TEST REPORT

Application No.:	SZEM2101001078CR
Applicant:	Sky Intelligent Investment Limited
Address of Applicant:	RM10,6/F KWONG SANG HONG CTR 151-153 HOI BUN RD KWUN TONG KL
Manufacturer:	Sky Intelligent Investment Limited
Address of Manufacturer:	RM10,6/F KWONG SANG HONG CTR 151-153 HOI BUN RD KWUN TONG KL
Factory:	Huizhou Golden lake Industrial Co., Ltd
Address of Factory:	Dongjiang Industrial Estate, Shuikou Street, Huicheng District, Huizhou City, Guangdong Province,516005
Equipment Under Test (EUT):	
EUT Name:	Portable Power Station
Model No.:	SPS-500-01, B08ZHYL6CV ♣
♣	Please refer to section 2 of this report which indicates which model was actual tested and which were electrically identical.
Trade Mark:	SHELL
FCC ID:	2AZXL-SPS-500-01
Standard(s) :	47 CFR Part 15, Subpart C
Date of Receipt:	2021-01-26
Date of Test:	2021-04-07 to 2021-04-15
Date of Issue:	2021-04-15
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2021-04-15		Original

Authorized for issue by:				
		Leo Li **Leo Li/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

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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**
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	**Pass**
Radiated Emissions (30MHz-1GHz)		ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Emissions (9kHz-30MHz)		ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
20dB Bandwidth		ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart C 15.215	Pass
Restricted Bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205	Pass

Declaration of EUT Family Grouping:

Model No.: SPS-500-01, B08ZHYL6CV

Only the model SPS-500-01 was tested. According to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model name.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	Cell Capacity: 4500mAh Rated Capacity: 27000mAh (21.6V/583Wh) DC Input：11-30V/5A (65W Max) USB-C Input/ Output：5V3A/ 9V3A/ 15V3A/ 20V3A (60W Max) AC Output：120V~ 10A, 60Hz, 500W USB-A Output: 5V/2.4A (12W Max per port) USB-A QC Output:5V3A/ 9V2A/ 12V1.5A (18W Max) DC Output: 12V/5A (per port) Car Charger Output: 12V/10A DC + Car Charger Output: 120W Max Wireless Charging Output: 5V/3A (15W Max) Adapter Model: S065PP2400270 Input: 100-240V~50/60Hz 1800mA Output: DC 24V 2700mA
Cable(s):	AC cable: 120cm unshielded DC cable: 150cm unshielded with one core Type-C cable: 120cm shielded
Operation frequency:	111.0kHz to 153.8kHz
Modulation type:	Load modulation
Antenna type:	Loop Antenna

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
DC power supply	XANTREX	XFR 100-12	REF. No.SEA27A00
Load Resistor	SGS	N/A(USB-A)	REF. No.SEA06A00
Load Resistor	SGS	N/A(USB-A)	REF. No.SEA37A00
Load Resistor	SGS	N/A(USB-A)	REF. No.SEA07A00
Load Resistor	SGS	N/A(Type-C)	REF. No.SEA38A00
Adapter	ZENDURE	ZD4P90DPD	REF. No.SEA056720
Mobile Phone	SAMSUNG	SM-G9810	REF. No.SEA16K00
E-loading	SGS	N/A	REF. No.SEA42A00

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4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	± 3.0dB (150kHz to 30MHz)
Radiated Emissions (30MHz-1GHz)	± 4.5dB
Radiated Emissions (9kHz-30MHz)	± 4.5dB
20dB Bandwidth	± 3%
Restricted Bands	± 3%

Remark:
The U_{lab} (lab Uncertainty) is less than U_{cispr} (CISPR Uncertainty), so the test results
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

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4.4 Test modes description:

Mode code	Description	Detailed description
02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via Adapter Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.	Keep the EUT output 7.5W via WPT port, keep the battery of the EUT in charging via Adapter Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via Adapter Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via Adapter Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via Type-C port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.	Keep the EUT output 7.5W via WPT port, keep the battery of the EUT in charging via Type-C port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
08	Charge+Charging mode_Keep the EUT	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via Type-C port

	charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.	Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via Type-C port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via DC port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.	Keep the EUT output 7.5W via WPT port, keep the battery of the EUT in charging via DC port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via DC port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via DC port Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
14	Charge mode_Keep the EUT charging(5W)	Keep the EUT output 5W via WPT port,
15	Charge mode_Keep the EUT charging(7.5W)	Keep the EUT output 7.5W via WPT port,
16	Charge mode_Keep the EUT charging(10W)	Keep the EUT output 10W via WPT port,
17	Charge mode_Keep the EUT charging(15W)	Keep the EUT output 15W via WPT port,

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18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via Adapter
19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).	Keep the EUT output 7.5W via WPT port, keep the battery of the EUT in charging via Adapter
20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply).	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via Adapter
21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via Adapter
22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via Type-C port
23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).	Keep the EUT output 7.5W via WPT port, keep the battery of the EUT in charging via Type-C port
24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via Type-C port
25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via Type-C port
26	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply).	Keep the EUT output 5W via WPT port, keep the battery of the EUT in charging via DC port
27	Charge+Charging	Keep the EUT output 7.5W via WPT port,

	mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).	keep the battery of the EUT in charging via DC port
28	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply).	Keep the EUT output 10W via WPT port, keep the battery of the EUT in charging via DC port
29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).	Keep the EUT output 15W via WPT port, keep the battery of the EUT in charging via DC port
30	Charge+Discharging mode_Keep the EUT charging(5W) and keep all output ports in discharging mode.	Keep the EUT output 5W via WPT port, Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
31	Charge+Discharging mode_Keep the EUT charging(7.5W) and keep all output ports in discharging mode.	Keep the EUT output 7.5W via WPT port, Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
32	Charge+Discharging mode_Keep the EUT charging(10W) and keep all output ports in discharging mode.	Keep the EUT output 10W via WPT port, Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.
33	Charge+Discharging mode_Keep the EUT charging(15W) and keep all output ports in discharging mode.	Keep the EUT output 15W via WPT port, Keep the EUT working in discharging mode via all DC output ports (DC export/USB-A export/Type-C export/car charger export) for load resistors; all AC output ports for light bulbs.

