

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 1 of 23

TEST REPORT

Application No.: SHCR2410002189BA

FCC ID: 2BE24E2000

Applicant: JIANGSU JIANGHUAI ENGINE CO., LTD

Address of Applicant: No.58 Xiwang South Road, Economy developmental district, Yancheng,

Jiangsu, China

Manufacturer: JIANGSU JIANGHUAI ENGINE CO., LTD

Address of Manufacturer: No.58 Xiwang South Road, Economy developmental district, Yancheng,

Jiangsu, China

Factory: JIANGSU JIANGHUAI ENGINE CO., LTD

Address of Factory: No.58 Xiwang South Road, Economy developmental district, Yancheng,

Jiangsu, China

Equipment Under Test (EUT):

EUT Name: 2KW portable energy storage power supply

Model No.: E2000

Trade Mark: ALL-POWER

Standard(s): 47 CFR Part 15, Subpart C

Date of Receipt: 2024-10-31

Date of Test: 2024-11-01 to 2024-11-21

Date of Issue: 2024-11-22

Test Result: Pass*

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

^{*} In the configuration tested, the EUT complied with the standards specified above.



Revision Record				
Version	Description	Date	Remark	
00	Original	2024-11-22	/	

Authorized for issue by:		
Tested By	Wade thang	
	Wade Zhang/Project Engineer	-
Approved By	Parlam zhan	
	Parlam Zhan / Reviewer	-



Report No.: SHCR241000218901 Page: 3 of 23

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part					
Item	Standard	Method	Requirement	Result	
20dB Bandwidth		ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart C 15.215	Pass	
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	47 CFR Part 15,	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass	
Radiated Emissions (9kHz-30MHz)	Subpart C	ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	
Radiated Emissions (30MHz-1GHz)		ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	



Report No.: SHCR241000218901 Page: 4 of 23

3 **Contents**

		Page
1	1 COVER PAGE	1
2	2 Test Summary	3
3	3 Contents	
4		
	4.1 Details of E.U.T.	
	4.2 Description of Support Units	
	4.4 Test Location	
	4.5 Test Facility	
	4.6 Deviation from Standards	
	4.7 Abnormalities from Standard Conditions	
5	5 Equipment List	7
6	8 Radio Spectrum Technical Requirement	8
	6.1 Antenna Requirement	
	6.1.1 Test Requirement:	
	6.1.2 Conclusion	
7	7 Radio Spectrum Matter Test Results	9
	7.1 20dB Bandwidth	g
	7.1.1 E.U.T. Operation	
	7.1.2 Test Mode Description	
	7.1.3 Test Setup Diagram	
	7.2 Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	
	7.2.1 E.U.T. Operation	
	7.2.2 Test Mode Description	
	7.2.3 Test Setup Diagram	
	7.2.4 Measurement Procedure and Data	
	7.3.1 E.U.T. Operation	
	7.3.2 Test Mode Description	
	7.3.3 Test Setup Diagram	
	7.3.4 Measurement Procedure and Data	
	7.4 Radiated Emissions (30MHz-1GHz)	
	7.4.1 E.0.1. Operation	
	7.4.3 Test Setup Diagram	
	7.4.4 Measurement Procedure and Data	
8	3 Test Setup Photo	23
9	9 EUT Constructional Details (EUT Photos)	23
J	, LU I CONSTIUCTIONAL DETAILS (LU I FINCUS)	



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 5 of 23

4 General Information

4.1 Details of E.U.T.

Power supply:	AC120V 60Hz (DC51.1V Li-ion Battery)
	Wireless Charging: 15W Max
Test Voltage:	AC120V 60Hz
Operation frequency:	110kHz to 205kHz
Modulation type:	Load modulation
Antenna type:	Inductive Loop Coil Antenna

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Resistance load	-	-	-

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4 x 10 ⁻⁸
2	Timeout	2s
3	Duty cycle	0.4%
4	Occupied Bandwidth	3%
5	DE Dadiated newer	5.2dB (Below 1GHz)
Э	RF Radiated power	5.9dB (Above 1GHz)
		4.2dB (Below 30MHz)
6	Dadiated Caurious amission test	4.5dB (30MHz-1GHz)
0	Radiated Spurious emission test	5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
7	Temperature test	1°C
8	Humidity test	3%
9	Supply voltages	1.5%
10	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 6 of 23

