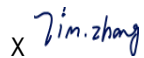


Prüfbericht-Nr.: Test report no.:	CN22OAWT 003	Auftrags-Nr.: Order no.:	168339816	Seite 1 von 32 Page 1 of 32
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2021-10-20	
Auftraggeber: Client:	SHEN ZHEN PUTIAN YONGGAO NEW ENERGY TECHNOLOGY CO.,LTD Room 201, Block A, No.1, Qianhaishen Port, Cooperative District, 518102 Shenzhen, P.R.China.			
Prüfgegenstand: Test item:	AC Wallbox Charging Station			
Bezeichnung / Typ-Nr.: Identification / Type no.:	WPTAC-7KW-S18-TD, WPTAC-7KW-S24-TD, WPTAC-9KW-S18-TD, WPTAC-9KW-S24-TD, WPTAC-11KW-S18-TD, WPTAC-11KW-S24-TD			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.225 RSS-210 Issue 10 December 2019 RSS-Gen Issue 5 February 2021			
Wareneingangsdatum: Date of sample receipt:	2021-12-10			
Prüfmuster-Nr.: Test sample no.:	A003145917-013~014 A003166015-001~002 A003166894-001			
Prüfzeitraum: Testing period:	2021-12-13 - 2022-02-16			
Ort der Prüfung: Place of testing:	Dongguan NTC Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:	 X <u>Tim Zhang</u> Signed by: Tim Zhang		genehmigt von: authorized by:	 X <u>Lin Lin</u> Signed by: Lin Lin
Datum: Date:	2022-03-25		Ausstellungsdatum: Issue date:	2022-03-25
Stellung / Position:	Project Manager		Stellung / Position:	Reviewer
Sonstiges / Other:	FCC ID: 2A4EM-PTYGEVCHARGER IC: 28264-PTYG			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

V05

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 EMISSION WITHIN BAND

RESULT: Pass

5.1.3 SPURIOUS EMISSION OUTSIDE BAND

RESULT: Pass

5.1.4 FREQUENCY TOLERANCE OF CARRIER SIGNAL

RESULT: Pass

5.1.5 99% BANDWIDTH

RESULT: Pass

5.1.6 20dB BANDWIDTH

RESULT: Pass

5.1.7 CONDUCTED EMISSIONS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

None

2 Test Sites

2.1 Test Facilities

Dongguan NTC Co., Ltd.

Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan, Guangdong Province, 523000, P.R. China

A2LA Certificate Registration Number: 4429.01

CAB identifier: CN0015

The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

☑RF Connected Test					
Test Receiver	Rohde & Schwarz	ESCI7	100837	Mar. 13, 2021	1 Year
Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 23, 2021	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSU26	200409/026	Mar. 13, 2021	1 Year
Spectrum Analyzer	Keysight	N9020A	MY54200831	Mar. 13, 2021	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSV40	101094	Mar. 13, 2021	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-172	Mar. 23, 2021	2 Years
Power Sensor	DARE	RPR3006W	15I00041SNO 64	Mar. 13, 2021	1 Year
Power Sensor	DARE	RPR3006W	15I00041SNO 88	Mar. 13, 2021	1 Year
Communication Tester	Rohde & Schwarz	CMW500	149004	Mar. 13, 2021	1 Year
Horn Antenna	COM-Power	AH-118	071078	Mar. 23, 2021	1 Year
Loop Antenna	Schwarzbeck	FMZB 1513	1513-272	Mar. 23, 2021	1 Year
Pre-Amplifier	HP	HP 8449B	3008A00964	Mar. 13, 2021	1 Year
Pre-Amplifier	HP	HP 8447D	1145A00203	Mar. 13, 2021	1 Year
RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar.13, 2021	1 Year
Temperature & Humidity Chamber	WANSHUN	SS-HWHS- 80	N/A	Mar. 13, 2021	1 Year
DC Source	Maynuo	MY8811	N/A	Mar. 13, 2021	1 Year
Chamber	SAEMC	9*7*7m	N/A	Apr. 25, 2021	2 Years
Test Software	MV	MTS8310	N/A	N/A	1 Year
☑Radiation chamber					
Test Receiver	Rohde & Schwarz	ESCI7	100837	Mar. 13, 2021	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSU26	200409/026	Mar. 13, 2021	1 Year
Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 23, 2021	1 Year
Loop Antenna	Schwarzbeck	FMZB 1513	1513-272	Mar. 23, 2021	1 Year
Horn Antenna	COM-Power	AH-118	071078	Mar. 23, 2021	1 Year
Pre-Amplifier	HP	HP 8447D	1145A00203	Mar. 13, 2021	1 Year
Pre-Amplifier	HP	HP 8449B	3008A00964	Mar. 13, 2021	1 Year
Chamber	SAEMC	9*7*7m	N/A	Apr. 25, 2021	2 Years
Test Software	EZ	EZ_EMC	N/A	N/A	N/A
☑Power Line Conducted Emissions Test					
Test Receiver	Rohde & Schwarz	ESCI	101152	Mar. 13, 2021	1 Year
L.I.S.N	Schwarzbeck	NNLK8129	8129-212	Mar. 13, 2021	1 Year
L.I.S.N	Rohde & Schwarz	ESH2-Z5	893606/014	Mar. 13, 2021	1 Year

RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar. 13, 2021	1 Year
Test Software	EZ	EZ_EMG	N/A	N/A	1 Year

2.3 Traceability

All measurement equipment calibrations are traceable to Calibration organization with relevant qualification.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Test Item	Uncertainty
Radio Frequency	$\pm 0.9 \times 10^{-7}$
RF Power (conducted)	± 1.6 dB
Radiated Emission of Transmitter, valid up to 26.5 GHz	± 5.14 dB
Radiated Emission of Receiver, valid up to 26.5 GHz	± 5.14 dB
Temperature	± 0.8 °C
Humidity	± 3.2 %
Voltage (DC)	± 0.5 %
Voltage (AC, <10kHz)	± 0.4 %
Uncertainty for Radiation Emission Test (9 kHz - 30 MHz)	± 4.95 dB
Uncertainty for Radiation Emission Test (30 MHz - 1 GHz)	± 4.68 dB
Uncertainty for Radiation Emission Test (1 GHz - 40 GHz)	± 5.12 dB
Uncertainty for Power Line Conduction Emission Test (9kHz – 150kHz)	± 3.04 dB
Uncertainty for Power Line Conduction Emission Test (150kHz – 30MHz)	± 2.52 dB

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

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Dongguan NTC Co., Ltd. Test facility located at Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a AC Wallbox Charging Station which is used in conjunction with electric vehicle on-board charger, It can support floor and wall mounted installation. It is widely used in the ground and parking lot of residential areas, shopping malls and office places. It can also be installed in various large, medium and small electric vehicle charging stations to provide convenient and safe charging services for electric vehicle owners. It supports Bluetooth(BLE mode), Wi-Fi 802.11 b/g/n and RFID(13.56MHz) wireless technology.

