March 03, 2022

CESI SPA
Via Raffaele Rubattino 54
Milano, Italy 20134

Dear Francesca Gaetani,

Enclosed is the EMC Wireless test report for compliance testing of the CESI SPA, JuiceBox 2.01 40A Commercial as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Part 15 Subpart C for Intentional Radiators.

Thank you for using the services of Eurofins Electrical and Electronic Testing NA, Inc. If you have any questions regarding these results or if Eurofins Electrical and Electronic Testing NA, Inc. can be of further service to you, please feel free to contact me.

Rheine Nguyen

Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIRS113585-FCC NFC Report

ACCREDITED
TESTINGCERT #0591.02

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

FCC/ ISED Test Report

Applicant name: CESI S.p.A

Product: EV Charger

Report: WIR113585-FCC-NFC

Applicant Address:

Via Raffaele Rubattino 54
Milano, Italy 20134

Prepared By:
Eurofins Electrical and Electronic Testing NA, Inc.
3162 Belick St.
Santa Clara CA, 95054

FCC Test Report

Applicant name : CESI S.p.A

Product: EV Charger

Standards:
47 CFR FCC Part 15, Subpart C (Section 15.225)
ANSI C63.10:2013

Gary Chou

Reviewer: Gary Chou
Wireless Engineering Manager, Wireless Laboratory

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 22 Subpart H and Part 24 Subpart E and Part 27 Subpart L of the FCC Rules under normal use and maintenance.

Eleazar Zuniga

Eleazar Zuniga,
Director, Wireless Laboratory

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	March 03, 2022	Initial Issue.

Table of Contents

I. Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the CESI S.p.A, Model JuiceBox 2.01, with the requirements of FCC Part 15.225 / 15.215. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with PVG-04 technical requirements, the following data is presented in support of the Certification of the JuiceBox 2.01. CESI S.p.A should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the JuiceBox 2.01, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15.207/ 15.109/ 15.209/ 15.225 / 15.215, in accordance with CESI S.p.A, purchase order number 4500012287. All tests were conducted using measurement procedure.

47 CFR FCC Part 15, Subpart C (Section 15.207/ 15.109/ 15.209/ 15.225 / 15.215)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit.
15.109 15.209	Transmitter Radiated Emission	Pass	Meet the requirement of limit.
15.225 (a)	The field strength of any emissions within the band 13.553-13.567 MHz	Pass	Meet the requirement of limit.
15.225 (b)	The field strength of any emissions within the bands 13.410-13.553 MHz and 13.567-13.710 MHz	Pass	Meet the requirement of limit.
15.225 (c)	The field strength of any emissions within the bands 13.110-13.410 MHz and 13.710-14.010 MHz	Pass	Meet the requirement of limit.
15.225 (d)	The field strength of any emissions appearing outside of the 13.110-14.010 MHz band	Pass	Meet the requirement of limit.
15.225 (e)	The frequency tolerance	Pass	Meet the requirement of limit.
15.215 (c)	20dB Bandwidth & 99% Bandwidth	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	The EUT use Embedded PCB Loop Antenna with specific and without connector attach to the device.

Note: Original test report please refer to FCC ID report: OWRCLEV6630B

II. Equipment Information

A. Overview

Eurofins Electrical and Electronic Testing NA, Inc. was contracted by CESI S.p.A to perform testing on the JuiceBox 2.01, under purchase order number 4500012287.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of CESI S.p.A, Model: JuiceBox 2.01.
The results obtained relate only to the item(s) tested.

EUT Summary Table

Product:	EV Charger	
Brand:	CESI S.p.A	
Model(s) Tested:	JuiceBox 2.01 40A	
Series Model:	JuiceBox 2.01 32A, JuiceBox 2.01 48A, JuiceBox 2.01 80A	
Filing Status:	Original	
EUT Specifications:	Primary Power: Voltage: 120Vac.	120Vac.
	Voltage Frequency:	50/60 Hz
	Type of Modulations:	ASK
	Technology:	NFC
	TX Frequency Range:	13.56 MHz
	FCC ID:	2A4LRJB201NA
	ISED ID:	N/A
	Hardware Rev:	09
	Firmwave Rev:	05
	Antenna Type:	Embedded PCB Loop Antenna
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: -20 - +50º C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Gary Chou	
Issue Date(s):	March 04, 2022	

General Description of Applied Standards

B. References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

- **47 CFR FCC Part 15, Subpart C (Section 15.109)**
- **47 CFR FCC Part 15, Subpart C (Section 15.209)**
- **47 CFR FCC Part 15, Subpart C (Section 15.225)**
- **47 CFR FCC Part 15, Subpart C (Section 15.215)**
- **ANSI C63.10:2013**

C. Test Site

All testing was performed at Eurofins Electrical and Electronic Testing NA, Inc., 3162 Belick St. Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Eurofins Electrical and Electronic Testing NA, Inc. has been accredited by the American Association for Laboratory Accreditation (A2LA) (Certificate #: 0591.02) in accordance with ISO/IEC 17025:2017.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

D. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Uncertainty Calculations Summary

E. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

F. Disposition of EUT

The test sample including all support equipment (if any), submitted to the Electromagnetic Compatibility Lab for testing was returned to Syncwise upon completion of testing.

III. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
	-	-	-	-	-	-

Note: (Describe the outline of a simulator, if used for the tests, as a note under the table.)

Insert Cable Connections to/from EUT provided by test team.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
	-	-	-	-	0	-

Note: The core(s) is(are) originally attached to the cable(s).

IV. Electromagnetic Compatibility Criteria for Intentional Radiators

Conducted Emission Measurement

Limits of Conducted Emission Measurement :

The following standards specified below are covered in the scope of this section of the test report:

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

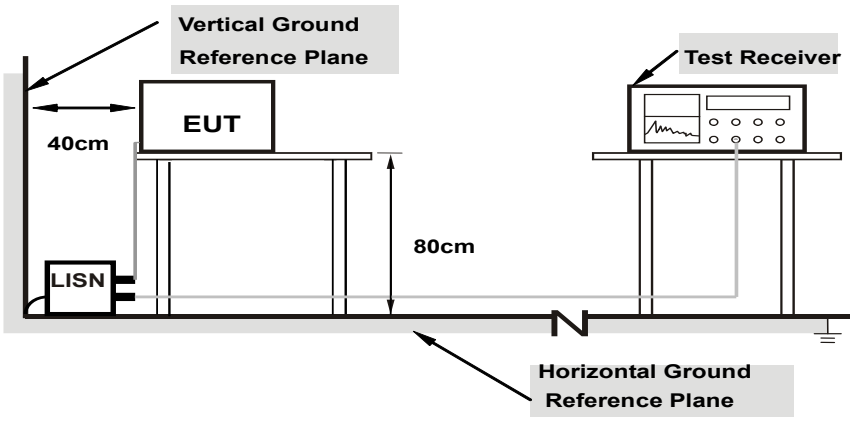
Conducted Emissions - Test Procedure

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency ranges from 150 kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Conducted Emissions - Test Setup



Note: 1.Support units were connected to second LISN.

