

TEST REPORT

Application No.: GZCR2512002049HS
Applicant: XIAMEN ZHOULONG SPORTING GOODS CO., LTD.
Address of Applicant: NO. 77 LIANMEI SAN ROAD, TONG'AN DISTRICT, XIAMEN, FUJIAN, CHINA
Manufacturer: XIAMEN ZHOULONG SPORTING GOODS CO., LTD.
Address of Manufacturer: NO. 77 LIANMEI SAN ROAD, TONG'AN DISTRICT, XIAMEN, FUJIAN, CHINA
Factory: XIAMEN ZHOULONG SPORTING GOODS CO., LTD.
Address of Factory: NO. 77 LIANMEI SAN ROAD, LIANHUA INDUSTRIAL ZONE, TONG'AN DISTRICT, XIAMEN, FUJIAN, CHINA
Product Name: STAIR CLIMBER
Model No.: CS201ES
Standard(s) : 47 CFR Part 15, Subpart C
Date of Receipt: 2025-12-23
Date of Test: 2026-01-12 to 2026-03-12
Date of Issue: 2026-06-11

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Revision Record			
Version	Report No.	Date	Remark
01	GZCR251200204902	2026-06-11	Original

Authorized for issue by:			
		Luke Lin	
		Luke Lin/Project Engineer	
Approved By		Vico Cui	
		Vico Cui/Reviewer	



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

N/A: Not applicable

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
20dB Bandwidth	47 CFR Part 15, Subpart C	ANSI C63.10-2020+COR.1-2023 Section 6.9.2	47 CFR Part 15, Subpart C 15.215	Pass
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)		ANSI C63.10-2020+COR.1-2023 Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass**
Restricted Bands		ANSI C63.10-2020+COR.1-2023 Section 6.10.5	47 CFR Part 15, Subpart C 15.205	Pass
Radiated Emissions (9kHz-30MHz)		ANSI C63.10-2020+COR.1-2023 Section 6.4	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.10-2020+COR.1-2023 Section 6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass**
Radiated Spurious Emissions Above 1GHz		ANSI C63.10-2020+COR.1-2023 Section 6.6	47 CFR Part 15, Subpart C 15.209	Pass

** : The EUT passed Conducted Emissions at AC Mains Power Port (150kHz-30MHz) and Radiated Emissions (30MHz-1GHz) tests after modification.

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



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4 General Information

4.1 Details of E.U.T.

Power supply: AC 100-240V 50/60Hz
Test voltage: AC 120V, 60Hz
Cable(s): AC mains, 3 wires, 1.8m, unshielded.
USB 2.0 Port x1pcs.
Aux In Port x1pcs.
Operation frequency: 113.3 kHz to 147.811 kHz
Modulation type: Load modulation
Antenna type: Loop Antenna
Antenna Number: 1

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Mobile Phone	SAMSUNG	SM-G9508	R28K110W9JV
Mobile Phone	SAMSUNG	SM-G9810	RFCN309Q9QF
Mobile Phone	APPLE	iPhone 12 mini	F71DP3NG0GQY



4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
20dB Bandwidth	$\pm 0.274\%$
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	$\pm 3.22\text{dB}$
Restricted Bands	$\pm 5.14\text{dB}$ (3m); $\pm 4.90\text{dB}$ (10m); $\pm 4.88\text{dB}$ (1GHz-6GHz); $\pm 5.06\text{dB}$ (6GHz-18GHz); $\pm 5.30\text{dB}$ (18GHz-40GHz)
Radiated Emissions (9kHz-30MHz)	$\pm 3.12\text{dB}$
Radiated Emissions (30MHz-1GHz)	$\pm 5.14\text{dB}$ (3m); $\pm 4.90\text{dB}$ (10m)
Radiated Spurious Emissions Above 1GHz	$\pm 4.88\text{dB}$ (1GHz-6GHz); $\pm 5.06\text{dB}$ (6GHz-18GHz); $\pm 5.30\text{dB}$ (18GHz-40GHz)
Remark: The U_{lab} (lab Uncertainty) is less than U_{CISPR} (CISPR Uncertainty) or U_{ETSI} (ETSI Uncertainty). Emission decision rule: – Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit, marked as Pass in the report. – Non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit, marked as Fail in the report.	

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
 No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou,
 Guangdong, China 510663

Tel: +86 20 82155555

No tests were sub-contracted.



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4.5 Test Facility

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

● ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

● SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

● ISED (Registration No.: 4620B, CAB identifier: CN0052)

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

● CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

**：The EUT passed Conducted Emissions at AC Mains Power Port (150kHz-30MHz) and Radiated Emissions (30MHz-1GHz) tests after modification.



5 Equipment List

20dB Bandwidth					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
MXA Signal Analyzer (10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2025-11-25	2026-11-24
MI CABLE	SGS-EMC	0.8M	EMC2136	2025-11-02	2026-11-01

Conducted Emissions at AC Mains Power Port (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Coaxial Cable	HangTianXing	BL03-NMNM-6.00M	EMC0107	2025-08-12	2026-08-11
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	2025-08-14	2028-08-13
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2025-08-13	2026-08-12
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2025-11-18	2026-11-17
Test Software E3r	Audix	Ver.6.191211	GZE100-77	N/A	N/A

Restricted Bands					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
MXA Signal Analyzer (10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2025-11-25	2026-11-24
MI CABLE	SGS-EMC	0.8M	EMC2136	2025-11-02	2026-11-01

Radiated Emissions (9kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2025-08-13	2028-08-12
Coaxial cable	Mirco-COAX UTIFLEX	311A	EMC0540	2024-08-19	2026-08-18
Amplifier (9kHz-1.3GHz)	HP	8447F	EMC2065	2025-11-25	2026-11-24
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2024-04-16	2026-04-15
EMI Test Receiver (9kHz-7GHz)	Rohde & Schwarz	ESR7	EMC2220	2025-11-18	2026-11-17
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A



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Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2025-08-13	2028-08-12
Coaxial cable	Mirco-COAX UTIFLEX	311A	EMC0540	2024-08-19	2026-08-18
Amplifier (9kHz-1.3GHz)	HP	8447F	EMC2065	2025-11-25	2026-11-24
EMI Test Receiver (9kHz-7GHz)	Rohde & Schwarz	ESR7	EMC2220	2025-11-18	2026-11-17
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Trilog Broadband Antenna (25MHz-2GHz)	Schwarzbeck Mess-Elektronik	VULB 9168	EMC2174	2025-04-21	2027-04-20

Radiated Spurious Emissions Above 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
1-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2025-08-11	2026-08-10
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2025-08-11	2026-08-10
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2024-08-19	2026-08-18
Horn Antenna (1-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2025-05-13	2027-05-12
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2025-08-12	2026-08-11
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2025-08-12	2026-08-11
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2025-08-11	2026-08-10
966 Anechoic Chamber	Shenzhen C.R.T	CRTSGSSAC966	EMC2230	2025-03-22	2028-03-21
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Preamplifier (1-18GHz)	Shenzhen TST	LNA010180G50	EMC6036	2025-04-14	2026-04-13
Intelligent Coaxial RF Switch (DC-18GHz)	Shenzhen TST	ICS01018	EMC6037	2025-04-14	2026-04-13

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2025-06-03	2026-06-02



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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 permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit 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 integrated on the main PCB and no consideration of replacement.

