Prüfbericht-Nr.: *Test report no.:*	**CN255NQI 001**	**Auftrags-Nr.:** *Order no.:*	**168542379**	Seite 1 von 28 *Page 1 of 28*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2025-03-10	
Auftraggeber: *Client:*	**Volex (Asia) Pte Ltd** 37A TAMPINES STREET 92, #08-01, SINGAPORE, 528886			
Prüfgegenstand: *Test item:*	NACS EV Charging Connector			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	5220443, 5220353, 5220368 (Trademark: Volex)			
Auftrags-Inhalt: *Order content:*	Test Report			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.231 CFR47 FCC Part 15: Subpart C Section 15.209 RSS-210 Issue 11 June 25, 2024 RSS-Gen Issue 5 April 2018			
Wareneingangsdatum: *Date of sample receipt:*	2025-03-10	Please refer to Photo Document		
Prüfmuster-Nr.: *Test sample no:*	A003944030-005			
Prüfzeitraum: *Testing period:*	2025-03-21 - 2025-03-25			
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			

geprüft von: tested by:	x Breeze Jiang	**genehmigt von:** *authorized by:*	x Bell Hu
Datum: *Date:* 2025-04-25		**Ausstellungsdatum:** *Issue date:* 2025-04-25	
Stellung / Position:	Sachverständige(r)/Expert	**Stellung** / Position:	Sachverständige(r)/Expert

Sonstiges / *Other:* FCC ID: 2BDAP-5220353
IC: 31498-5220353, HVIN: V1.1

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:*	Details im vorherigen Abschnitt *Details in the previous section*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*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.
This test report only relates to the above mentioned 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.

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. *The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.*

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 DEACTIVATION OF THE TRANSMISSION
RESULT: Pass

5.1.3 20DB EMISSION BANDWIDTH
RESULT: Pass

5.1.4 99%DB BANDWIDTH
RESULT: Pass

5.1.5 FIELD STRENGTH OF FUNDAMENTAL AND UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN
RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS
RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.
2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, China

A2LA Certificate Number: 5162.01

FCC Accreditation Designation No.: CN1260

ISED wireless device testing laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Equipment	Manufacturer	Model	Serial No.	Cal. until
EMI Test Receiver	R&S	ESR 7	102021	2025-09-28
Signal Analyzer	R&S	FSV 40	101439	2025-09-28
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	2025-09-28
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2025-09-28
Amplifier	R&S	SCU-18F	180070	2025-09-28
Amplifier	R&S	SCU40A	100475	2025-09-28
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2026-09-27
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2026-09-27
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2026-09-27
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2029-09-13

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

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 basics 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.

Table 2: Measurement Uncertainty

Parameter	Uncertainty (k=2)
RF output power, conducted	± 0.99 dB
Occupied Channel Bandwidth	± 2.08 %
All emissions, radiated	±4.17 dB

2.6 Location of Original Data

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

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, 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 NACS EV Charging Connector with 315MHz and 433.92MHz transmitter.

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

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	NACS EV Charging Connector
Type Designation:	5220443, 5220353, 5220368 Note The models 5220443, 5220353,5220368 are the same as each other in hardware and electronics, the difference is only the model number for different market.
Trademark:	Volex
FCC ID:	2BDAP-5220353
IC:	31498-5220353
HVIN:	V1.1
Operating Voltage:	DC 3.3V~12V
Testing Voltage:	DC 12V
Technical Specification	
Operating Frequencies:	315MHz, 433.92MHz
Modulation Type:	OOK
Antenna Type:	Integral Antenna
Antenna Gain :	-0.71dBi for 315MHz, -10.12dBi for 433MHz

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Transmitting with operating frequency 315MHz
B. On, Transmitting with operating frequency 433.92MHz
C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- ID Label and Location Info
- User Manual
- Operation Description

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

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.

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.

4.2 Test Operation and Test Software

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

According to clause 3.1, all tests were performed on model 5220353 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
DC power supply	KIKUSUI	PAN35-5A	YM002997

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)

