



FCC - TEST REPORT

Report Number : 709502309978-00B Date of Issue: Feb.23,2024

Model : KDWLC1015A

Product Type : Wireless charger

Brand name : KD

Applicant : Changzhou Kaidi Electrical Inc

Address : Jiangcun, Henglin Town Changzhou China

Manufacturer : Changzhou Kaidi Electrical Inc

Address : Jiangcun, Henglin Town Changzhou China

Test Result : ☒ Positive ☐ Negative

Total pages including
Appendices : 41

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2. Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	02/23/2024

3. Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
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Shanghai 201108,
P.R. China

Telephone: +86 21 6141 0123

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FCC Registration No.: 820234

FCC Designation Number: CN1183

ISED CAB identifier CN0101

IC Registration No.: 31668



4. Description of the Equipment Under Test

4.1 EUT Description

Product name: Wireless charger

Model no.: KDWLC1015A

FCC ID: 2AOTUKDWLC1015A

Rating: Input: DC 9V;
Output: DC 9V/1A or DC 5V/1A

RF Transmission
Frequency: 111-205KHz

WPT Type: Magnetic Induction

Antenna Type: Coil antenna

Description of the EUT: The Equipment Under Test (EUT) is a wireless charger which operated at 111-205kHz.

Test sample no.: SHA-780181-1

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment, antenna gain, or any information supplied.

4.2 Peripheral devices during the testing:

- - Electronic load Type : YBZ
- - Adapter Type : YS16-0902000



5. Summary of Test Standards

Test Standards	
CFR 47 Part 15 Subpart C	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

6. Summary of Test Results

Technical Requirements			
CFR 47 Part 15 Subpart C			
Test Condition			Test Result
CFR 47 §15.207	Conducted emission AC power port		Pass
CFR 47 §15.209	Radiated Emissions		Pass
CFR 47 §15.215	20dB bandwidth		Pass
CFR 47 §15.203	Antenna requirement		See note 2

Note 1: Because the highest frequency of the internal sources of the EUT is less than 108MHz, so the measurement only is made up to 1GHz.

Note 2: The EUT uses a coil antenna. In accordance to §15.203, It is considered sufficiently to comply with the provisions of this section.



7. General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2AOTUKDWLC1015A, complies with Section 15.207, 15.209, 15.205 of the FCC Part 15, Subpart C rules.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - Not Performed

The Equipment under Test

■ - Fulfills the general approval requirements.

□ - Does not fulfill the general approval requirements.

Sample Received Date: February 15, 2024

Testing Start Date: January 20, 2024

Testing End Date: January 23, 2024

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch -

Reviewed by:

Prepared by:

Tested by:



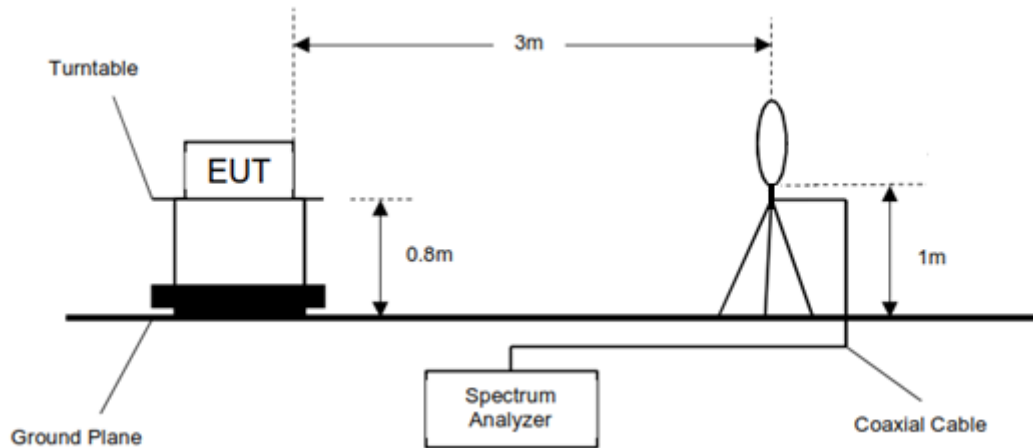
Hui TONG
Review Engineer

Wenqiang LU
Project Engineer

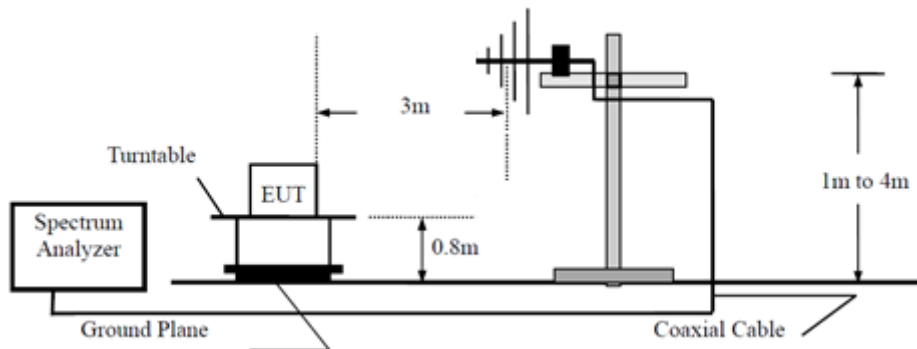
Cheng Huali
Test Engineer

8. Test Setups

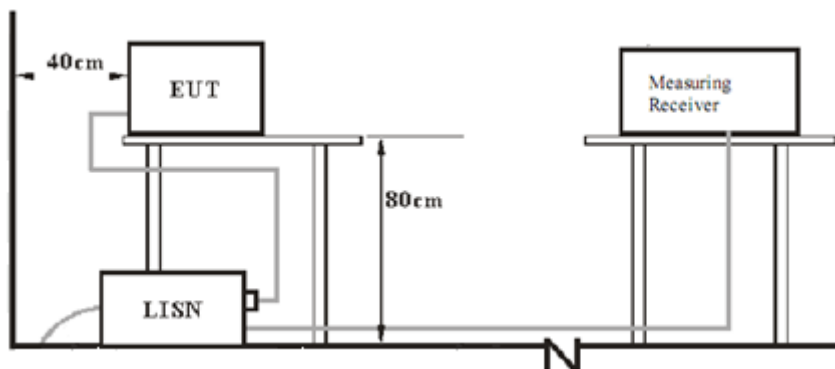
Below 30MHz



30MHz-1GHz



AC Power Line Conducted Emission test setups





9. Technical Requirement

9.1 Conducted Emission Test

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.).
3. Maximum disturbance procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

According to CFR 47 §15.207, conducted emissions limit as below:

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.



Test Result:

150k-30MHz Conducted Emission Test

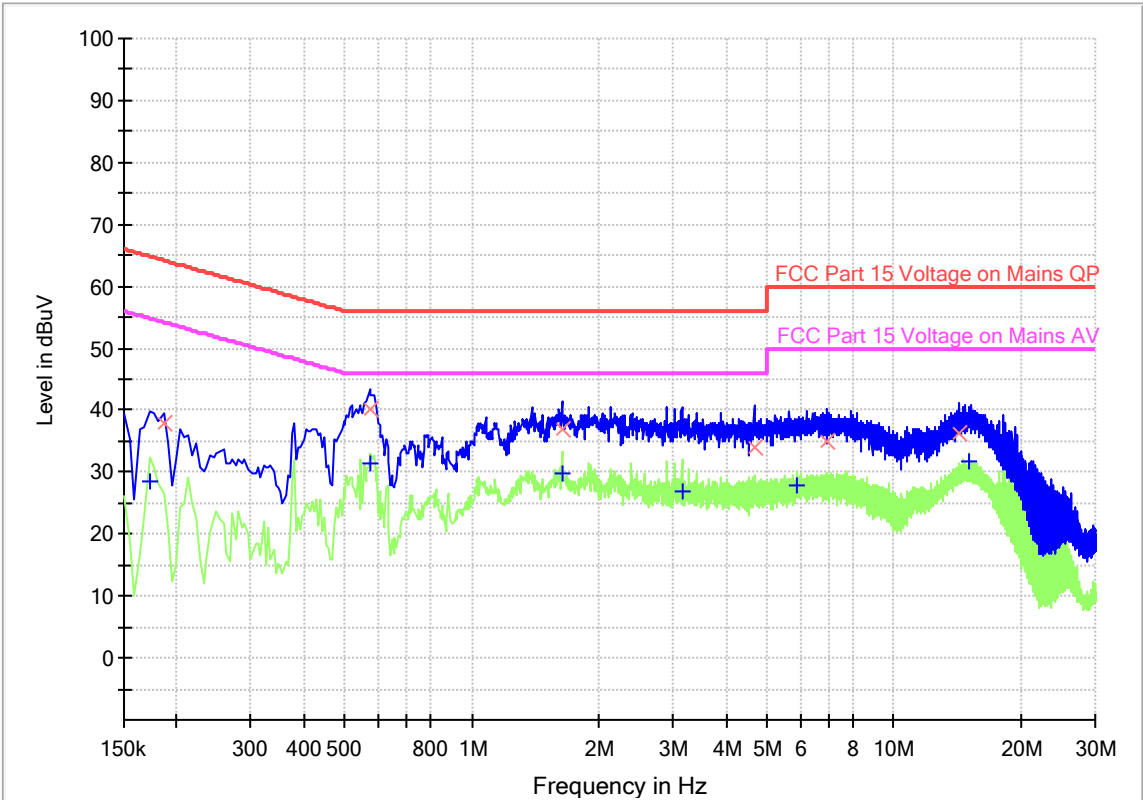
EUT Information

EUT Name:	Wireless charger
Model	KDWLC1015A
Client:	Changzhou Kaidi Electrical Inc
Op Cond	Power on, output: 5V/1A, AC 120V/60Hz, T21.1, H41.1%, P103.4kPa
Operator:	Huali CHENG
Standard	FCC 15.207
Comment:	Phase L
Sample No.:	SHA-780181-1

Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Receiver:	[ESR 3]
Level Unit:	dBuV

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0.02 s	0 dB
150 kHz - 30 MHz	4.5 kHz	PK+; AVG	9 kHz	0.01 s	0 dB





Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.172500	---	28.63	54.84	26.21	1000.0	9.000	L1	19.4
0.186000	37.94	---	64.21	26.27	1000.0	9.000	L1	19.4
0.573000	40.23	---	56.00	15.77	1000.0	9.000	L1	19.4
0.577500	---	31.53	46.00	14.47	1000.0	9.000	L1	19.4
1.635000	36.81	---	56.00	19.19	1000.0	9.000	L1	19.5
1.635000	---	29.90	46.00	16.10	1000.0	9.000	L1	19.5
3.147000	---	26.78	46.00	19.22	1000.0	9.000	L1	19.5
4.659000	34.09	---	56.00	21.91	1000.0	9.000	L1	19.6
5.896500	---	27.85	50.00	22.15	1000.0	9.000	L1	19.6
6.927000	35.01	---	60.00	24.99	1000.0	9.000	L1	19.7
14.298000	36.37	---	60.00	23.63	1000.0	9.000	L1	20.0
15.045000	---	31.58	50.00	18.42	1000.0	9.000	L1	20.1



150k-30MHz Conducted Emission Test

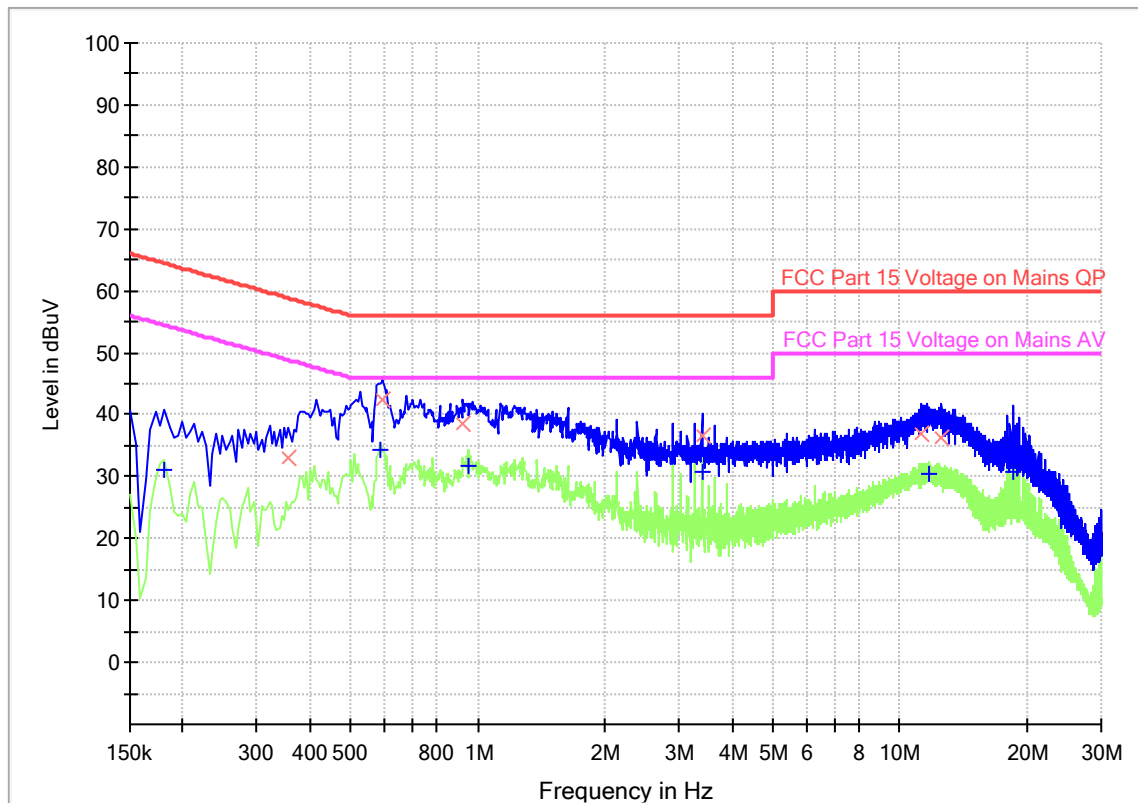
EUT Information

EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T21.1, H41.1%, P3.4kPa
Operator: Huali CHENG
Standard: FCC Part 15.207
Comment: Phase N
Sample No.: SHA-780181-1

Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN
Receiver: [ESR 3]
Level Unit: dBuV

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0.02 s	0 dB
150 kHz - 30 MHz	4.5 kHz	PK+; AVG	9 kHz	0.01 s	0 dB





Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.181500	---	31.15	54.42	23.27	1000.0	9.000	N	19.4
0.357000	33.15	---	58.80	25.65	1000.0	9.000	N	19.5
0.586500	---	34.40	46.00	11.60	1000.0	9.000	N	19.4
0.595500	42.44	---	56.00	13.56	1000.0	9.000	N	19.4
0.919500	38.50	---	56.00	17.50	1000.0	9.000	N	19.5
0.951000	---	31.82	46.00	14.18	1000.0	9.000	N	19.5
3.399000	36.67	---	56.00	19.33	1000.0	9.000	N	19.5
3.399000	---	30.82	46.00	15.18	1000.0	9.000	N	19.5
11.283000	36.77	---	60.00	23.23	1000.0	9.000	N	19.7
11.787000	---	30.42	50.00	19.58	1000.0	9.000	N	19.8
12.583500	36.35	---	60.00	23.65	1000.0	9.000	N	19.8
18.501000	---	30.72	50.00	19.28	1000.0	9.000	N	20.1