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab 588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

Note:

- 1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc.) is provided by the applicant. (if applicable).
- 2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).
- 3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 6332.01)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

• FCC (Designation Number: CN1301)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

• ISED (CAB Identifier: CN0020)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 8617A

• VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



Report No.: SHCR241000218901 Page: 7 of 23

Equipment List 5

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Radiated Test					
EMI test Receiver	R&S	ESU40	SHEM051-1	2023-12-19	2024-12-18
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2023-12-19	2024-12-18
Communication Tester	R&S	CMW500	SHEM268-1	2024-05-23	2025-05-22
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2023-12-19	2024-12-18
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2023-09-03	2025-09-02
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM202-1	2023-04-17	2025-04-16
Horn Antenna (1-18GHz)	Schwarzbeck	HF906	SHEM009-1	2024-08-05	2026-08-04
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2023-09-03	2025-09-02
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2023-09-03	2025-09-02
Pre-Amplifier	HP	8447D	SHEM236-1	2023-12-19	2024-12-18
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2023-12-19	2024-12-18
Band Filter	LORCH	9BRX-875/X150	SHEM156-1	/	/
Band Filter	LORCH	13BRX-1950/X500	SHEM083-2	/	/
Band Filter	LORCH	5BRX-2400/X200	SHEM155-1	/	/
Band Filter	LORCH	5BRX-5500/X1000	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2023-05-06	2026-05-05
RE test Cable	/	PT18-NMNM-10M	SHEM217-2	2023-12-19	2024-12-18
Test software	ESE	E3	Version: 6.111221a	/	/

Conducted Emissions at AC Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2023/12/19	2024/12/18
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2023/12/19	2024/12/18
Line impedance stabilization network	EMCO	3816_2	SHEM019-1	2023/12/19	2024/12/18
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2023/12/19	2024/12/18
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2023/12/19	2024/12/18
CE test Cable	/	/	SHEM172-1	2023/12/19	2024/12/18
Test Software	ESE	e3	Version: 6.191211	N/A	N/A



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 8 of 23

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is Inductive Loop Coil Antenna and no consideration of replacement. Refer to internal photos



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 9 of 23

7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215 Test Method: ANSI C63.10 (2013) Section 6.9.2

Limit:

For report reference only

7.1.1 E.U.T. Operation

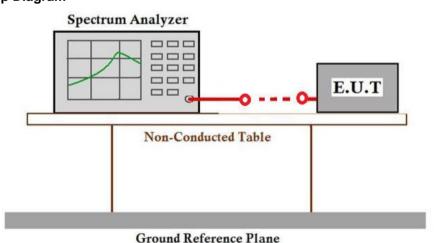
Operating Environment:

Temperature: 22.6 °C Humidity: 41.2 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
	00	Wireless Output (The load shall be set at empty load (0W)).
Pre-scan	01	Wireless Output (The load shall be set at half load (7.5W)).
	02	Wireless Output (The load shall be set at full load (15W)).
Final test	02	Wireless Output (The load shall be set at full load (15W)).

7.1.3 Test Setup Diagram





SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

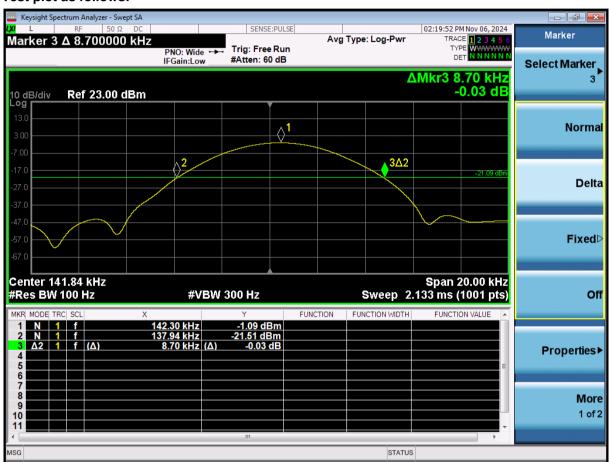
Page: 10 of 23

7.1.4 Measurement Procedure and Data

Test Mode 00

Frequency(kHz) 20dB bandwidth (Hz)		Result
141.84	8700	Pass

Test plot as follows:





SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 11 of 23

7.2 Conducted Emissions at AC Mains Power Port (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

ak Average * 56 to 46*	
* 56 to 46*	
30 10 40	
46	
50	
_	

7.2.1 E.U.T. Operation

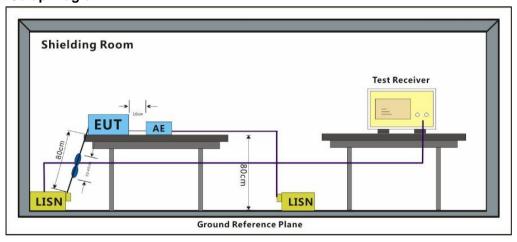
Operating Environment:

Temperature: 22.6 °C Humidity: 60.9 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
	00	Wireless Output (The load shall be set at empty load (0W)).
Pre-scan	01	Wireless Output (The load shall be set at half load (7.5W)).
	02	Wireless Output (The load shall be set at full load (15W)).
Final test	02	Wireless Output (The load shall be set at full load (15W)).

7.2.3 Test Setup Diagram





SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 12 of 23

7.2.4 Measurement Procedure and Data

- 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 $50 \text{ohm}/50 \mu\text{H} + 5 \text{ohm}$ 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.

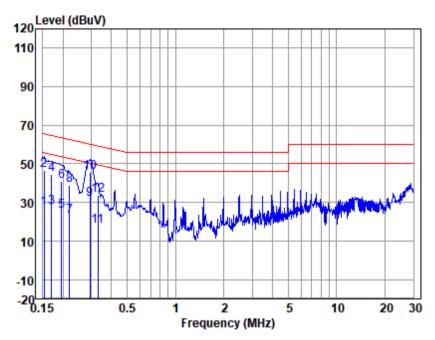
Remark: Level=Read Level+ Cable Loss+ LISN Factor



Report No.: SHCR241000218901

Page: 13 of 23

Test Mode: 02; Line: Live line



LISN : LINE EUT/Project No: 2189BA

Test Mode :02

	Freq	Read	LISN	Cable	Emission		0ver	
		level	Factor	Loss	Level	Limit	Limit	Remark
	(MHz)	(dBuV)	(dB)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.15	16.35	0.50	9.90	26.75	55.87	-29.12	Average
2	0.15	36.08	0.50	9.90	46.48	65.87	-19.39	QP
3	0.17	17.15	0.50	9.90	27.55	54.99	-27.44	Average
4	0.17	34.31	0.50	9.90	44.71	64.99	-20.28	QP
5	0.20	14.96	0.50	9.90	25.36	53.76	-28.40	Average
6	0.20	30.80	0.50	9.90	41.20	63.76	-22.56	QP
7	0.22	12.56	0.47	9.90	22.93	52.83	-29.90	Average
8	0.22	28.59	0.47	9.90	38.96	62.83	-23.87	QP
9	0.29	21.58	0.37	9.90	31.85	50.41	-18.56	Average
10	0.29	35.09	0.37	9.90	45.36	60.41	-15.05	QP
11	0.33	7.59	0.34	9.90	17.83	49.49	-31.66	Average
12	0.33	23.33	0.34	9.90	33.57	59.49	-25.92	QP
				- A - C - C - C - C - C - C - C - C - C	1		c 1 1 1	

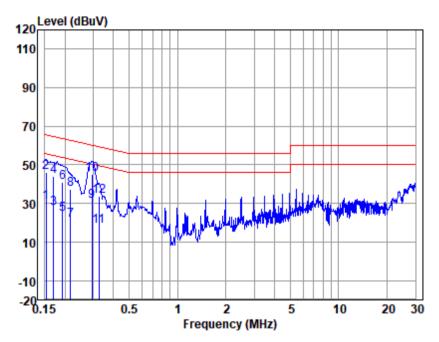
Notes: Emission Level = Read Level +LISN Factor + Cable loss