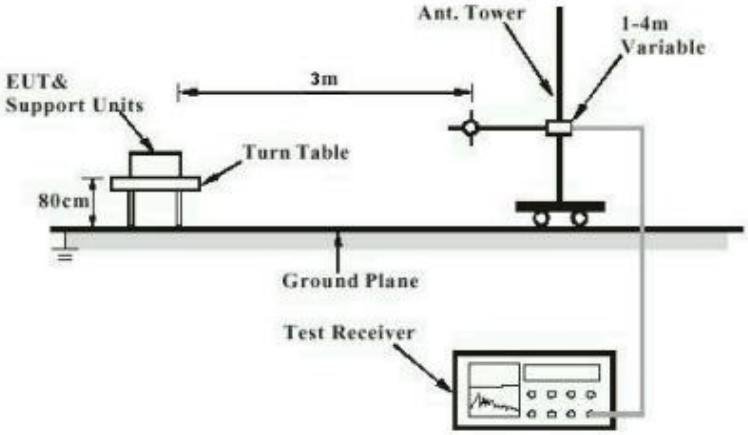


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

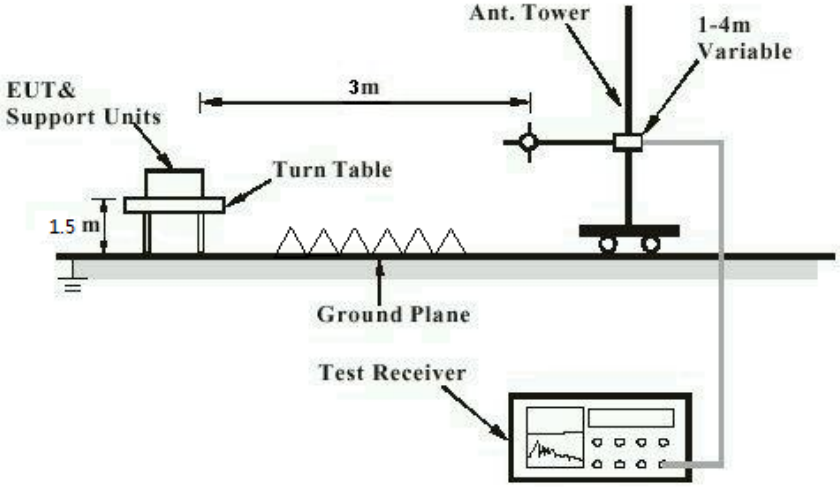
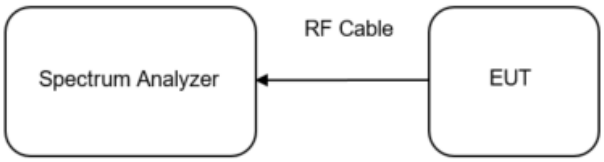


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Essential Requirements of Standard

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.203 RSS-Gen Clause 6.8
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the antenna test sheet, the EUT has a PCB Layout Antenna, the directional gain of antenna are -0.71dBi for 315MHz, -10.12dBi for 433MHz. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Deactivation of the Transmission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.231, RSS-210 Issue 11 RSS-Gen Issue 5
Basic standard	:	ANSI C63.10: 2013
Test requirement	:	FCC Part 15.231 (a)(1), RSS-210 A1.1 (a)
Limits	:	A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.
Kind of test site	:	Shielded Room

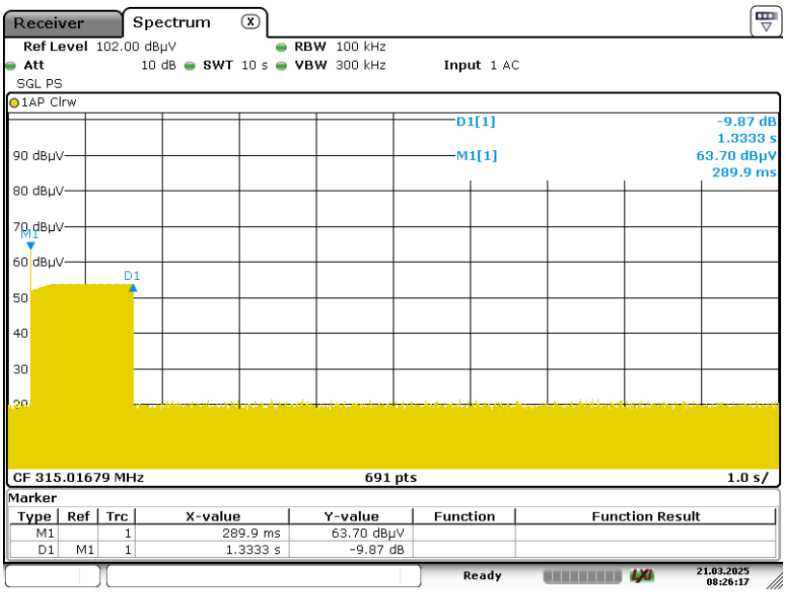
Test Setup

Date of testing	:	2025-03-21
Input voltage	:	DC 12V
Operation mode	:	A, B
Ambient temperature	:	25.6 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to nex page.

315MHz Transmitter:

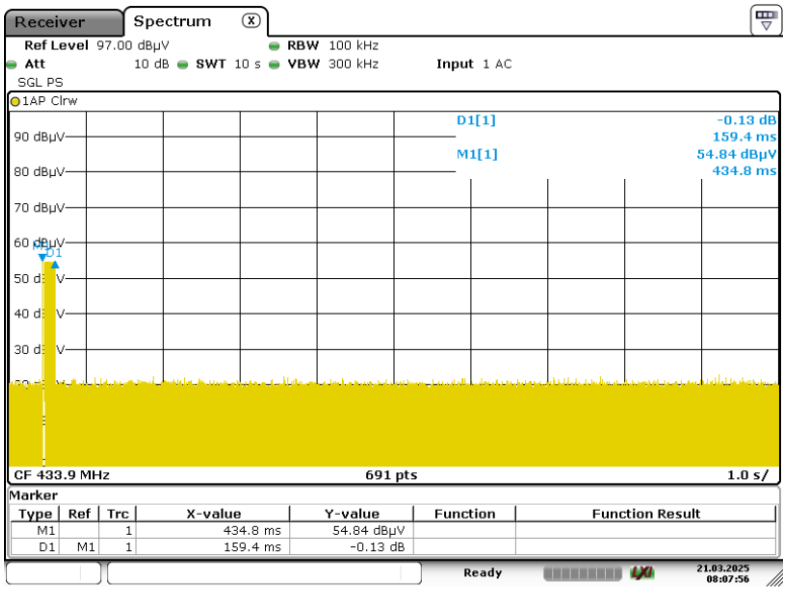
Carrier Frequency	Shutdown Time	Limit
315MHz	1.33s	≤5s



Date: 21.MAR.2025 08:26:17

433MHz Transmitter:

Carrier Frequency	Shutdown Time	Limit
433.92MHz	0.159s	≤5s



Date: 21.MAR.2025 08:07:56

5.1.3 20dB Emission Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.231
		RSS-Gen Issue 5
Basic standard	:	ANSI C63.10: 2013
Test requirement	:	FCC Part 15.231 (c)
Limit	:	FCC Part 15.231 (c)
Kind of test site	:	Shielded Room