Refer to internal photos



7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215
 Test Method: ANSI C63.10-2020+COR.1-2023 Section 6.9.2
 Test Engineer: Banna Ban
 Limit: For report reference only

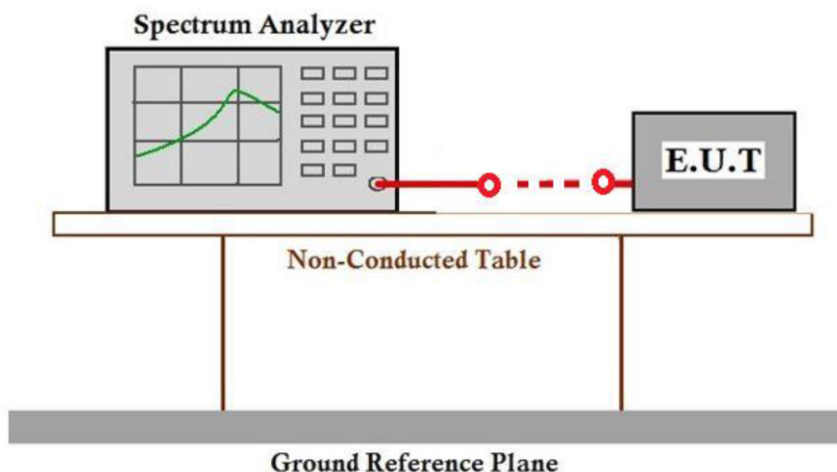
7.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 22.7 °C Humidity: 55.8 % RH Atmospheric Pressure: 1007 mbar

7.1.2 Test Mode Description

Pre-scan / Mode	Description
Final test Code	
Final test 00	Charge mode_Keep the EUT charging(5W)
Final test 01	Charge mode_Keep the EUT charging(7.5W)
Final test 02	Charge mode_Keep the EUT charging(10W)
Final test 03	Charge mode_Keep the EUT charging(15W)

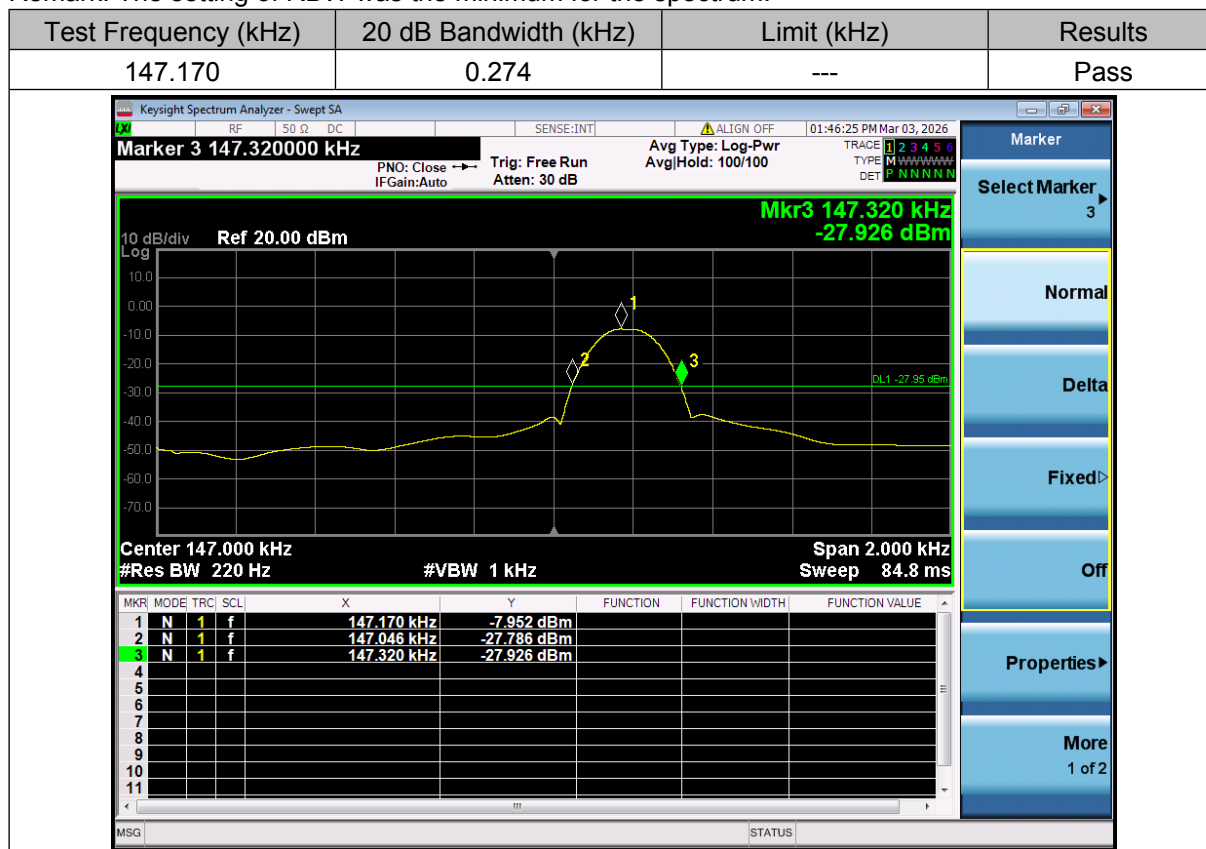
7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

Changing will take place when the charger is in contact with EUT only, no space is reserved/ designed for air because the structure of the EUT will automatically fix the device being charged closely.

Remark: The setting of RBW was the minimum for the spectrum.



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

Test Requirement 47 CFR Part 15, Subpart C 15.207
 Test Method: ANSI C63.10-2020+COR.1-2023 Section 6.2
 Test Engineer: Sunny Yang
 Limit:

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.

7.2.1 E.U.T. Operation

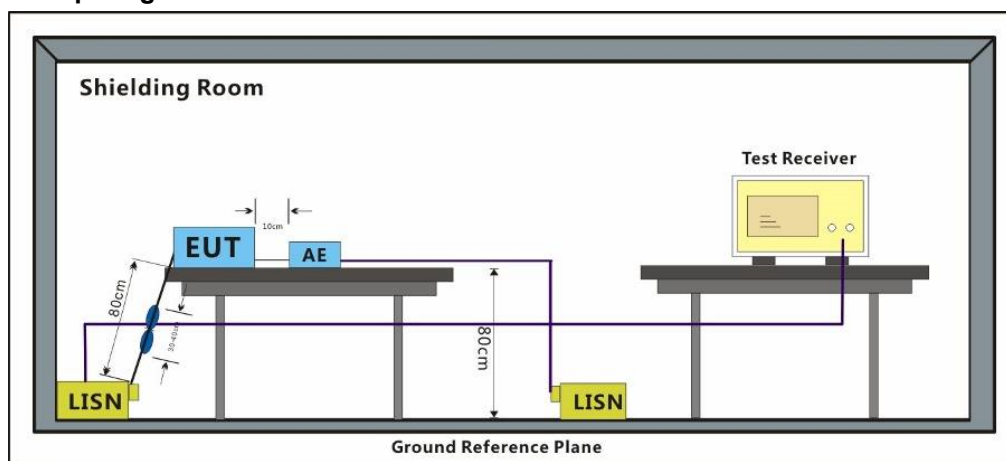
Operating Environment:

Temperature: 24.8 °C Humidity: 43.5 % RH Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan /	Mode	Description
Final test	Code	
Final test	00	Charge mode_Keep the EUT charging(5W)
Pre-scan	01	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	02	Charge mode_Keep the EUT charging(10W)
Pre-scan	03	Charge mode_Keep the EUT charging(15W)

7.2.3 Test Setup Diagram



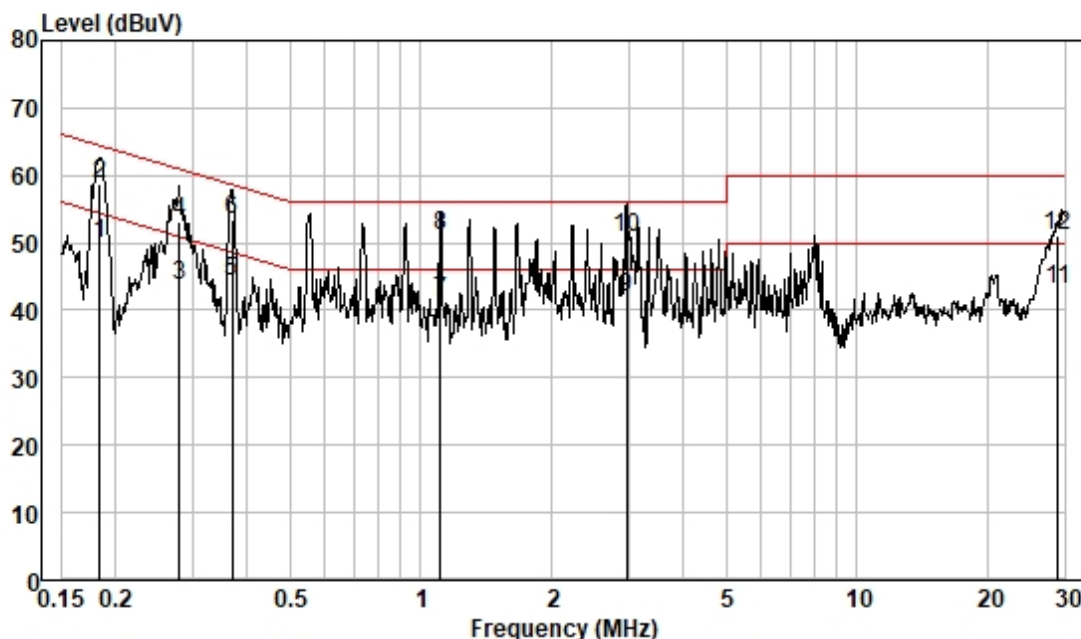
7.2.4 Measurement Procedure and Data

- 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 50ohm/50μH + 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: Level=Read Level+ Cable Loss+ LISN Factor



Test Mode: 00; Line: Live line

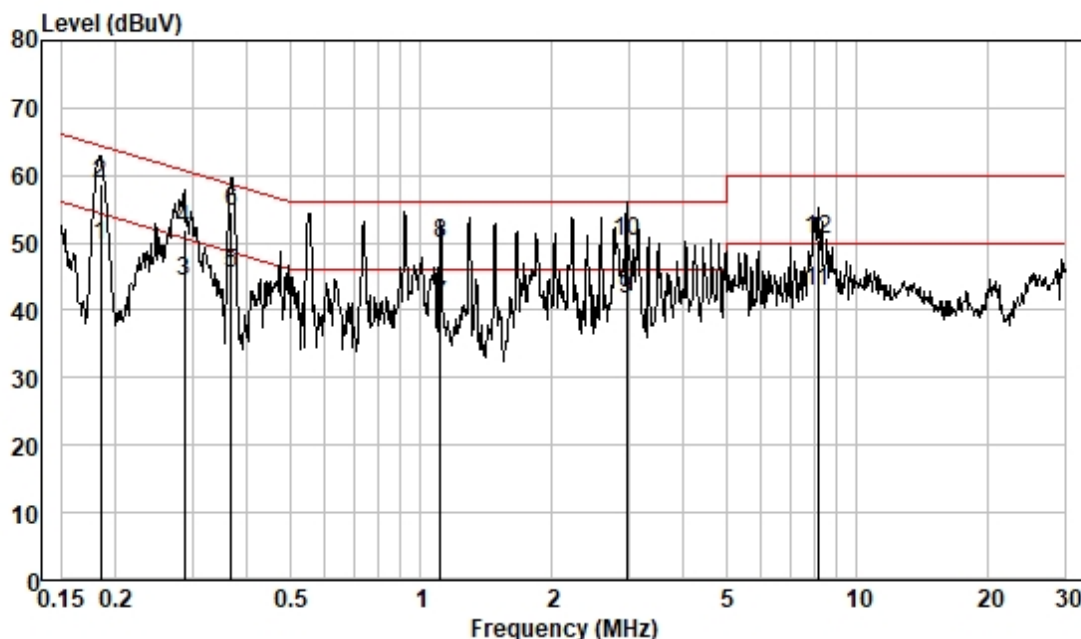


Pol : LINE
Mode :
Model :
Power :

	Frequency MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.183	40.43	0.04	9.55	50.02	54.33	-4.31	Average
2	0.183	49.30	0.04	9.55	58.89	64.33	-5.44	QP
3	0.279	34.23	0.04	9.56	43.83	50.85	-7.02	Average
4	0.279	43.43	0.04	9.56	53.03	60.85	-7.82	QP
5	0.369	34.70	0.05	9.57	44.32	48.52	-4.20	Average
6	0.369	43.94	0.05	9.57	53.56	58.52	-4.96	QP
7	1.106	31.85	0.08	9.53	41.46	46.00	-4.54	Average
8	1.106	41.45	0.08	9.53	51.06	56.00	-4.94	QP
9	2.962	32.20	0.16	9.55	41.91	46.00	-4.09	Average
10	2.962	40.99	0.16	9.55	50.70	56.00	-5.30	QP
11	28.908	32.76	0.45	9.86	43.07	50.00	-6.93	Average
12	28.908	40.73	0.45	9.86	51.04	60.00	-8.96	QP



Test Mode: 00; Line: Neutral Line



Pol : NEUTRAL
Mode :
Model :
Power :

	Frequency MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.184	39.99	0.04	9.55	49.58	54.28	-4.70	Average
2	0.184	49.07	0.04	9.55	58.66	64.28	-5.62	QP
3	0.286	34.79	0.04	9.54	44.37	50.63	-6.26	Average
4	0.286	42.37	0.04	9.54	51.95	60.63	-8.68	QP
5	0.367	35.85	0.05	9.52	45.42	48.56	-3.14	Average
6	0.367	45.00	0.05	9.52	54.57	58.56	-3.99	QP
7	1.106	31.22	0.08	9.56	40.86	46.00	-5.14	Average
8	1.106	40.34	0.08	9.56	49.98	56.00	-6.02	QP
9	2.962	32.03	0.16	9.56	41.75	46.00	-4.25	Average
10	2.962	40.37	0.16	9.56	50.09	56.00	-5.91	QP
11	8.148	33.00	0.23	9.70	42.93	50.00	-7.07	Average
12	8.148	40.56	0.23	9.70	50.49	60.00	-9.51	QP



7.3 Restricted Bands

Test Requirement 47 CFR Part 15, Subpart C 15.205

Test Method: ANSI C63.10-2020+COR.1-2023 Section 6.10.5

Test Engineer: Banna Ban

Limit:

The fundamental wave could not fall in the restricted band 90KHz-110KHz & 495KHz-505KHz.