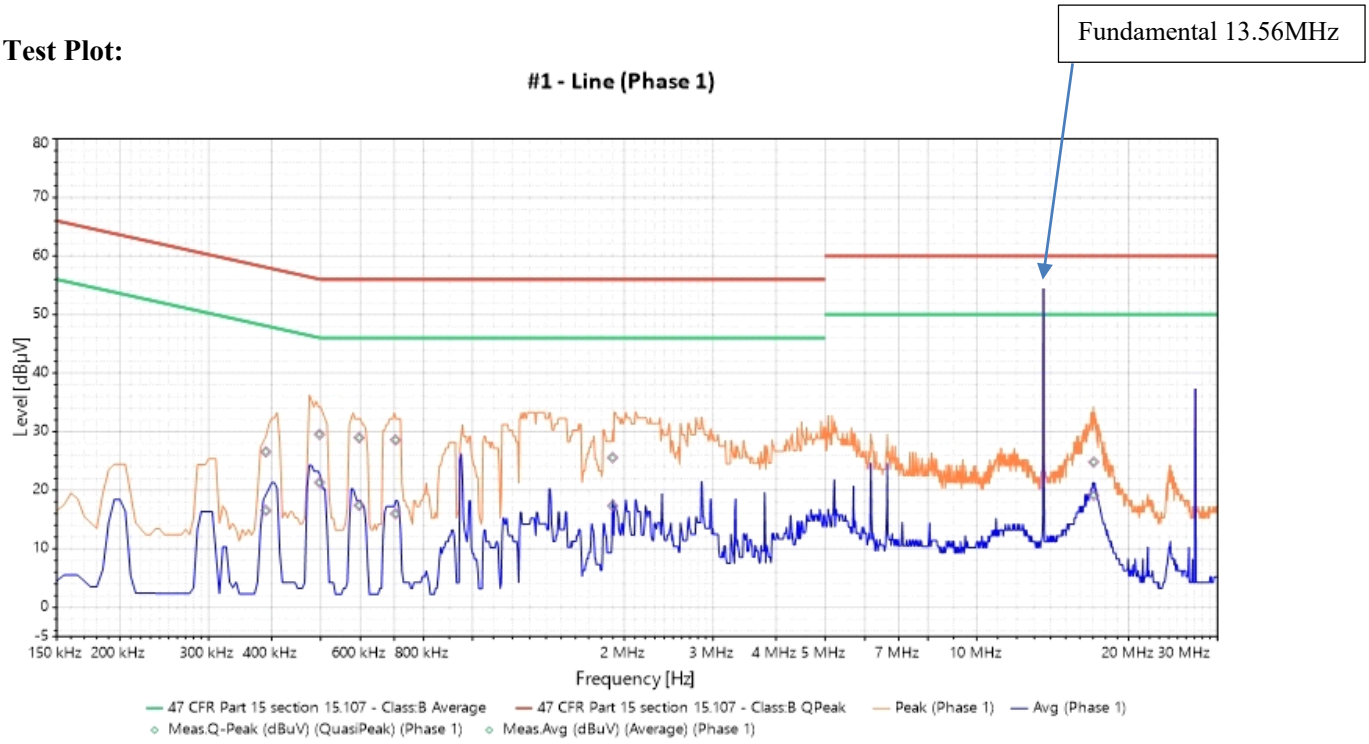
For the actual test configuration, please refer to the attached file (Test Setup Photo)

Test Results:

Phase	Line (L)	Detector Function	Quasi-Peak / Average

No	Freq.	Level (QP)	Limit (QP)	Margin	Level (Averega)	Limit (Average)	Margin	Correction	Pass /Fail
	[MHz]	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.389545	26.556	58.064	-31.508	-	48.064	-	0.3	Pass
2	0.389545	-	48.064	-31.528	16.53613	38.064	-21.528	0.3	Pass
3	0.497483	29.542	56.083	-26.542	-	46.083	-	0.23	Pass
4	0.497483	-	46.083	-24.752	21.3315	36.083	-14.752	0.23	Pass
5	0.596349	28.966	56.000	-27.034	-	46.000	-	0.23	Pass
6	0.596349	-	46.000	-28.584	17.41614	36.000	-18.584	0.23	Pass
7	0.704081	28.592	56.000	-27.408	-	46.000	-	0.21	Pass
8	0.704081	-	46.000	-30.018	15.98224	36.000	-20.018	0.21	Pass
9	1.896589	25.565	56.000	-30.435	-	46.000	-	0.32	Pass
10	1.896589	-	46.000	-28.655	17.34455	36.000	-18.655	0.32	Pass
11	17.04748	24.814	60.000	-35.186	-	50.000	-	0.25	Pass
12	17.04748	-	50.000	-30.856	19.1444	40.000	-20.856	0.25	Pass