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.6 Test Facility

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

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Emissions at AC Mains Power Port (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2020-03-25	2021-03-24
				2021-03-24	2022-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020-07-10	2021-07-09
LISN	Rohde&Schwarz	ENV216	SEM007-01	2020-09-23	2021-09-22
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-03-25	2021-03-24
				2021-03-24	2022-03-23

Radiated Emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2021-03-24	2022-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

Radiated Emissions (9kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018-03-28	2021-03-27
				2021-03-27	2024-03-26
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-16	2020-11-02	2021-11-01
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-18	2019-08-08	2022-08-07
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2020-04-09	2021-04-08
				2021-04-08	2022-04-07
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2020-08-14	2023-08-13
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2020-07-10	2021-07-09

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20dB Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-25	2021-03-24
				2021-03-24	2022-03-23
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2020-03-25	2021-03-24
				2021-03-24	2022-03-23
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-04-09	2021-04-08
				2021-04-08	2022-04-07

Restricted Bands					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-25	2021-03-24
				2021-03-24	2022-03-23
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2020-03-25	2021-03-24
				2021-03-24	2022-03-23
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-04-09	2021-04-08
				2021-04-08	2022-04-07

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-03-31	2021-03-30
				2021-03-30	2022-03-29

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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

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 use an 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.

This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site.

However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

6.1.2 Conclusion

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 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:

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.		

7.1.1 E.U.T. Operation

Operating Environment:

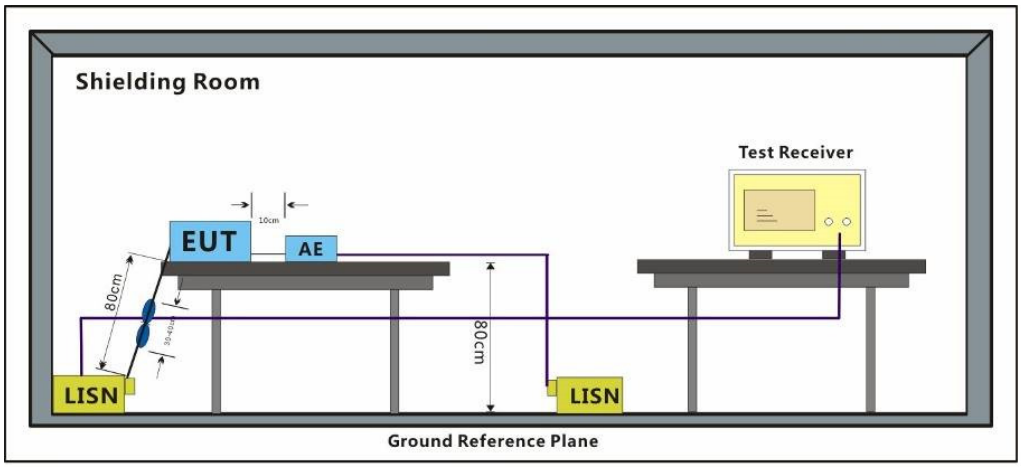
Temperature: 22.6 °C Humidity: 57.3 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Final test	05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	08	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Final test	09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.

Pre-scan	11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	26	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	27	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	28	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).

7.1.3 Test Setup Diagram



7.1.4 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.

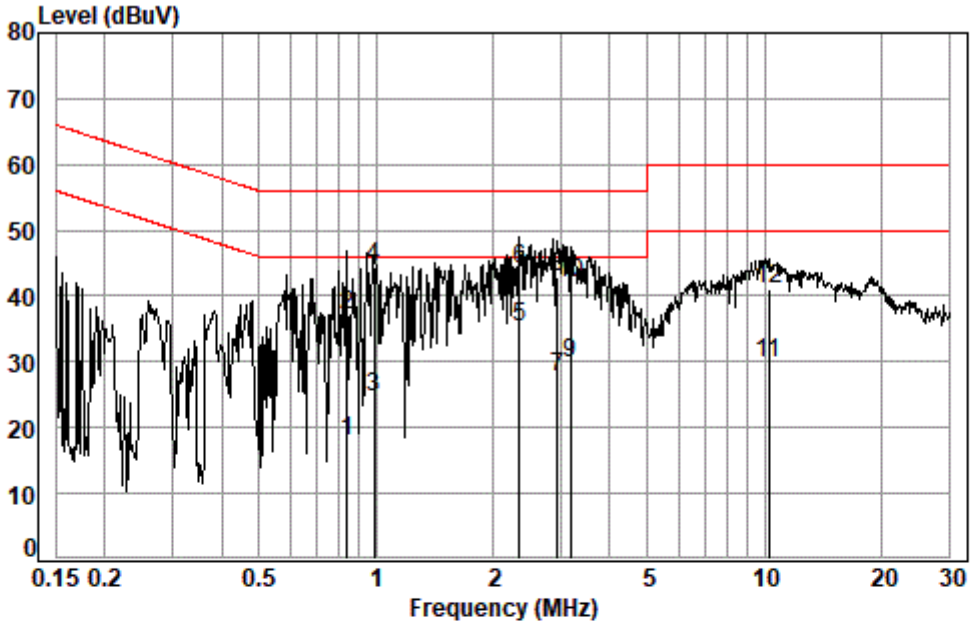
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

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: LISN=Read Level+ Cable Loss+ LISN Factor