150k-30MHz Conducted Emission Test

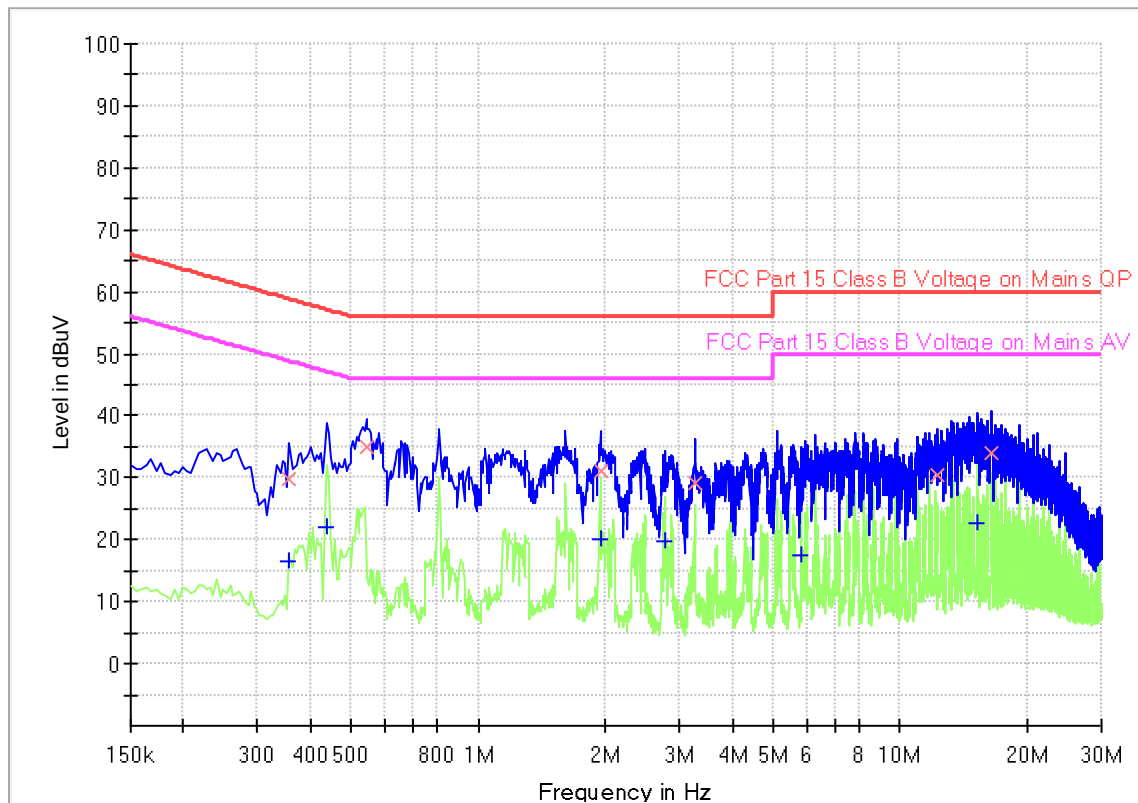
EUT Information

EUT Name: Wireless charger
 Model: KDWLC1015A
 Client: Changzhou Kaidi Electrical Inc
 Op Cond: Power on, 9V, 1A, AC 120V/60Hz, T21.1, H41.1%, P103.4kPa
 Operator: Huali CHENG
 Standard: FCC Part 15.207
 Comment: Phase L
 Sample No.: SHA-780181-1

Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN
 Receiver: [ESR 3]
 Level Unit: dBuV

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0.02 s	0 dB
150 kHz - 30 MHz	4.5 kHz	PK+; AVG	9 kHz	0.01 s	0 dB





Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.357000	---	16.43	48.80	32.37	1000.0	9.000	L1	19.5
0.357000	29.85	---	58.80	28.95	1000.0	9.000	L1	19.5
0.438000	---	21.99	47.10	25.11	1000.0	9.000	L1	19.5
0.541500	34.98	---	56.00	21.02	1000.0	9.000	L1	19.4
1.945500	31.09	---	56.00	24.91	1000.0	9.000	L1	19.5
1.945500	---	20.14	46.00	25.86	1000.0	9.000	L1	19.5
2.782500	---	19.76	46.00	26.24	1000.0	9.000	L1	19.5
3.268500	29.01	---	56.00	26.99	1000.0	9.000	L1	19.5
5.842500	---	17.59	50.00	32.41	1000.0	9.000	L1	19.6
12.228000	30.42	---	60.00	29.58	1000.0	9.000	L1	19.9
15.220500	---	22.58	50.00	27.42	1000.0	9.000	L1	20.1
16.426500	34.05	---	60.00	25.95	1000.0	9.000	L1	20.1



150k-30MHz Conducted Emission Test

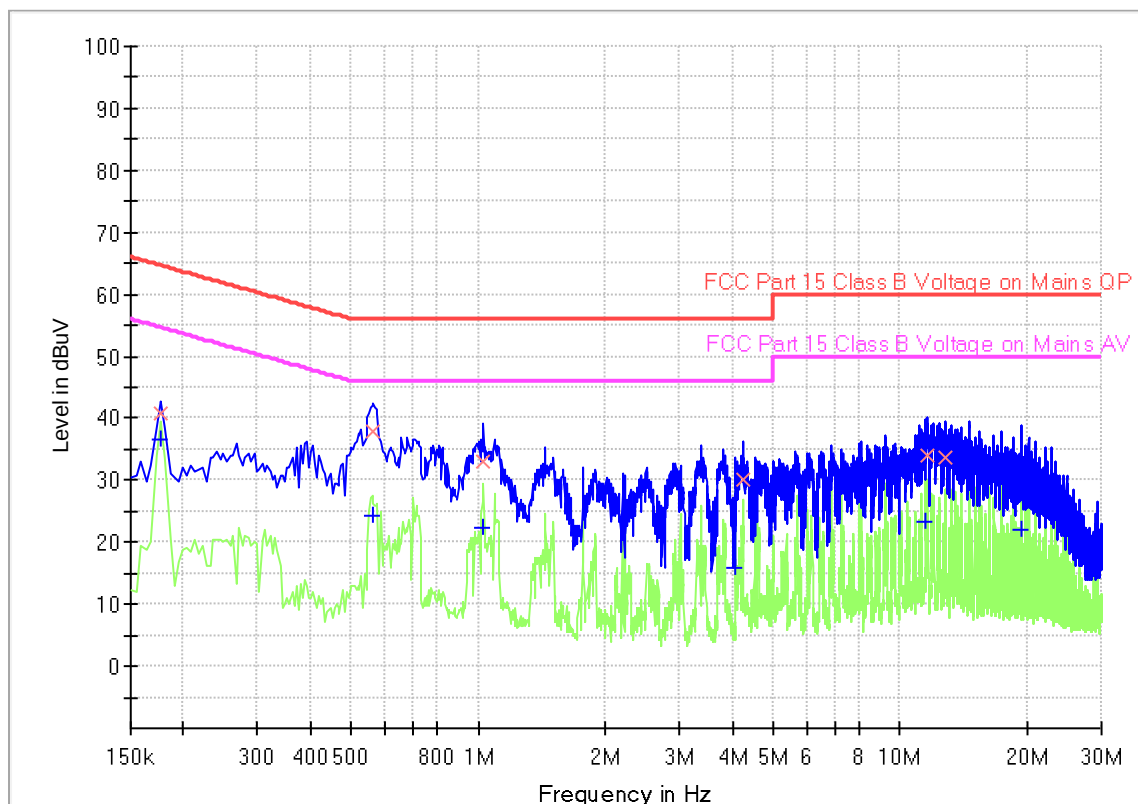
EUT Information

EUT Name: Wireless charger
 Model: KDWLC1015A
 Client: Changzhou Kaidi Electrical Inc
 Op Cond: Power on, 9V, 1A, AC 120V/60Hz, T21.1, H41.1%, P103.4kPa
 Operator: Huali CHENG
 Standard: FCC Part 15.207
 Comment: Phase N
 Sample No.: SHA-780181-1

Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN
 Receiver: [ESR 3]
 Level Unit: dBuV

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0.02 s	0 dB
150 kHz - 30 MHz	4.5 kHz	PK+; AVG	9 kHz	0.01 s	0 dB





Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.177000	---	36.43	54.63	18.20	1000.0	9.000	N	19.4
0.177000	40.76	---	64.63	23.87	1000.0	9.000	N	19.4
0.559500	---	24.41	46.00	21.59	1000.0	9.000	N	19.5
0.564000	37.99	---	56.00	18.01	1000.0	9.000	N	19.5
1.027500	32.96	---	56.00	23.04	1000.0	9.000	N	19.5
1.027500	---	22.45	46.00	23.55	1000.0	9.000	N	19.5
4.069500	---	15.79	46.00	30.21	1000.0	9.000	N	19.6
4.240500	30.08	---	56.00	25.92	1000.0	9.000	N	19.6
11.503500	---	23.19	50.00	26.81	1000.0	9.000	N	19.8
11.571000	33.90	---	60.00	26.10	1000.0	9.000	N	19.8
12.813000	33.73	---	60.00	26.27	1000.0	9.000	N	19.8
19.297500	---	22.04	50.00	27.96	1000.0	9.000	N	20.1

Remark:

Level=Reading Level + Correction Factor

Correction Factor=Cable Loss + LISN Factor

(The Reading Level is recorded by software which is not shown in the sheet)



9.2 Radiated Emission Test for 9KHz-30MHz

Test Method

1: Field strength measurements are made in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna as specified in ANSI C63.4 clause 4.5.2, positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The lowest height of the loop shall be 1 m above the ground. This method is applicable for radiated radio-noise measurements from all units, cables, power cords, and interconnect cabling or wiring.