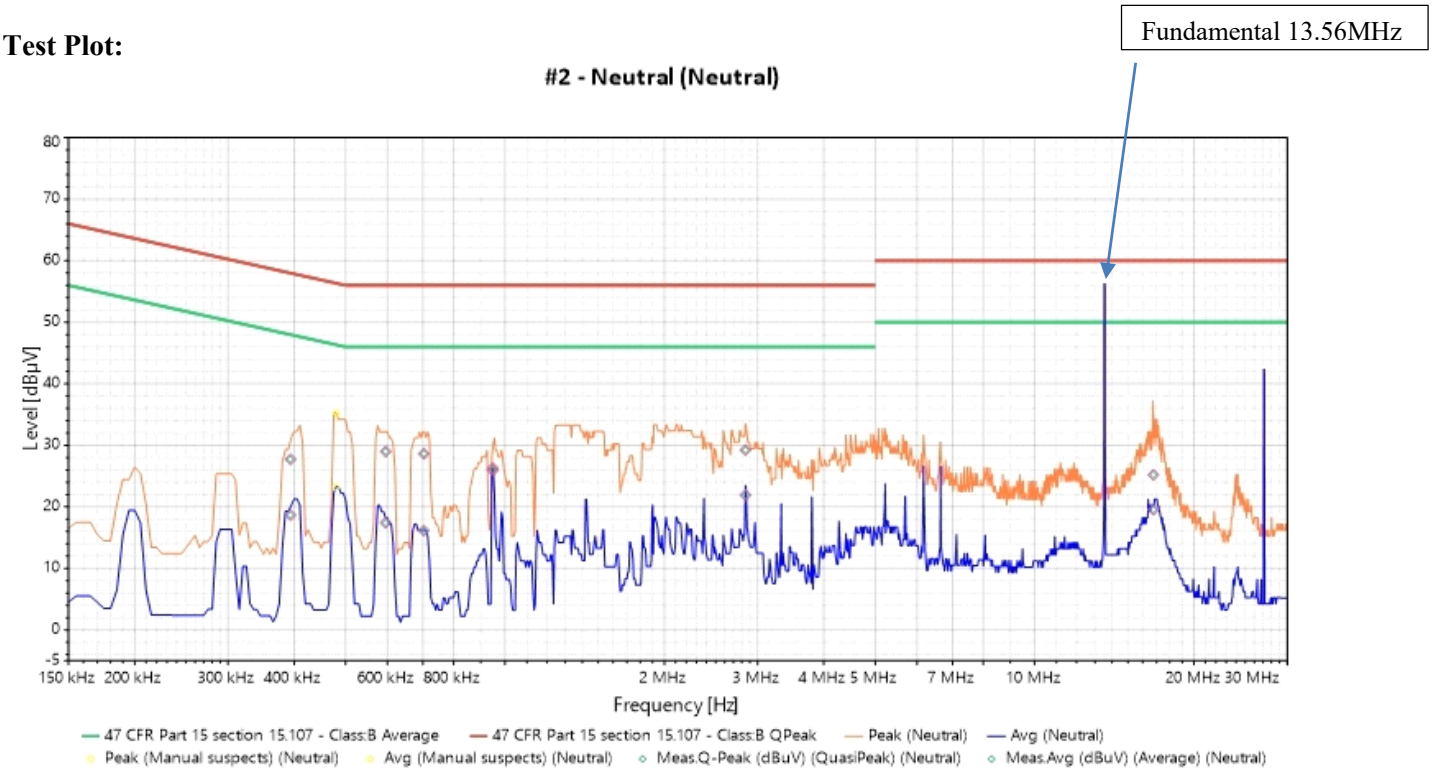
Test Plot:



Phase	Neutral (N)	Detector Function	Quasi-Peak / Average

No	Freq.	Level (QP)	Limit (QP)	Margin	Level (Averega)	Limit (Average)	Margin	Correction	Pass /Fail
	[MHz]	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.394	27.724	57.958	-30.234	-	-	-	0.29	Pass
2	0.394	-	47.958	-	18.674	37.958	-19.284	0.29	Pass
3	0.595	28.996	56.000	-27.004	-	-	-	0.23	Pass
4	0.595	-	46.000	-	17.406	36.000	-18.594	0.23	Pass
5	0.703	28.642	56.000	-27.358	-	-	-	0.21	Pass
6	0.703	-	46.000	-	16.142	36.000	-19.858	0.21	Pass
7	0.949	26.312	56.000	-29.688	-	-	-	0.2	Pass
8	0.949	-	46.000	-	25.932	36.000	-10.068	0.2	Pass
9	2.845	29.238	56.000	-26.762	-	-	-	0.46	Pass
10	2.845	-	46.000	-	21.928	36.000	-14.072	0.46	Pass
11	16.758	25.211	60.000	-34.789	-	-	-	0.25	Pass
12	16.758	-	50.000	-	19.541	40.000	-20.459	0.25	Pass

Test Plot:



Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

Test Name: CE Voltage – AC Power Port			**Test Date(s):** 02/28/2022		
MET Asset #	**Equipment**	**Manufacturer**	**Model**	**Last Cal Date**	**Cal Due Date**
1S2481	10 Meter Chamber (NSA)	ETS-Lingren	DKE- 8X8 DBL	Not Required	Not Required
1U0337	LISN	Com-Power	LI-215A	09/03/2020	09/03/2021
1U0304	EMI Receiver	Narda	PMM 9010	04/26/2021	04/26/2022
1S4071	Digital Barometer	Control Co	6530	08/03/2020	08/03/2022
1S4005	Micro-Ohmmeter	ndb Technologies, Inc	DRM-1A	07/31/2020	07/31/2021
Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.					

Table 1. Conducted Emissions, Test Equipment

Radiated Emission Measurement

Limits of Radiated Emission Measurement:

The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

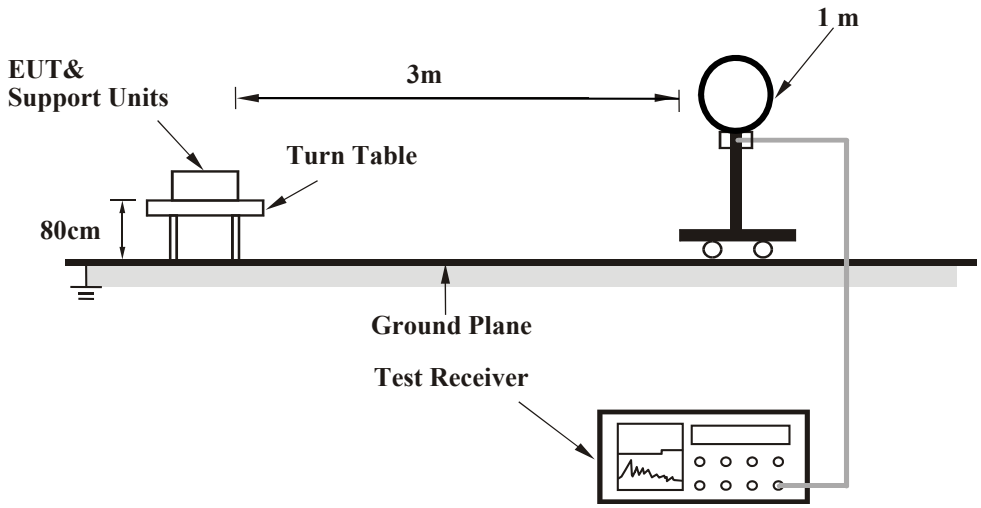
Frequencies (MHz)	**Field Strength (microvolts/meter)**	**Measurement Distance (meters)**
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3