Model difference description:

Model Name	Power	Cable Length	Screen
WPTAC-7KW-S18-TD	7 KW	18 Feet	Touch Screen
WPTAC-7KW-S24-TD	7 KW	24 Feet	Touch Screen
WPTAC-9KW-S18-TD	9 KW	18 Feet	Touch Screen
WPTAC-9KW-S24-TD	9 KW	24 Feet	Touch Screen
WPTAC-11KW-S18-TD	11 KW	18 Feet	Touch Screen
WPTAC-11KW-S24-TD	11 KW	24 Feet	Touch Screen

Note: They have the same wireless module, only the power and line length are different, so we choose WPTAC-11KW-S24-TD for test.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment:	AC Wallbox Charging Station
Type Designation:	WPTAC-7KW-S18-TD, WPTAC-7KW-S24-TD, WPTAC-9KW-S18-TD, WPTAC-9KW-S24-TD, WPTAC-11KW-S18-TD, WPTAC-11KW-S24-TD
FCC ID:	2A4EM-PTYGEVCHARGER
IC:	28264-PTYG
IC company name and address:	SHENZHEN PUTIAN YONGGAO NEW ENERGY TECHNOLOGY CO.,LTD 5FL., BUILDING 2, JINCHI EXHIBITION INNOVATION PARK, NO.59, HAOYE RD., BAOAN DISTRICT, SHEN ZHEN 518100, CHINA
HVIN:	WPTAC-7KW-S18-TD, WPTAC-7KW-S24-TD, WPTAC-9KW-S18-TD, WPTAC-9KW-S24-TD, WPTAC-11KW-S18-TD, WPTAC-11KW-S24-TD
Trademark:	N/A
Operating Frequency	13.562 MHz

Operating Temperature Range	-25 °C ~ +50 °C
Operating Voltage	AC 208~240V, 50/60Hz
Adapter	AC 240V, 60Hz
Type of Modulation	ASK
Antenna Type	Integral Antenna
Antenna Gain	6 dBi

3.3 Independent Operation Modes

The basic operation modes are:

- A. On 13.562MHz operation mode
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- | | |
|---|---|
| ☒ Application Form | ☒ Rating Label |
| ☒ Operation Description | ☒ Schematics |
| ☒ Block Diagram | ☒ Photo Document |
| ☒ User Manual | ☒ Model Difference Letter |

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5&6. All testing were performed according to the procedures in ANSI C63.10: 2013 & ANSI C63.4: 2014

According to clause 3.1, all tests were performed on model WPTAC-11KW-S24-TD only.