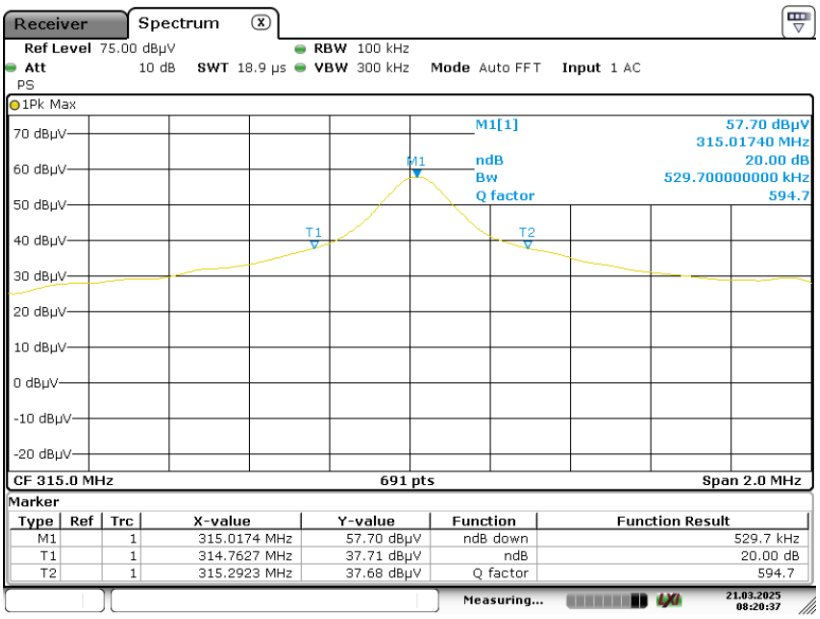
Test Setup

Date of testing	:	2025-03-21
Input voltage	:	DC 12V
Operation mode	:	A, B
Ambient temperature	:	25.6 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the next page.

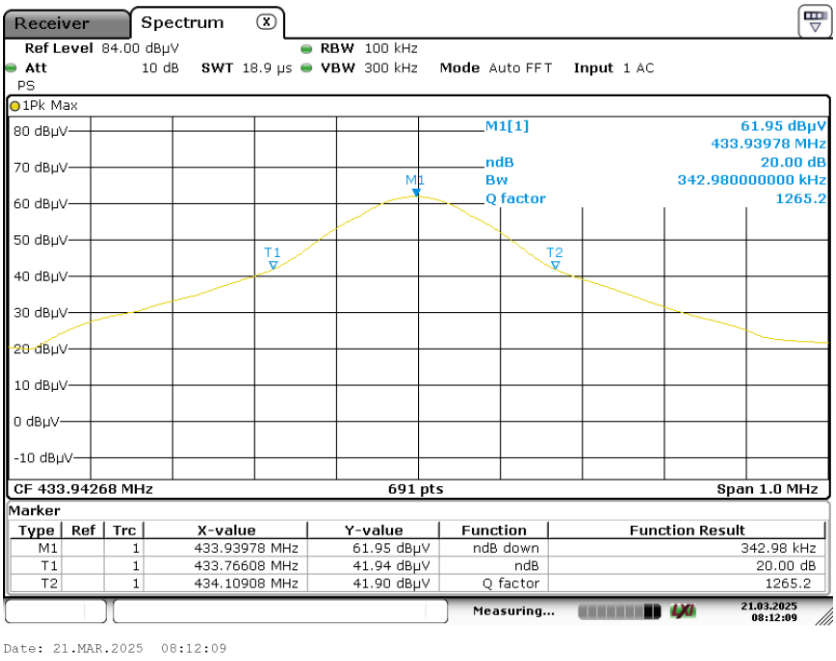
315MHz Transmittter:

Test Channel (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
315	0.530	315 * 0.25% =0.788



433MHz Transmitter:

Test Channel (MHz)	20dB Bandwidth (kHz)	Limit (MHz)
433.92	0.343	433.92 * 0.25% =1.08



5.1.4 99%dB Bandwidth

RESULT: **Pass**

Test Specification

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

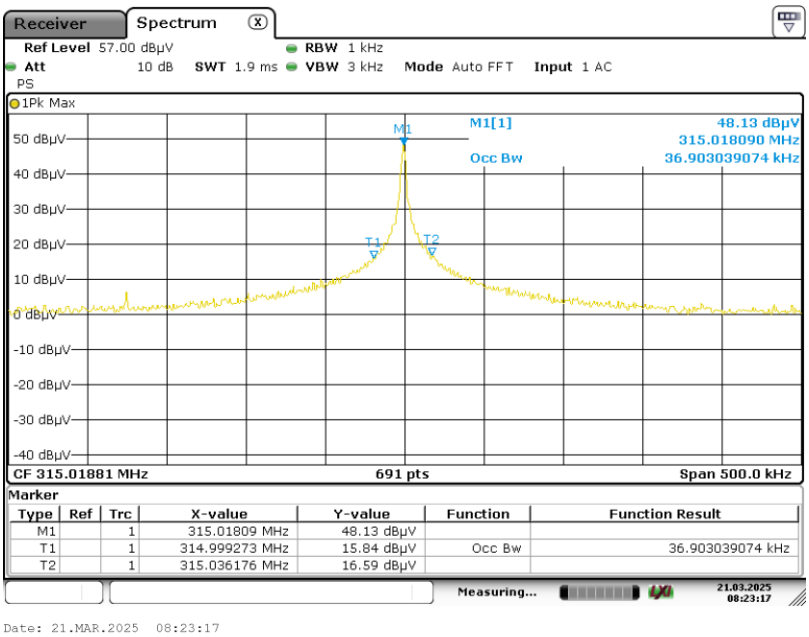
Test Setup

Date of testing	:	2025-03-21 - 2025-03-25
Input voltage	:	DC 12V
Operation mode	:	A, B
Ambient temperature	:	25.6 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the next page.