2: For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

Limits

According to CFR 47 §15.209, radiated emissions limit as below:

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

Frequency	Limit at 3m (dBuV/m)
0.009 MHz – 0.490 MHz	128.5 to 93.8
0.490 MHz – 1.705 MHz	73.8 to 63
1.705 MHz – 30 MHz	69.5

Test Result

0.009-30MHz Radiated Emission

EUT Information

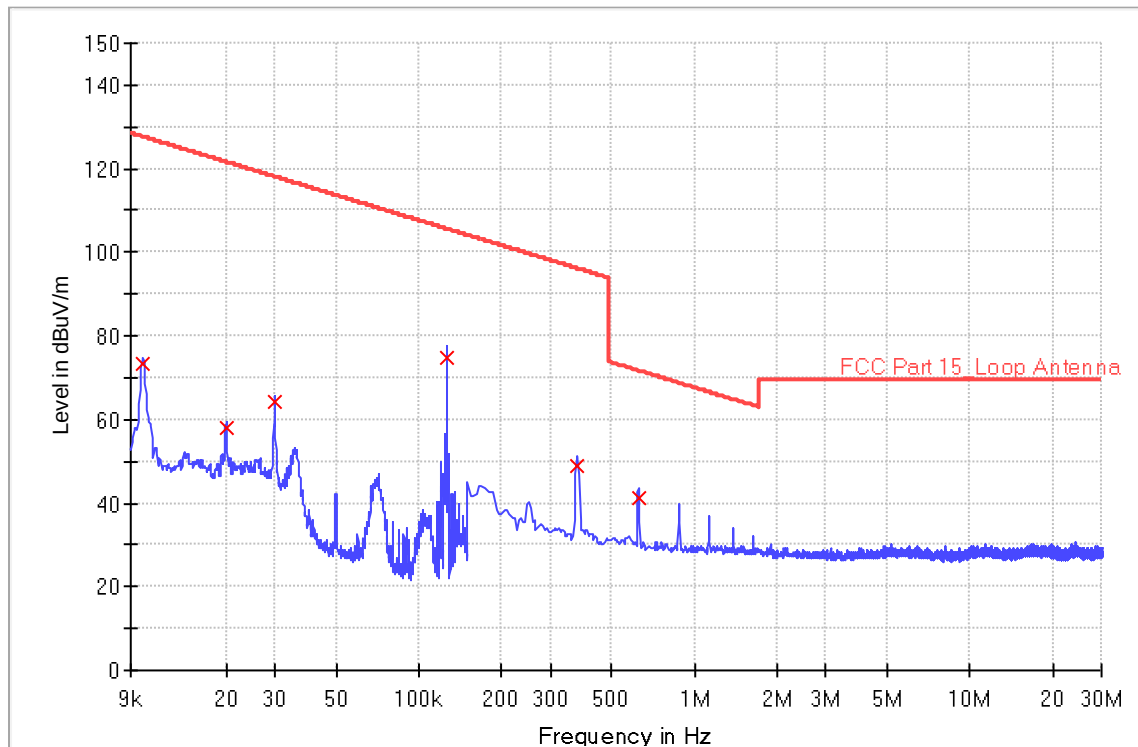
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: X
Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009960	73.5	1000.0	0.200	130.0	X	317.0	19.6	54.178	127.639
0.019960	57.8	1000.0	0.200	130.0	X	265.0	19.0	63.799	121.601
0.029960	64.1	1000.0	0.200	130.0	X	198.0	18.9	53.932	118.073
0.125800	74.9	1000.0	0.200	130.0	X	201.0	18.8	30.688	105.610
0.378000	48.7	1000.0	9.000	130.0	X	115.0	18.7	47.348	96.054
0.626000	41.3	1000.0	9.000	130.0	X	98.0	18.8	30.331	71.673

0.009-30MHz Radiated Emission

EUT Information

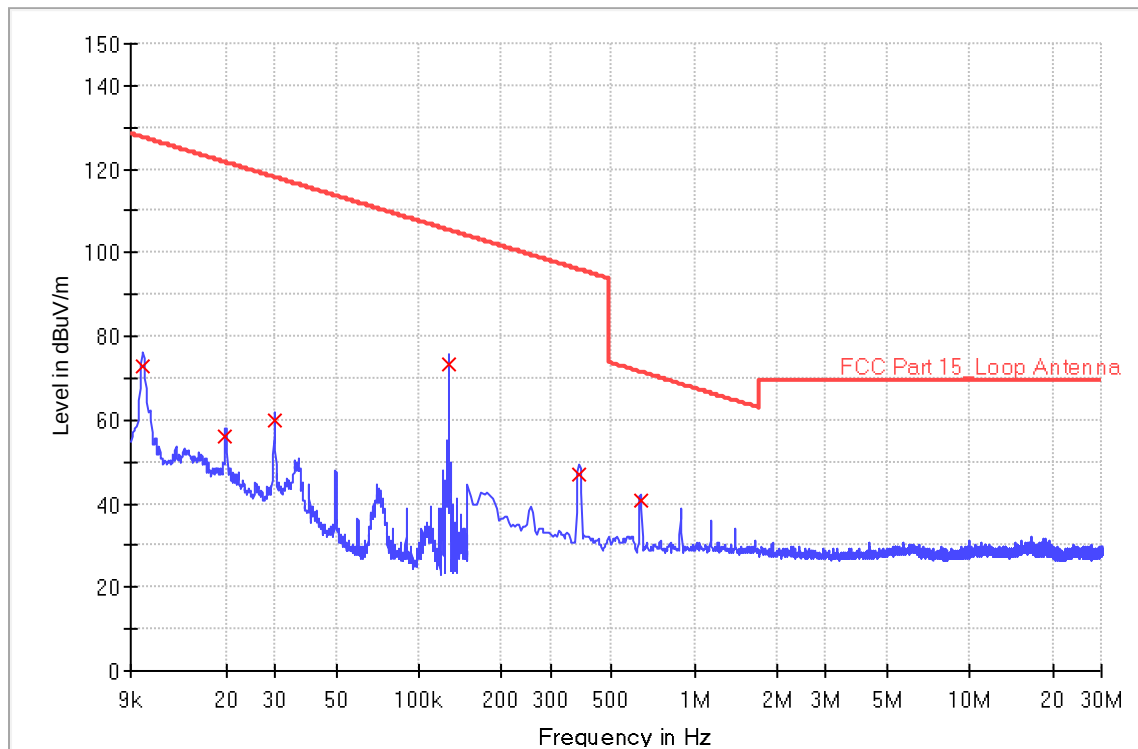
EUT Name: Wireless charger
 Model: KDWLC1015A
 Client: Changzhou Kaidi Electrical Inc
 Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
 Operator: Huali CHENG
 Test Spec: FCC Part 15.209
 Comment: Y
 Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
 Receiver: [ESR 3]
 Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009960	73.0	1000.0	0.200	130.0	Y	136.0	19.6	54.674	127.639
0.019880	55.9	1000.0	0.200	130.0	Y	201.0	19.0	65.703	121.636
0.029960	59.8	1000.0	0.200	130.0	Y	17.0	18.9	58.235	118.073
0.127880	73.1	1000.0	0.200	130.0	Y	98.0	18.8	32.330	105.468
0.382000	47.2	1000.0	9.000	130.0	Y	326.0	18.7	48.764	95.963
0.638700	40.8	1000.0	9.000	130.0	Y	198.0	18.8	30.739	71.498