4.3 Special Accessories and Auxiliary Equipment

Table 3: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N
-	-	-	-

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

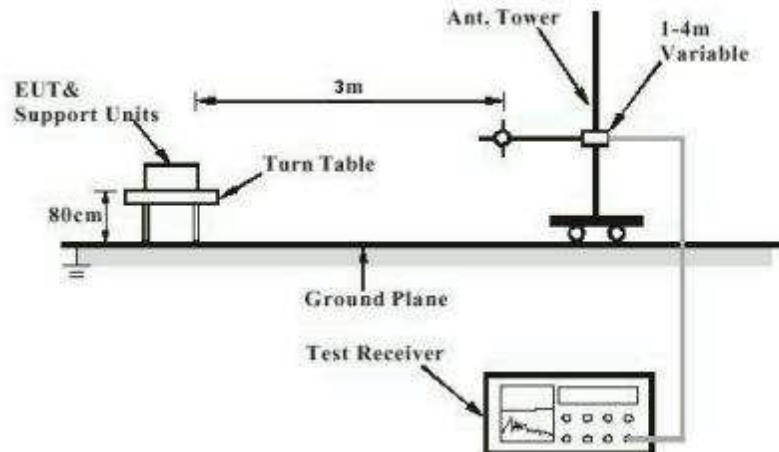


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

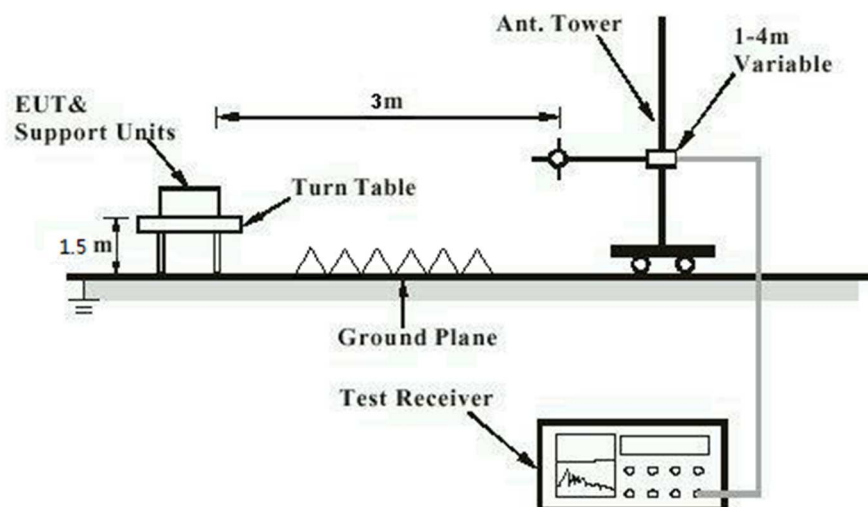


Diagram of Measurement Configuration for Conducted Transmitter Measurement

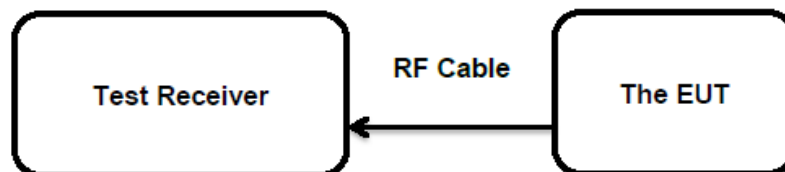
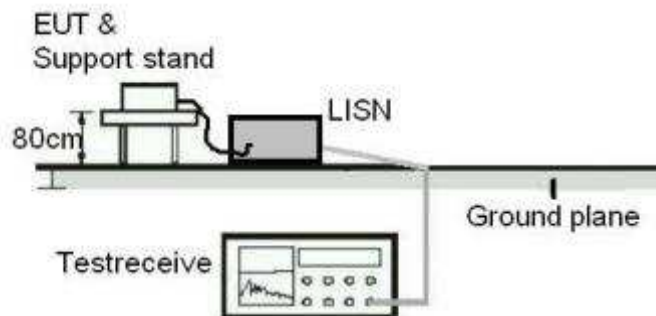


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : Part 15.203
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has a Integral antenna, the directional gain of antenna is 6.0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Emission within band**RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.225 (a), (b), (c)
RSS-210 A2.6 (a), (b), (c)
Basic standard : ANSI C63.10: 2013
Limit : FCC Part 15.225 (a), (b), (c)
Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-01-12
Input voltage : AC 240V/60Hz
Operation mode : A
Earthing : Not connected
Ambient temperature : 26 °C
Relative humidity : 47 %
Atmospheric pressure : 100.1 kPa

Test result.

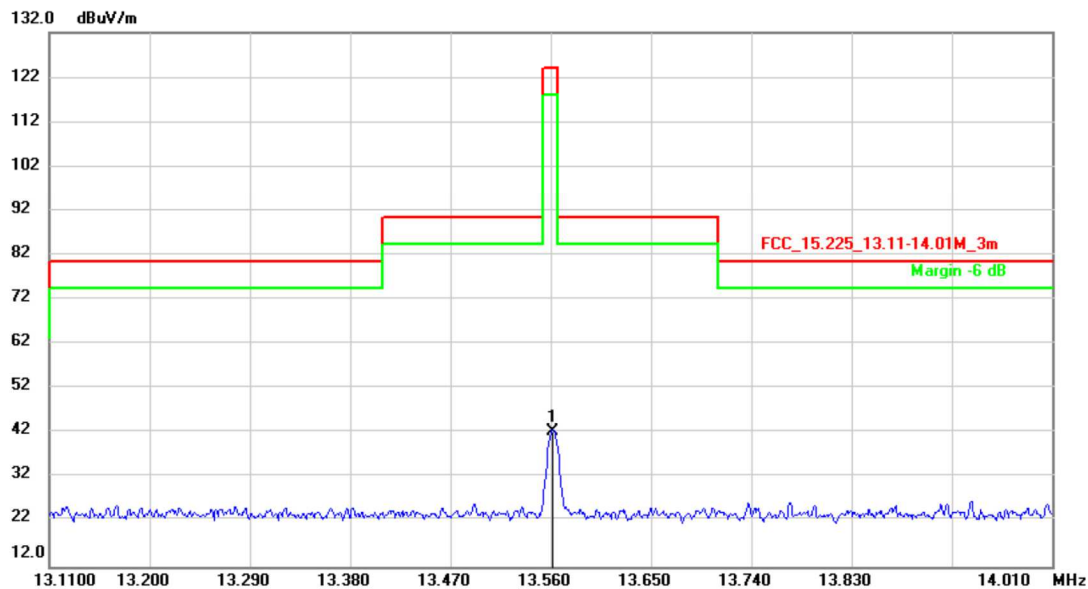
Test Mode	Test Polarization	Test data	Result
13.56MHz transmitting	Horizontal	54.88 dBuV/m at 3m distance	PASS
	Vertical	42.58 dBuV/m at 3m distance	PASS

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Vertical(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 19:15:56



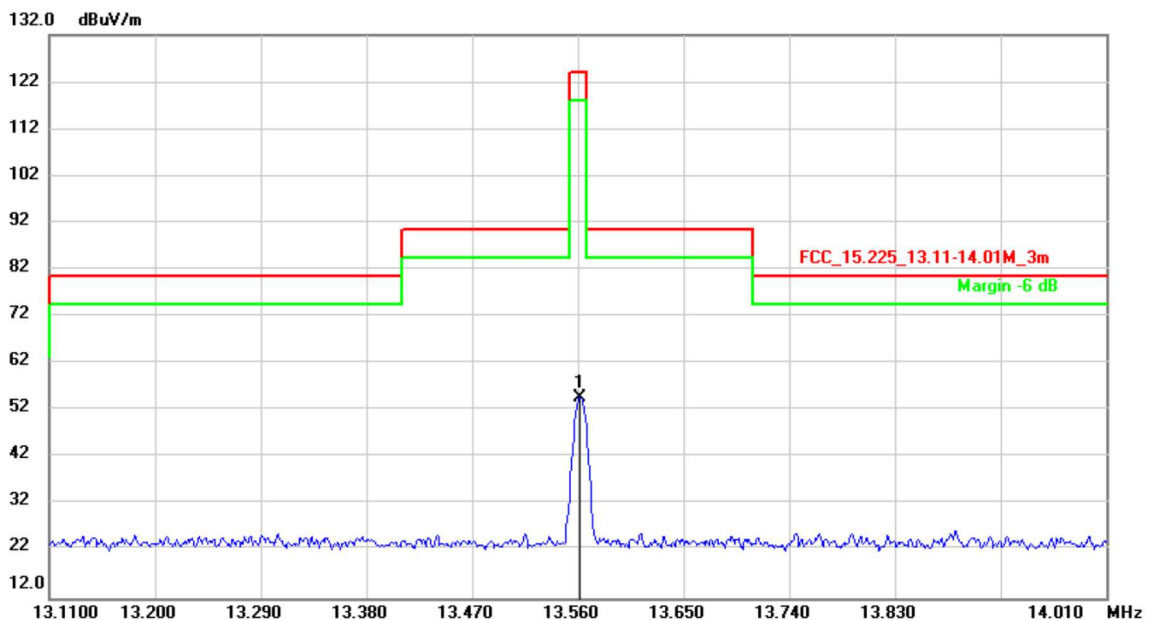
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	13.5618	22.02	20.56	42.58	124.00	-81.42	peak	

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Horizontal(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 19:30:37



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	13.5618	34.32	20.56	54.88	124.00	-69.12	peak	

5.1.3 Spurious Emission outside band

RESULT:**Pass****Test Specification**

Test standard	: FCC part 15.225 (d) RSS-210 A2.6 (d)
Basic standard	: ANSI C63.10: 2013
Limit	: FCC part 15.209(a)
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2022-01-12
Input voltage	: AC 240V/60Hz
Operation mode	: A
Earthing	: Not connected
Ambient temperature	: 26 °C
Relative humidity	: 47 %
Atmospheric pressure	: 100.1 kPa

Refer to following test plots for details of test result.

