



FCC Test Report

Report No.: CAIJ-ESH-P21050315B-3

FCC ID: 2AZX2-BV000001

Product: 15W Car Wireless Charging Module

Test Model: W015CN-01,W015CN-10,W015CN-XX

Received: May.08, 2021

ISSUED: May.31, 2021

Applicant: An Energy Technology Co., Ltd

Address: No. 139 Huaye Road, Jintan, Changzhou, Jiangsu, China

Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

Lab Location: No. 829, Xinzhuang Road, Shanghai, P.R.China (201612)

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1. TEST PROGRAM

PRODUCT: 15W Car Wireless Charging Module

TEST MODEL: W015CN-01,W015CN-10,W015CN-XX

APPLICANT: An Energy Technology Co., Ltd

TESTED: May.08 to May.31, 2021

STANDARDS: 47 CFR FCC Part15, Subpart B, Class B
ANSI C63.4:2014

We, BUREAU VERITAS ADT (Shanghai) Corporation, declare that the equipment above has been tested and found compliance with the requirement limits of applicable standards. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate under the standards herein specified.

PREPARED BY : Yuan Zhang, **DATE:** May.31, 2021
Yuan ZHANG
Project Engineer

APPROVED BY : Daniel Sun, **DATE:** May.31, 2021
Daniel Sun
EMC Lab Manager



2. Summary of Test Procedure and Test Results

EMISSION (47 CFR FCC Part15, Subpart B)		
Test Item	Normative References	Test Result
Conducted Emission	47 CFR FCC Part15, Subpart B 15.107	The EUT is powered by DC source
Radiated Emission	47 CFR FCC Part15, Subpart B 15.109	Meets the Class B requirements

3. Test Configuration of Equipment under Test

3.1 Manufacturer information

Manufacturer : An Energy Technology Co., Ltd

Address : No. 139 Huaye Road, Jintan, Changzhou, Jiangsu, China

3.2 Feature of Equipment under Test

Product Name:	15W Car Wireless Charging Module
Brand:	--
Test Model:	W015CN-01,W015CN-10,W015CN-XX
Model Discrepancy:	All these models are same except appearance.
EUT Power Rating:	Input:16-20Vdc, 2A(max)

Note: For more details, please refer to the User's manual of the EUT.

3.3 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

This listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement		Value
Conducted emissions		2.55 dB
Radiated emissions	30 MHz ~ 1GHz	3.22 dB
	Above 1GHz	2.89 dB

4 Test of Conducted Emission

4.1 Test Limit

TEST STANDARD:

CFR 47 FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

- NOTES:**
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.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.4 Measurement Equipment

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1001	May.10, 2022
LISN ROHDE & SCHWARZ	ENV216	E1L1011	May.10, 2022
Software ADT	ADT_Cond_V7.3.0	N/A	N/A

4.5 Test Result and Data

Not applicable. The EUT is powered by DC source.

5 Test of Radiated Emission

5.1 Test Limit

TEST STANDARD:

CFR 47 FCC Part 15, Subpart B (Section: 15.109)

FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 – 88	90	39.1	100	40.0
88 – 216	150	43.5	150	43.5
216 – 960	210	46.4	200	46.0
960 – 1000	300	49.5	500	54.0

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

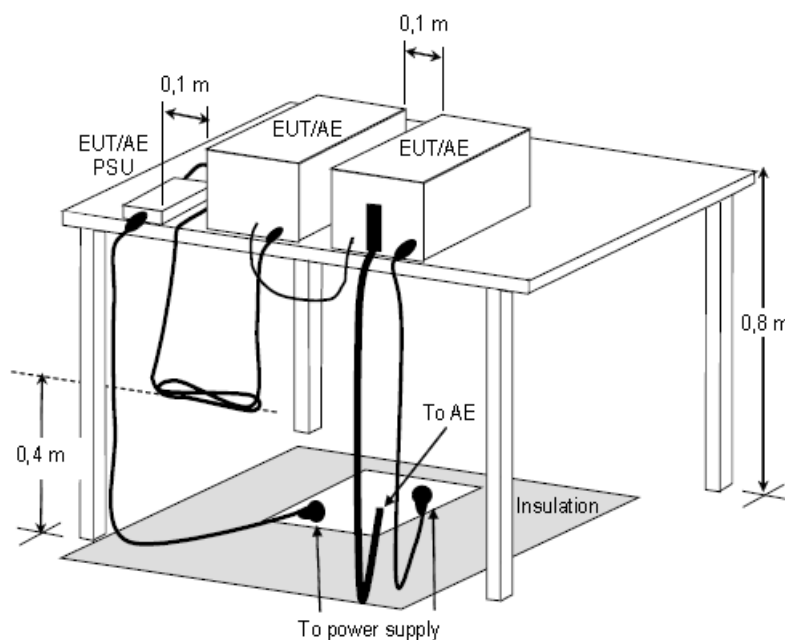
FREQUENCY (MHz)	Class A ($\text{dB}\mu\text{V/m}$) (at 3m)		Class B ($\text{dB}\mu\text{V/m}$) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

- Note:** 1. The lower limit shall apply at the transition frequencies.
 2. Emission level ($\text{dB}\mu\text{V/m}$) = $20 \log$ Emission level ($\mu\text{V/m}$).
 3. All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.2 Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3/10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
5. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

