

TEST REPORT

Applicant Name : Shenzhen Xiaojie Technology Co., Ltd
Address : 6 Floor, C Building, Huamingcheng High-Tech Park, Matian Street, Guangming District, Shenzhen, China
Report Number : SZNS2220824-38437E-RF
FCC ID: 2A573-C50

Test Standard (s)

FCC Part 15C

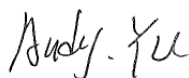
Sample Description

Product Type: Wireless Car Charger
Model No.: C50
Trade Mark: 
Date Received: 2022-08-24
Date of Test: 2022-08-26 to 2022-09-06
Report Date: 2022-09-07

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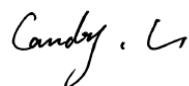
* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:



Audy.Yu
EMC Engineer

Approved By:



Candy Li
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Type	Wireless Car Charger
Test Model	C50
Frequency Range	110-205kHz
Antenna Type	Coil
Input Voltage	DC 5V/9V from USB port.
Output Power	5W/7.5W/10W/15W
Sample serial number	SZNS2220824-38437E-RF-S1
Sample/EUT Status	Good condition

Objective

This test report is in accordance with Part 2, Subpart J, and Part 15, Subparts A and C of the Federal Communications Commission's rules.

The objective is to determine the compliance of EUT with FCC rules, section 15.203, 15.205 and 15.209.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter		Uncertainty
Emissions, Radiated	9kHz – 30MHz	2.66dB
	30MHz - 1GHz	4.28dB
Temperature		1°C
Humidity		6%
Supply voltages		0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189.

Accredited by American Association for Laboratory Accreditation (A2LA). The Certificate Number is 4297.01

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0016. The Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a test mode.

Note: DC 9V from USB port in test is the worst case.

EUT Exercise Software

No software used in test.

Local Support Equipment

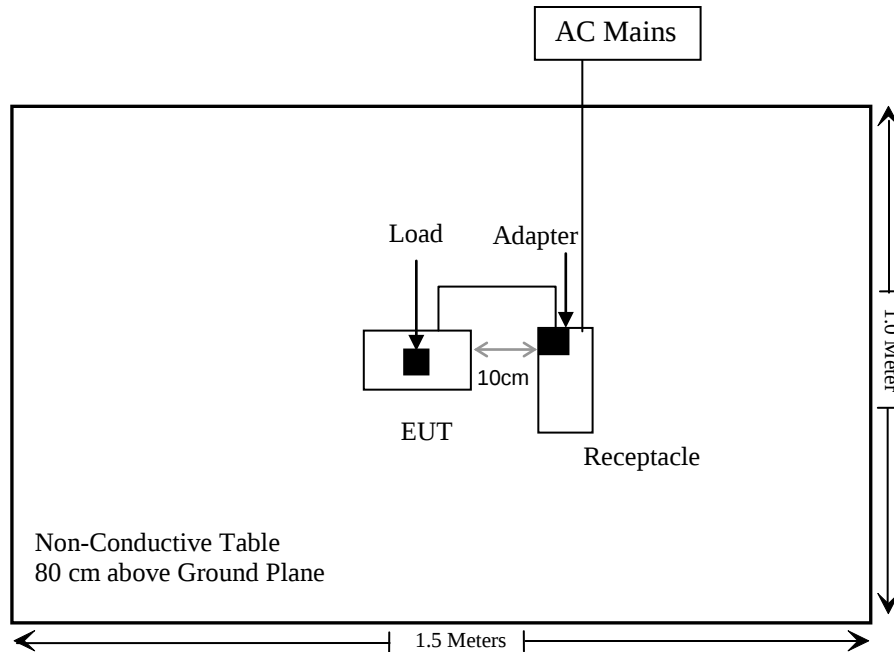
Manufacturer	Description	Model	Serial Number
DLIGHT STAR	Load	DZ0111	Unknown
XIAOMI	adapter	MDY-11-EB	CA62010U101960G

External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable DC Cable	0.8	Adapter	EUT

Block Diagram of Test Setup

For Radiated Emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC§15.203	Antenna Requirement	Compliant
FCC§15.207	AC Line Conducted Emission	Not Applicable
§15.209 §15.205	Radiated Emission Test	Compliant

Not applicable: The device is one car charger.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Radiated test					
Rohde & Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
SCHWARZBECK	LOOP ANTENNA	FMZB1516	1516131	2021/12/22	2024/12/21
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b (V9)					

*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC§15.203 – ANTENNA REQUIREMENT

Applicable Standard

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.