9KHz - 30MHz (Worst case)

Test Site : 3m Chamber

Tested By : Hancock

EUT : AC Wallbox Charging Station

Model Number : WPTAC-11KW-S24-TD

Power Supply : AC 240V/60Hz

Test Mode : 13.56MHz TX MODE

Condition : Temp:26°,Humi:47%,Press:100.1kPa

Distance : 3m

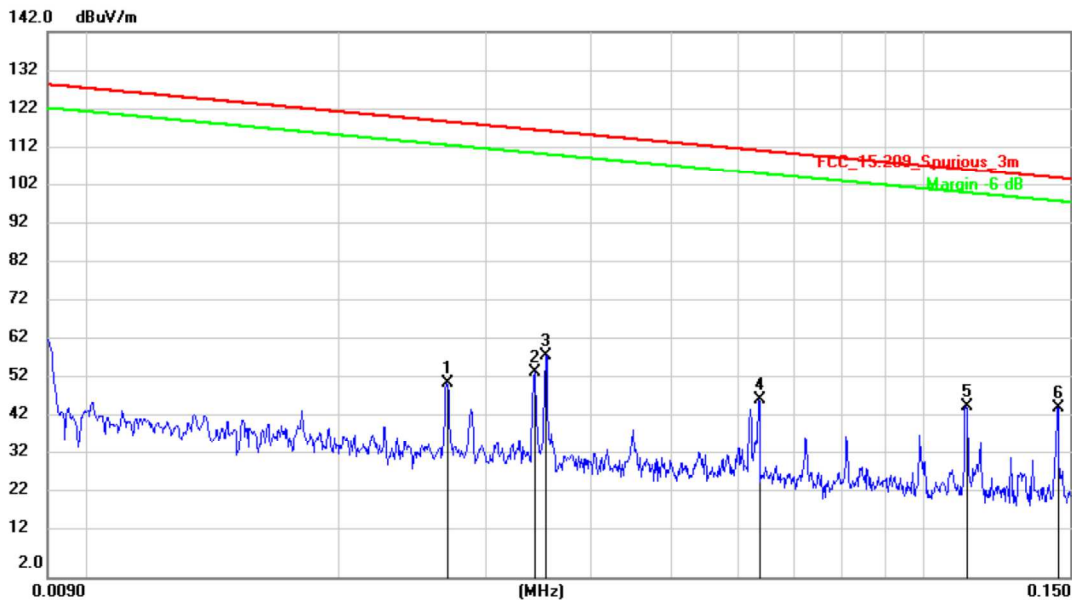
Note : RFID operation

Polarization : Horizontal(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 18:40:43



No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	0.0270	31.37	20.49	51.86	118.91	-67.05	peak	
2	0.0343	34.13	20.52	54.65	116.83	-62.18	peak	
3 *	0.0354	38.27	20.54	58.81	116.56	-57.75	peak	
4	0.0636	27.10	20.53	47.63	111.49	-63.86	peak	
5	0.1126	25.30	20.53	45.83	106.54	-60.71	peak	
6	0.1450	25.08	20.53	45.61	104.35	-58.74	peak	

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

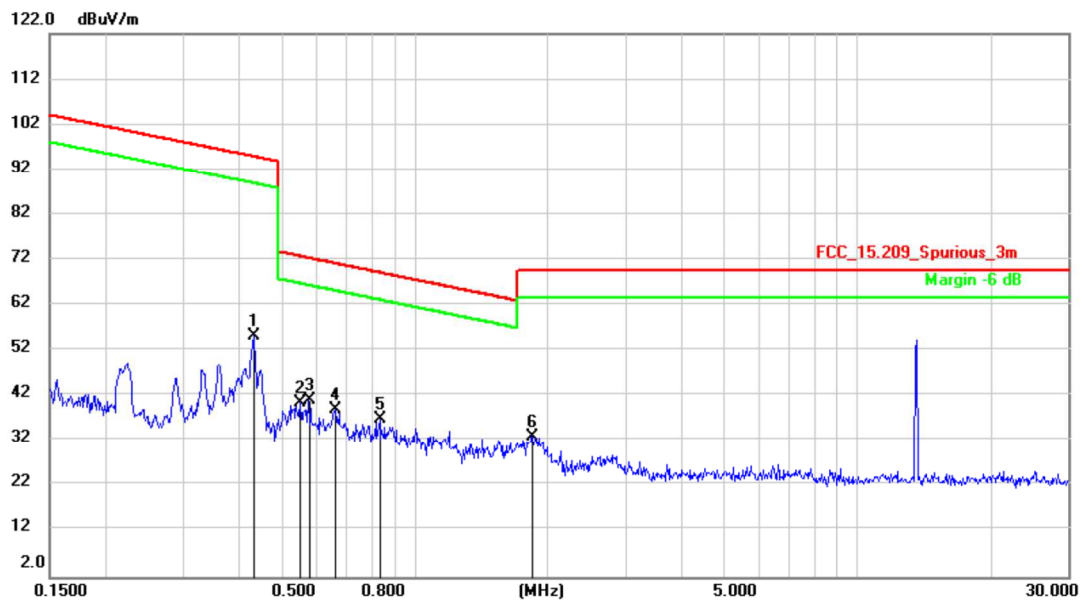
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Horizontal(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 18:48:04