216 ~ 960	200	3
Above 960	500	3

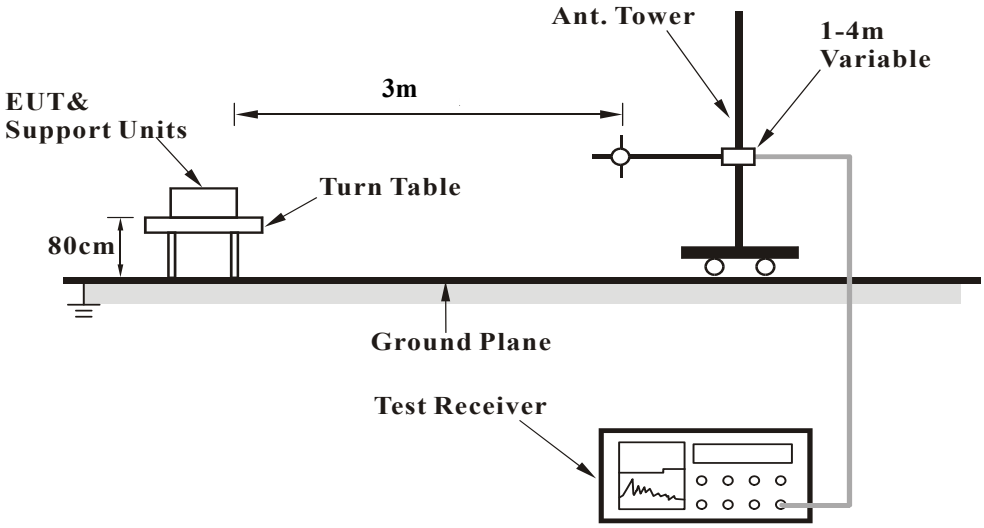
Test Procedures: The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line. Only noise floor was measured above 18 GHz.

Setup:

For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



Test Equipment List

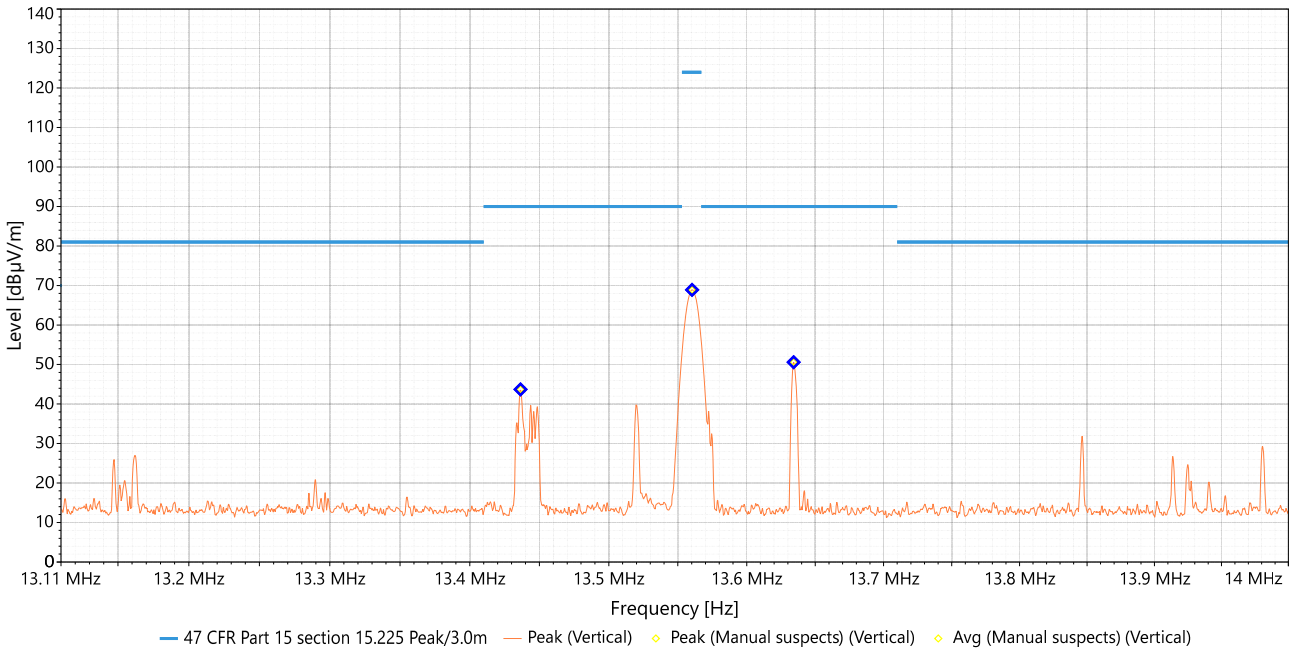
Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	EMI Test Receiver	ROHDE & SCHWARZ	N9030B	10/08/2021	10/08/2022
1S2399	Turntable Controller	SUNOL SCIENCE	SC99V	Not Required	Not Required
1S2486	5 Meter Chamber Control Room	Panashield	5 Meter Control Room	Not Required	Not Required
1S2668	Preamplifier	Sonoma Instrument	310N	Note 1	Note 1
1S2600	Antenna	TESEQ GmbH	D-12623	05/ 11/ 2021	05/ 11/ 2023
1S3983	Loop Antenna	ETS-LINDGREN	6512	10/ 14 /2021	10/ 14 /2023
Note 1: Verified by calibrated instrumentation at the time of testing					

Test Data:

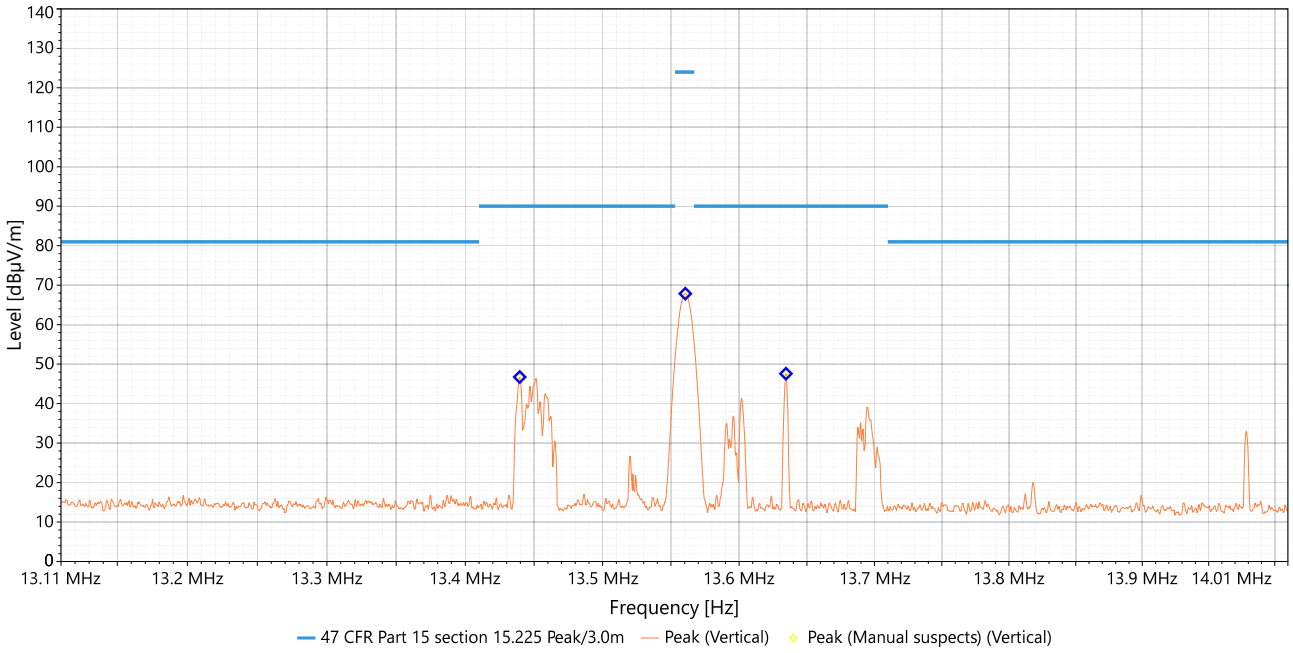
Field strength of Fundamental Emissions

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Transmit Frequency	13.56 MHz
Input Power	120 Vac	Detector Function	Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Loop Antenna 0 degree At 3m			



Antenna Polarity & Test Distance: Loop Antenna 0 degree At 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	13.4364	0	43.6770	90	-46.323	1	40	3.45	Pass
2	13.5603	0	68.8920	124	-55.108	1	336	3.34	Pass
3	13.6342	0	50.5961	90	-39.4039	1	0	3.27	Pass

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Transmit Frequency	13.56 MHz
Input Power	120 Vac	Detector Function	Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m			



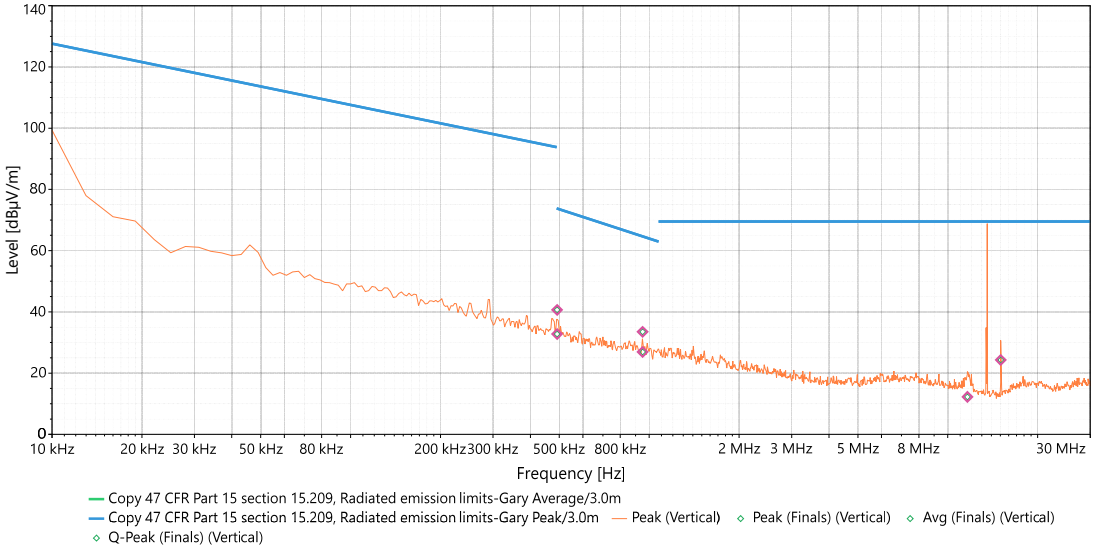
Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	13.440	90	46.748	90	-46.323	1	219	3.45	Pass
2	13.561	90	67.857	124	-55.108	1	269	3.34	Pass
3	13.635	90	47.583	90	-39.4039	1	259	3.27	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Radiated Emissions (10 kHz~30 MHz)

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	Below 30MHz
Input Power	120 Vac	Detector Function	Quasi-Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Loop Antenna 0 degree At 3m			