Antenna Connected Construction

The EUT has one coil antenna arrangement which was permanently attached, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant.

FCC §15.205 & §15.209 - RADIATED EMISSIONS TEST

Applicable Standard

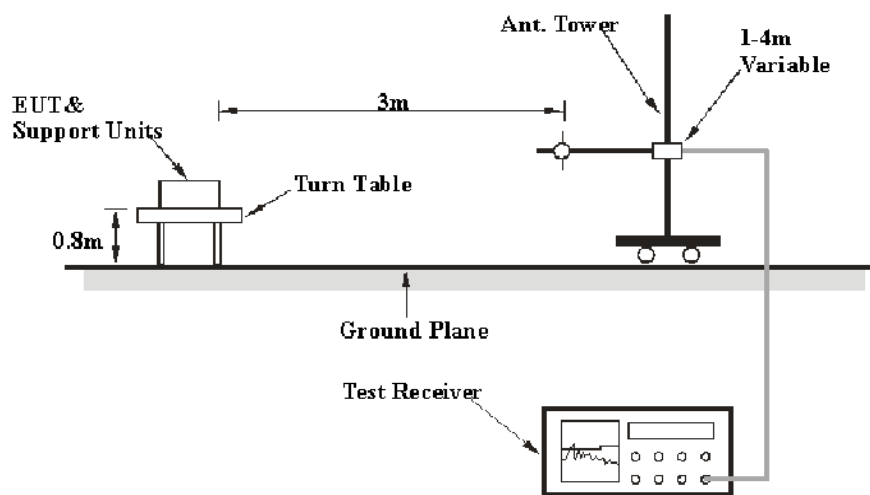
As per FCC Part 15.209

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part Subpart C limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

During the radiated emission test, the EMI test Receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	Measurement
9 kHz – 150 kHz	300 Hz	1 kHz	PK
150 kHz – 30 MHz	10 kHz	30 kHz	PK
30 MHz – 1000 MHz	120 kHz	300 kHz	QP

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

If the maximized peak measured value complies with the limit, then it is unnecessary to perform an QP/Average measurement

Corrected Amplitude & Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit/Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit/margin of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

$$\begin{aligned}\text{Over Limit/Margin} &= \text{Level} / \text{Corrected Amplitude} - \text{Limit} \\ \text{Level} / \text{Corrected Amplitude} &= \text{Read Level} + \text{Factor}\end{aligned}$$

Test Data

Environmental Conditions

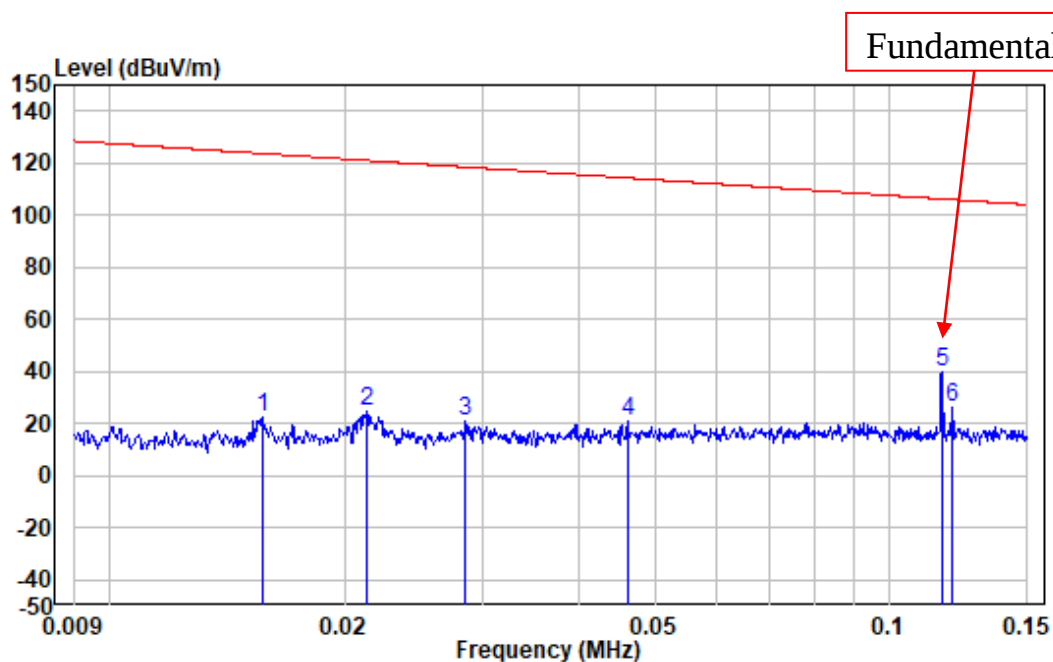
Temperature:	25 °C
Relative Humidity:	62 %
ATM Pressure:	101.1 kPa