7.3.1 E.U.T. Operation

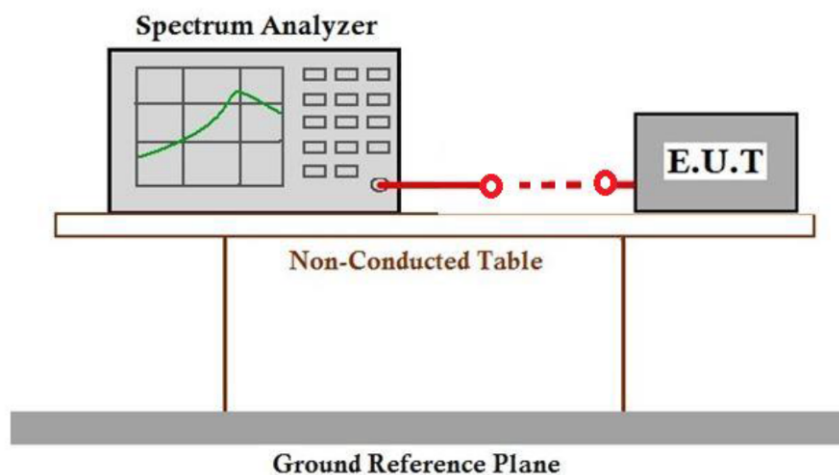
Operating Environment:

Temperature: 22.7 °C Humidity: 55.8 % RH Atmospheric Pressure: 1007 mbar

7.3.2 Test Mode Description

Pre-scan / Mode	Description
Final test Code	
Final test 00	Charge mode_Keep the EUT charging(5W)
Final test 01	Charge mode_Keep the EUT charging(7.5W)
Final test 02	Charge mode_Keep the EUT charging(10W)
Final test 03	Charge mode_Keep the EUT charging(15W)

7.3.3 Test Setup Diagram

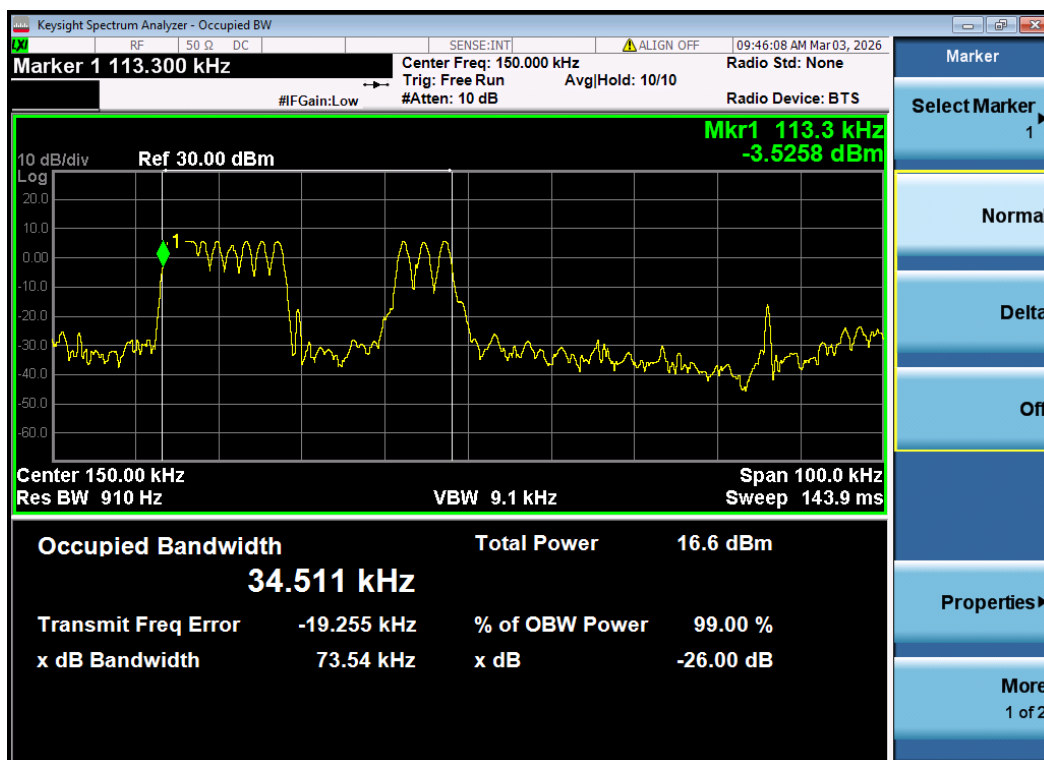


7.3.4 Measurement Procedure and Data

Changing will take place when the charger is in contact with EUT only, no space is reserved/ designed for air because the structure of the EUT will automatically fix the device being charged closely.

According the test data below, the fundamental wave is not fall in the restricted band, the field strength also meets the 15.209 requirement, please refer to clause 7.4.

Test Frequency (kHz)	Limit	Results
Lower: 113.3	>110 kHz	Pass
Upper: 147.811	< 495 kHz	Pass



7.4 Radiated Emissions (9kHz-30MHz)

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

Test Method: ANSI C63.10-2020+COR.1-2023 Section 6.4

Test Engineer: Bob Qu

Test Distance: 3m

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):

$$FS_{(3m)} = FS_{(30/300m)} + 40\log\{d_{(near\ field)}/d_{(3m)}\} + 20\log\{d_{(30/300m)}/d_{(near\ field)}\} \quad (2)$$

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):

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

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):

$$FS_{(3m)} = FS_{(30/300m)} + 40\log\{d_{(30/300m)}/d_{(3m)}\} \quad (4)$$

Remark:

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

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

7.4.1 E.U.T. Operation

Operating Environment:

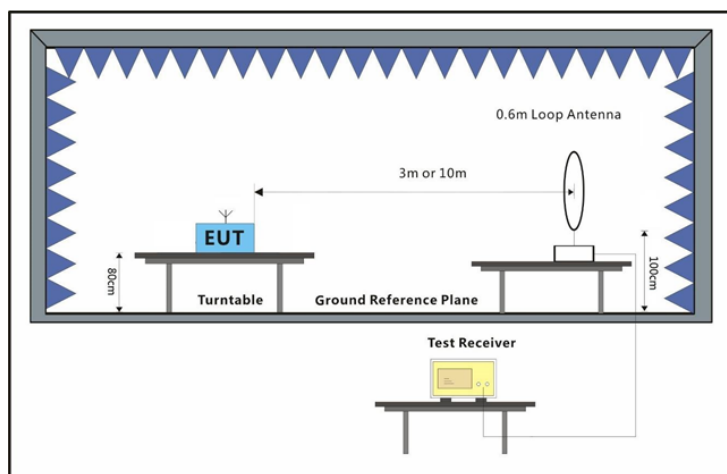
Temperature: 20.1 °C Humidity: 46.3 % RH Atmospheric Pressure: 1020 mbar