0.009-30MHz Radiated Emission

EUT Information

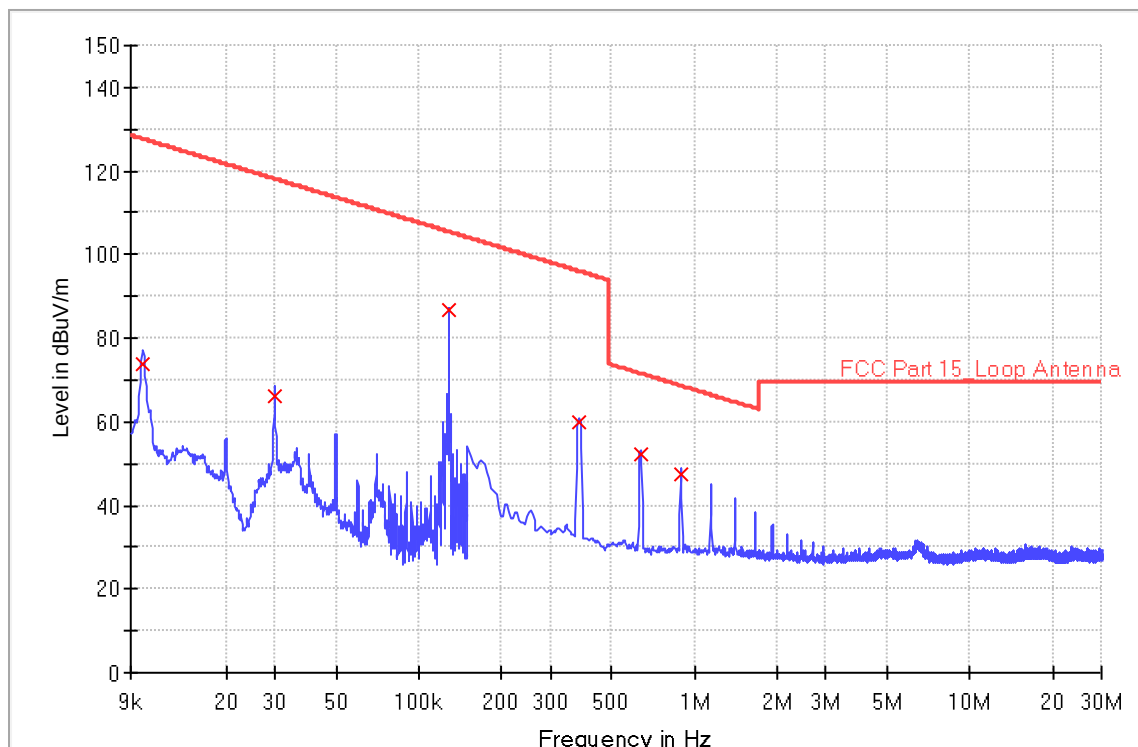
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Z
Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009880	73.6	1000.0	0.200	130.0	Z	136.0	19.6	54.097	127.709
0.029960	66.0	1000.0	0.200	130.0	Z	206.0	18.9	52.103	118.073
0.127880	86.8	1000.0	0.200	130.0	Z	97.0	18.8	18.651	105.468
0.382000	59.9	1000.0	9.000	130.0	Z	41.0	18.7	36.072	95.963
0.638000	52.1	1000.0	9.000	130.0	Z	321.0	18.8	19.372	71.508
0.894000	47.4	1000.0	9.000	130.0	Z	115.0	18.8	21.194	68.577

0.009-30MHz Radiated Emission

EUT Information

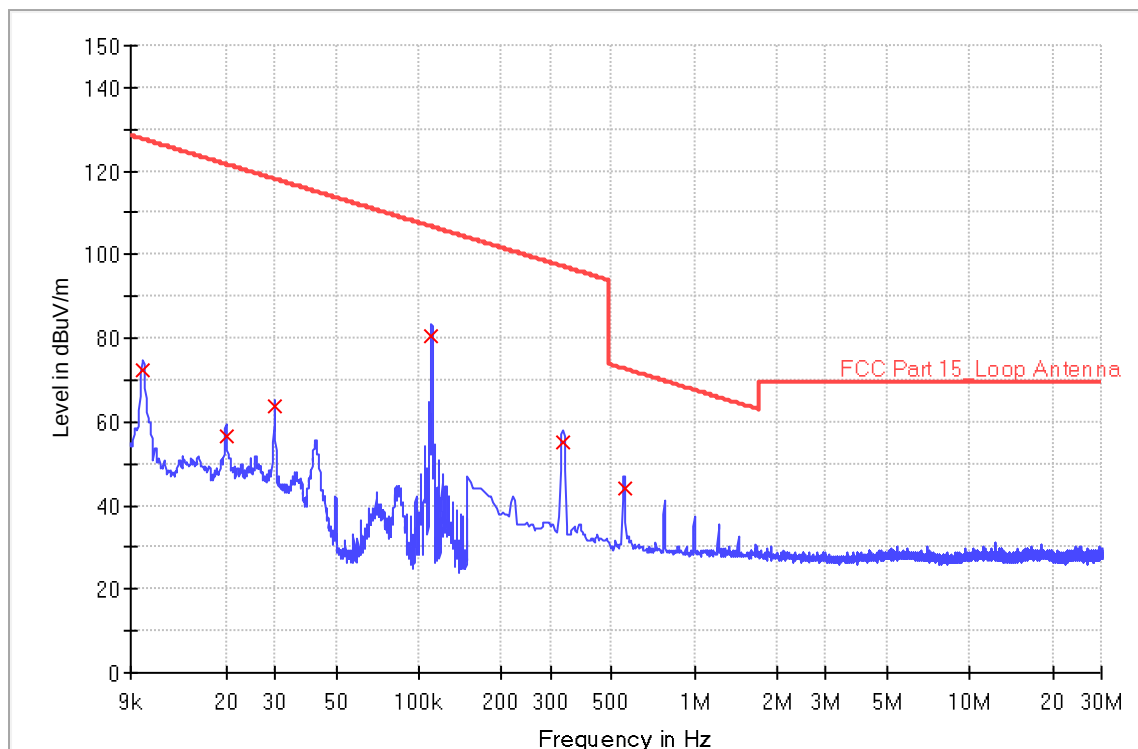
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Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 9V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: X
Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009960	72.5	1000.0	0.200	130.0	X	15.0	19.6	55.175	127.639
0.019960	56.6	1000.0	0.200	130.0	X	136.0	19.0	65.030	121.601
0.029960	63.8	1000.0	0.200	130.0	X	201.0	18.9	54.262	118.073
0.111480	80.5	1000.0	0.200	130.0	X	195.0	18.8	26.194	106.660
0.334000	55.1	1000.0	9.000	130.0	X	298.0	18.7	42.035	97.129
0.558000	43.9	1000.0	9.000	130.0	X	69.0	18.8	28.729	72.671

0.009-30MHz Radiated Emission

EUT Information

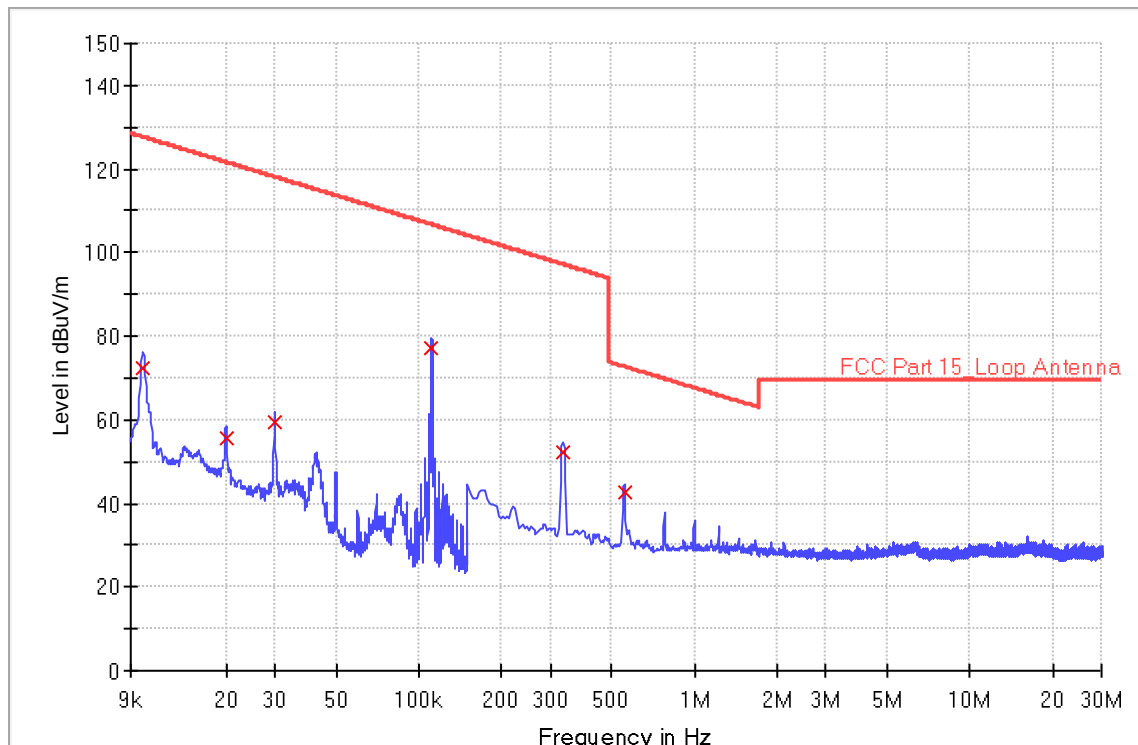
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 9V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Y
Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009960	72.6	1000.0	0.200	130.0	Y	159.0	19.6	55.049	127.639
0.019960	55.8	1000.0	0.200	130.0	Y	359.0	19.0	65.801	121.601
0.030040	59.3	1000.0	0.200	130.0	Y	56.0	18.9	58.740	118.050
0.111480	77.1	1000.0	0.200	130.0	Y	274.0	18.8	29.560	106.660
0.334000	52.0	1000.0	9.000	130.0	Y	1.0	18.7	45.096	97.129
0.558000	42.6	1000.0	9.000	130.0	Y	122.0	18.8	30.121	72.671