The testing was performed by Level Li from 2022-08-26 to 2022-09-06.

Test Mode: Wireless Charging Full Load (Worst case)

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case X-axis of orientation was recorded.

9 kHz~150kHz:



Site : chamber

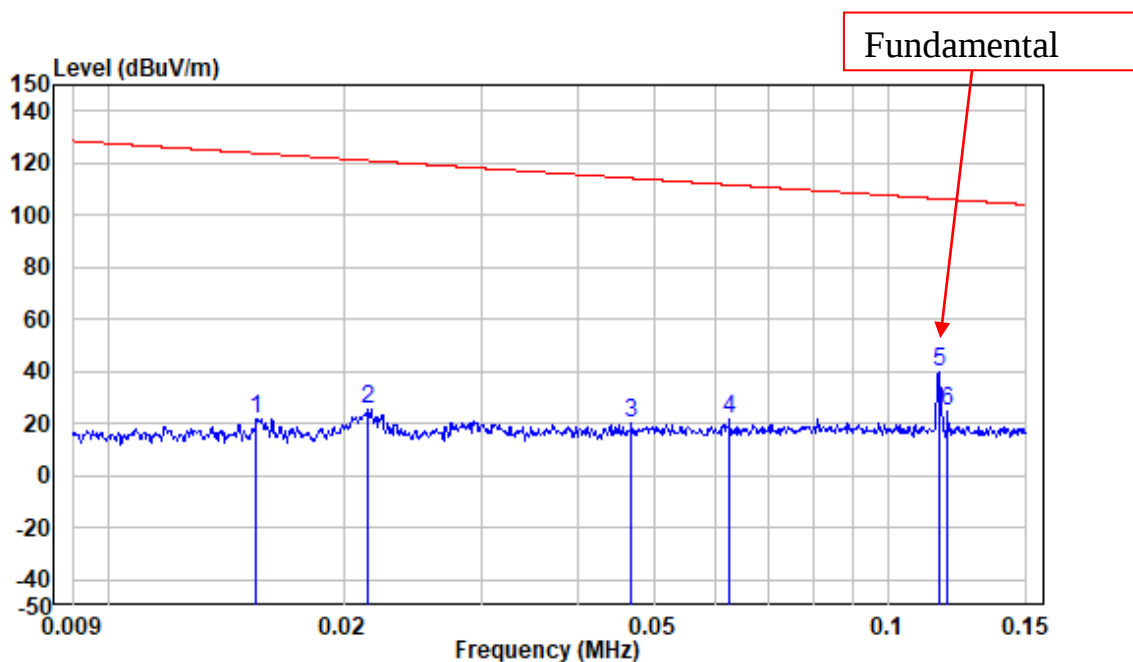
Condition: 3m

Job No. : SZNS2220824-38437E-RF

Test Mode: Full Load

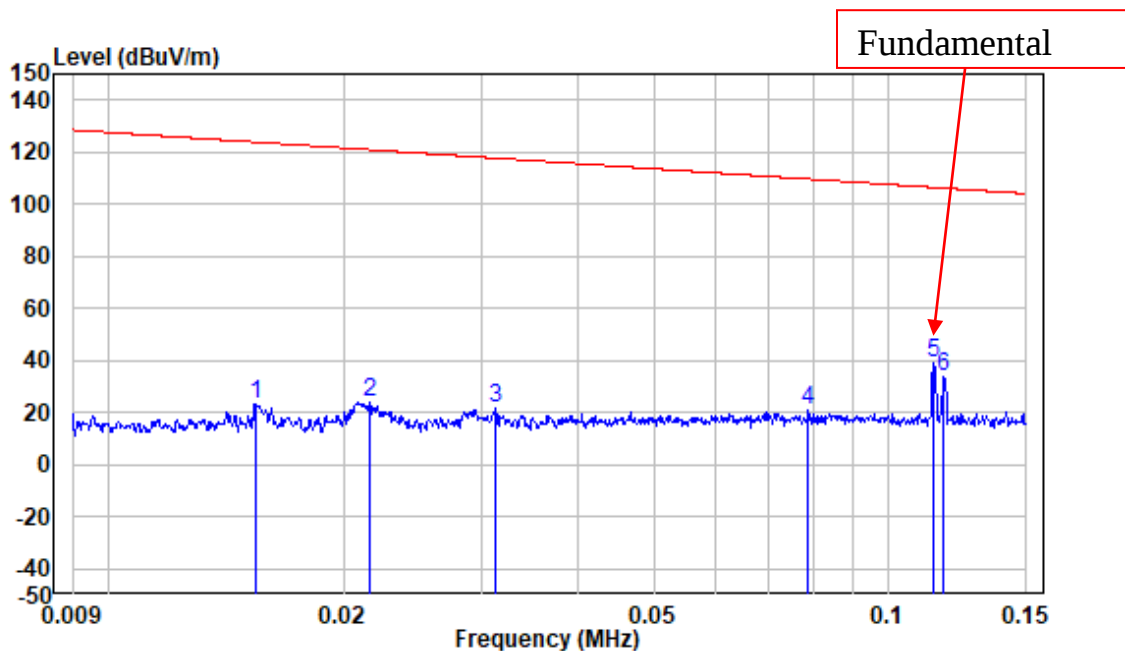
Note : Ground-parallel

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.016	-11.54	33.63	22.09	123.68	-101.59	Peak
2	0.021	-11.69	36.37	24.68	121.02	-96.34	Peak
3	0.029	-11.64	32.63	20.99	118.48	-97.49	Peak