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.4328	34.71	20.46	55.17	94.87	-39.70	peak	
2	0.5522	20.01	20.44	40.45	72.76	-32.31	peak	
3 *	0.5762	20.83	20.44	41.27	72.39	-31.12	peak	
4	0.6613	18.73	20.43	39.16	71.20	-32.04	peak	
5	0.8349	16.55	20.41	36.96	69.17	-32.21	peak	
6	1.8483	12.63	20.40	33.03	69.50	-36.47	peak	

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

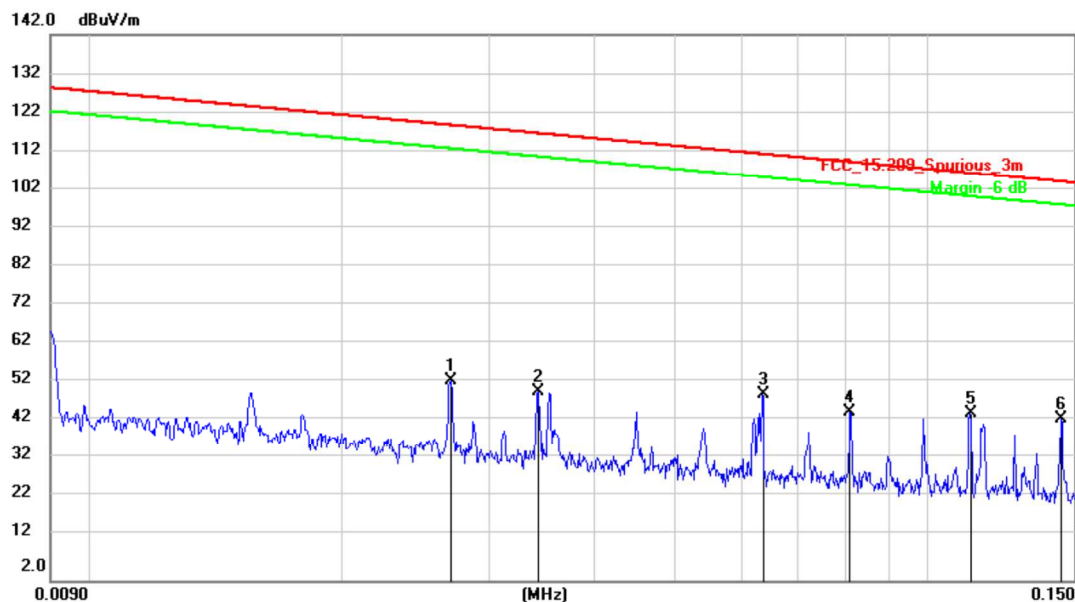
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Vertical(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 19:04:21



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0270	32.70	20.49	53.19	118.91	-65.72	peak	
2	0.0343	30.07	20.52	50.59	116.83	-66.24	peak	
3	0.0636	29.11	20.53	49.64	111.49	-61.85	peak	
4	0.0810	24.61	20.53	45.14	109.39	-64.25	peak	
5	0.1126	24.45	20.53	44.98	106.54	-61.56	peak	
6 *	0.1446	22.82	20.53	43.35	104.37	-61.02	peak	

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Vertical(RX antenna)

Radiated Emission Measurement

Date: 2021/12/6

Time: 18:56:57



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.4328	35.47	20.46	55.93	94.87	-38.94	peak	
2		0.5823	28.87	20.44	49.31	72.30	-22.99	peak	
3		0.6648	29.30	20.43	49.73	71.15	-21.42	peak	
4		0.9431	32.01	20.40	52.41	68.11	-15.70	peak	
5	*	1.2162	32.57	20.40	52.97	65.90	-12.93	peak	
6		1.7071	32.74	20.40	53.14	69.50	-16.36	peak	