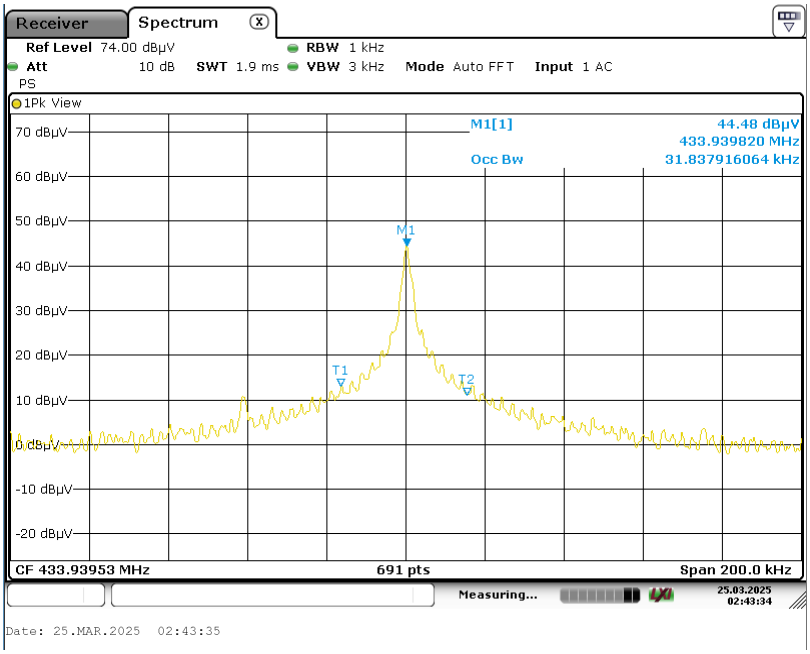
315MHz Transmittter:

Test Channel (MHz)	99% Bandwidth (kHz)	Limit (MHz)
315	36.9	--



433MHz Transmitter:

Test Channel (MHz)	99% Bandwidth (kHz)	Limit (MHz)
433.92	31.8	--



5.1.5 Field strength of fundamental and Unwanted Emissions in the Spurious Domain

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.231 & FCC Part 15.205 & FCC Part 15.209 RSS-210 Issue 11 & RSS-Gen Issue 5
Basic standard	:	ANSI C63.10: 2013
Test requirement	:	FCC Part 15.231 (b)(1)(2)(3) RSS-Gen Table 5
Limit	:	FCC Part 15.231 (b), RSS-210 A1.2
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	2025-03-21
Input voltage	:	DC 12V
Operation mode	:	A, B
Ambient temperature	:	26.3 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

Remark:
Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

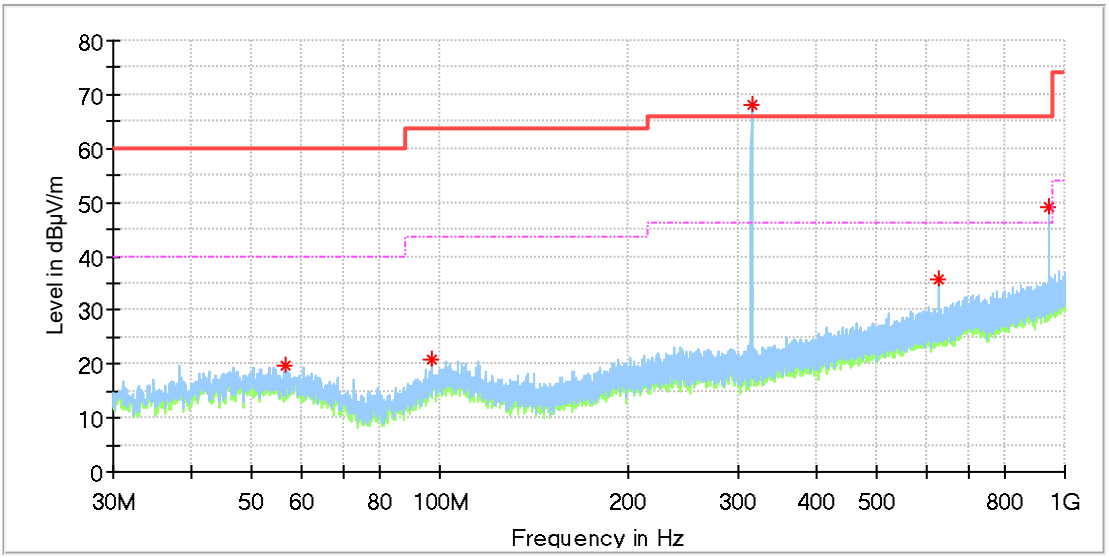
The measurement results below 30MHz was greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 5GHz were reported.

For the measurement records, refer to the following pages.

315MHz Transmitter:

Up to 1GHz

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	315MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