4	0.046	-11.55	32.41	20.86	114.32	-93.46	Peak
5	0.116	-11.73	51.66	39.93	106.28	-66.35	Peak
6	0.120	-11.79	37.90	26.11	105.99	-79.88	Peak



Site : chamber
Condition: 3m
Job No. : SZNS2220824-38437E-RF
Test Mode: Full Load
Note : Perpendicular

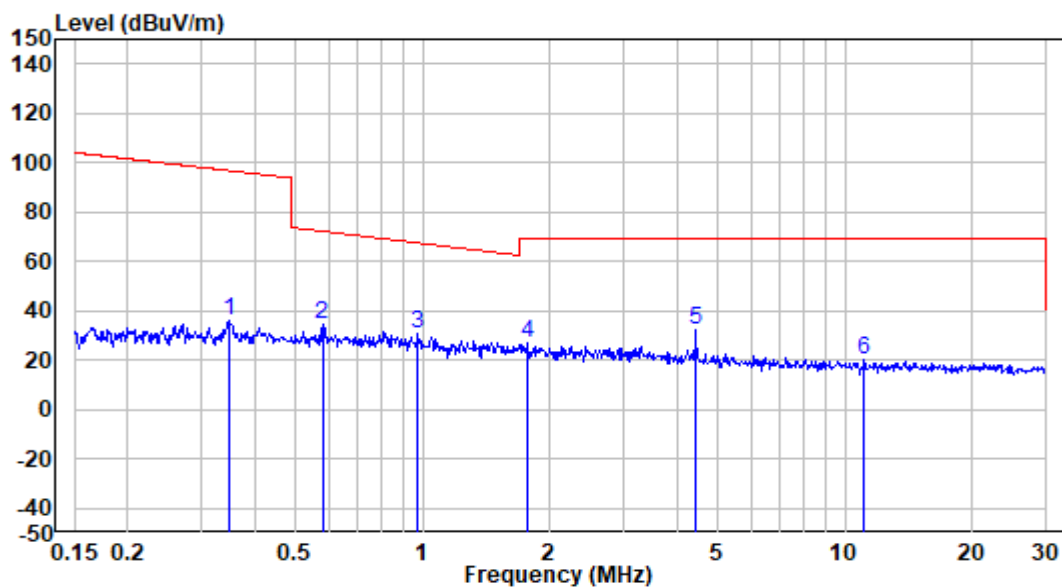
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.015	-11.53	33.37	21.84	123.80	-101.96	Peak
2	0.022	-11.68	37.10	25.42	120.94	-95.52	Peak
3	0.047	-11.54	31.90	20.36	114.20	-93.84	Peak
4	0.063	-11.56	32.98	21.42	111.68	-90.26	Peak
5	0.116	-11.72	51.52	39.80	106.33	-66.53	Peak
6	0.119	-11.77	36.26	24.49	106.09	-81.60	Peak



