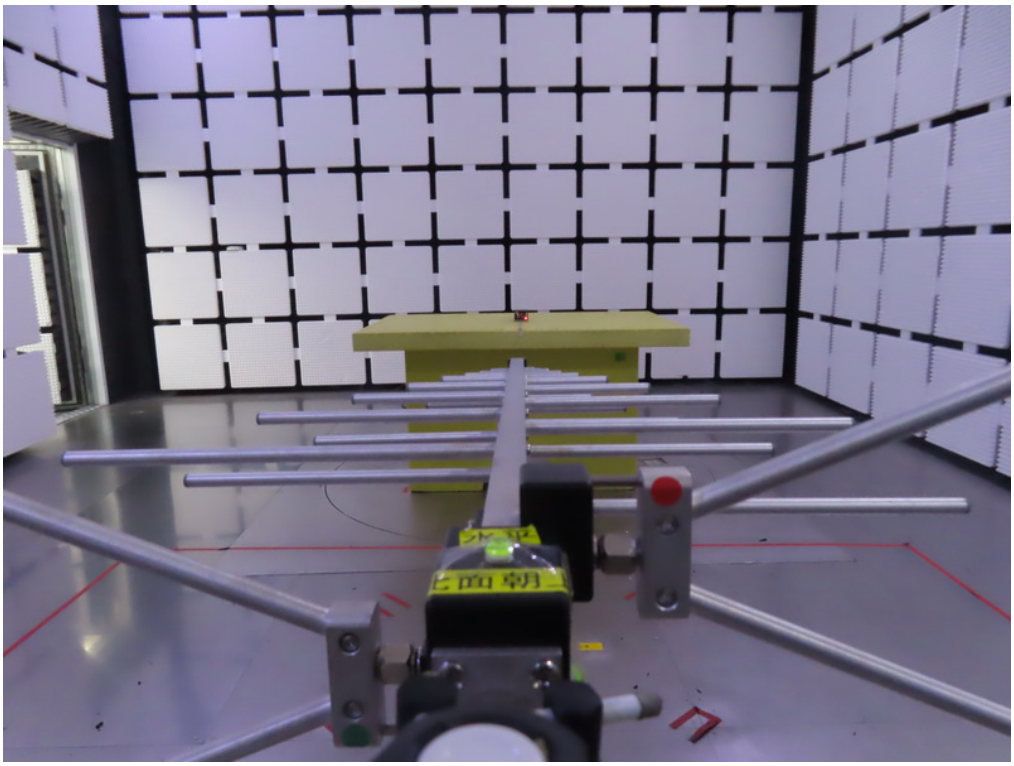




Radiated Emissions Test Photos

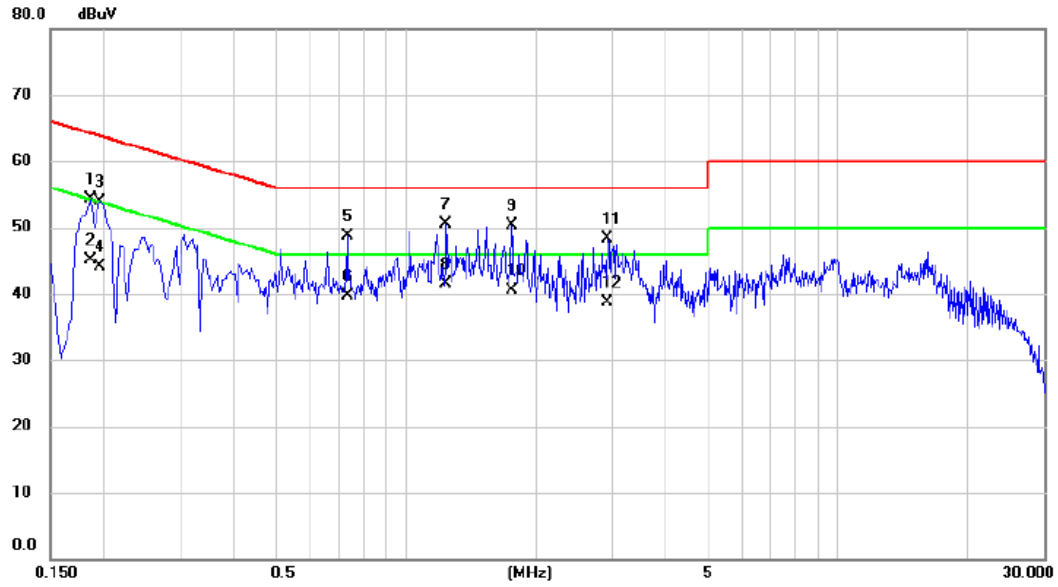
30 MHz to 1000 MHz





APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

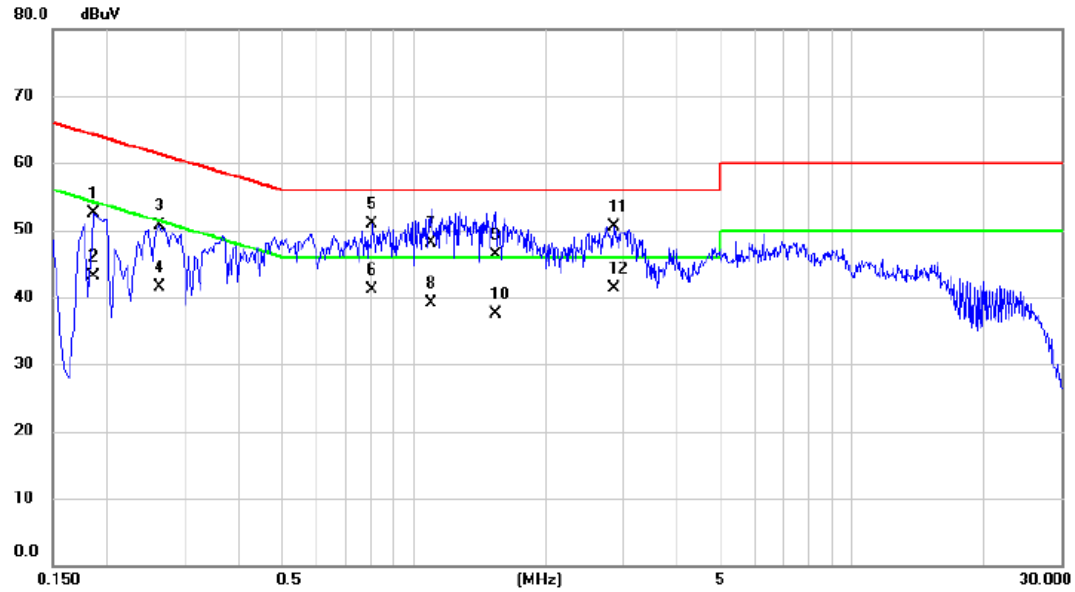
Test Mode	TX Mode	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1860	44.25	9.98	54.23	64.21	-9.98	QP	
2		0.1860	35.10	9.98	45.08	54.21	-9.13	AVG	
3		0.1950	43.92	9.98	53.90	63.82	-9.92	QP	
4		0.1950	34.10	9.98	44.08	53.82	-9.74	AVG	
5		0.7304	37.63	11.03	48.66	56.00	-7.34	QP	
6		0.7304	28.70	11.03	39.73	46.00	-6.27	AVG	
7		1.2390	39.19	11.31	50.50	56.00	-5.50	QP	
8	*	1.2390	30.10	11.31	41.41	46.00	-4.59	AVG	
9		1.7610	39.23	11.11	50.34	56.00	-5.66	QP	
10		1.7610	29.40	11.11	40.51	46.00	-5.49	AVG	
11		2.9355	37.77	10.51	48.28	56.00	-7.72	QP	
12		2.9355	28.10	10.51	38.61	46.00	-7.39	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode	Phase	Neutral