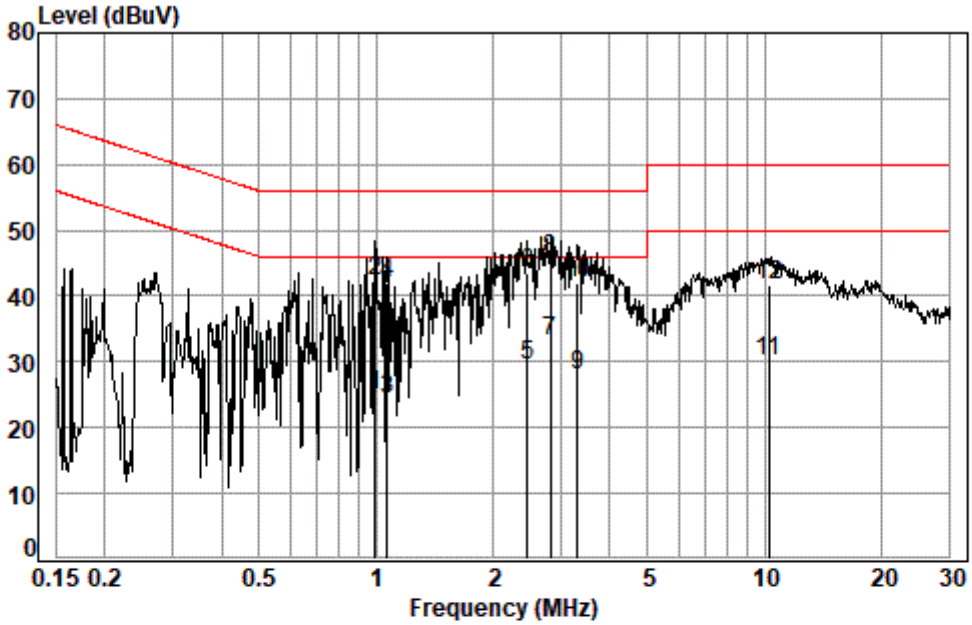
Test Mode: 05; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 01078CR
Test mode: 05

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.8438	0.09	9.68	8.22	17.99	46.00	-28.01	Average
2	0.8438	0.09	9.68	27.49	37.26	56.00	-18.74	QP
3	0.9891	0.10	9.68	14.77	24.55	46.00	-21.45	Average
4	0.9891	0.10	9.68	34.61	44.39	56.00	-11.61	QP
5	2.3336	0.13	9.70	25.30	35.13	46.00	-10.87	Average
6	2.3336	0.13	9.70	34.21	44.04	56.00	-11.96	QP
7	2.9307	0.14	9.71	17.81	27.66	46.00	-18.34	Average
8	2.9307	0.14	9.71	32.89	42.74	56.00	-13.26	QP
9	3.1731	0.14	9.72	19.97	29.83	46.00	-16.17	Average
10	3.1731	0.14	9.72	32.01	41.87	56.00	-14.13	QP
11	10.2332	0.16	9.94	19.70	29.80	50.00	-20.20	Average
12	10.2332	0.16	9.94	31.01	41.11	60.00	-18.89	QP

Test Mode: 05; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01078CR
Test mode: 05

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.9944	0.10	9.67	15.10	24.87	46.00	-21.13	Average
2	0.9944	0.10	9.67	32.65	42.42	56.00	-13.58	QP
3	1.0710	0.10	9.67	14.50	24.27	46.00	-21.73	Average
4	1.0710	0.10	9.67	32.25	42.02	56.00	-13.98	QP
5	2.4476	0.13	9.69	19.72	29.54	46.00	-16.46	Average
6	2.4476	0.13	9.69	33.62	43.44	56.00	-12.56	QP
7	2.8091	0.14	9.70	23.36	33.20	46.00	-12.80	Average
8	2.8091	0.14	9.70	35.73	45.57	56.00	-10.43	QP
9	3.2930	0.14	9.71	18.08	27.93	46.00	-18.07	Average
10	3.2930	0.14	9.71	32.25	42.10	56.00	-13.90	QP
11	10.2332	0.16	9.98	19.97	30.11	50.00	-19.89	Average
12	10.2332	0.16	9.98	31.40	41.54	60.00	-18.46	QP

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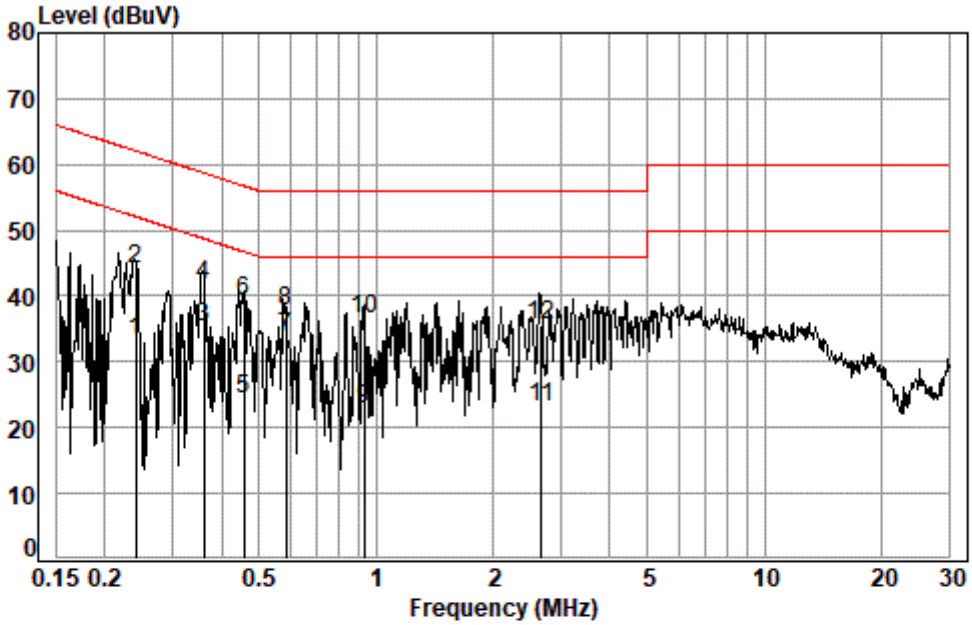
Test Mode: 09; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 01078CR
Test mode: 09