Report No.: SHCR241000218901

Page: 14 of 23

Test Mode: 02; Line: Neutral Line



: NEUTRAL LISN EUT/Project No: 2189BA

Test Mode :02

	Freq	Read	LISN	Cable	Emission	1	0ver			
		level	Factor	Loss	Level	Limit	Limit	Remark		
	(MHz)	(dBuV)	(dB)	(dB)	(dBuV)	(dBuV)	(dB)			
1	0.15	20.25	0.34	9.90	30.49	55.82	-25.33	Average		
2	0.15	35.82	0.34	9.90	46.06	65.82	-19.76	QP		
3	0.17	17.36	0.32	9.90	27.58	54.99	-27.41	Average		
4	0.17	33.85	0.32	9.90	44.07	64.99	-20.92	QP		
5	0.19	14.44	0.30	9.90	24.64	53.89	-29.25	Average		
6	0.19	30.97	0.30	9.90	41.17	63.89	-22.72	QP		
7	0.22	11.23	0.30	9.90	21.43	52.96	-31.53	Average		
8	0.22	27.07	0.30	9.90	37.27	62.96	-25.69	QP		
9	0.29	20.83	0.30	9.90	31.03	50.41	-19.38	Average		
10	0.29	34.77	0.30	9.90	44.97	60.41	-15.44	QP		
11	0.33	8.10	0.30	9.90	18.30	49.57	-31.27	Average		
12	0.33	23.64	0.30	9.90	33.84	59.57	-25.73	QP		
No	Notes: Emission Level = Read Level +LISN Factor + Cable loss									



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 15 of 23

7.3 Radiated Emissions (9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4

Limit:

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

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. 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.

If field strength is measured at only a single point, then that point shall be at the radial from the EUT that produces the maximum emission at the frequency being measured, as described in 5.4. If that point is closer to the EUT than $\lambda/2\pi$ and the limit distance is greater than $\lambda/2\pi$, the measurement shall be extrapolated to the limit distance by conservatively presuming that the field strength decreases at a 40 dB/decade of distance rate to the $\lambda/2\pi$ distance, and at a 20 dB/decade of distance rate beyond $\lambda/2\pi$. This shall be accomplished using Equation (2):

$$FS_{(10m)} = FS_{(30/300m)} + 40log\{d_{(near field)}/d_{(10m)}\} + 20log\{d_{(30/300m)}/d_{(near field)}\}$$
(2)

If the single point measured is at a distance greater than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (3):

$$FS_{(10m)} = FS_{(30/300m)} + 20log\{d_{(30/300m)}/d_{(10m)}\}$$
(3)

If both the single point and the limit distance are equal to or closer to the EUT than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (4):

$$FS_{(10m)} = FS_{(30/300m)} + 40log\{d_{(30/300m)}/d_{(10m)}\}$$
(4)

Remark:

 $d_{\text{near field}} = 47.77 \ / \ f_{\text{MHz}}$

where f_{MHz} is the frequency of the emission being measured in MHz.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.6 °C Humidity: 41.3 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

7.0.2 103t W	iouc Dc.	sonpaon
Pre-scan / Final test	Mode Code	Description
	00	Wireless Output (The load shall be set at empty load (0W)).
Pre-scan	01	Wireless Output (The load shall be set at half load (7.5W)).
	02	Wireless Output (The load shall be set at full load (15W)).
Final test	02	Wireless Output (The load shall be set at full load (15W)).