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

30MHz - 1000MHz

Test Site : 3m Chamber

Tested By : Hancock

EUT : AC Wallbox Charging Station

Model Number : WPTAC-11KW-S24-TD

Power Supply : AC 240V/60Hz

Test Mode : 13.56MHz TX MODE

Condition : Temp:26°,Humi:47%,Press:100.1kPa

Distance : 3m

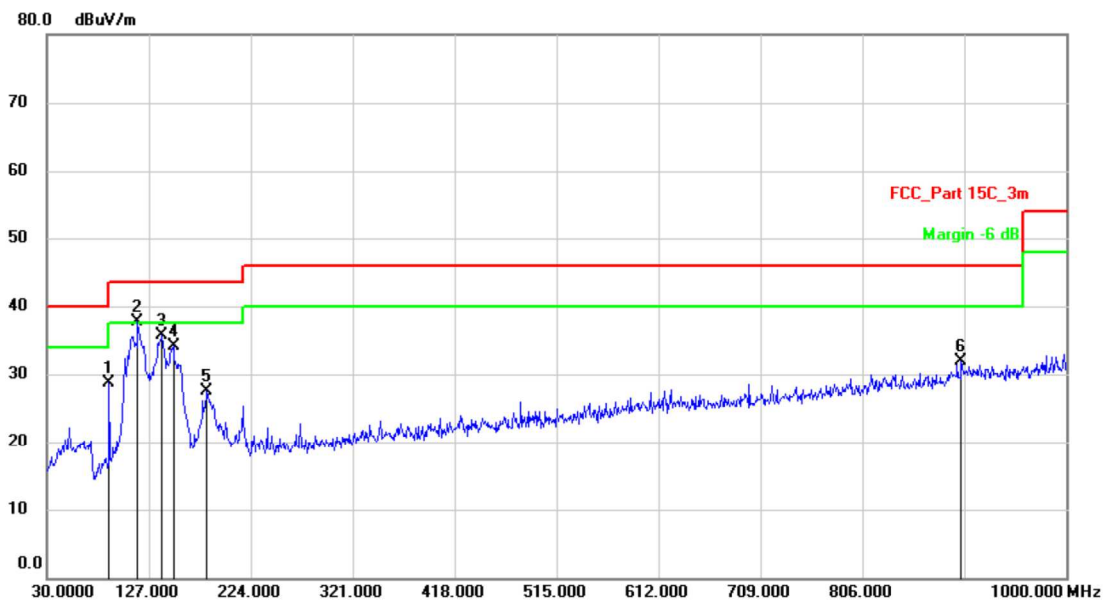
Note : RFID operation

Polarization : Horizontal

Radiated Emission Measurement

Date: 2021/12/7

Time: 13:51:11



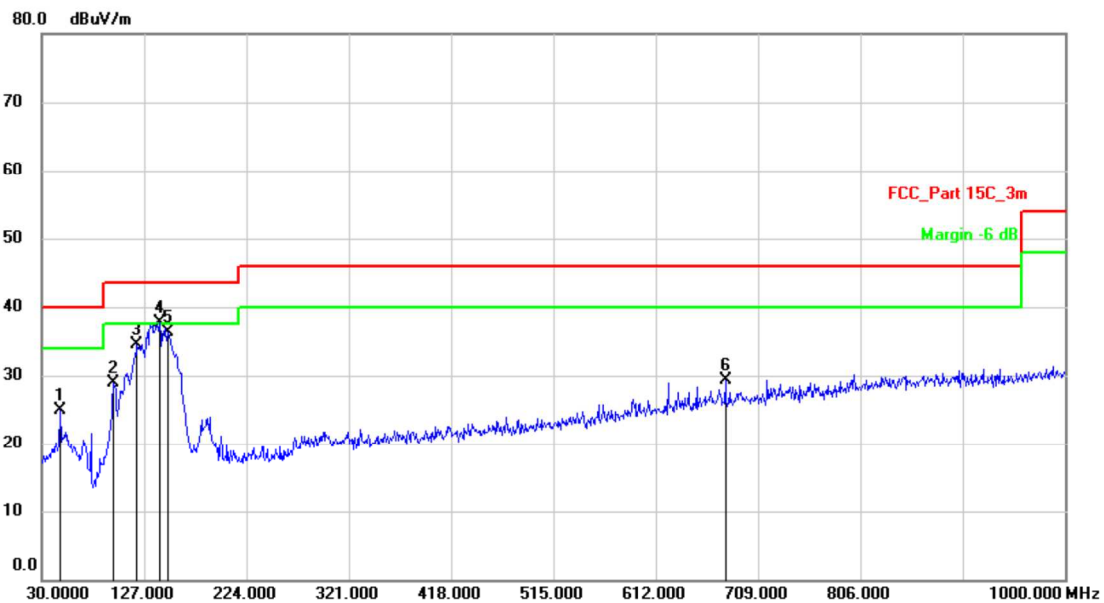
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		89.1700	38.33	-9.63	28.70	43.50	-14.80	QP	
2	*	116.3300	46.40	-8.62	37.78	43.50	-5.72	QP	
3		139.6100	46.75	-10.95	35.80	43.50	-7.70	QP	
4		150.2800	45.02	-10.87	34.15	43.50	-9.35	QP	
5		182.2899	36.54	-9.01	27.53	43.50	-15.97	QP	
6		900.0900	25.80	6.20	32.00	46.00	-14.00	QP	

Test Site	: 3m Chamber	Tested By	: Hancock
EUT	: AC Wallbox Charging Station	Model Number	: WPTAC-11KW-S24-TD
Power Supply	: AC 240V/60Hz	Test Mode	: 13.56MHz TX MODE
Condition	: Temp:26°,Humi:47%,Press:100.1kPa	Distance	: 3m
Note	: RFID operation	Polarization	: Vertical

Radiated Emission Measurement

Date: 2021/12/7

Time: 13:58:30



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		47.4600	32.15	-7.30	24.85	40.00	-15.15	QP	
2		97.9000	37.56	-8.73	28.83	43.50	-14.67	QP	
3		120.2100	45.58	-11.09	34.49	43.50	-9.01	QP	
4	*	141.5500	49.27	-11.54	37.73	43.50	-5.77	QP	
5		149.3100	48.17	-11.85	36.32	43.50	-7.18	QP	
6		677.9600	27.57	1.79	29.36	46.00	-16.64	QP	

5.1.4 Frequency tolerance of carrier signal

RESULT:
Pass
Test Specification

Test standard : FCC part 15.225 (e)
RSS-210 A2.6
Basic standard : ANSI C63.10: 2013
Limit : $\pm 0.01\%$
Kind of test site : 3m Semi-Anechoic Chamber

Test Setup

Date of testing : 2022-01-12
Input voltage : AC 240V/60Hz
Operation mode : A
Earthing : Not connected
Ambient temperature : 25 °C
Relative humidity : 47 %
Atmospheric pressure : 100.1 kPa

Refer to following test plots for details of test result.

Table 4: Test result of frequency tolerance of voltage variation

Voltage	Frequency tolerance	
	Test result (ppm)	Limit (ppm)
AC 204V	5.899	± 100
AC 240V	2.212	
AC 276V	-1.475	

Table 5: Test result of frequency tolerance of temperature variation

Temperature	Frequency tolerance		
	Measured Frequency(MHz)	Frequency Error(ppm)	Limit (ppm)
-20°C	13.56203	2.212	± 100
-10°C	13.56218	13.272	
0°C	13.56208	5.899	
10°C	13.56188	-8.848	
20°C	13.56211	8.111	
25°C	13.56203	2.212	
30°C	13.56198	-1.475	
40°C	13.56193	-5.161	
50°C	13.56198	-1.475	

Note: the normal frequency (13.562MHz) was declared by the applicant.