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.2404	0.04	9.65	23.41	33.10	52.08	-18.98	Average
2	0.2404	0.04	9.65	34.56	44.25	62.08	-17.83	QP
3	0.3596	0.06	9.67	25.69	35.42	48.74	-13.32	Average
4	0.3596	0.06	9.67	32.03	41.76	58.74	-16.98	QP
5	0.4564	0.07	9.68	14.73	24.48	46.76	-22.28	Average
6	0.4564	0.07	9.68	29.53	39.28	56.76	-17.48	QP
7	0.5854	0.08	9.68	24.05	33.81	46.00	-12.19	Average
8	0.5854	0.08	9.68	28.09	37.85	56.00	-18.15	QP
9	0.9331	0.10	9.68	12.94	22.72	46.00	-23.28	Average
10	0.9331	0.10	9.68	26.63	36.41	56.00	-19.59	QP
11	2.6641	0.14	9.70	13.31	23.15	46.00	-22.85	Average
12	2.6641	0.14	9.70	25.64	35.48	56.00	-20.52	QP

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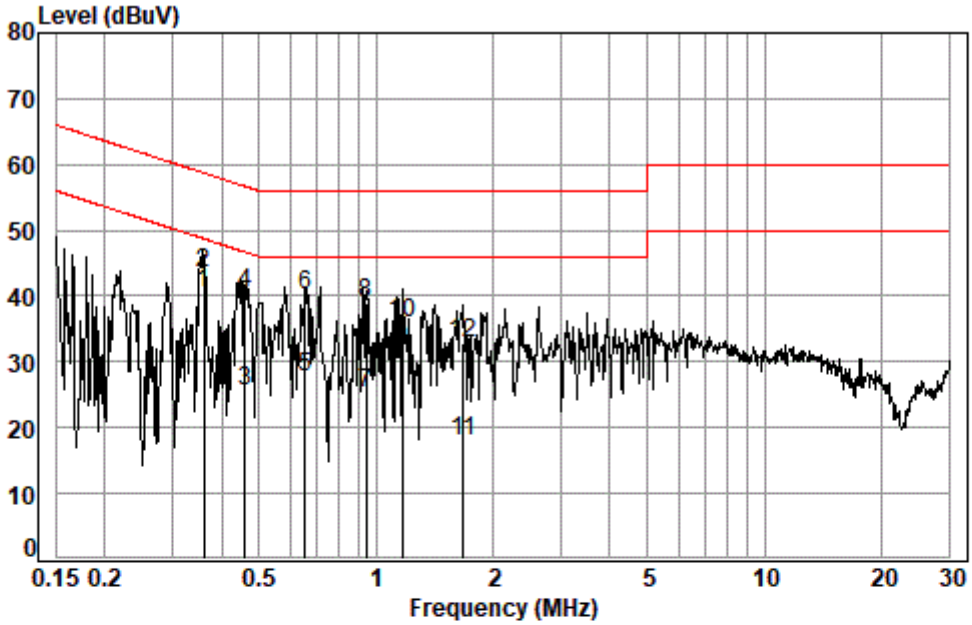
Test Mode: 09; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01078CR
Test mode: 09

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.3596	0.06	9.66	30.82	40.54	48.74	-8.20	Average
2	0.3596	0.06	9.66	33.93	43.65	58.74	-15.09	QP
3	0.4588	0.07	9.67	15.74	25.48	46.71	-21.23	Average
4	0.4588	0.07	9.67	30.76	40.50	56.71	-16.21	QP
5	0.6578	0.08	9.67	17.79	27.54	46.00	-18.46	Average
6	0.6578	0.08	9.67	30.26	40.01	56.00	-15.99	QP
7	0.9431	0.10	9.67	15.38	25.15	46.00	-20.85	Average
8	0.9431	0.10	9.67	29.20	38.97	56.00	-17.03	QP
9	1.1657	0.11	9.67	22.13	31.91	46.00	-14.09	Average
10	1.1657	0.11	9.67	26.11	35.89	56.00	-20.11	QP
11	1.6802	0.12	9.67	8.19	17.98	46.00	-28.02	Average
12	1.6802	0.12	9.67	23.21	33.00	56.00	-23.00	QP

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7.2 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)
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.		

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C Humidity: 45 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Final test	05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	08	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.

Pre-scan	09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	14	Charge mode_Keep the EUT charging(5W)
Pre-scan	15	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	16	Charge mode_Keep the EUT charging(10W)
Pre-scan	17	Charge mode_Keep the EUT charging(15W)
Pre-scan	18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	26	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	27	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	28	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	30	Charge+Discharging mode_Keep the EUT charging(5W) and keep all output ports in discharging mode.
Pre-scan	31	Charge+Discharging mode_Keep the EUT charging(7.5W) and keep all output ports in discharging mode.
Pre-scan	32	Charge+Discharging mode_Keep the EUT charging(10W) and keep all output ports in discharging mode.

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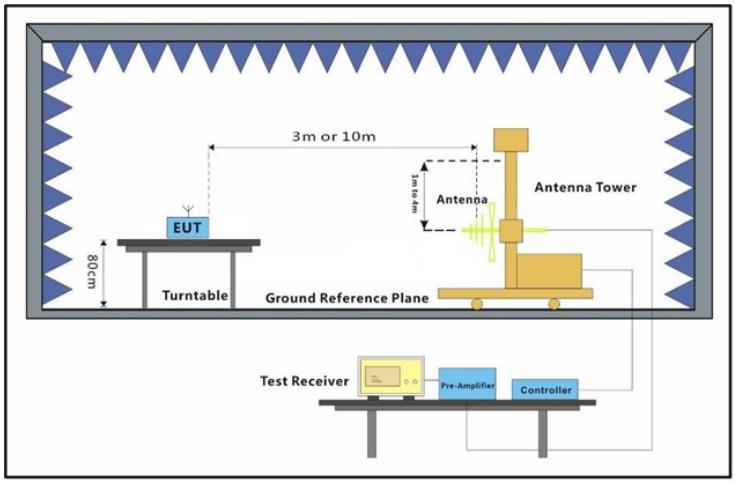
Pre-scan	33	Charge+Discharging mode_Keep the EUT charging(15W) and keep all output ports in discharging mode.