7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	00	Charge mode_Keep the EUT charging(5W)
Pre-scan	01	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	02	Charge mode_Keep the EUT charging(10W)
Final test	03	Charge mode_Keep the EUT charging(15W)

7.4.3 Test Setup Diagram

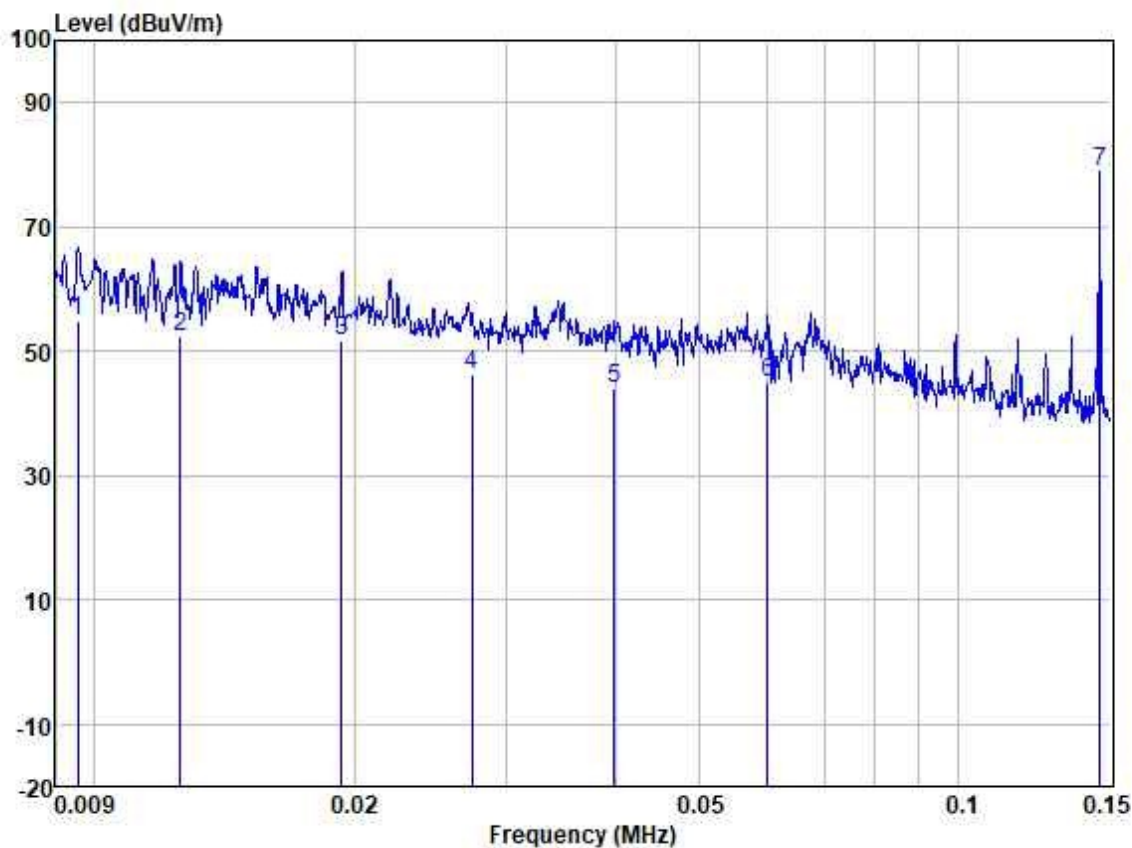


7.4.4 Measurement Procedure and Data

- All radiated emission measurements in terms of magnetic field strength shall be performed with a shielded loop antenna.
- For all radiated emission measurements in terms of magnetic field strength, the loop antenna were placed such that:
 - its centre shall be at 1.3 m height above the ground plane;
 - 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
 - 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). Only worst case of the both polarizations was recorded in the test report.



Test Mode: 03;



Site : SGS
Job :
Model : FCC
Power :
Test Mode : 15W

Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.010	64.03	18.79	0.00	28.01	54.81		HORIZONTAL	
2	0.013	63.17	17.37	0.00	28.08	52.46		HORIZONTAL	
3	0.019	65.65	14.30	0.00	28.25	51.70		HORIZONTAL	
4	0.027	61.68	13.14	0.01	28.55	46.28		HORIZONTAL	
5	0.040	60.69	12.43	0.01	29.16	43.97		HORIZONTAL	
6	0.060	62.20	12.10	0.02	29.36	44.96		HORIZONTAL	
7	0.146	96.44	11.89	0.02	29.50	78.85		HORIZONTAL	



Frequency (MHz)	Level @3m (dBuV/m)	Limit @300m (dBuV/m)	Convert Factor (dB)	Level @ 300m (dBuV/m)	Over limit (dB)	Remark
0.010	54.81	47.60	80	-25.19	-72.79	AV
0.013	52.46	45.33	80	-27.54	-72.87	AV
0.019	51.70	42.03	80	-28.30	-70.33	AV
0.027	46.28	38.98	80	-33.72	-72.70	AV
0.040	43.97	35.56	80	-36.03	-71.59	AV
0.060	44.96	32.04	80	-35.04	-67.08	AV
0.146	78.85	24.32	80	-1.15	-25.47	AV

Remark1:

Extrapolation Correction (dB)@3m to 300 m = $40 \cdot \log(3/300) = -80$ according to FCC part 15.31 (f) (2)

Level (dBuV/m) @ 300m = Measured Level (dBuV/m) @3m + Extrapolation Correction (dB)@3 m to 300 m

Remark2: The frequency 146 kHz is the intentional transmitter.