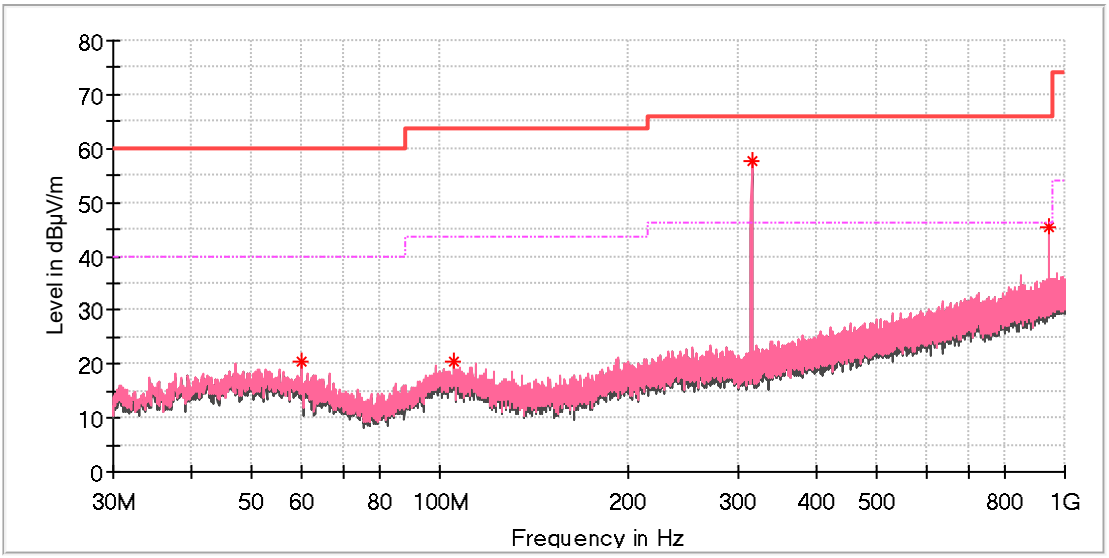
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
56.413846	19.89	---	40.00	20.11	100.0	H	212.0	-18.7
97.191154	20.82	---	43.50	22.68	100.0	H	339.0	-19.5
315.030769	68.06	---	95.62	27.56	100.0	H	310.0	-15.9
315.030769	---	62.47	75.62	13.15	100.0	H	310.0	-15.9
630.056923	35.88	---	75.62	39.74	100.0	H	221.0	-9.2
630.056923	---	30.29	55.62	25.33	100.0	H	221.0	-9.2
945.083077	48.98	---	75.62	26.64	100.0	H	221.0	-4.3
945.083077	---	43.39	55.62	12.23	100.0	H	221.0	-4.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	315MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

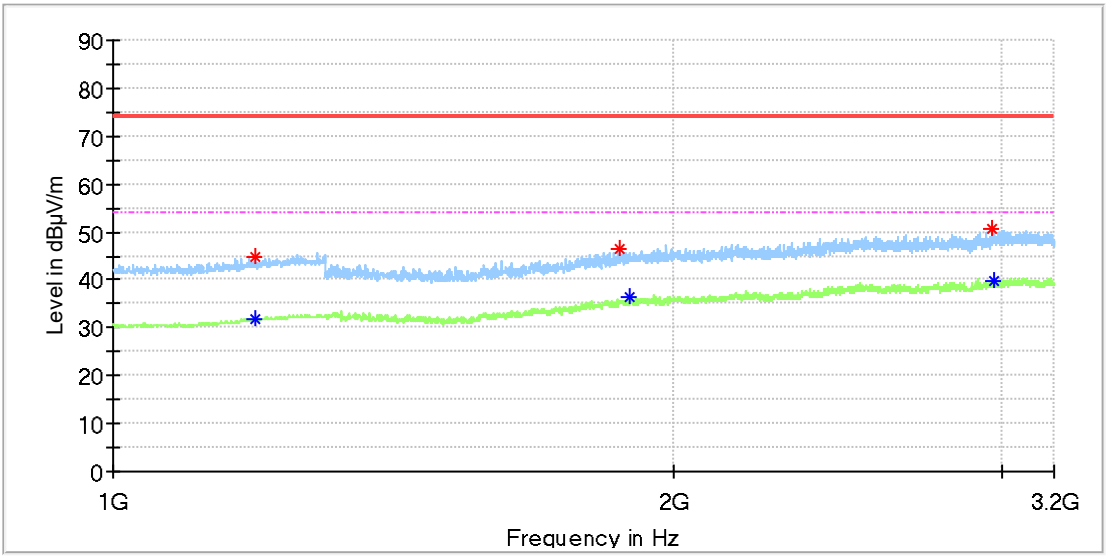
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
60.070000	20.46	---	40.00	19.54	100.0	V	31.0	-19.1
105.249615	20.59	---	43.50	22.91	100.0	V	43.0	-18.9
315.030769	57.59	---	95.62	38.03	100.0	V	252.0	-15.9
315.030769	---	52.00	75.62	23.62	100.0	V	252.0	-15.9
945.083077	45.26	---	75.62	30.36	100.0	V	208.0	-4.3
945.083077	---	39.67	55.62	15.95	100.0	V	208.0	-4.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Above 1GHz

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	315MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



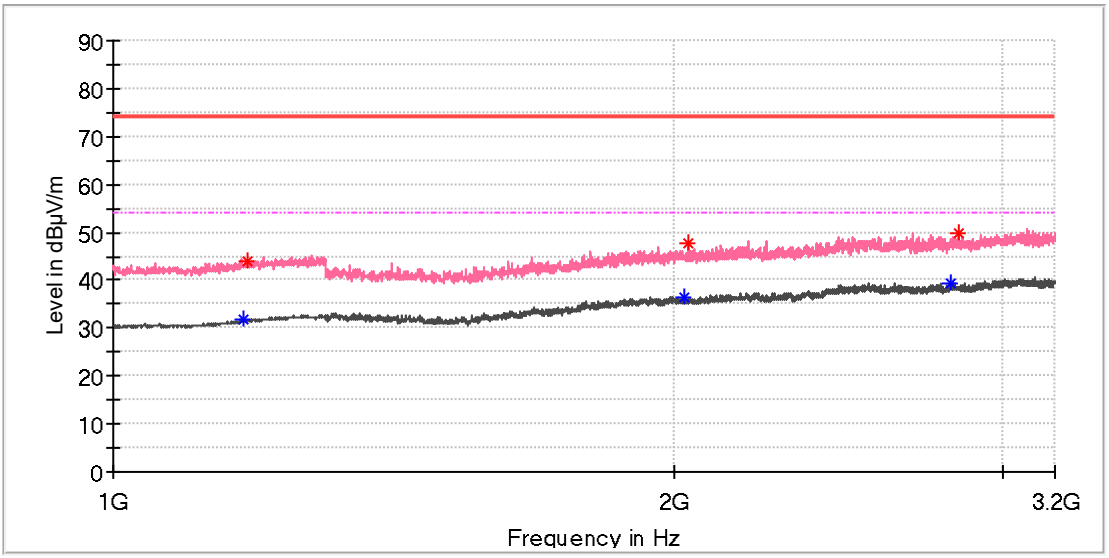
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1191.000000	---	31.90	54.00	22.10	150.0	H	131.0	1.7
1191.500000	44.81	---	74.00	29.19	150.0	H	175.0	1.7
1870.616667	46.28	---	74.00	27.72	150.0	H	351.0	6.7
1894.625000	---	36.25	54.00	17.75	150.0	H	135.0	7.0
2967.183333	50.52	---	74.00	23.48	150.0	H	287.0	9.9
2968.858333	---	39.94	54.00	14.06	150.0	H	127.0	9.9