5.1.5 99% Bandwidth

RESULT:
Pass

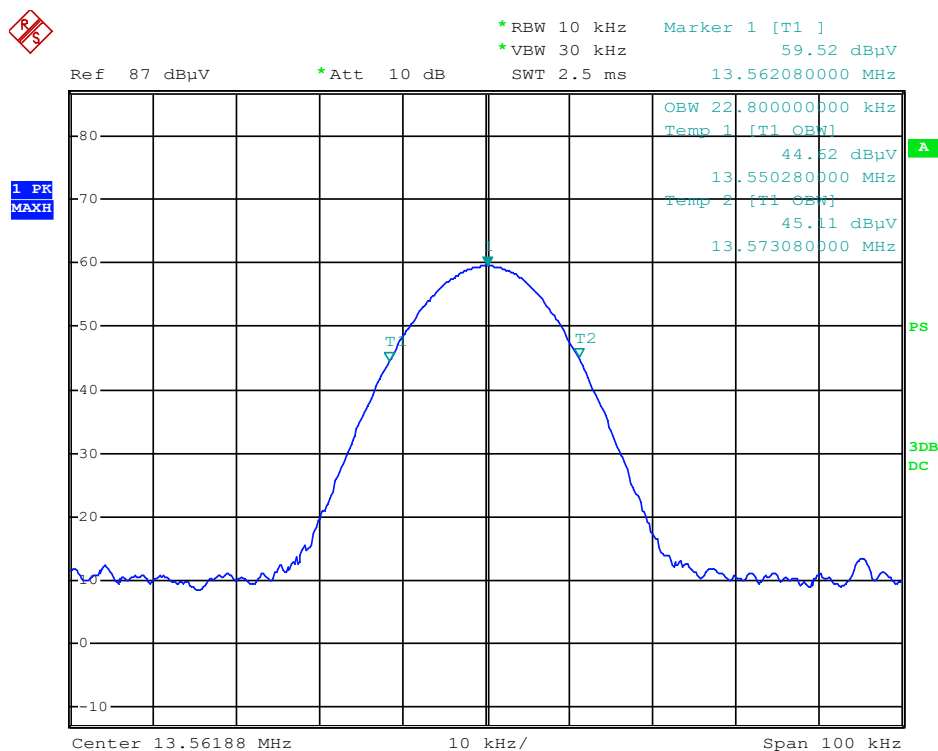
Test Specification

Test standard : RSS-Gen Clause 6.7
 Basic standard : ANSI C63.10: 2013
 Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-01-12
 Input voltage : AC 240V/60Hz
 Operation mode : A
 Ambient temperature : 25 °C
 Relative humidity : 47 %
 Atmospheric pressure : 100.1 kPa

For details refer to following test result.



Date: 6.DEC.2021 15:03:10

5.1.6 20dB Bandwidth

RESULT:
Pass

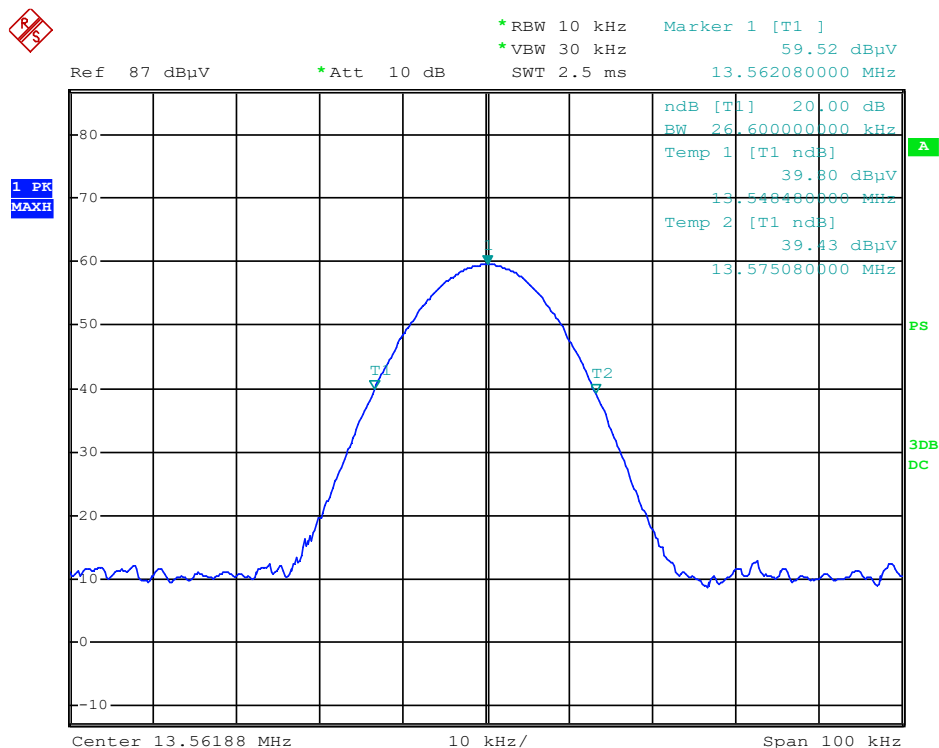
Test Specification

Test standard : FCC part 15.215
 Basic standard : ANSI C63.10: 2013
 Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-01-12
 Input voltage : AC 240V/60Hz
 Operation mode : A
 Ambient temperature : 25 °C
 Relative humidity : 47 %
 Atmospheric pressure : 100.1 kPa

For details refer to following test result.



Date: 6.DEC.2021 15:02:54

5.1.7 Conducted Emissions

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207 RSS-Gen Issue 5 March 2019
Basic standard	: ANSI C63.4: 2014
Frequency range	: 150 kHz – 30 MHz
Kind of test site	: Shielded Room
Limit	: FCC Part 15.207 (a) Table 4 of RSS-Gen Issue 5 March 2019

Test Setup

Date of testing	: 2022-01-12
Test voltage	: AC 240V/60Hz
Operation mode	: A
Test Ports	: AC mains power port
Artificial hand	: N/A
Earthing	: Not connected
Ambient temperature	: 26 °C
Relative humidity	: 50 %
Atmospheric pressure	: 101.0 kPa

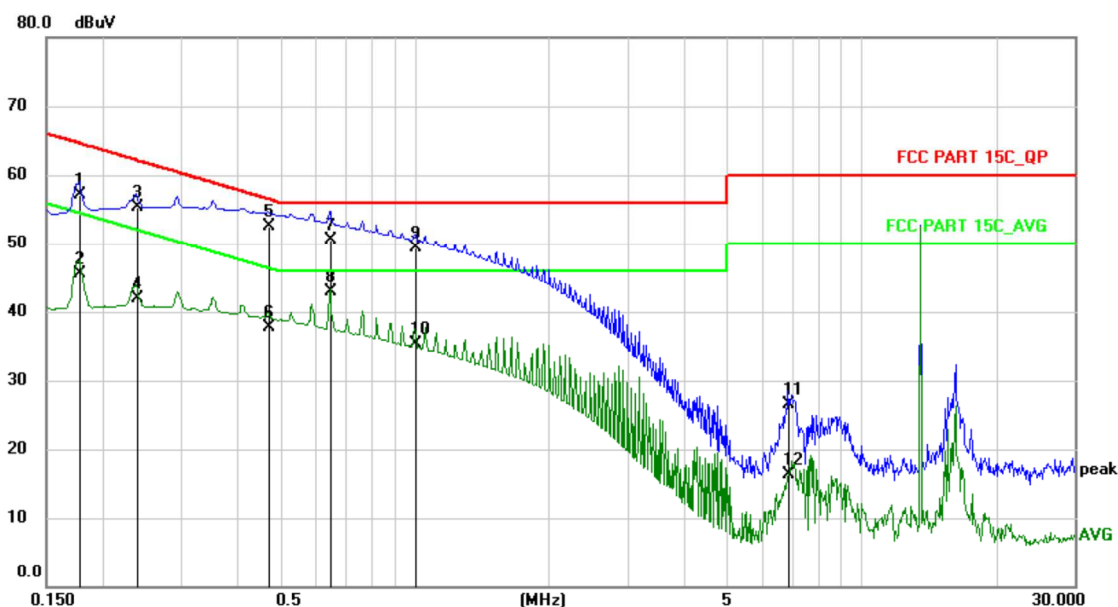
For the measurement records, refer to the following test plots.

