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Report Template Version: V05 Report Template Revision Date: 2021-11-03

Test Report

Report No.:	CQASZ20240100023E-01
Applicant:	Dongguan Jiajiatong Plastic Mould Co., Ltd
Address of Applicant:	No. 10, Qiaojiao Middle Road, Pingshan 188 Industrial Zone, Tangxia Town,
	Dongguan City, Guangdong Province, China
Equipment Under Test	(EUT):
Product:	5 in 1 Wireless charging
Model No.:	JJT-C09
Test Model No.:	JJT-C09
Brand Name:	N/A
FCC ID:	2A2UK-JJT-C09
Standards:	47 CFR Part 15, Subpart C
Date of Receipt:	2024-1-2
Date of Test:	2024-1-2 to 2024-1-8
Date of Issue:	2024-1-19
Test Result:	PASS*

*In the configuration tested, the EUT complied with the standards specified above

Tested By:	Jol	
	(Joe Wang)	TESTING TEOL
Reviewed By:	Timo Logi	
	(Timo Lei)	承华夏准测
Approved By:	Jamoss	APPROVED *
	(Jack Ai)	

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20240100023E-01	Rev.01	Initial report	2024-1-19



2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203	ANSI C63.10 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2013	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.215	ANSI C63.10 2013	PASS
Radiated Emission , Radiated Spurious Emissions	47 CFR Part 15, Subpart C Section 15.209	ANSI C63.10 2013	PASS



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4 General Information

4.1 Client Information

Applicant:	Dongguan Jiajiatong Plastic Mould Co., Ltd
Address of Applicant:	No. 10, Qiaojiao Middle Road, Pingshan 188 Industrial Zone, Tangxia Town, Dongguan City, Guangdong Province, China
Manufacturer:	Dongguan Jiajiatong Plastic Mould Co., Ltd
Address of Manufacturer:	No. 10, Qiaojiao Middle Road, Pingshan 188 Industrial Zone, Tangxia Town, Dongguan City, Guangdong Province, China
Factory:	Dongguan Jiajiatong Plastic Mould Co., Ltd
Address of Factory:	No. 10, Qiaojiao Middle Road, Pingshan 188 Industrial Zone, Tangxia Town, Dongguan City, Guangdong Province, China

4.2 General Description of EUT

Product Name:	5 in 1 Wireless charging
Model No.:	JJT-C09
Test Model No.:	JJT-C09
Brand Name:	N/A
Software Version:	V2
Hardware Version:	V2
Power Supply:	Adapter: DC 9V 3A 12V 2.5A

4.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency		
Operation Frequency range:	115kHz~205kHz,315KHz~330KHz		
Modulation Type:	ASK		
Antenna Type:	Induction coil		
Antenna Gain:	0dBi		
Power:	Output: 23W(Max)		

Note:

1.In section 15.31(m), regards to the operating frequency range less 1 MHz.



4.4 Test Environment

Radiated Emissions:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	1009 mbar
Conducted Emissions:	
Temperature:	25.5 °C
Humidity:	55 % RH
Atmospheric Pressure:	1009 mbar
Radio conducted item te	est (RF Conducted test room):
Temperature:	27.1 °C
Humidity:	56 % RH
Atmospheric Pressure:	1009 mbar
Test Mode:	
Mode a:	Keep the EUT Wireless Out Put for Wireless charge load 1 3W (MAX)
Mode b:	Keep the EUT Wireless Out Put for Apple headset 5W (MAX)
Mode c:	Keep the EUT Wireless Out Put for Wireless charge load 2 5W
Mode d:	Keep the EUT Wireless Out Put for Wireless charge load 2 7.5W
Mode e:	Keep the EUT Wireless Out Put for Wireless charge load 2 10W
Mode f:	Keep the EUT Wireless Out Put for Wireless charge load 2 15W (MAX)
Mode g:	Keep the EUT Wireless Out Put for Wireless charge load 1+fc Apple headset +for Wireless charge load 2 23W (Total MAX)

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment				
Description	Manufactur	Model No.	Certification	Supplied by
	er			
Adapter	1	LPL-C010050200Z	/	CQA
Wireless charge load 1	1	1	/	CQA
Wireless charge load 2	1	/	/	CQA
Apple headset	Apple	1	/	CQA

е
1

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
1	1	/	1	1





4.6 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

No.	Item	Uncertainty	Notes
1	Radiated Emission (Below 1GHz)	5.12dB	(1)
2	Radiated Emission (Above 1GHz)	4.60dB	(1)
3	Occupied Bandwidth	1.1%	(1)
4	Temperature test	0.8°C	(1)
5	Humidity test	2.0%	(1)

Hereafter the best measurement capability for CQA laboratory is reported:

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

4.7 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

4.8 Test Facility

• A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.9 Deviation from Standards

None.

4.10Other Information Requested by the Customer

None.