7.2.3 Test Setup Diagram



7.2.4 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 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 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.

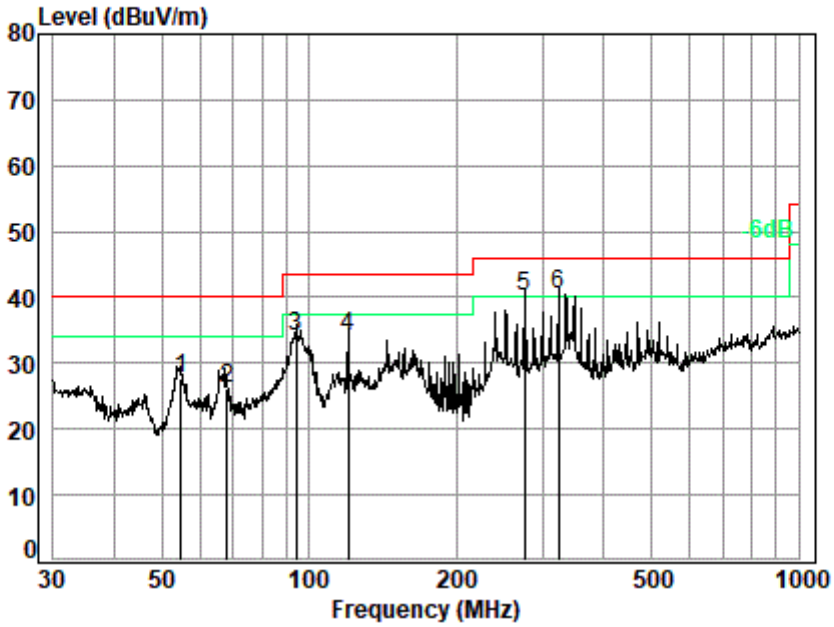
g. Test the EUT in the lowest channel,the middle channel,the Highest channel

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

Test Mode: 05; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01078CR
Test Mode: 05

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	54.64	41.19	13.30	0.75	27.67	27.57	40.00	-12.43	QP
2	67.91	40.46	12.61	0.80	27.65	26.22	40.00	-13.78	QP
3	94.10	46.85	13.51	1.22	27.62	33.96	43.50	-9.54	QP
4	120.28	47.54	12.99	1.13	27.49	34.17	43.50	-9.33	QP
5	276.12	46.91	18.48	1.84	26.93	40.30	46.00	-5.70	QP
6 q	323.32	45.32	19.93	2.08	27.01	40.32	46.00	-5.68	QP

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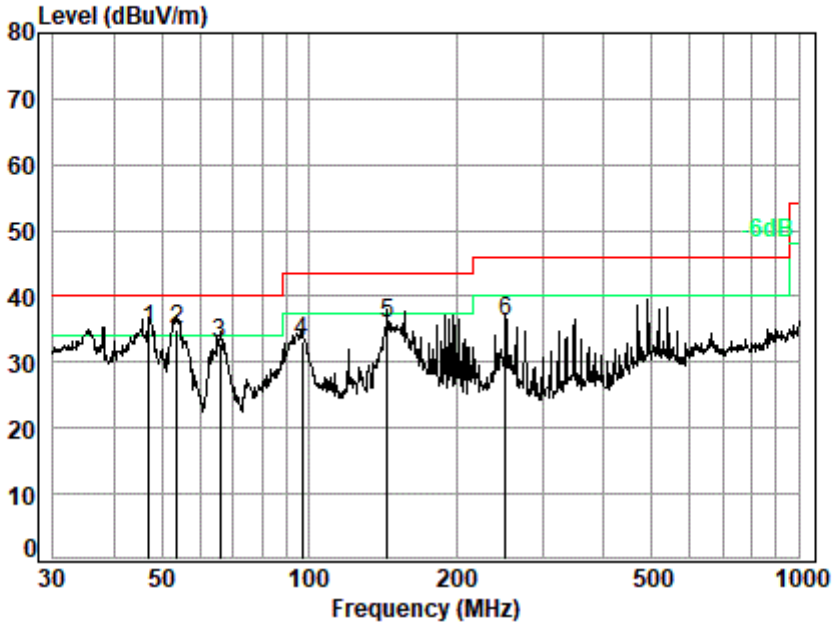
Test Mode: 05; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01078CR
Test Mode: 05

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	47.16	46.82	15.01	0.70	27.69	34.84	40.00	-5.16	QP
2 q	53.69	48.40	13.50	0.74	27.67	34.97	40.00	-5.03	QP
3	65.80	46.86	12.79	0.80	27.65	32.80	40.00	-7.20	QP
4	96.77	45.75	13.80	1.16	27.61	33.10	43.50	-10.40	QP
5	144.33	48.23	13.97	1.15	27.36	35.99	43.50	-7.51	QP
6	252.06	43.45	18.18	1.66	26.99	36.30	46.00	-9.70	QP

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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 λ/2π and the limit distance is greater than λ/2π, 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 λ/2π distance, and at a 20 dB/decade of distance rate beyond λ/2π. This shall be accomplished using Equation (2):

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

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

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

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

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

Remark:

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

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

7.3.1 E.U.T. Operation

Operating Environment:

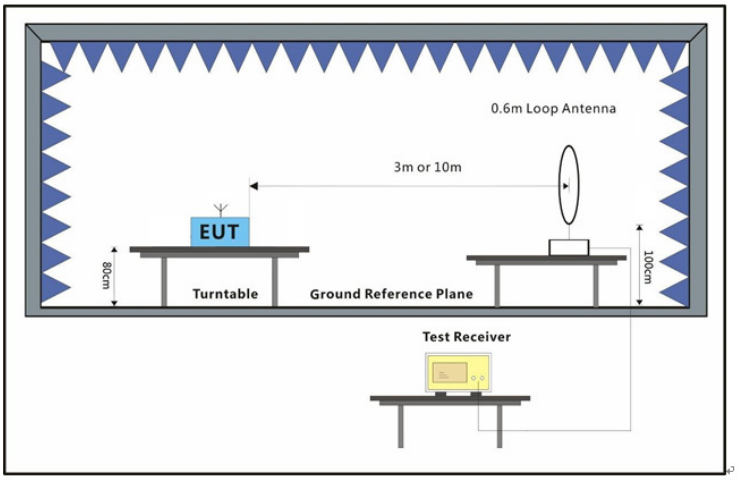
Temperature: 23.5 °C Humidity: 46.8 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Final test	05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	08	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	14	Charge mode_Keep the EUT charging(5W)
Pre-scan	15	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	16	Charge mode_Keep the EUT charging(10W)
Pre-scan	17	Charge mode_Keep the EUT charging(15W)
Pre-scan	18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the

		EUT in charging(Adapter supply).
Pre-scan	21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	26	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	27	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	28	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	30	Charge+Discharging mode_Keep the EUT charging(5W) and keep all output ports in discharging mode.
Pre-scan	31	Charge+Discharging mode_Keep the EUT charging(7.5W) and keep all output ports in discharging mode.
Pre-scan	32	Charge+Discharging mode_Keep the EUT charging(10W) and keep all output ports in discharging mode.
Pre-scan	33	Charge+Discharging mode_Keep the EUT charging(15W) and keep all output ports in discharging mode.

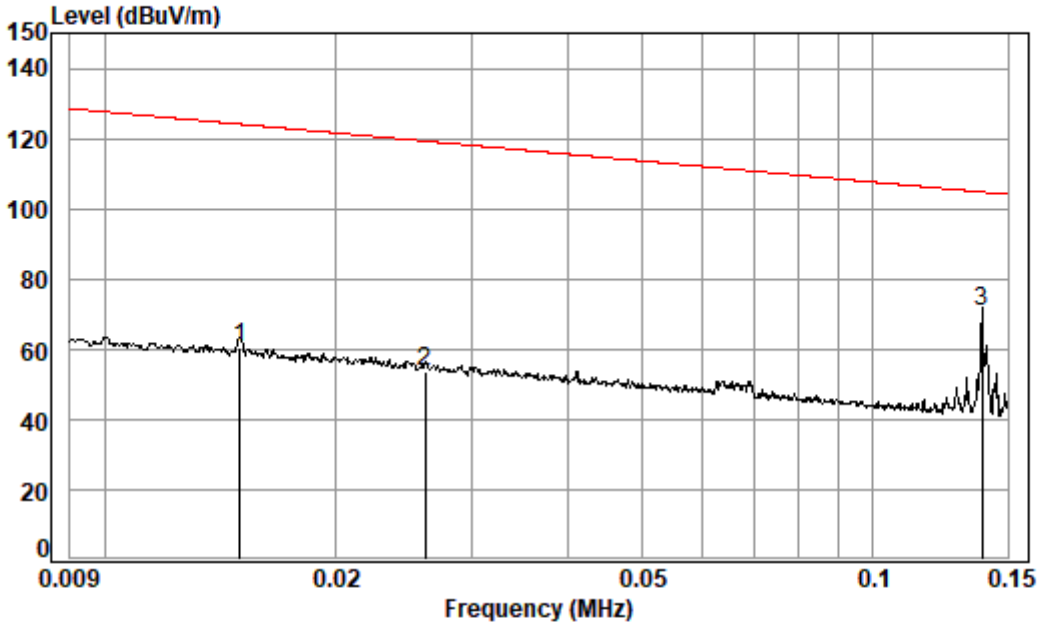
7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

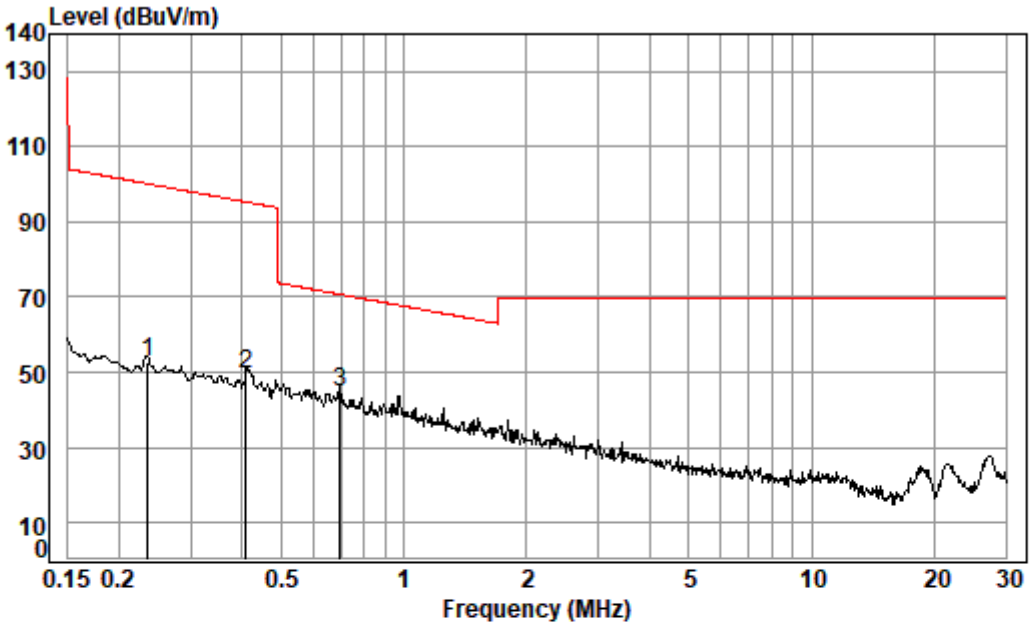
Test Mode: 05;
9KHz-150KHz



Condition: 3m
Job No. : 01078CR
Test Mode: 05

	Freq	Ant Factor	Preamp Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	0.015	16.00	31.73	0.01	76.15	60.43	124.10	-63.67	Average
2	0.026	13.17	32.08	0.01	72.25	53.35	119.26	-65.91	Average
3 pp	0.139	11.00	32.50	0.02	92.08	70.60	104.77	-34.17	Average