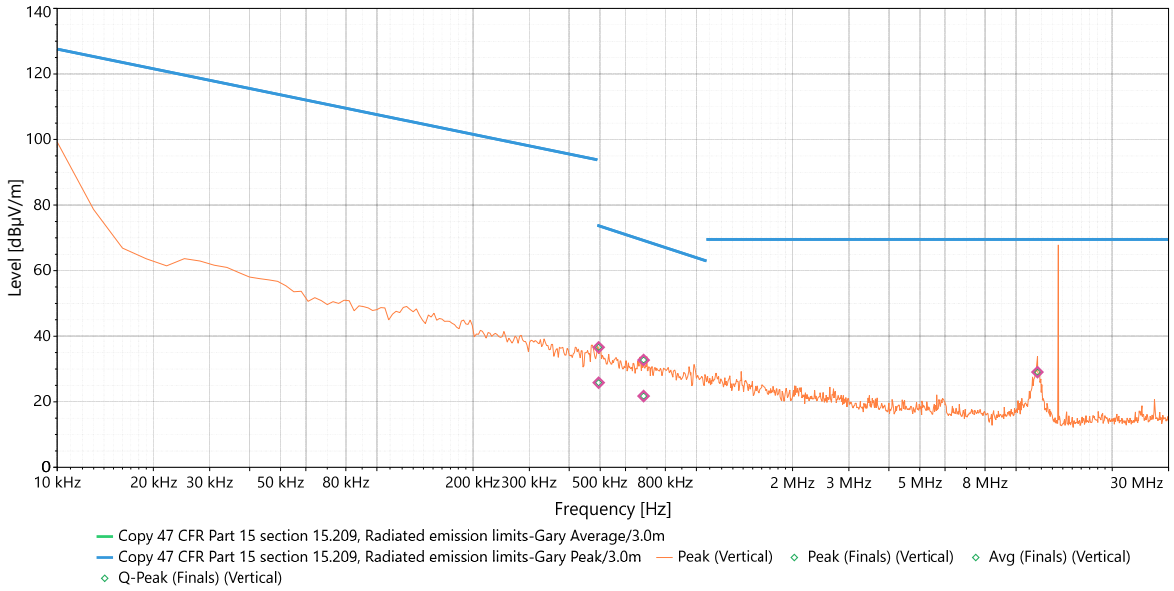


Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m															
No.	Frequency (MHz)	Polarization	Level Peak [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Level Average [dB(uV/m)]	Limit Average dB(uV/m)	Margin Average [dB]	Level QP [dB(uV/m)]	Limit QP dB(uV/m)	Margin QP [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	0.491	0	-	-	-	-	-	-	40.65442	93.80284	-53.148	1	0	20.15	Pass
2	0.9504	0	-	-	-	-	-	-	33.49568	64.69301	-31.197	1	0	15.46	Pass
3	11.637	0	-	-	-	-	-	-	12.23892	69.54	-57.301	1	277	4.91	Pass
4	15.043	0	-	-	-	-	-	-	24.30484	69.54	-45.235	1	108	2.77	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	Below 30MHz
Input Power	120 Vac	Detector Function	Quasi-Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m			



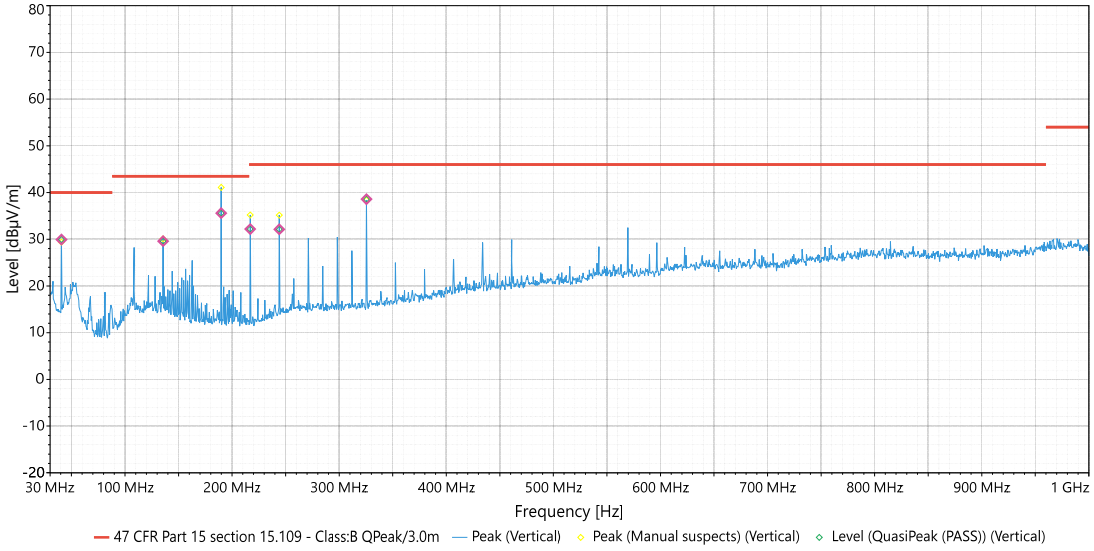
Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m															
No.	Frequency (MHz)	Polarization	Level Peak [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Level Average [dB(uV/m)]	Limit Average dB(uV/m)	Margin Average [dB]	Level QP [dB(uV/m)]	Limit QP dB(uV/m)	Margin QP [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	0.4928	90	-	-	-	-	-	-	36.782	73.749	-36.968	1	272	20.07	Pass
2	0.699	90	-	-	-	-	-	-	33.810	70.702	-36.892	1	178	17.65	Pass
3	11.670	90	-	-	-	-	-	-	29.042	69.54	-40.498	1	291	4.9	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Radiated Emissions (30 MHz~1000 MHz)

EUT Test Condition		Measurement Detail	
Channel	TX Mode 13.56MHz	Frequency Range	Below 30MHz
Input Power	120 Vac	Detector Function	Quasi-Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Vertical At 3m			