5.3 Typical Test Setup



**Figure D.8 – Example measurement arrangement for table-top EUT
(Radiated emission measurement)**

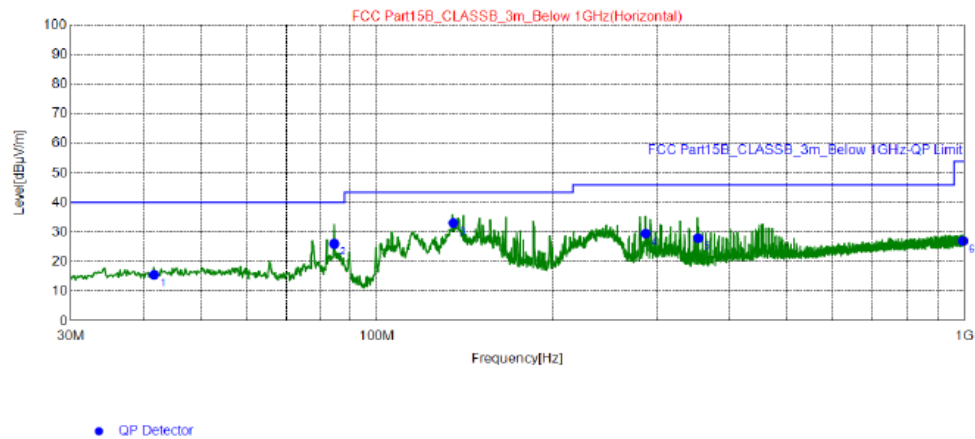


5.4 Measurement Equipment

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
EMI Test Spectrum ROHDE & SCHWARZ	ESR7	E1R1005	May.10, 2022
Spectrum Analyzer Keysight	N9030B	E1S1003	Aug.03, 2021
Broad-Band Antenna Schwarzbeck	VULB9168	E1A1012	Jul.27, 2021
Double Riaged Vroadband Horn Antenna Schwarzbeck	BBHA9120D	E1A1017	Jan.24, 2022
Preamplifier Agilent	8447D	E1A2001	Apr.18, 2022
Preamplifier Agilent	EMC051845SE	E1A2009	Jul.05, 2021

5.5 Test Result and Data (30MHz ~ 1GHz)

Position: Horizontal



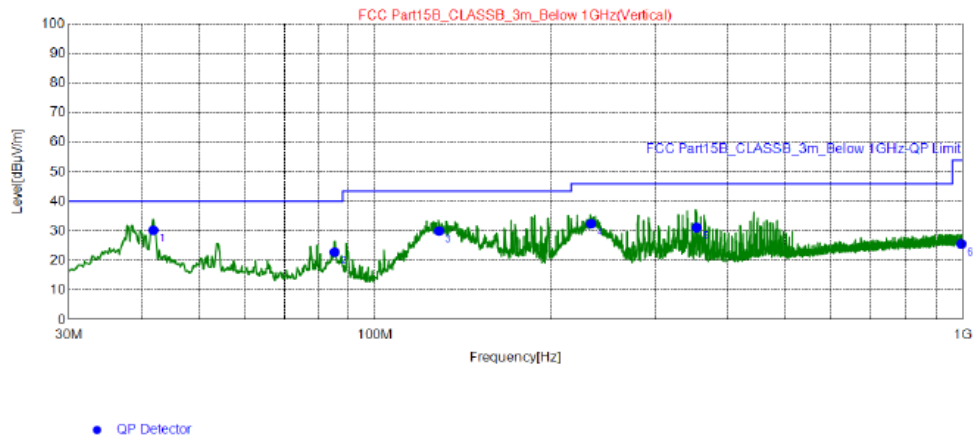
Final Data List

NO.	Freq. [MHz]	QP Reading [dB μV/m]	Factor [dB]	QP Value [dB μV/m]	QP Limit [dB μV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	41.64	25.98	-10.31	15.67	40.00	24.33	200	250	Horizontal
2	84.51	41.12	-15.03	26.09	40.00	13.91	200	258	Horizontal
3	134.9	44.03	-10.87	33.16	43.50	10.34	200	287	Horizontal
4	287.4	38.51	-8.98	29.53	46.00	16.47	200	175	Horizontal
5	353.2	35.4	-7.35	28.05	46.00	17.95	200	164	Horizontal
6	994.3	24.74	2.29	27.03	54.00	26.97	200	227	Horizontal

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value.
4. Factor = Antenna Factor + Amplifier Factor + Cable loss.
5. QP value = Factor + Reading Value.

Position: Vertical



Final Data List

NO.	Freq. [MHz]	QP Reading [dB μV/m]	Factor [dB]	QP Value [dB μV/m]	QP Limit [dB μV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	41.83	40.64	-10.30	30.34	40.00	9.66	100	356	Vertical
2	85.29	38.08	-15.15	22.93	40.00	17.07	100	319	Vertical
3	128.5	41.6	-11.57	30.03	43.50	13.47	100	181	Vertical
4	233.5	43.81	-11.28	32.53	46.00	13.47	100	289	Vertical
5	353.3	38.51	-7.35	31.16	46.00	14.84	100	51	Vertical
6	994.1	23.41	2.29	25.70	54.00	28.30	100	118	Vertical

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

5.6 Test Photographs (30MHz ~ 1000MHz)

Please refer to the attached file (Test Setup Photo).

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