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	315MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1174.500000	---	31.93	54.00	22.07	150.0	V	51.0	1.6
1180.500000	44.06	---	74.00	29.94	150.0	V	3.0	1.6
2026.950000	---	36.46	54.00	17.54	150.0	V	260.0	7.5
2034.208333	47.82	---	74.00	26.18	150.0	V	310.0	7.4
2813.083333	---	39.54	54.00	14.46	150.0	V	353.0	9.5
2838.766667	49.83	---	74.00	24.17	150.0	V	260.0	9.6

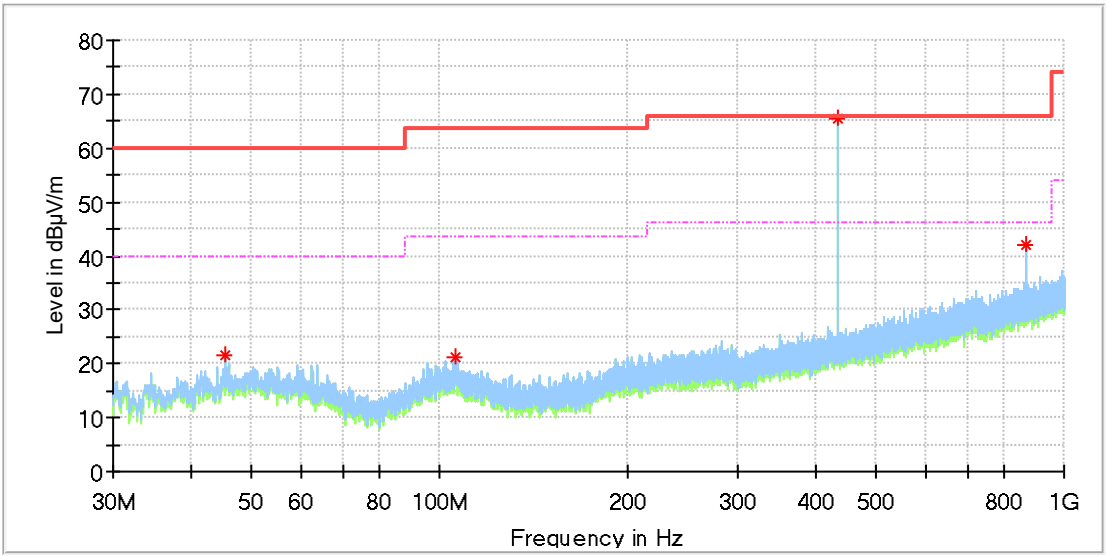
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

433.92MHz Transmitter:

Up to 1GHz

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	433MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



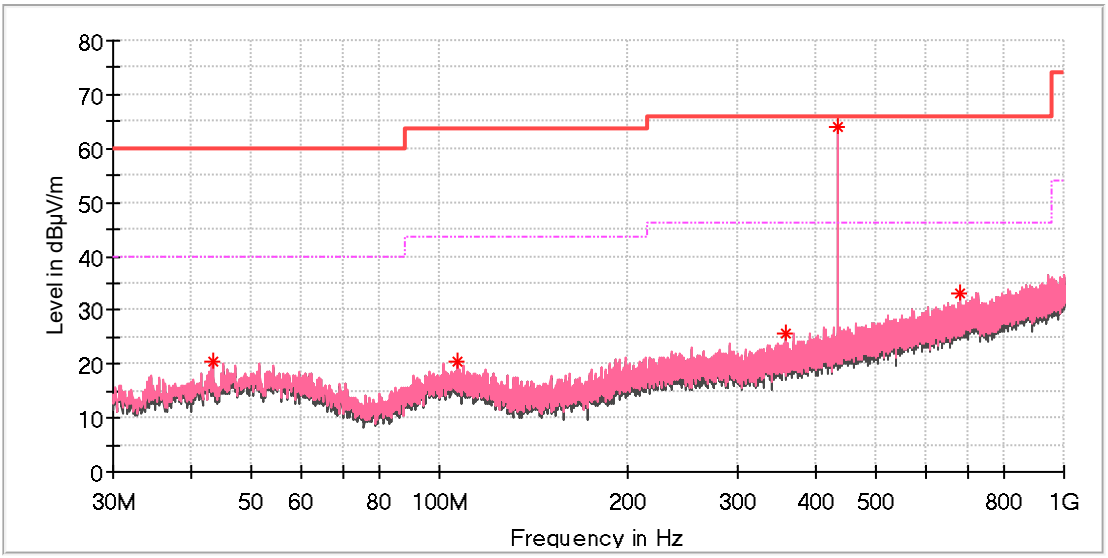
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
45.296154	21.45	---	40.00	18.55	100.0	H	0.0	-18.9
106.331539	21.31	---	43.50	22.19	100.0	H	194.0	-19.0
433.967692	65.56	---	100.82	35.26	100.0	H	128.0	-13.1
433.967692	---	59.97	80.82	20.85	100.0	H	128.0	-13.1
867.893462	41.97	---	80.82	38.85	100.0	H	194.0	-5.2
867.893462	---	36.38	60.82	24.44	100.0	H	194.0	-5.2

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	433MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