Test Mode: 05;
150KHz-30MHz



Condition: 3m
Job No. : 01078CR
Test Mode: 05

	Freq	Ant Factor	Preamp Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	0.235	10.93	32.50	0.18	73.94	52.55	100.17	-47.62	Average
2 av	0.410	10.87	32.50	0.36	70.55	49.28	95.34	-46.06	Average
3 pp	0.697	10.83	32.50	0.60	65.60	44.53	70.74	-26.21	QP

7.4 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

7.4.1 E.U.T. Operation

Operating Environment:
Temperature: 18.9 °C Humidity: 53.3 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan / Final test	**Mode Code**	**Description**
Pre-scan	02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Final test	05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	08	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	14	Charge mode_Keep the EUT charging(5W)
Pre-scan	15	Charge mode_Keep the EUT charging(7.5W)

Pre-scan	16	Charge mode_Keep the EUT charging(10W)
Pre-scan	17	Charge mode_Keep the EUT charging(15W)
Pre-scan	18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	26	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	27	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	28	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).
Pre-scan	30	Charge+Discharging mode_Keep the EUT charging(5W) and keep all output ports in discharging mode.
Pre-scan	31	Charge+Discharging mode_Keep the EUT charging(7.5W) and keep all output ports in discharging mode.
Pre-scan	32	Charge+Discharging mode_Keep the EUT charging(10W) and keep all output ports in discharging mode.
Pre-scan	33	Charge+Discharging mode_Keep the EUT charging(15W) and keep all output ports in discharging mode.

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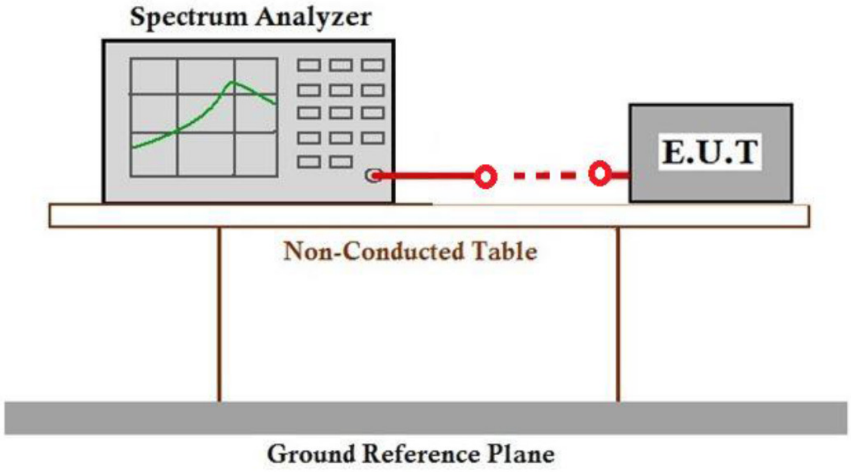
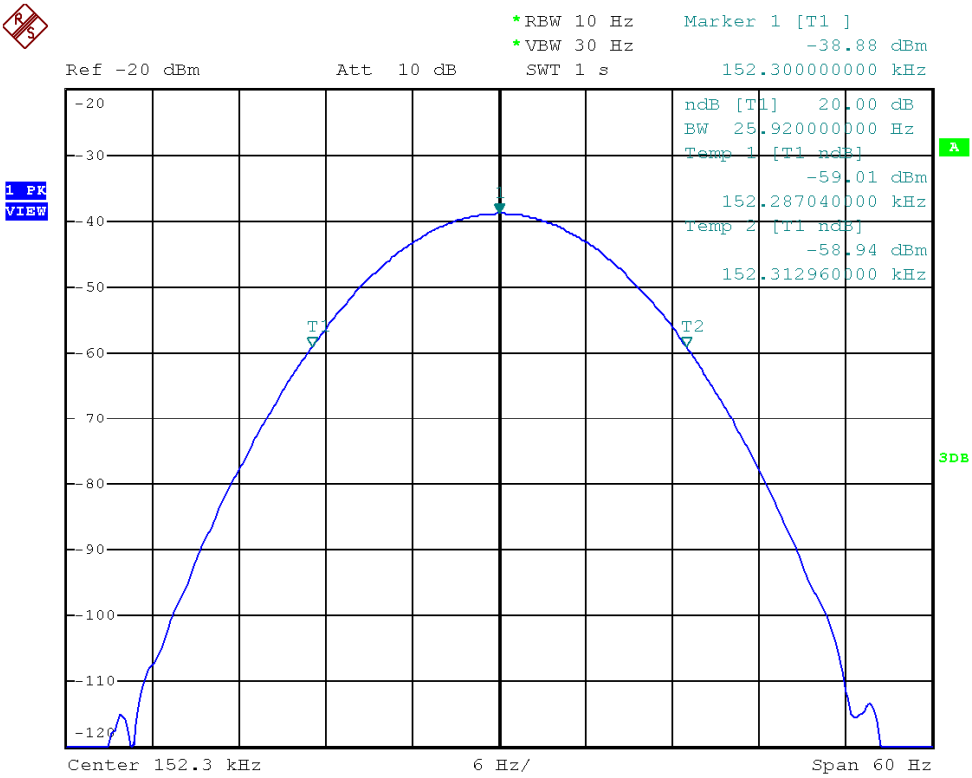
7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Test Frequency(KHz)	20dB bandwidth (KHz)	Limit (KHz)	Results
152.30	0.026	N/A	Pass



7.5 Restricted Bands

Test Requirement 47 CFR Part 15, Subpart C 15.205
Test Method: ANSI C63.10 (2013) Section 6.10.5
Limit: The fundamental wave could not fall in the restricted band 90KHz-110KHz