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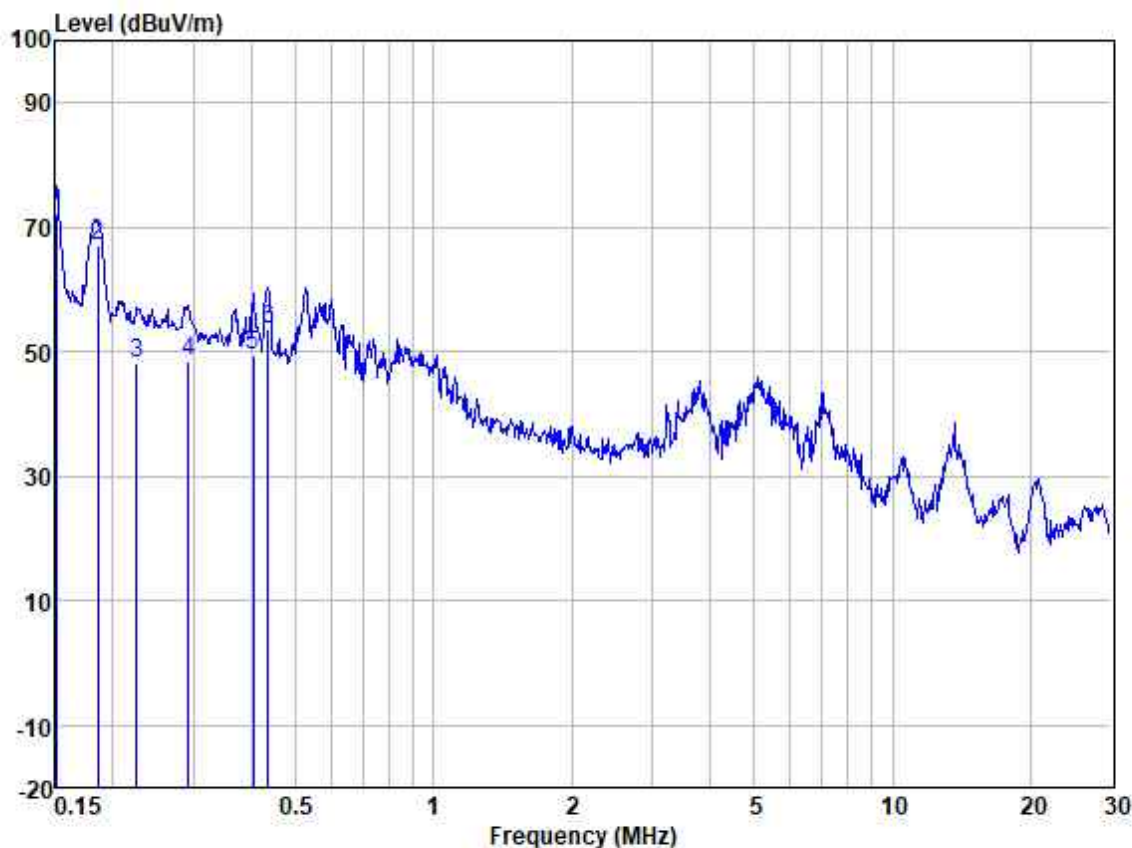
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Test Mode: 03;



Site : SGS
Job :
Model : FCC
Power :
Test Mode : 15W

	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.151	89.80	11.88	0.02	29.50	72.20			HORIZONTAL	Average
2	0.185	84.80	11.86	0.03	29.50	67.19			HORIZONTAL	Average
3	0.226	65.73	11.85	0.03	29.49	48.12			HORIZONTAL	Average
4	0.292	66.06	11.87	0.04	29.47	48.50			HORIZONTAL	Average
5	0.404	66.83	11.86	0.06	29.41	49.34			HORIZONTAL	Average
6	0.435	70.95	11.84	0.06	29.41	53.44			HORIZONTAL	Average



Frequency (MHz)	Level @3m (dBuV/m)	Limit @300m (dBuV/m)	Convert Factor (dB)	Level @ 300m (dBuV/m)	Over limit (dB)	Remark
0.151	72.20	24.02	80	-7.80	-31.82	AV
0.185	67.19	22.26	80	-12.81	-35.07	AV
0.226	48.12	20.52	80	-31.88	-52.40	AV
0.292	48.50	18.30	80	-31.50	-49.80	AV
0.404	49.34	15.48	80	-30.66	-46.14	AV
0.435	53.44	14.83	80	-26.56	-41.39	AV

Remark1:

Extrapolation Correction (dB)@3m to 300 m = $40 \cdot \log(3/300) = -80$ according to FCC part 15.31 (f) (2)

Level (dBuV/m) @ 300m = Measured Level (dBuV/m) @3m + Extrapolation Correction (dB)@3 m to 300 m



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7.5 Radiated Emissions (30MHz-1GHz)

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

Test Method: ANSI C63.10-2020+COR.1-2023 Section 6.5

Test Engineer: Bob Qu

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.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20.1 °C

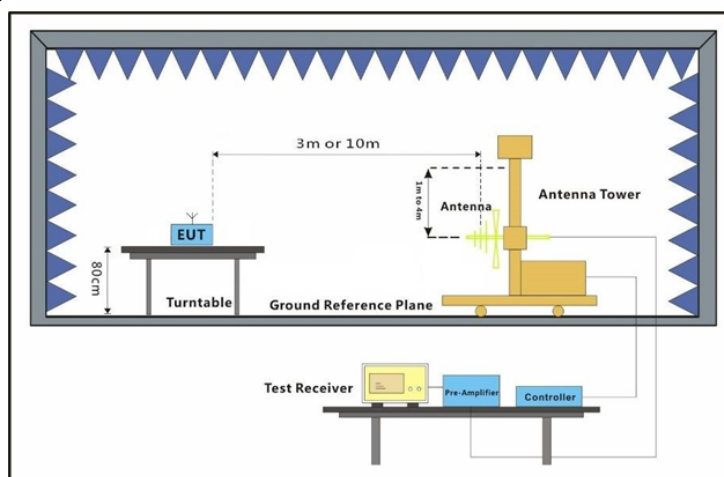
Humidity: 46.3 % RH

Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Mode	Description
Final test Code	
Pre-scan 00	Charge mode_Keep the EUT charging(5W)
Pre-scan 01	Charge mode_Keep the EUT charging(7.5W)
Pre-scan 02	Charge mode_Keep the EUT charging(10W)
Final test 03	Charge mode_Keep the EUT charging(15W)

7.5.3 Test Setup Diagram



7.5.4 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



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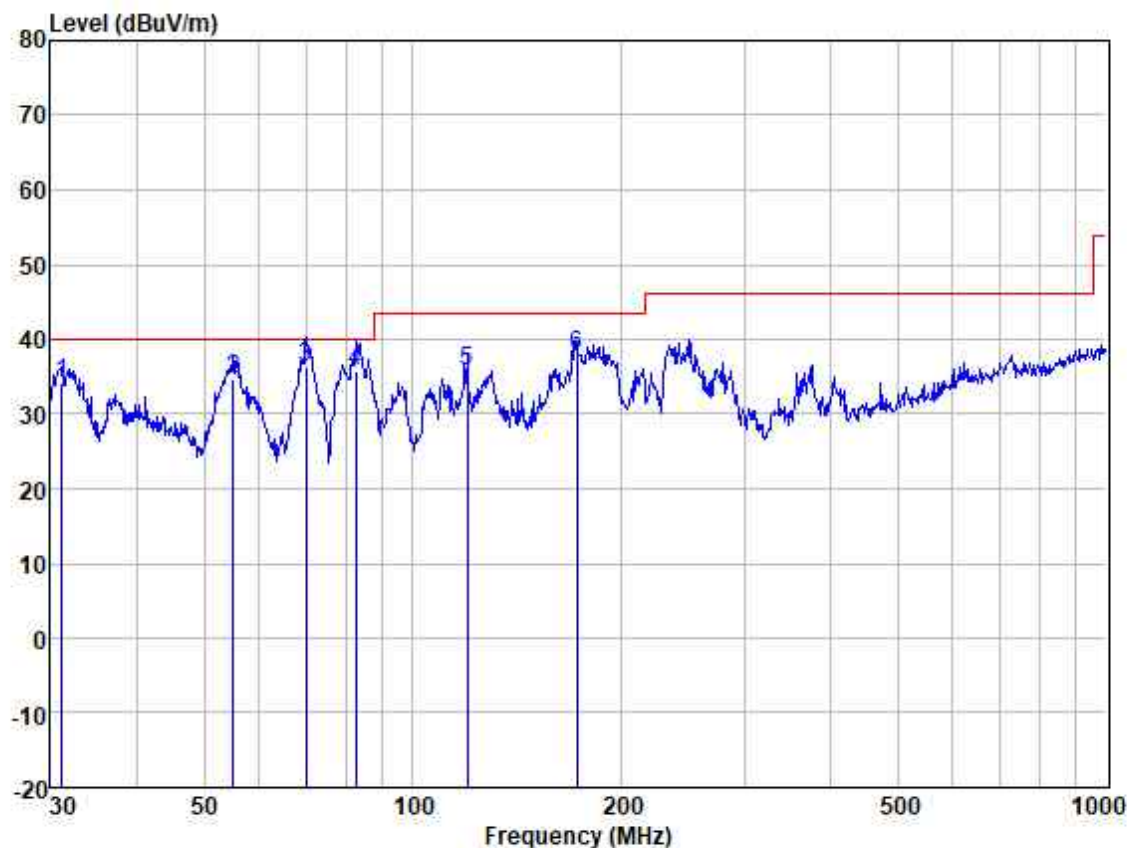
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Test Mode: 03; Polarity: Horizontal