Site : chamber
Condition: 3m
Job No. : SZNS2220824-38437E-RF
Test Mode: Full Load
Note : Parallel

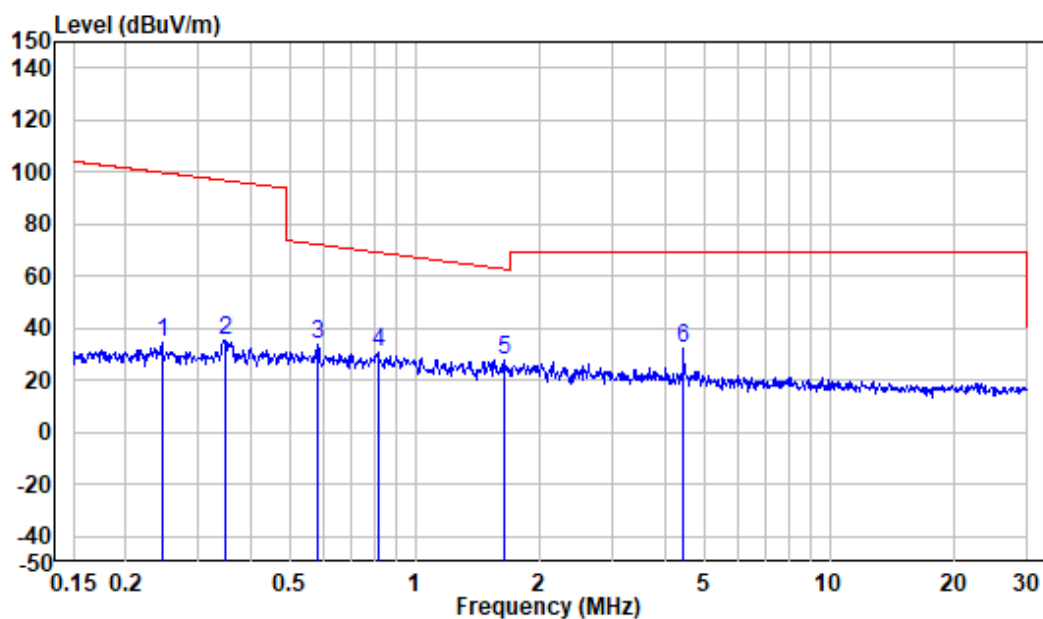
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.015	-11.53	34.86	23.33	123.83-100.50	Peak	
2	0.022	-11.68	35.97	24.29	120.90	-96.61	Peak
3	0.031	-11.63	33.44	21.81	117.67	-95.86	Peak
4	0.079	-11.58	32.57	20.99	109.68	-88.69	Peak
5	0.114	-11.71	50.97	39.26	106.48	-67.22	Peak
6	0.117	-11.74	45.65	33.91	106.21	-72.30	Peak

150kHz~30MHz:



Site : chamber
Condition: 3m
Job No. : SZNS2220824-38437E-RF
Test Mode: Full Load
Note : Ground-parallel

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.348	-11.76	47.56	35.80	96.76	-60.96	Peak
2	0.579	-11.70	46.38	34.68	72.32	-37.64	Peak
3	0.974	-11.61	42.00	30.39	67.71	-37.32	Peak
4	1.781	-11.38	38.68	27.30	69.54	-42.24	Peak
5	4.430	-11.69	43.69	32.00	69.54	-37.54	Peak
6	11.139	-10.91	31.15	20.24	69.54	-49.30	Peak