Test Site : Shield Room
Test Date : 2021-12-18 **Tested By** : Chance
EUT : AC Wallbox Charging Station **Model Number** : WPTAC-11KW-S24-TD
Power Supply : AC 240V/60Hz **Test Mode** : 13.56MHz operation mode
Condition : TEMP:26°C, RH:50.0%, BP:101.0kPa **Phase** : NEUTRAL
Memo : RFID

Conducted Emission Measurement

Date: 2021/12/18

Time: 11:38:15



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1779	46.50	10.60	57.10	64.58	-7.48	QP	
2	0.1779	34.90	10.60	45.50	54.58	-9.08	AVG	
3	0.2379	44.70	10.60	55.30	62.17	-6.87	QP	
4	0.2379	31.30	10.60	41.90	52.17	-10.27	AVG	
5	0.4700	41.98	10.62	52.60	56.51	-3.91	QP	
6	0.4700	27.18	10.62	37.80	46.51	-8.71	AVG	
7	0.6500	39.85	10.65	50.50	56.00	-5.50	QP	
8 *	0.6500	32.25	10.65	42.90	46.00	-3.10	AVG	
9	1.0020	38.60	10.70	49.30	56.00	-6.70	QP	
10	1.0020	24.70	10.70	35.40	46.00	-10.60	AVG	
11	6.8738	15.78	10.72	26.50	60.00	-33.50	QP	
12	6.8738	5.58	10.72	16.30	50.00	-33.70	AVG	

Note:

1. Result Level = Read Level +Correct.

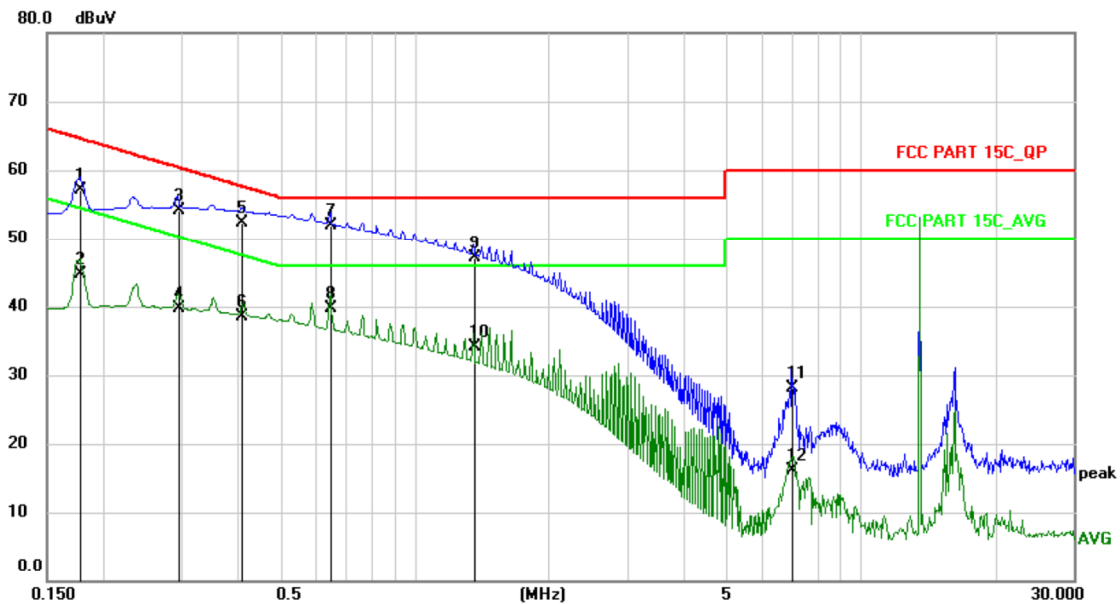
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

Test Site : Shield Room
Test Date : 2021-12-18 **Tested By** : Chance
EUT : AC Wallbox Charging Station **Model Number** : WPTAC-11KW-S24-TD
Power Supply : AC 240V/60Hz **Test Mode** : 13.56MHz operation mode
Condition : TEMP:26°C, RH:50.0%, BP:101.0kPa **Phase** : LINE
Memo : RFID

Conducted Emission Measurement

Date: 2021/12/18

Time: 11:43:22



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1780	46.50	10.60	57.10	64.58	-7.48	QP	
2	0.1780	34.20	10.60	44.80	54.58	-9.78	AVG	
3	0.2940	43.60	10.60	54.20	60.41	-6.21	QP	
4	0.2940	29.20	10.60	39.80	50.41	-10.61	AVG	
5	0.4100	41.78	10.62	52.40	57.65	-5.25	QP	
6	0.4100	27.98	10.62	38.60	47.65	-9.05	AVG	
7 *	0.6500	41.25	10.65	51.90	56.00	-4.10	QP	
8	0.6500	29.15	10.65	39.80	46.00	-6.20	AVG	
9	1.3580	36.40	10.70	47.10	56.00	-8.90	QP	
10	1.3580	23.40	10.70	34.10	46.00	-11.90	AVG	
11	7.0100	17.38	10.72	28.10	60.00	-31.90	QP	
12	7.0100	5.38	10.72	16.10	50.00	-33.90	AVG	

Note:

1. Result Level = Read Level +Correct.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the test photo document.

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