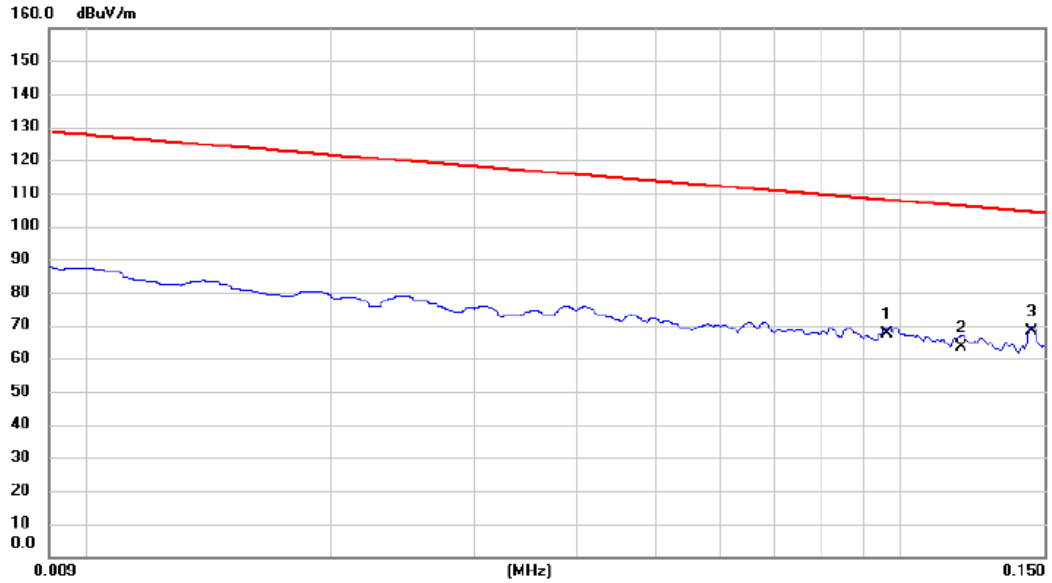


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1860	42.59	9.94	52.53	64.21	-11.68	QP	
2		0.1860	33.10	9.94	43.04	54.21	-11.17	AVG	
3		0.2625	40.57	10.06	50.63	61.35	-10.72	QP	
4		0.2625	31.50	10.06	41.56	51.35	-9.79	AVG	
5		0.8025	39.91	11.06	50.97	56.00	-5.03	QP	
6		0.8025	30.10	11.06	41.16	46.00	-4.84	AVG	
7		1.0995	36.90	11.24	48.14	56.00	-7.86	QP	
8		1.0995	27.80	11.24	39.04	46.00	-6.96	AVG	
9		1.5360	35.20	11.20	46.40	56.00	-9.60	QP	
10		1.5360	26.40	11.20	37.60	46.00	-8.40	AVG	
11		2.8545	40.40	10.19	50.59	56.00	-5.41	QP	
12	*	2.8545	31.20	10.19	41.39	46.00	-4.61	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

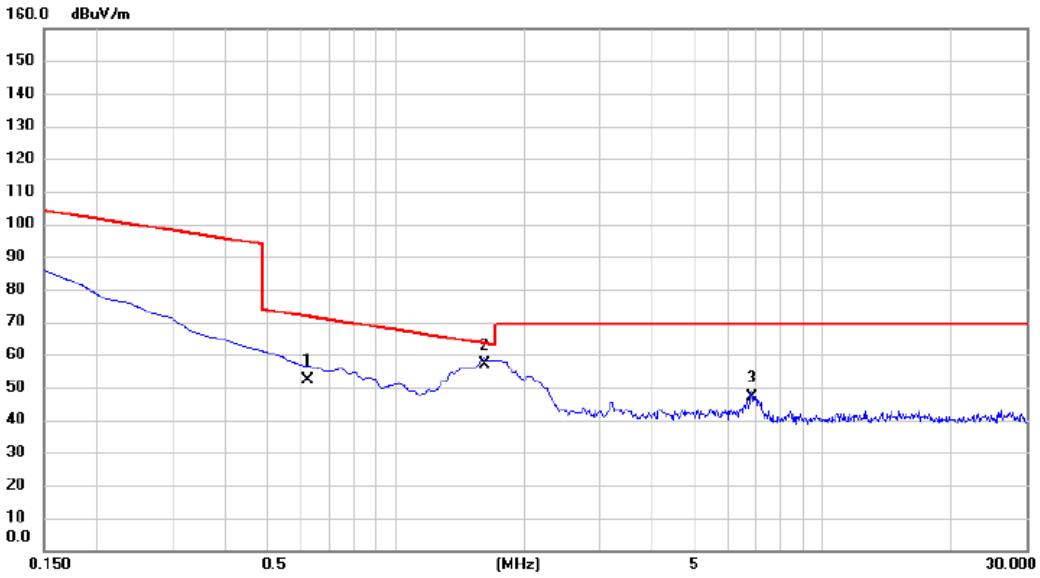
Test Mode	TX Mode	Polarization	Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0961	45.96	21.30	67.26	107.95	-40.69	QP	
2		0.1188	42.02	21.27	63.29	106.11	-42.82	AVG	
3	*	0.1448	46.98	21.23	68.21	104.39	-36.18	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