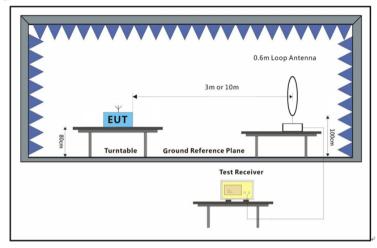


SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 16 of 23

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

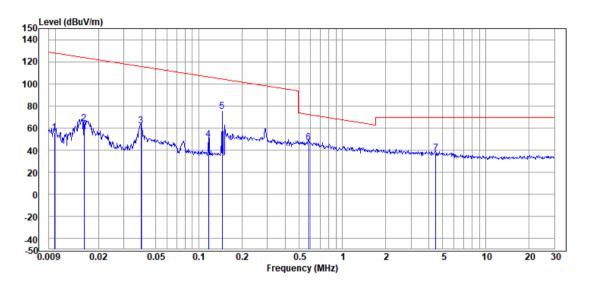
- a. All radiated emission measurements in terms of magnetic field strength shall be performed with a shielded loop antenna.
- b. For all radiated emission measurements in terms of magnetic field strength, the loop antenna were placed such that:
- i. its centre shall be at 1.3 m height above the ground plane;
- ii. the projection of its centre onto the ground plane shall be at the specified measurement distance from the projection on the ground plane of the closest point on the boundary of the equipment under test (EUT); and
- iii. measurements shall be performed with the loop antenna placed vertically, in turn, in two polarizations (the measurement axis specified below is the line segment connecting the projections on the ground plane of the centre of the loop antenna and the centre of the EUT arrangement):
- · coaxial (loop plane perpendicular to the ground plane and to the measurement axis); and
- · coplanar (loop plane perpendicular to the ground plane and coplanar with the measurement axis).



Report No.: SHCR241000218901 Page: 17 of 23

Test Mode 02

coaxial:



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level@3m	Result Level@S PEC	Limit Line@SP EC	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.010	37.87	18.03	0.20	56.10	-23.9	47.73	-71.63	QP
2	0.016	46.09	17.66	0.20	63.95	-16.05	43.57	-59.62	QP
3	0.039	44.40	17.31	0.20	61.91	-18.09	35.68	-53.77	QP
4	0.117	32.13	17.20	0.20	49.53	9.53	66.25	-56.72	QP
5	0.145	57.58	17.20	0.20	74.98	-5.02	24.35	-29.37	Peak
6	0.582	29.69	17.30	0.20	47.19	7.19	32.31	-25.12	QP
7	4.459	19.40	17.80	0.20	37.40	-2.6	29.5	-32.1	QP

Remark: Result Level= Read Level + Antenna Factor + Cable Loss

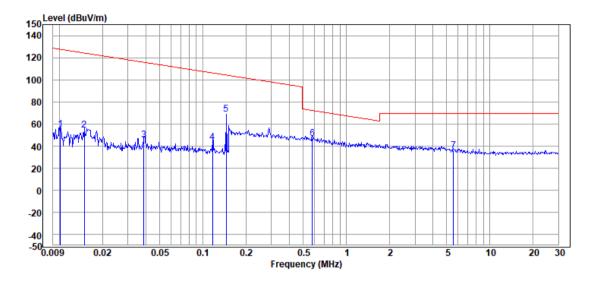


SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 18 of 23

coplanar:



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level@3m	Result Level@S PEC	Limit Line@SP EC	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.010	36.93	17.99	0.20	55.12	-24.88	47.44	-72.32	QP
2	0.015	36.77	17.71	0.20	54.68	-25.32	44.13	-69.45	QP
3	0.039	28.28	17.31	0.20	45.79	-34.21	35.82	-70.03	QP
4	0.117	25.95	17.20	0.20	43.35	3.35	66.25	-62.9	QP
5	0.145	51.18	17.20	0.20	68.58	-11.42	24.35	-35.77	Peak
6	0.577	29.55	17.30	0.20	47.05	7.05	32.38	-25.33	QP
7	5.551	17.65	17.80	0.20	35.65	-4.35	29.5	-33.85	QP

Remark: Result Level= Read Level + Antenna Factor + Cable Loss

NOTE:

(1) For test distance other than what is specified, but fulfilling the requirements of section 15.31(f) (2) the field strength is calculated by adding additionally an extrapolation factor of 40dB/decade (inverse linear distance for field strength measurements).

So the Distance Extrapolation Factor in dB is $40*log (D_{TEST} / D_{SPEC})$ where $D_{TEST} = Test Distance$ and $D_{SPEC} = Specified Distance$.

Field strength limit $(dB\mu V/m)$ @test distance= Field strength limit $(dB\mu V/m)$ @specified distance +Distance Extrapolation Factor

(2) The lower limit shall apply at the transition frequencies.



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 19 of 23

7.4 Radiated Emissions (30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 6.5

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
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.