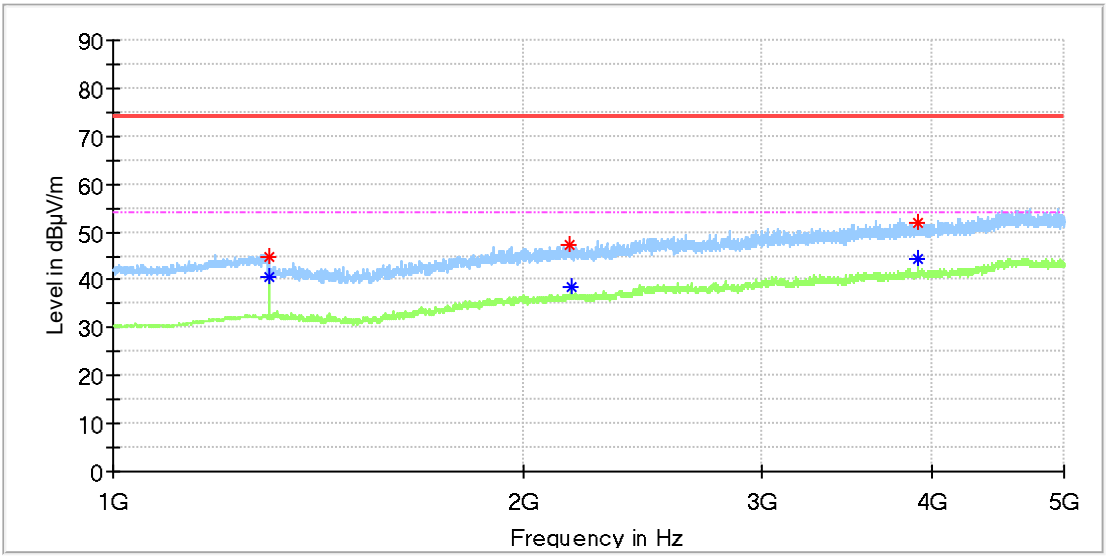
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
43.244231	20.48	---	40.00	19.52	100.0	V	141.0	-19.3
106.891154	20.59	---	43.50	22.91	100.0	V	325.0	-19.0
357.971923	25.77	---	46.00	20.23	100.0	V	21.0	-14.7
433.967692	64.00	---	100.82	36.82	100.0	V	260.0	-13.1
433.967692	---	58.41	80.82	22.41	100.0	V	260.0	-13.1
681.056539	33.24	---	46.00	12.76	100.0	V	97.0	-8.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Above 1GHz

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	433MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1301.675000	44.89	---	74.00	29.11	150.0	H	292.0	3.4
1301.675000	---	40.48	54.00	13.52	150.0	H	292.0	3.4
2165.975000	47.18	---	74.00	26.82	150.0	H	129.0	7.7
2169.325000	---	38.49	54.00	15.51	150.0	H	224.0	7.7
3905.183333	51.92	---	74.00	22.08	150.0	H	264.0	11.6
3905.183333	---	44.43	54.00	9.57	150.0	H	264.0	11.6

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

EUT Name:	NACS EV Charging Connector
Model:	5220353
Test Mode:	433MHz
Order No/Sample No:	168542379/A003944030-005
Test Voltage::	DC 12V From DC Source
Test Standard:	FCC 15.231
Tested By:	Kei Zhang
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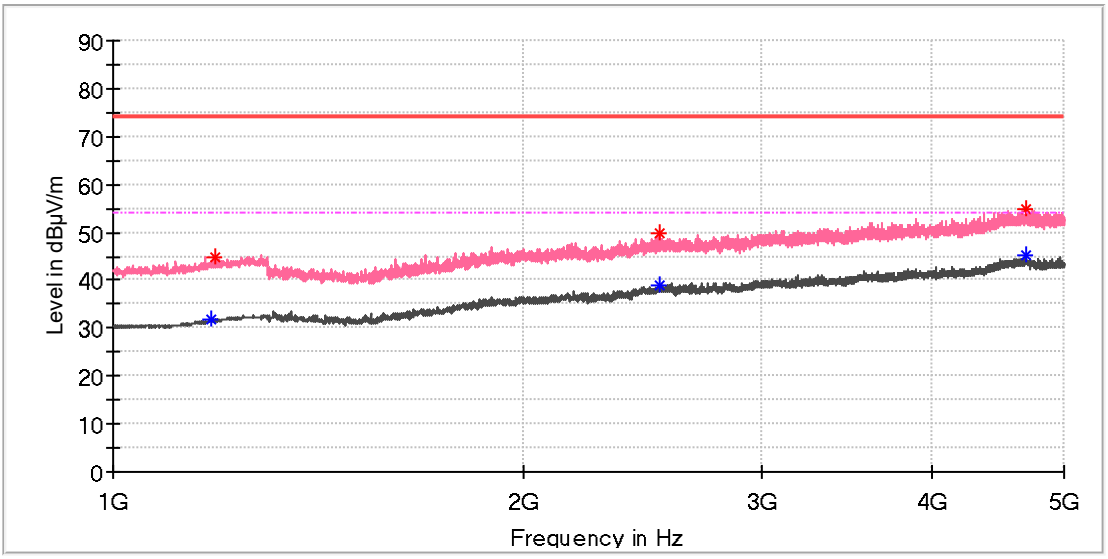


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1182.500000	---	31.83	54.00	22.17	150.0	V	11.0	1.6
1190.500000	44.95	---	74.00	29.05	150.0	V	124.0	1.7
2519.958333	---	38.90	54.00	15.10	150.0	V	311.0	9.0
2522.191667	49.61	---	74.00	24.39	150.0	V	137.0	9.0
4686.850000	55.02	---	74.00	18.98	150.0	V	318.0	13.5
4689.641667	---	45.11	54.00	8.89	150.0	V	137.0	13.5

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

Test standard : CFR47 FCC Part 2: Section 2.1093
CFR47 FCC Part 1: Section 1.1310
FCC KDB Publication 447498 D01 v06
RSS-102 Issue 6 Clause 6.3

FCC/IC requirements

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1093 this device has been defined as a portable device. SAR test exclusion considerations per KDB 447498 D01 v06 4.3.1 a)

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

IC requirement: SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output level below.