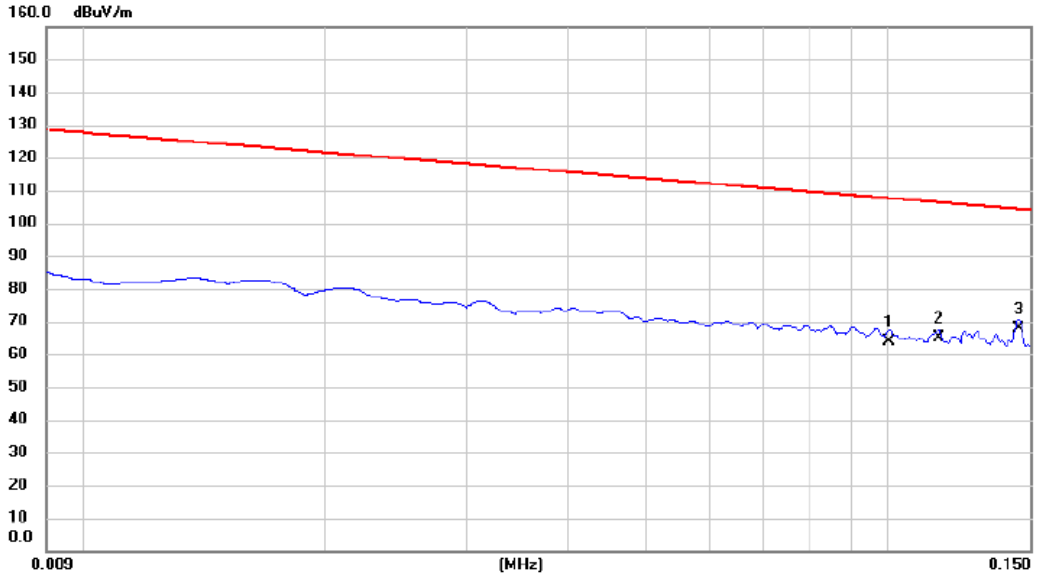
Test Mode	TX Mode	Polarization	Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.6238	30.98	21.04	52.02	71.70	-19.68	QP	
2	*	1.6126	36.14	21.04	57.18	63.45	-6.27	QP	
3		6.8065	25.87	21.00	46.87	69.54	-22.67	QP	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

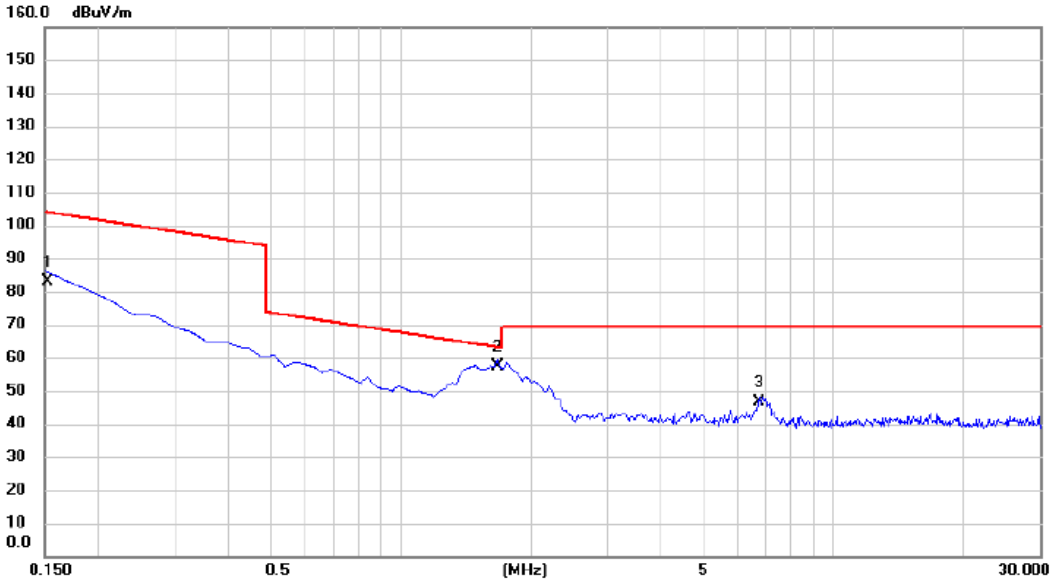
Test Mode	TX Mode	Polarization	Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1004	42.54	21.30	63.84	107.57	-43.73	QP	
2		0.1155	43.88	21.28	65.16	106.36	-41.20	AVG	
3	*	0.1452	46.58	21.23	67.81	104.37	-36.56	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode	Polarization	Ant 90°