0.009-30MHz Radiated Emission

EUT Information

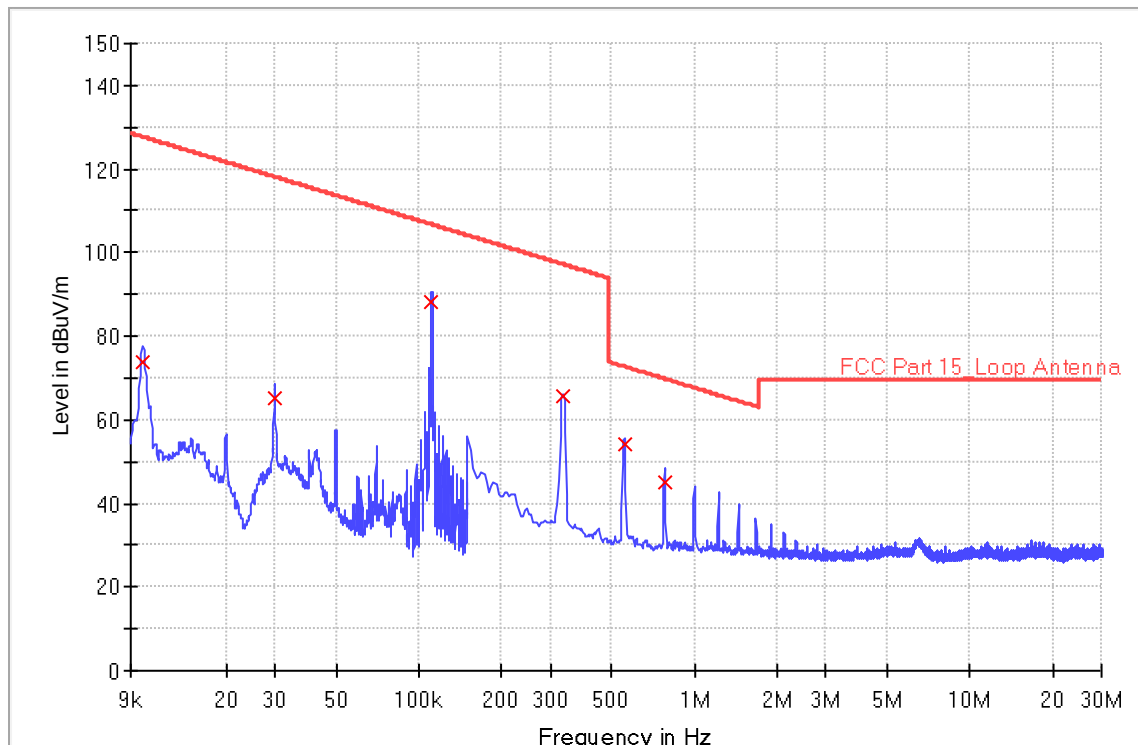
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 9V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Z
Sample No: SHA-780181-1

Sweep Setup: RE_Loop E_pre [EMI radiated]

Hardware Setup: RE_Loop Antenna V
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 kHz	PK+	9 kHz	0.01 s	0 dB

RE_Loop E_pre





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
0.009880	73.6	1000.0	0.200	130.0	Z	46.0	19.6	54.127	127.709
0.029960	65.0	1000.0	0.200	130.0	Z	174.0	18.9	53.094	118.073
0.111480	88.2	1000.0	0.200	130.0	Z	106.0	18.8	18.422	106.660
0.334000	65.6	1000.0	9.000	130.0	Z	206.0	18.7	31.564	97.129
0.558000	54.1	1000.0	9.000	130.0	Z	94.0	18.8	18.593	72.671
0.778000	45.1	1000.0	9.000	130.0	Z	348.0	18.8	24.707	69.785

Remark:

$$E[\text{dB}(\mu\text{V/m})] = V[\text{dB}(\mu\text{V})] + L[\text{dB}] + AFE[\text{dB}(\text{m}^{-1})]$$

Where

E is the electrical field strength level

AFE is the "electric" antenna factor

V is the voltage reading level measured by the receiver, the reading Level is recorded by software which is not shown in the sheet

L is the cable loss

The worst-case data were reported, and no other spurious and harmonics emissions were reported greater than listed emission above table.



9.3 Radiated Emission Test for 30MHz-1GHz

Test Method

- 1: The EUT was placed on a turn table which is 0.8m above ground for below 1GHz at 3 meters chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2: The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
- 3: The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4: For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5: Use the following spectrum analyzer settings According to C63.4:
 Span = wide enough to capture the peak level of the in-band emission and all spurious
 RBW = 100 KHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak,
 Trace = max hold.

Note:

- 1: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.

Limits

According to CFR 47 §15.209, radiated emissions limit as below:

Test Limits		
Frequency (MHz)	Distance (m)	QP (dBμV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54



Test Result

30-1000MHz Radiated Emission

EUT Information

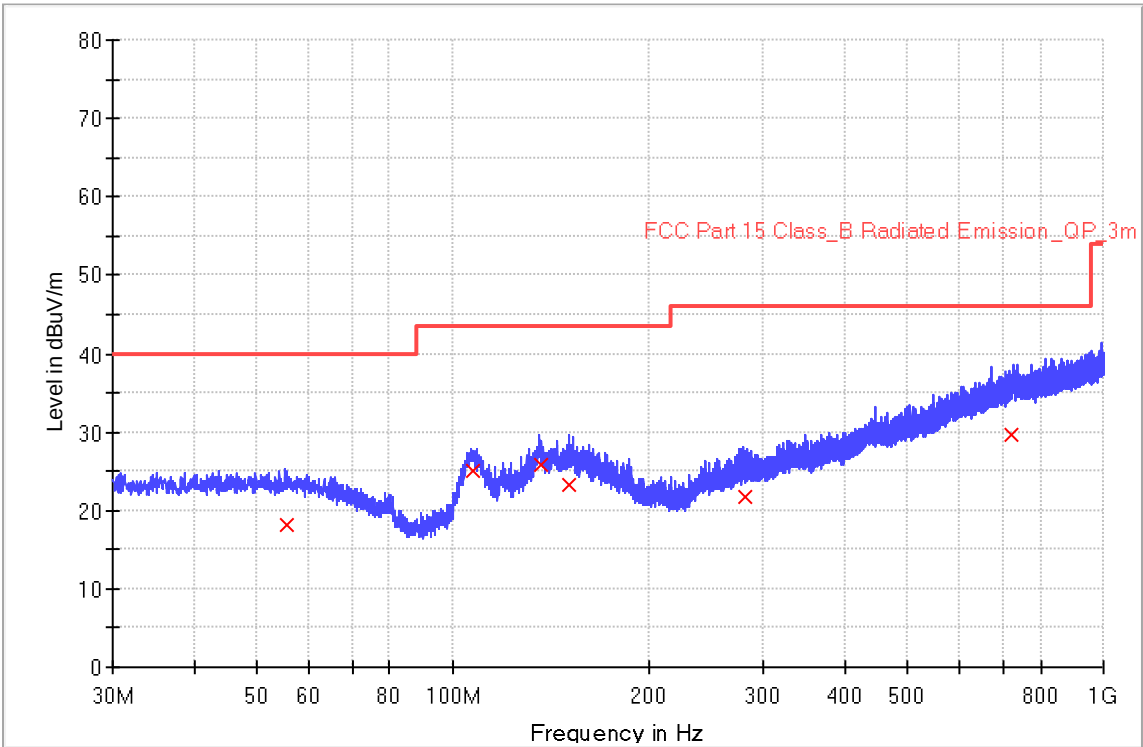
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Horizontal
Sample No: SHA-780181-1