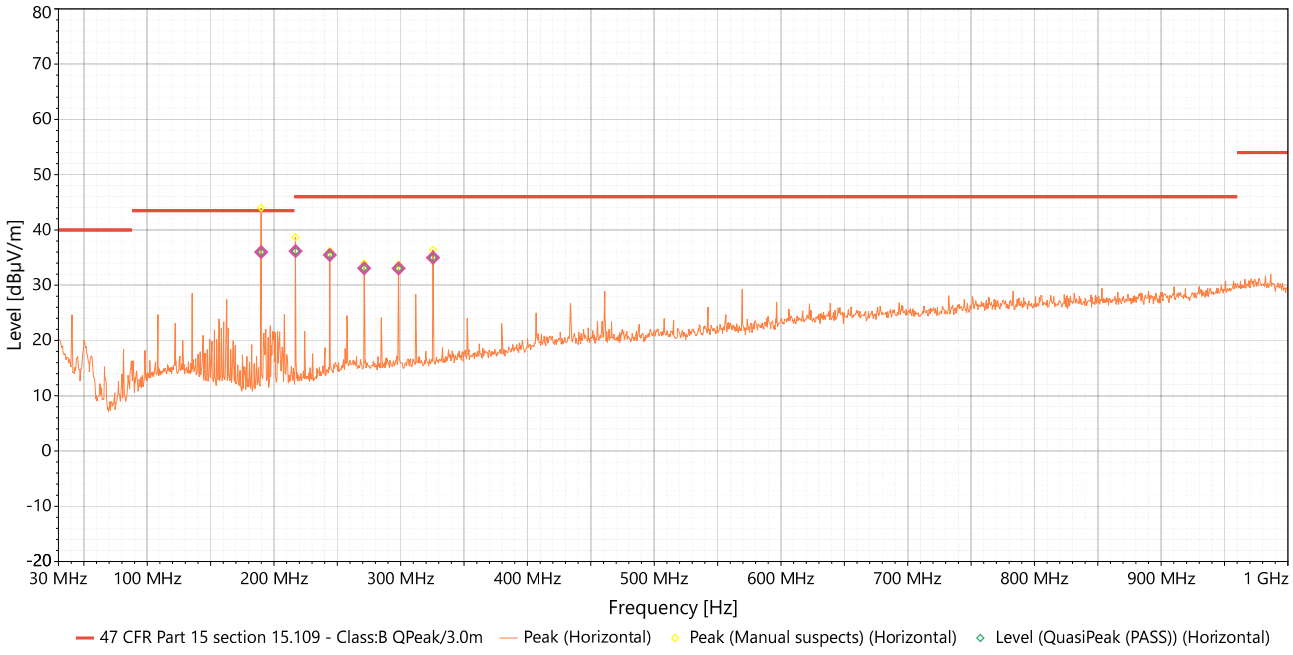


Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	40.67	Vertical	29.93066	40	-10.0693	1.01	120	-15.01	Pass
2	135.596	Vertical	29.59016	43.5	-13.9098	1.01	238	-13.31	Pass
3	189.856	Vertical	35.57989	43.5	-7.92011	1.7	1	-15.38	Pass
4	216.949	Vertical	32.16829	46	-13.8317	1.75	338	-15.14	Pass
5	244.079	Vertical	32.12552	46	-13.8745	1.75	288	-12.91	Pass
6	325.462	Vertical	38.58283	46	-7.41717	1.24	215	-10.9	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Channel	TX Mode 13.56MHz	Frequency Range	Below 30MHz
Input Power	120 Vac	Detector Function	Quasi-Peak
Environmental Conditions	25 deg. C, 70% RH	Tested By	Rafael Aguilar
Antenna Polarity & Test Distance: Horizontal At 3m			



Antenna Polarity & Test Distance: Loop Antenna 90 degree At 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/ Fail
1	189.886	Horizontal	36.00327	43.5	-7.49673	1.18	25	-15.89	Pass
2	216.979	Horizontal	36.17235	46	-9.82765	1.36	176	-15.14	Pass
3	244.079	Horizontal	35.45907	46	-10.5409	1.01	357	-12.81	Pass
4	271.209	Horizontal	33.0729	46	-12.9271	1.01	210	-11.64	Pass
5	298.332	Horizontal	33.02639	46	-12.9736	1.01	219	-11.16	Pass
6	325.432	Horizontal	34.97434	46	-11.0257	1.01	212	-10.55	Pass

REMARKS:

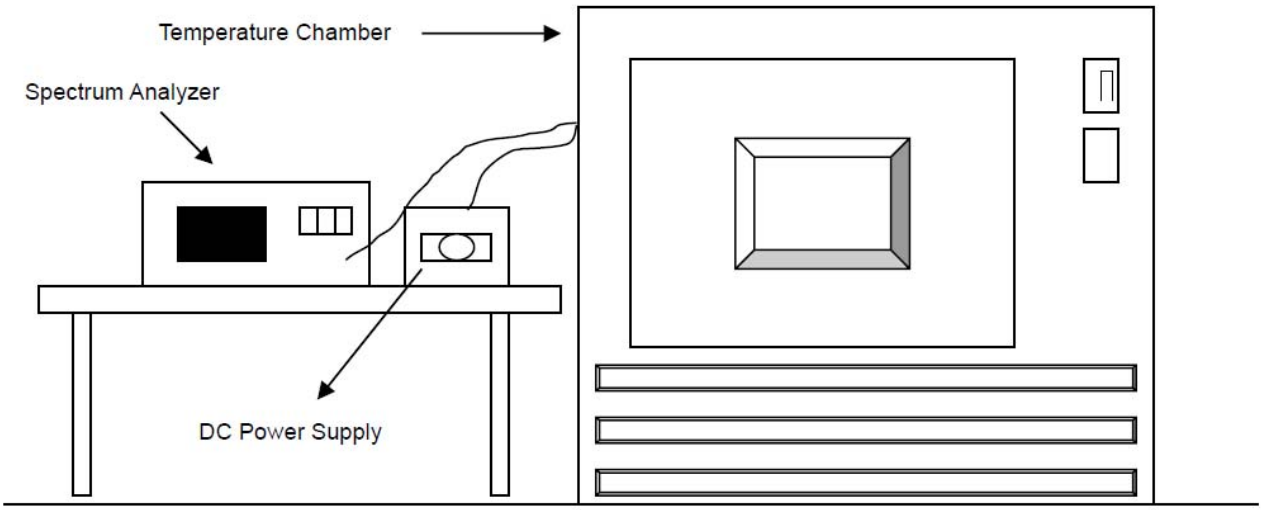
1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Frequency Stability

Limits of Frequency Stability Measurement

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

Test Setup



Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
b. Turned the EUT on and coupled its output to a spectrum analyzer.
c. Turned the EUT off and set the chamber to the highest temperature specified.
d. Allowed sufficient time (approximately 30 min) for the temperature of the chamber to stabilize then turned the EUT on and measured the operating frequency after 2, 5, and 10 minutes.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record

Test Equipment List

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	Signal Analyzer	ROHDE&SCHWARZ	FSV	12/09/2020	12/29/2022
1S2399	Turntable Controller	SUNOL SCIENCE	SC99V	Not Required	Not Required
1S2486	5 Meter Chamber Control Room	Panashield	5 Meter Control Room	Not Required	Not Required
1S2668	Preamplifier	Sonoma Instrument	310N	Note 1	Note 1
1S2600	Antenna	TESEQ GmbH	D-12623	05/ 11/ 2021	05/ 11/ 2023
1S3983	Loop Antenna	ETS-LINDGREN	6512	10/ 14 /2021	10/ 14 /2023
1S2776	Temperature Chambers	Lunaire	BTC	10/ 20 /2020	04/ 20 /2022
Note 1: Verified by calibrated instrumentation at the time of testing					