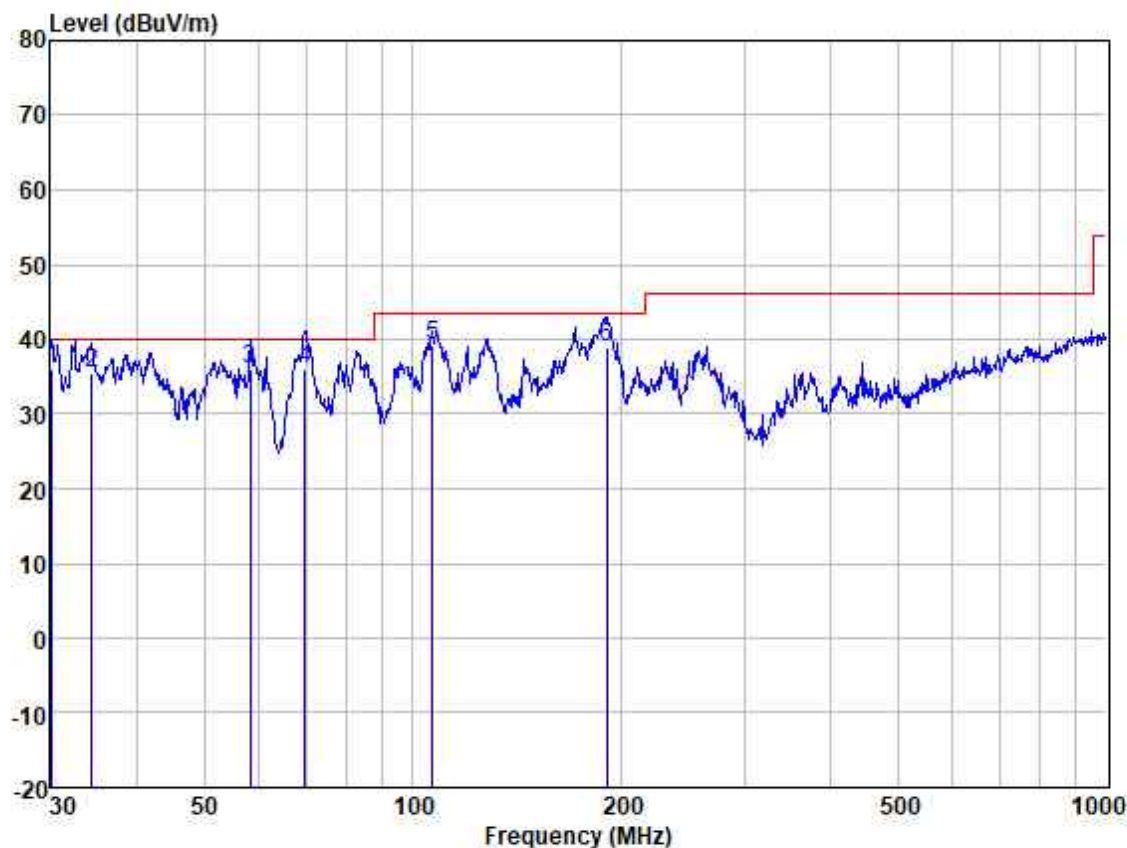


Site : SGS
Job :
Model :
Power :
Test Mode : 15W

	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	31.180	49.74	12.26	0.38	28.17	34.21	40.00	-5.79	HORIZONTAL	QP
2	55.027	48.64	13.72	0.50	28.10	34.76	40.00	-5.24	HORIZONTAL	QP
3	70.090	52.13	11.63	0.56	28.10	36.22	40.00	-3.78	HORIZONTAL	QP
4	82.648	54.42	8.73	0.60	28.10	35.65	40.00	-4.35	HORIZONTAL	QP
5	119.856	51.73	11.35	0.73	28.05	35.76	43.52	-7.76	HORIZONTAL	QP
6	172.599	51.40	13.14	0.89	27.68	37.75	43.52	-5.77	HORIZONTAL	QP



Test Mode: 03; Polarity: Vertical



Site : SGS
Job :
Model :
Power :
Test Mode : 15W

	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	30.105	51.85	12.04	0.37	28.17	36.09	40.00	-3.91	VERTICAL	QP
2	34.396	50.16	12.96	0.39	28.15	35.36	40.00	-4.64	VERTICAL	QP
3	58.203	50.21	13.39	0.51	28.10	36.01	40.00	-3.99	VERTICAL	QP
4	69.845	51.96	11.63	0.56	28.10	36.05	40.00	-3.95	VERTICAL	QP
5	106.759	56.53	10.00	0.69	28.08	39.14	43.52	-4.38	VERTICAL	QP
6	190.405	53.89	11.84	0.93	27.62	39.04	43.52	-4.48	VERTICAL	QP