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup: RE_VULB9168
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
55.640000	18.1	1000.0	120.000	178.0	H	49.0	20.5	21.9	40.0
107.160000	25.1	1000.0	120.000	210.0	H	15.0	17.0	18.4	43.5
136.400000	25.8	1000.0	120.000	163.0	H	236.0	20.0	17.7	43.5
151.040000	23.3	1000.0	120.000	159.0	H	201.0	20.9	20.2	43.5
282.200000	21.6	1000.0	120.000	189.0	H	115.0	21.1	24.4	46.0
722.320000	29.7	1000.0	120.000	198.0	H	326.0	31.1	16.3	46.0



30-1000MHz Radiated Emission

EUT Information

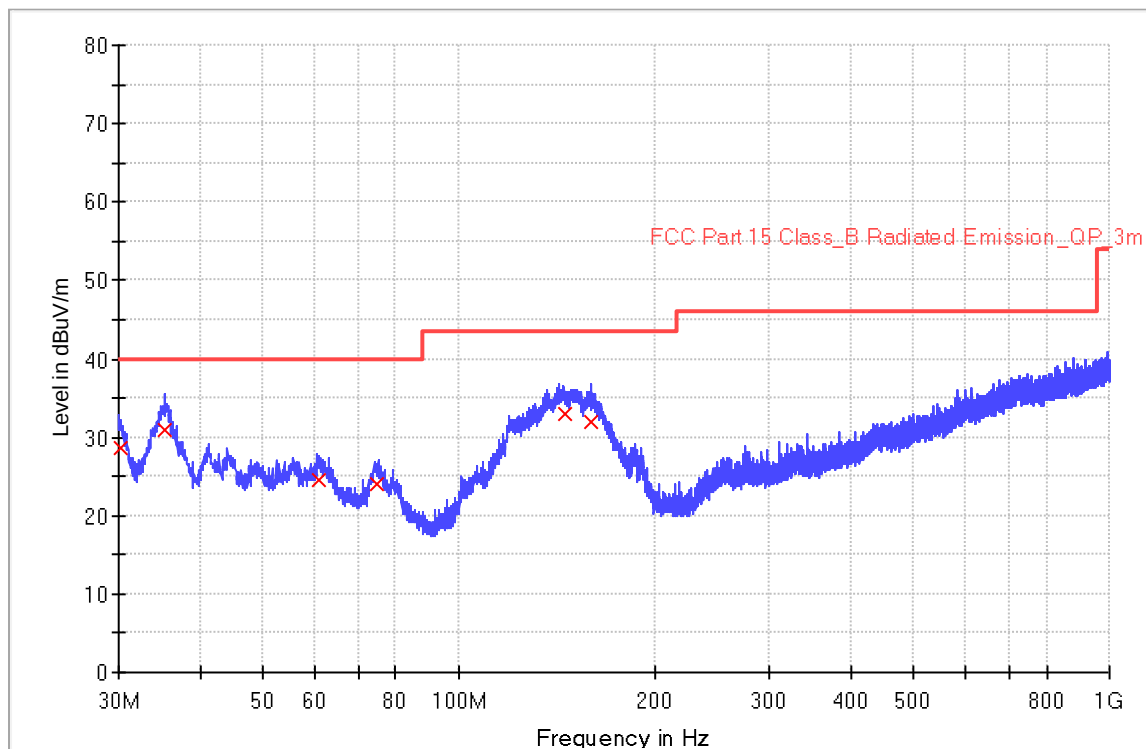
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 5V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Vertical
Sample No: SHA-780181-1

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup: RE_VULB9168
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
30.200000	28.5	1000.0	120.000	126.0	V	236.0	19.4	11.5	40.0
35.400000	30.9	1000.0	120.000	103.0	V	32.0	19.6	9.1	40.0
60.840000	24.4	1000.0	120.000	132.0	V	108.0	19.9	15.6	40.0
75.040000	24.1	1000.0	120.000	100.0	V	249.0	17.6	15.9	40.0
145.280000	32.9	1000.0	120.000	112.0	V	106.0	20.7	10.6	43.5
159.440000	31.9	1000.0	120.000	105.0	V	97.0	20.9	11.6	43.5



30-1000MHz Radiated Emission

EUT Information

EUT Name:

Model:

Client:

Op Cond:

Operator:

Test Spec:

Comment:

Sample No:

Wireless charger

KDWLC1015A

Changzhou Kaidi Electrical Inc

Power on, output: 9V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa

Huali CHENG

FCC Part 15.209

Horizontal

SHA-780181-1

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup:

Receiver:

Level Unit:

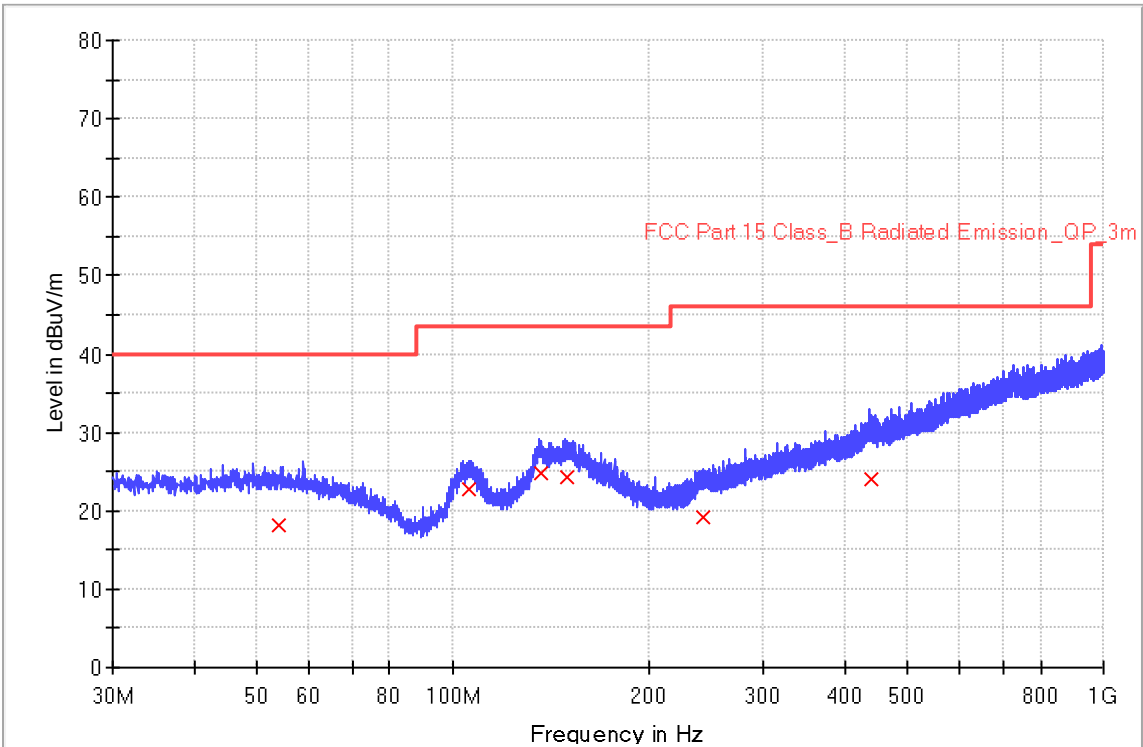
RE_VULB9168

[ESR 3]

dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
53.960000	18.1	1000.0	120.000	136.0	H	97.0	20.4	21.9	40.0
105.920000	22.9	1000.0	120.000	175.0	H	206.0	16.8	20.6	43.5
136.360000	24.7	1000.0	120.000	169.0	H	56.0	20.0	18.8	43.5
149.760000	24.3	1000.0	120.000	201.0	H	123.0	20.9	19.2	43.5
241.880000	19.2	1000.0	120.000	197.0	H	214.0	19.7	26.8	46.0
439.240000	24.1	1000.0	120.000	185.0	H	314.0	25.6	21.9	46.0