Site : chamber

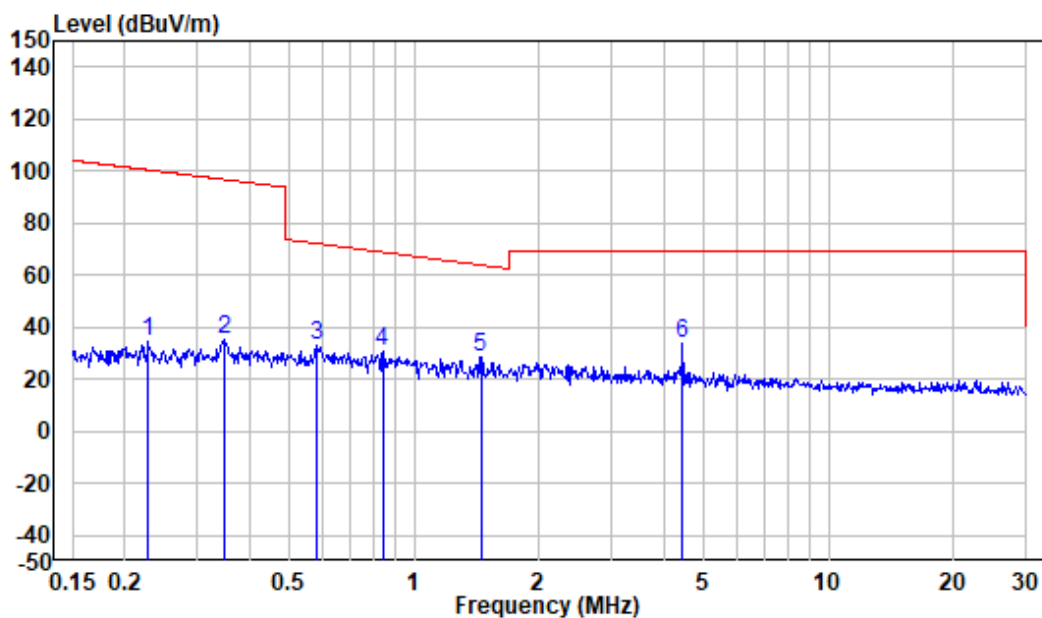
Condition: 3m

Job No. : SZNS2220824-38437E-RF

Test Mode: Full Load

Note : Perpendicular

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.246	-11.90	46.15	34.25	99.80	-65.55	Peak
2	0.348	-11.76	47.34	35.58	96.76	-61.18	Peak
3	0.582	-11.70	45.26	33.56	72.27	-38.71	Peak
4	0.813	-11.83	42.68	30.85	69.31	-38.46	Peak
5	1.645	-11.42	38.98	27.56	63.06	-35.50	Peak
6	4.430	-11.69	44.25	32.56	69.54	-36.98	Peak