7.6.4 Measurement Procedure and Data

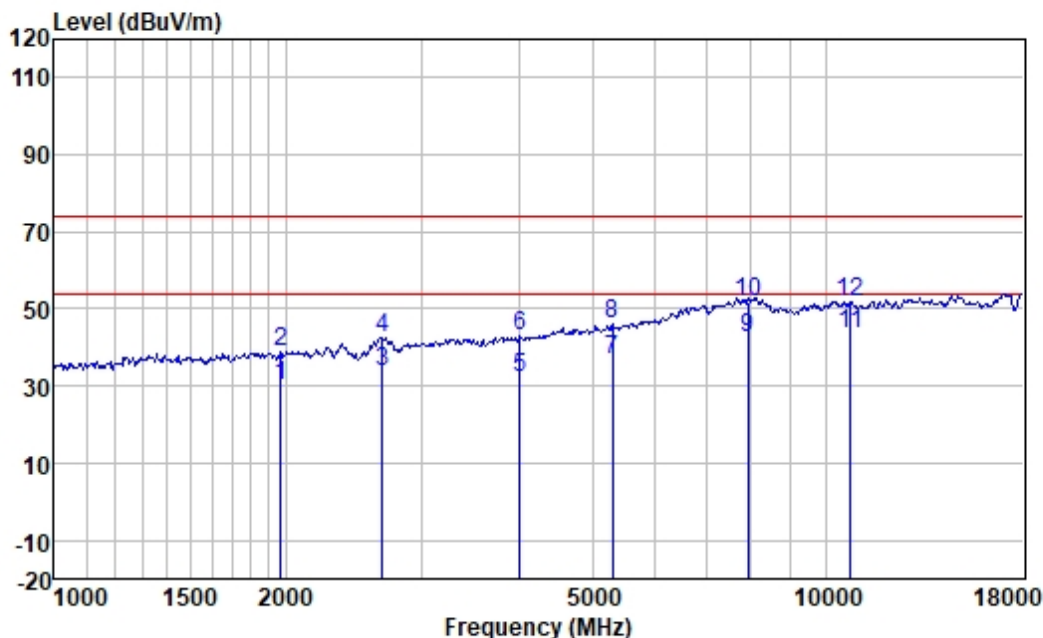
- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5m above the ground at a 3m fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3m away from the interference-receiving antenna from 1GHz to 18GHz, and 1m away from the interference-receiving antenna above 18GHz.
- b. The interference-receiving antenna was mounted on the variable-height antenna tower, with its boresight facing the EUT throughout the test.
- c. The antenna height is varied from 1m to 4m 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 1m to 4m 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. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- g. 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.
- h. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Scan from 1GHz to 10th harmonic of the highest frequency or 40 GHz, whichever is lower.
2. As shown in this section, 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.
3. For the frequency above 18GHz, testing had been executed under all test modes, only the worst-case test curve is displayed in the report.
4. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s).



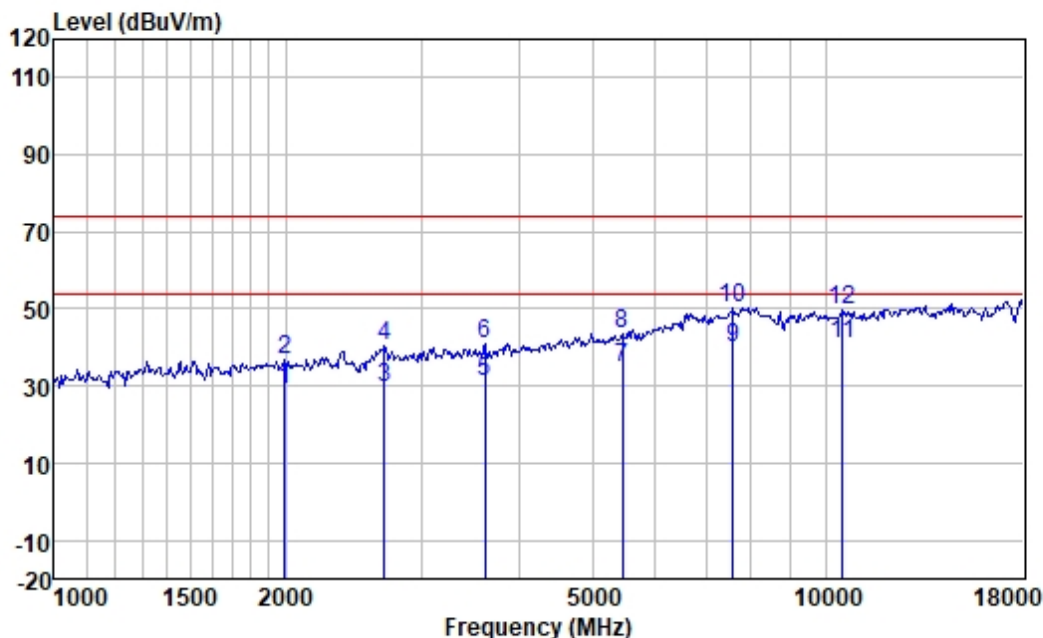
Test Mode: 03; Polarity: Vertical



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1966.680	38.40	26.63	3.11	37.82	30.32	54.00	-23.68	VERTICAL	Average
2	1966.680	46.91	26.63	3.11	37.82	38.83	74.00	-35.17	VERTICAL	peak
3	2664.019	39.87	28.02	3.58	37.74	33.73	54.00	-20.27	VERTICAL	Average
4	2664.019	48.71	28.02	3.58	37.74	42.57	74.00	-31.43	VERTICAL	peak
5	4015.929	34.95	30.01	4.50	37.50	31.96	54.00	-22.04	VERTICAL	Average
6	4015.929	45.90	30.01	4.50	37.50	42.91	74.00	-31.09	VERTICAL	peak
7	5300.200	36.73	31.98	5.07	37.19	36.59	54.00	-17.41	VERTICAL	Average
8	5300.200	46.07	31.98	5.07	37.19	45.93	74.00	-28.07	VERTICAL	peak
9	7943.838	36.09	37.19	6.19	37.20	42.27	54.00	-11.73	VERTICAL	Average
10	7943.838	45.81	37.19	6.19	37.20	51.99	74.00	-22.01	VERTICAL	peak
11	10760.540	38.36	40.46	7.39	42.62	43.59	54.00	-10.41	VERTICAL	Average
12	10760.540	46.73	40.46	7.39	42.62	51.96	74.00	-22.04	VERTICAL	peak



Test Mode: 03; Polarity: Horizontal



	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1989.550	37.02	26.64	3.12	37.81	28.97	54.00	-25.03	HORIZONTAL	Average
2	1989.550	44.69	26.64	3.12	37.81	36.64	74.00	-37.36	HORIZONTAL	peak
3	2679.464	35.93	28.06	3.59	37.73	29.85	54.00	-24.15	HORIZONTAL	Average
4	2679.464	46.45	28.06	3.59	37.73	40.37	74.00	-33.63	HORIZONTAL	peak
5	3619.064	35.38	29.16	4.17	37.53	31.18	54.00	-22.82	HORIZONTAL	Average
6	3619.064	45.17	29.16	4.17	37.53	40.97	74.00	-33.03	HORIZONTAL	peak
7	5455.631	34.83	32.08	5.14	37.16	34.89	54.00	-19.11	HORIZONTAL	Average
8	5455.631	43.51	32.08	5.14	37.16	43.57	74.00	-30.43	HORIZONTAL	peak
9	7584.833	34.35	36.78	6.05	37.19	39.99	54.00	-14.01	HORIZONTAL	Average
10	7584.833	44.54	36.78	6.05	37.19	50.18	74.00	-23.82	HORIZONTAL	peak
11	10514.580	35.84	40.23	7.26	42.48	40.85	54.00	-13.15	HORIZONTAL	Average
12	10514.580	44.60	40.23	7.26	42.48	49.61	74.00	-24.39	HORIZONTAL	peak



8 Test Setup Photo

Refer to Appendix - Test Setup Photo for GZCR251200204902



9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for GZCR2512002049HS

- End of the Report -