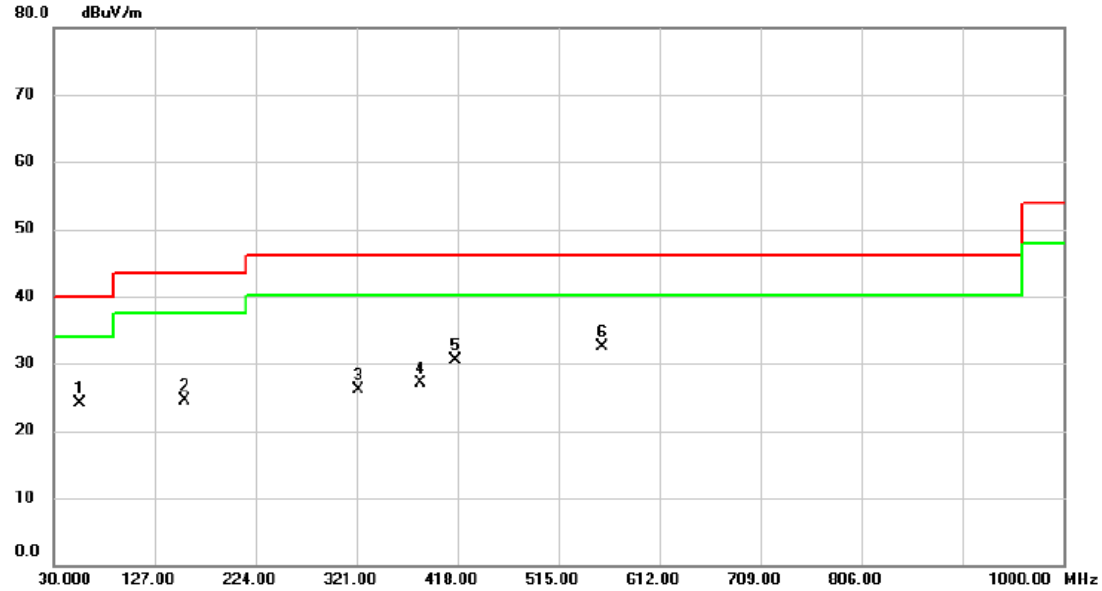


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1532	61.89	21.22	83.11	103.90	-20.79	AVG	
2	*	1.6724	36.52	21.03	57.55	63.14	-5.59	QP	
3		6.7470	25.41	21.00	46.41	69.54	-23.13	QP	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