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

Measurement Record

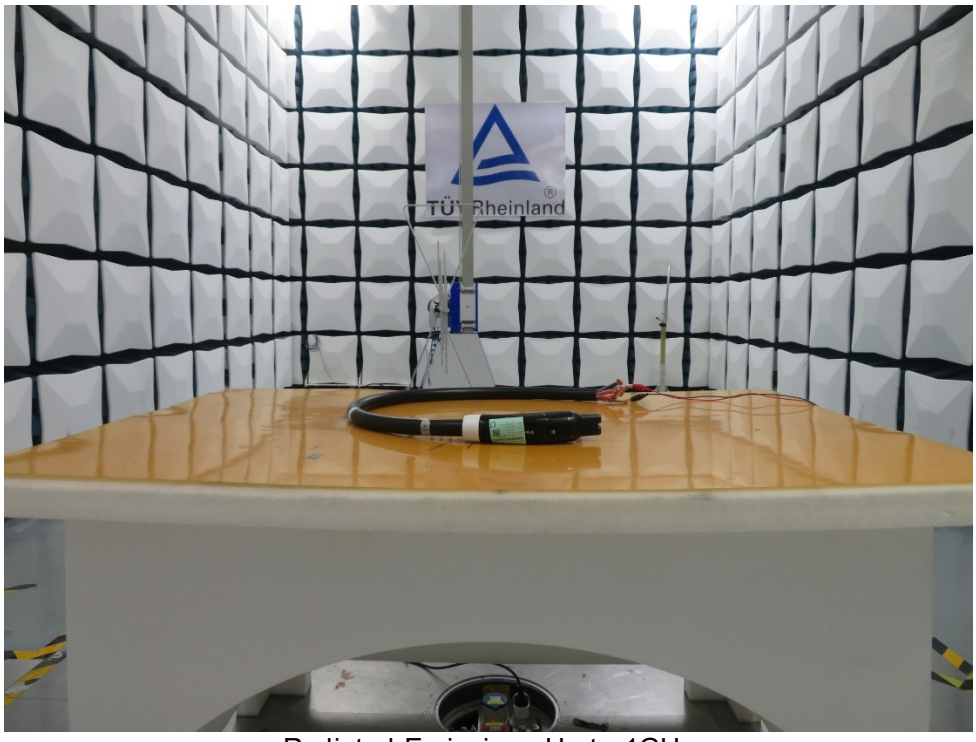
The minimum distance for the EUT is less than 5mm.

The maximum time average e.i.r.p. of 315MHz: 62.47dBuv/m @3m = -34.91dBm < 1mW
The maximum time average e.i.r.p. of 433.93MHz: 59.97dBuv/m @3m = -37.41dBm < 1mW

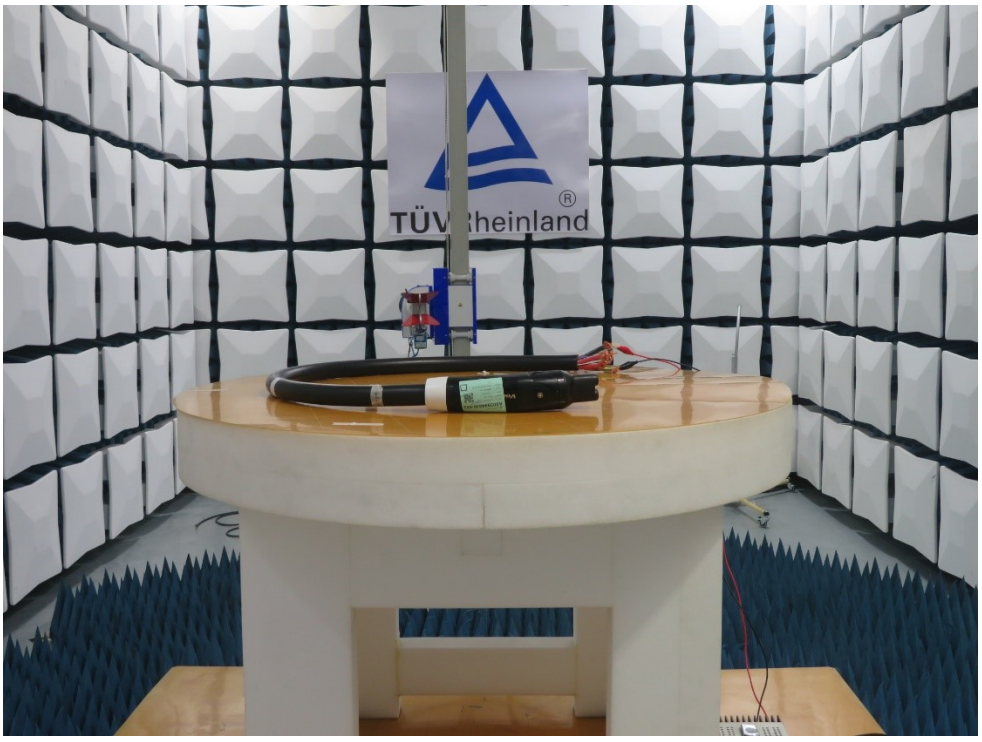
According to KDB 447498 D01 v06 4.3.1 a) and RSS-102 Issue 6 clause 6.3

EUT is compliance with the RF exposure.

7 Photographs of the Test Set-Up



Radiated Emissions Up to 1GHz



Radiated Emissions Above 1GHz

8 List of Tables

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