Test Results

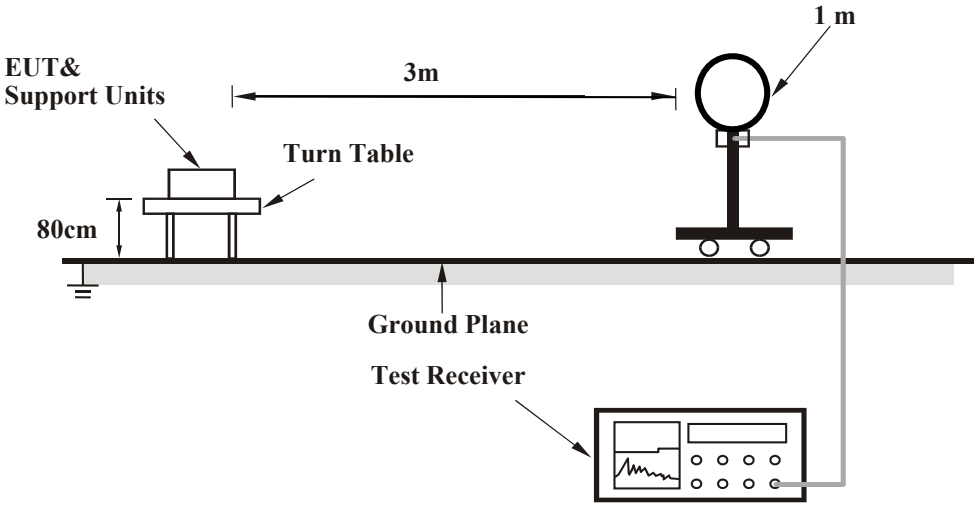
Frequency Stability Versus Temp.				
TEMP. (℃)	Power Supply (Vac)	Measured Frequency (MHz)	Frequency Dev. (Hz)	Result
50	120	13.56084	0	PASS
40		13.56084	0	PASS
30		13.56084	0	PASS
20		13.56084	0	PASS
10		13.56084	0	PASS
0		13.56084	0	PASS
-10		13.56086	0.00002	PASS
-20		13.56088	0.00004	PASS
20	102	13.56084	0	PASS
	138	13.56084	0	PASS

20 dB Bandwidth

Limits of 20 dB Bandwidth Measurement

The 20dB bandwidth shall be specified in operating frequency band.

Test setup



Test Procedure

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 10kHz RBW and 30kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

Test Equipment List

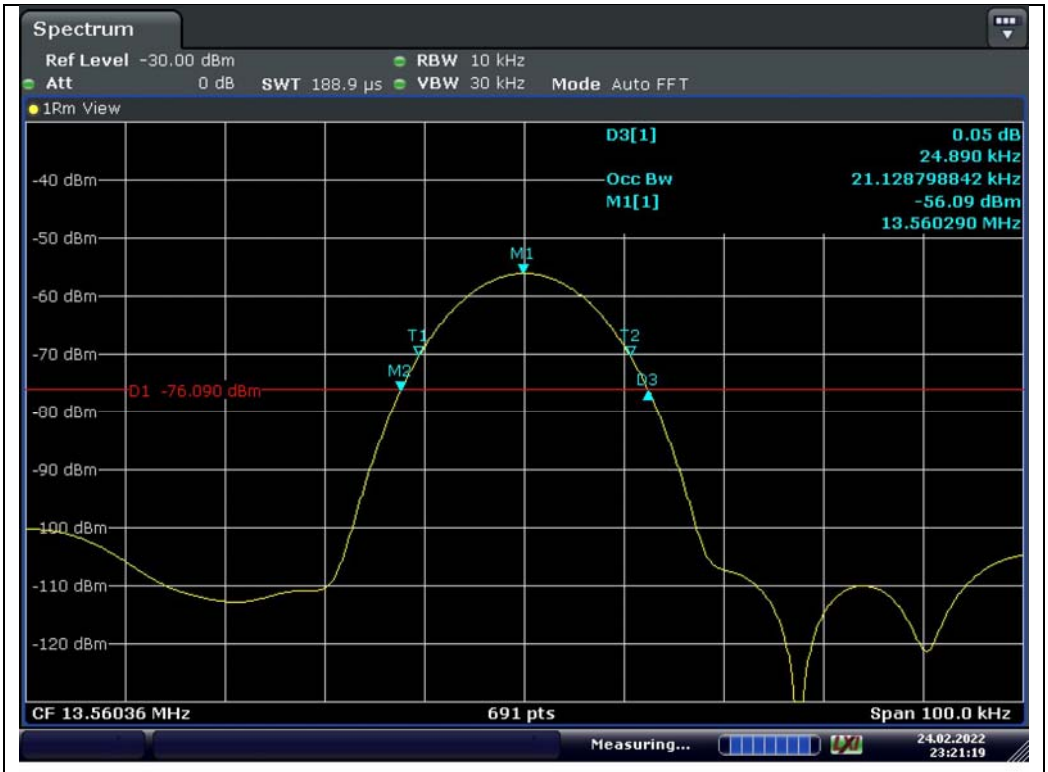
Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
N/A	Signal Analyzer	ROHDE&SCHWARZ	FSV	12/09/2020	12/29/2022
1S2399	Turntable Controller	SUNOL SCIENCE	SC99V	Not Required	Not Required
1S2486	5 Meter Chamber Control Room	Panashield	5 Meter Control Room	Not Required	Not Required
1S3983	Loop Antenna	ETS-LINDGREN	6512	10/ 14 /2021	10/ 14 /2023
Note 1: Verified by calibrated instrumentation at the time of testing					

Test Result

Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
13.56	24.89	21.128

Test Plot:



20dB Bandwidth

Pictures of Test Arrangements

Please see setup photo file.

Model_difference_declaration:

Enel X North America, Inc.
360 Industrial Road
San Carlos, CA 94070
USA

03/04/2022

Eurofins Electrical and Electronic Testing NA, Inc.
914 West Patapsco Avenue
Baltimore, MD 21230

RE: Model Declaration

We, Enel X North America, declare that following JuiceBox 2.01 product family filed under FCC ID: 2A4LRJB201NA.

JuiceBox 32, JuiceBox 40, JuiceBox 48 and JuiceBox 80, all have the same main board with the same RF devices. The only difference is the charging power output. JuniceBox 48 and JuiceBox 80 has a different relay board but it has no impact to emission.

Please contact me if there is any information you may need.

Sincerely,

Giovanni Bertolino
Head of e-Mobility, North America

END OF REPORT