Site : chamber

Condition: 3m

Job No. : SZNS2220824-38437E-RF

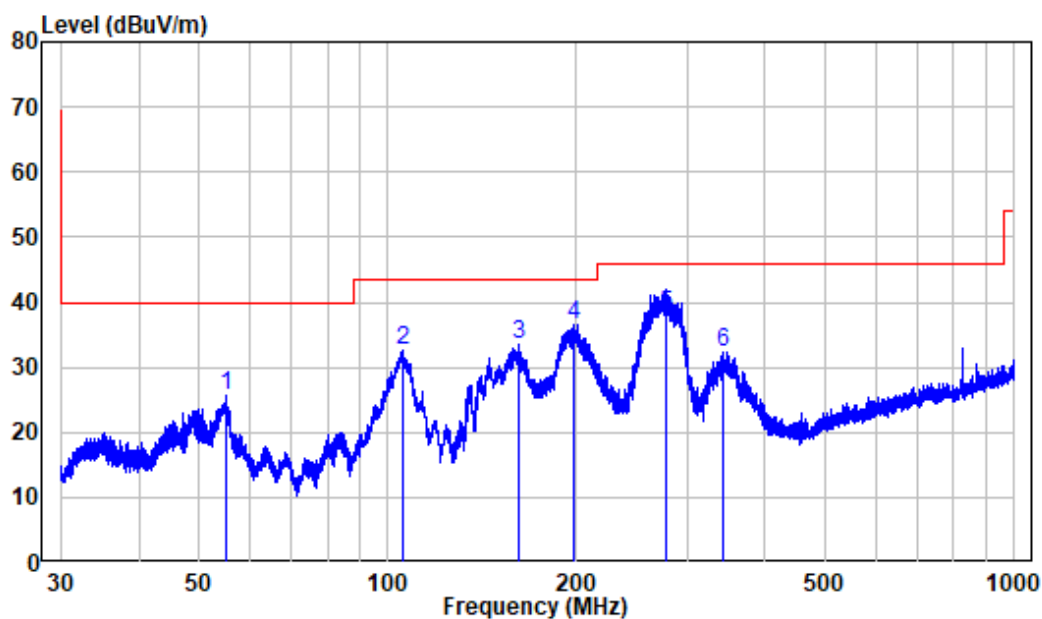
Test Mode: Full Load

Note : Parallel

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.228	-11.94	46.65	34.71	100.45	-65.74	Peak
2	0.348	-11.76	46.79	35.03	96.76	-61.73	Peak
3	0.582	-11.70	44.55	32.85	72.27	-39.42	Peak
4	0.839	-11.80	42.37	30.57	69.03	-38.46	Peak
5	1.449	-11.46	40.14	28.68	64.19	-35.51	Peak
6	4.430	-11.69	45.15	33.46	69.54	-36.08	Peak

30MHz~1GHz:

Horizontal



Site : chamber

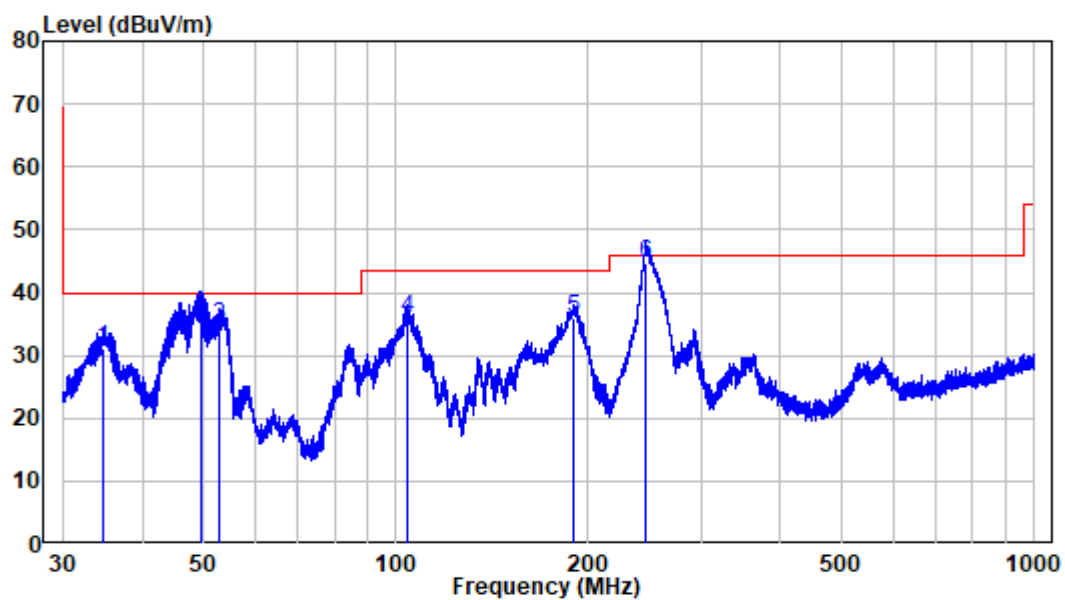
Condition: 3m HORIZONTAL

Job No. : SZNS2220824-38437E-RF

Test Mode: Full Load

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	54.979	-10.28	35.96	25.68	40.00	-14.32	Peak
2	105.595	-11.89	44.43	32.54	43.50	-10.96	Peak
3	161.970	-14.29	47.71	33.42	43.50	-10.08	Peak
4	197.893	-11.54	48.20	36.66	43.50	-6.84	Peak
5	277.094	-9.76	47.79	38.03	46.00	-7.97	QP
6	341.979	-7.35	39.63	32.28	46.00	-13.72	Peak

Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : SZNS2220824-38437E-RF
Test Mode: Full Load

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	34.639	-11.66	42.74	31.08	40.00	-8.92	QP
2	49.446	-9.94	44.80	34.86	40.00	-5.14	QP
3	52.760	-10.12	44.69	34.57	40.00	-5.43	QP
4	104.216	-11.76	47.67	35.91	43.50	-7.59	QP
5	189.572	-11.64	47.58	35.94	43.50	-7.56	QP
6	246.491	-10.63	55.40	44.77	46.00	-1.23	QP

***** END OF REPORT *****