7.5.1 E.U.T. Operation

Operating Environment:
Temperature: 18.9 °C Humidity: 53.3 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	02	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	03	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	04	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Final test	05	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply), while keep all output ports in discharging mode.
Pre-scan	06	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	07	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	08	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	09	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply), while keep all output ports in discharging mode.
Pre-scan	10	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	11	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	12	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	13	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply), while keep all output ports in discharging mode.
Pre-scan	14	Charge mode_Keep the EUT charging(5W)
Pre-scan	15	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	16	Charge mode_Keep the EUT charging(10W)
Pre-scan	17	Charge mode_Keep the EUT charging(15W)

Pre-scan	18	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	19	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	20	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	21	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Adapter supply).
Pre-scan	22	Charge+Charging mode_Keep the EUT charging(5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	23	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	24	Charge+Charging mode_Keep the EUT charging(10W) and keep the battery of the EUT in charging(Type-C port supply).
Pre-scan	25	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(Type-C port supply).
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Pre-scan	27	Charge+Charging mode_Keep the EUT charging(7.5W) and keep the battery of the EUT in charging(DC port supply).
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Pre-scan	29	Charge+Charging mode_Keep the EUT charging(15W) and keep the battery of the EUT in charging(DC port supply).
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Pre-scan	32	Charge+Discharging mode_Keep the EUT charging(10W) and keep all output ports in discharging mode.
Pre-scan	33	Charge+Discharging mode_Keep the EUT charging(15W) and keep all output ports in discharging mode.

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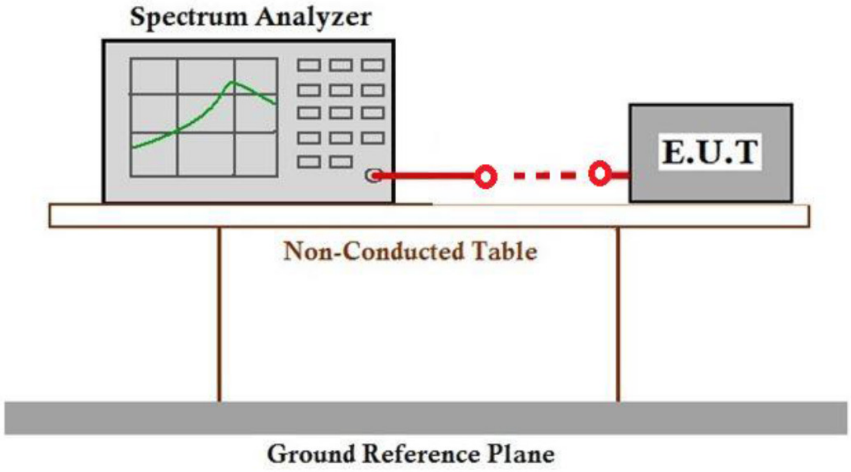
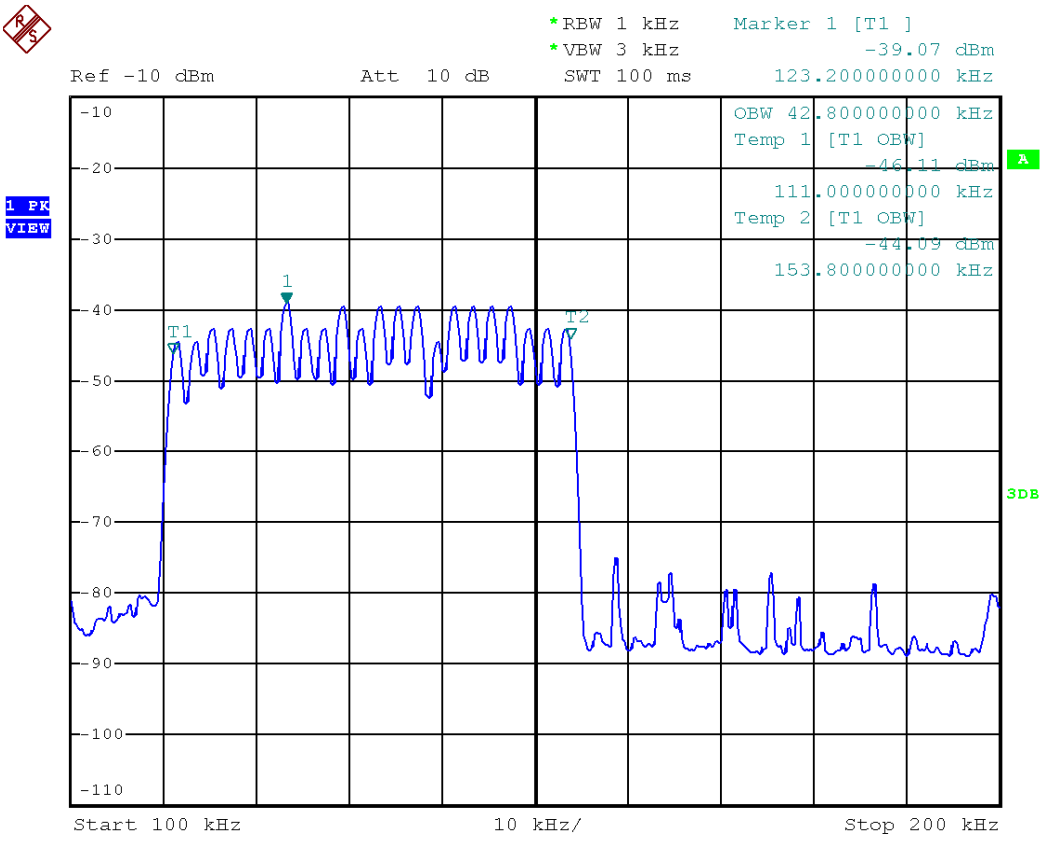
7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data



According the test data above, the fundamental wave is not fall in the restricted band 90kHz-110kHz, the field strength also meet the 15.209 requirement, so this test is Pass.

8 Test Setup Photo

Refer to test setup photos for SZEM2101001078CR

9 EUT Constructional Details (EUT Photos)

Refer to external and internal photos for SZEM2101001078CR

- End of the Report -

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