7.4.1 E.U.T. Operation

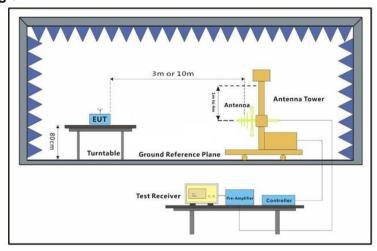
Operating Environment:

Temperature: 22.6 °C Humidity: 61.1 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
	00	Wireless Output (The load shall be set at empty load (0W)).
Pre-scan	01	Wireless Output (The load shall be set at half load (7.5W)).
	02	Wireless Output (The load shall be set at full load (15W)).
Final test	02	Wireless Output (The load shall be set at full load (15W)).

7.4.3 Test Setup Diagram





SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 20 of 23

7.4.4 Measurement Procedure and Data

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. 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.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.
- i. Repeat above procedures until all frequencies measured was complete.

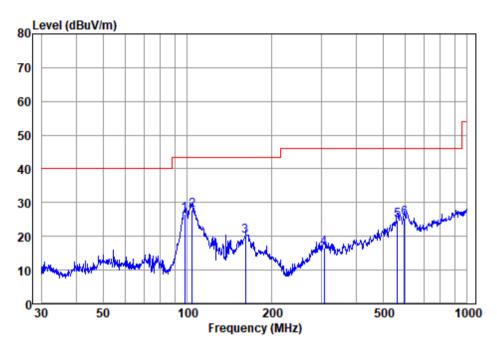
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Report No.: SHCR241000218901

Page: 21 of 23

Test Mode: 02; Polarity: Horizontal



Antenna Polarity : HORIZONTAL EUT/Project :2189BA

Test mode :02

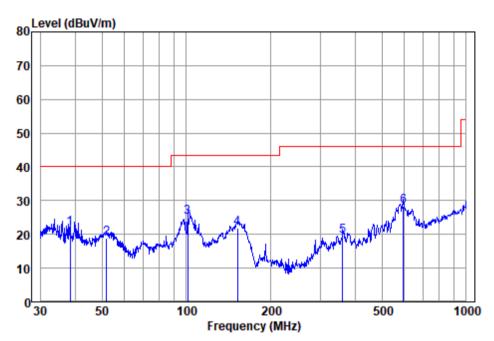
		Read	Antenna	Cable	Preamp	Emission	limit	0ver	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	97.798	48.93	8.87	2.03	33.20	26.63	43.50	-16.87	QP
2	103.806	48.84	9.83	2.21	33.18	27.70	43.50	-15.80	QP
3	161.474	36.66	13.55	2.73	33.00	19.94	43.50	-23.56	QP
4	307.831	31.76	13.63	3.82	32.78	16.43	46.00	-29.57	QP
5	562.662	33.19	19.12	5.29	32.70	24.90	46.00	-21.10	QP
6	595.133	32.82	19.85	5.44	32.70	25.41	46.00	-20.59	QP
Note:E	mission L	evel=Re	ad Level	+Anteni	na Facto	or+Cable	loss-Pr	reamp Fac	ctor



Report No.: SHCR241000218901

Page: 22 of 23

Test Mode: 02; Polarity: Vertical



Antenna Polarity : VERTICAL EUT/Project :2189BA Test mode :02

		Read	Antenna	Cable	Preamp	Emission	ı Limit	0ver	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	38.481	40.56	13.20	1.26	33.20	21.82	40.00	-18.18	QP
2	51.843	36.73	13.90	1.47	33.20	18.90	40.00	-21.10	QP
3	100.934	46.72	9.20	2.35	33.20	25.07	43.50	-18.43	QP
4	152.130	38.56	13.80	2.60	33.00	21.96	43.50	-21.54	QP
5	361.714	33.54	14.73	4.06	32.72	19.61	46.00	-26.39	QP
6	595.133	35.68	19.85	5.44	32.70	28.27	46.00	-17.73	QP
		1 n-	- 4 1 1			1 - 1 -	1		

Note: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR241000218901

Page: 23 of 23

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for SHCR2410002189BA

9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for SHCR2410002189BA

End of the Report -