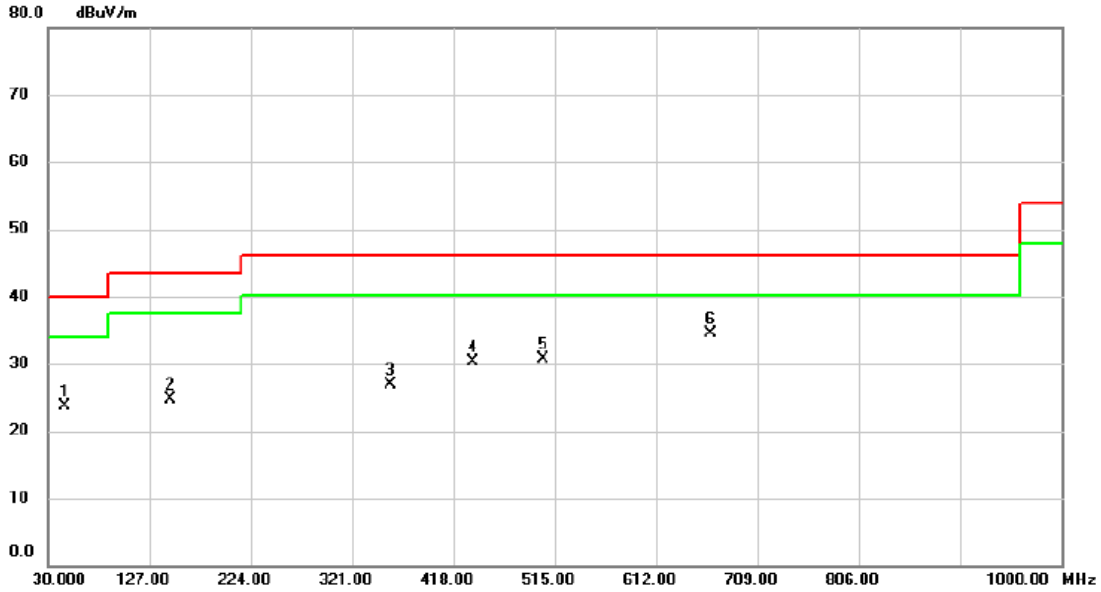
Test Mode	TX Mode	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		54.7350	35.64	-11.46	24.18	40.00	-15.82	peak	
2		155.6150	35.42	-10.98	24.44	43.52	-19.08	peak	
3		323.4250	35.95	-9.87	26.08	46.02	-19.94	peak	
4		382.5950	35.73	-8.54	27.19	46.02	-18.83	peak	
5		415.5750	38.08	-7.65	30.43	46.02	-15.59	peak	
6	*	556.7100	37.26	-4.81	32.45	46.02	-13.57	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		46.0050	35.06	-11.31	23.75	40.00	-16.25	peak	
2		147.3700	35.92	-11.31	24.61	43.52	-18.91	peak	
3		357.8600	36.34	-9.39	26.95	46.02	-19.07	peak	
4		436.9150	37.38	-7.10	30.28	46.02	-15.74	peak	
5		504.3300	36.65	-5.93	30.72	46.02	-15.30	peak	
6	*	664.3800	37.26	-2.68	34.58	46.02	-11.44	peak	

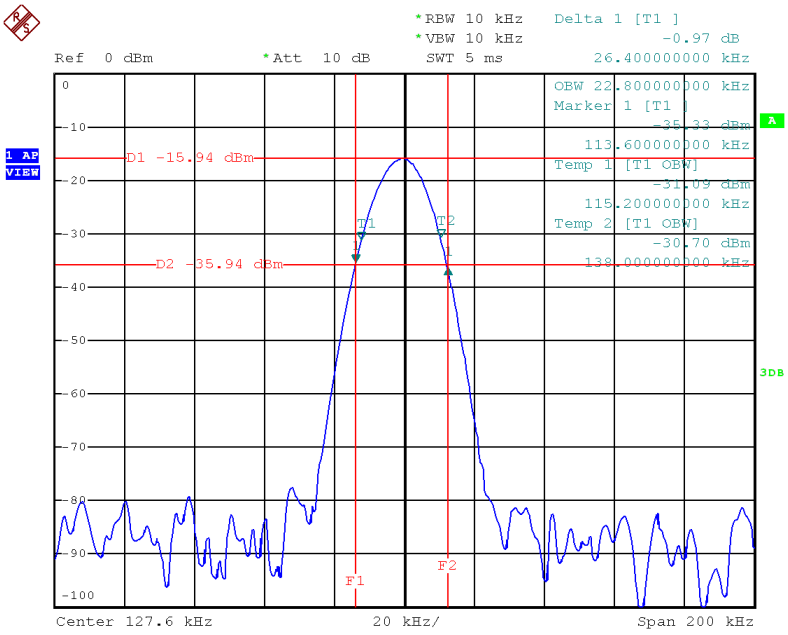
REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - BANDWIDTH

Test Mode	TX Mode

Frequency (kHz)	20 dB Bandwidth (kHz)	Result
127.6	22.800	Complies

20 dB Bandwidth



Date: 14.OCT.2024 09:14:35

End of Test Report