30-1000MHz Radiated Emission

EUT Information

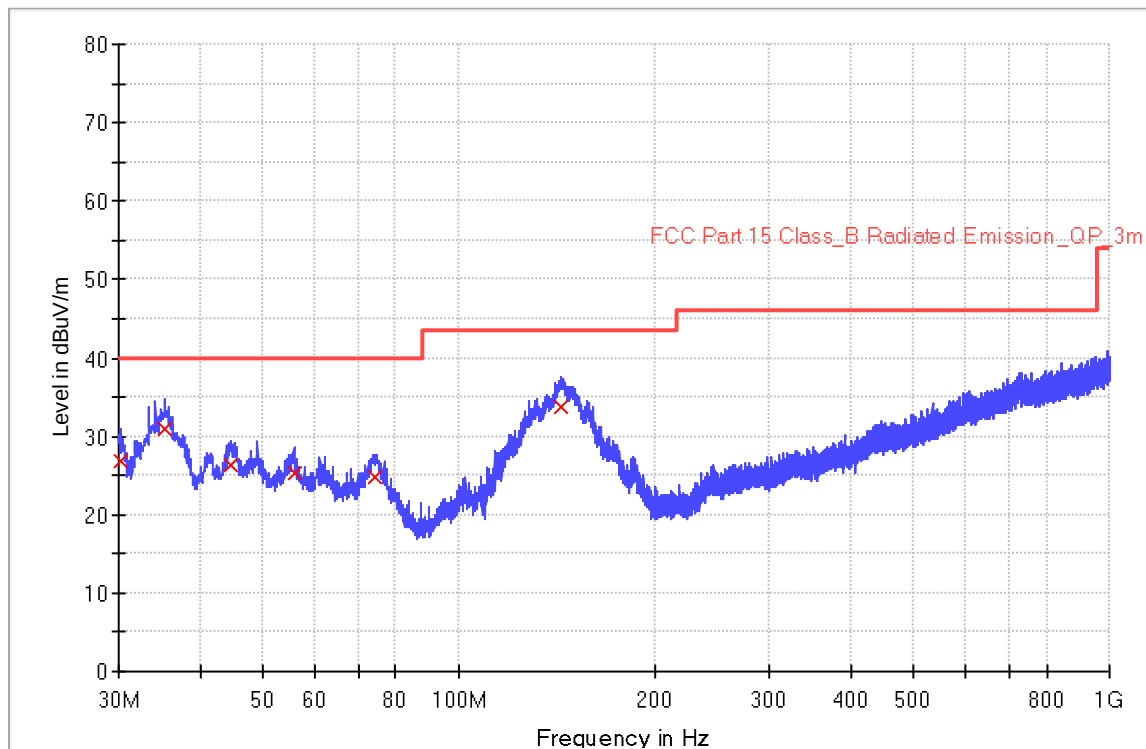
EUT Name: Wireless charger
Model: KDWLC1015A
Client: Changzhou Kaidi Electrical Inc
Op Cond: Power on, output: 9V/1A, AC 120V/60Hz, T20.2, 42.4%, P103.4kPa
Operator: Huali CHENG
Test Spec: FCC Part 15.209
Comment: Vertical
Sample No: SHA-780181-1

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup: RE_VULB9168
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
30.240000	26.9	1000.0	120.000	114.0	V	119.0	19.4	13.1	40.0
35.400000	30.9	1000.0	120.000	123.0	V	69.0	19.6	9.1	40.0
44.680000	26.3	1000.0	120.000	132.0	V	57.0	20.3	13.7	40.0
55.840000	25.3	1000.0	120.000	105.0	V	201.0	20.5	14.7	40.0
74.320000	24.7	1000.0	120.000	106.0	V	148.0	17.7	15.3	40.0
143.160000	33.7	1000.0	120.000	152.0	V	236.0	20.6	9.8	43.5

Remark:

Level=Reading Level + Correction Factor

Correction Factor=Antenna Factor + Cable Loss

(The Reading Level is recorded by software which is not shown in the sheet)



9.4 20dB Bandwidth

Test Method

- 1. Set to the maximum power setting and enable the EUT transmit continuously.
- 2. Use the following test receiver settings:
Span = approximately 5 times the 20dB bandwidth.
RBW =1% to 5% of the 20dB bandwidth of the emission being measured, VBW≥RBW,
Sweep = auto, Detector function = peak, Trace = max hold
- 3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth. Record the results.
- 4. Repeat above procedures until all frequencies measured were complete.

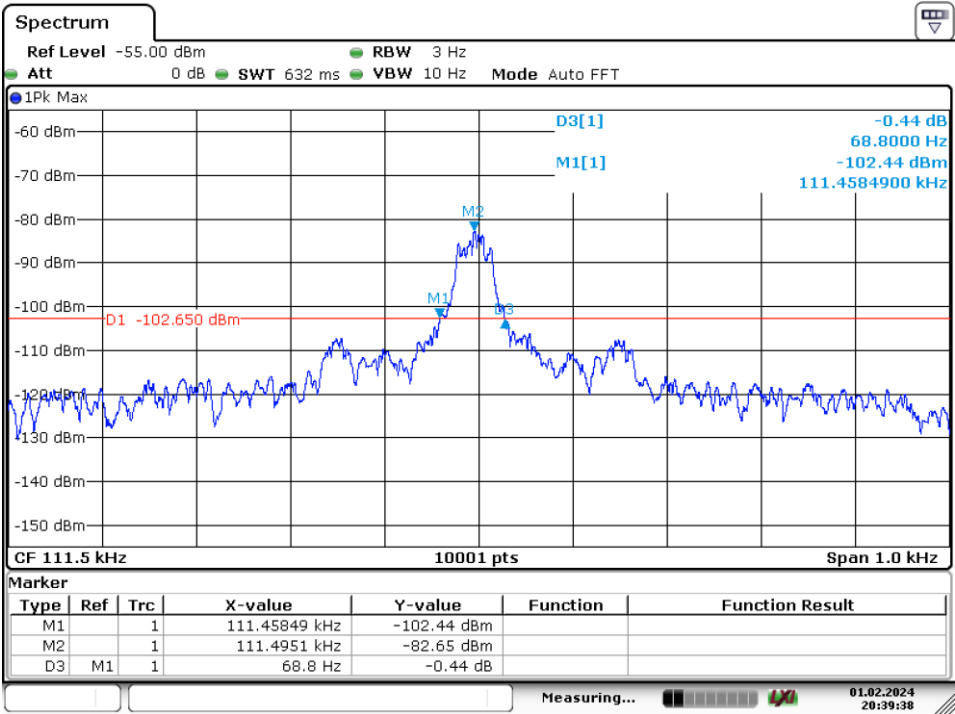
Limit

Limit [KHz]

No Limit

Test result

Channel	20dB Bandwidth (Hz)	Result
111KHz	68.8	Pass



Date: 1.FEB.2024 20:39:39



10. Test Equipment List

	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
RE	EMI Test Receiver	Rohde & Schwarz	ESR3	101906	2023-8-1	2024-7-31
	Signal Analyzer	Rohde & Schwarz	FSV40	101091	2023-8-1	2024-7-31
	Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9168	961	2021-9-23	2024-9-22
	Loop antenna	Rohde & Schwarz	HFH2-Z2	100443	2023-6-15	2024-6-14
	3m Semi-anechoic chamber	TDK	9X6X6	----	2021-5-8	2024-5-7
CE	EMI Test Receiver	Rohde & Schwarz	ESR3	101907	2023-8-1	2024-7-31
	LISN	Rohde & Schwarz	ENV216	101924	2023-8-1	2024-7-31
Measurement Software Information						
Test Item	Software	Manufacturer	Version			
RE	EMC 32	Rohde & Schwarz	10.50.40			
CE	EMC 32	Rohde & Schwarz	V9.15.03			



11. Measurement System Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

Items	Extended Uncertainty
Conducted Disturbance at Mains Terminals	150kHz to 30MHz, LISN, 3.16dB
Radiated Disturbance	30MHz to 1GHz, 5.03dB (Horizontal) 5.12dB (Vertical) 1GHz to 18GHz, 5.49dB 18GHz to 40GHz, 5.63dB

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2021, clause 4.4.3 and 4.5.1.

-----End of Test Report-----
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