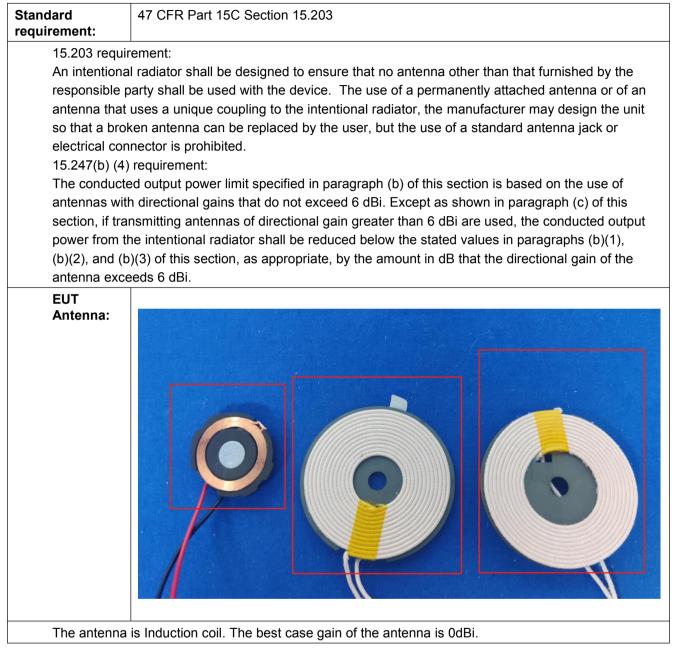
4.11Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2023/9/8	2024/9/7
Spectrum analyzer	R&S	FSU26	CQA-038	2023/9/8	2024/9/7
Preamplifier	MITEQ	AMF-6D-02001800-29- 20P	CQA-036	2023/9/8	2024/9/7
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2021/9/16	2024/9/15
Bilog Antenna	R&S	HL562	CQA-011	2021/9/16	2024/9/15
Horn Antenna	R&S	HF906	CQA-012	2021/9/16	2024/9/15
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2021/9/16	2024/9/15
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2023/9/8	2024/9/7
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2023/9/8	2024/9/7
Antenna Connector	CQA	RFC-01	CQA-080	2023/9/8	2024/9/7
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2023/9/8	2024/9/7
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2023/9/8	2024/9/7
EMI Test Receiver	R&S	ESR7	CQA-005	2023/9/8	2024/9/7
LISN	R&S	ENV216	CQA-003	2023/9/8	2024/9/7
Coaxial cable	CQA	N/A	CQA-C009	2023/9/8	2024/9/7
DC power	KEYSIGHT	E3631A	CQA-028	2023/9/8	2024/9/7



5 Test results and Measurement Data

5.1 Antenna Requirement





5.2 Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207						
Test Method:	ANSI C63.10: 2013						
Test Frequency Range:	150kHz to 30MHz						
Limit:		Limit (c	lBuV)				
	Frequency range (MHz)	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 logarithn	n of the frequency.					
Test Procedure:	 The mains terminal disturb room. The EUT was connected 	to AC power source	through a LISN 1 (Line				
	Impedance Stabilization N impedance. The power connected to a second LIS plane in the same way a multiple socket outlet strip single LISN provided the ra	cables of all other SN 2, which was bonde as the LISN 1 for the was used to connect r	units of the EUT were d to the ground reference unit being measured. A multiple power cables to a				
	 The tabletop EUT was pla ground reference plane. A placed on the horizontal gr 	nd for floor-standing a	rrangement, the EUT was				
	 4) The test was performed with a vertical ground reference the EUT shall be 0.4 m from the vertical ground reference plane was bonded to the reference plane. The LISN 1 was placed 0.8 m from 1 unit under test and bonded to a ground reference mounted on top of the ground reference plane. This dist the closest points of the LISN 1 and the EUT. All oth and associated equipment was at least 0.8 m from the 5) In order to find the maximum emission, the relative posand all of the interface cables must be changed accord 						
 	ANSI C63.10: 2013 on con	iducted measurement.					
Test Setup:	Shielding Room	AE USN2 + AC Man Ground Reference Plane	Test Receiver				
Tost Posulto:	Pass						
Test Results:	Pass						

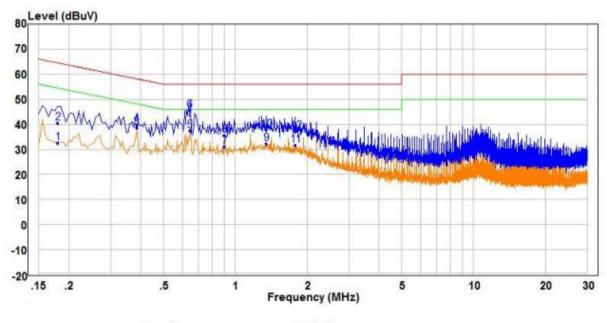


Measurement Data

The worst case:

Mode f:

Live line:



		Freq	Read	Factor	Level	Limit Line	Over	Remark	Pol/Phase
		ireq	LEVEL	ractor	Lever	Lanc	C I III I C	Remark	ror, muse
	_	MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.180	22.84	9.64	32.48	54.49	-22.01	Average	Line
23		0.180	30.81	9.64	40.45	64.49	-24.04	QP	Line
3		0.385	29.16	9.59	38.75	48.17	-9.42	Average	Line
4		0,385	30.45	9.59	40.04	58.17	-18.13	QP	Line
5	PP	0.645	27.48	9.85	37.33	46.00	-8.67	Average	Line
6	QP	0.645	35.94	9.85	45.79	56.00	-10.21	QP	Line
7		0.900	21.16	9.77	30.93	46.00	-15.07	Average	Line
8		0.900	25.91	9.77	35.68	56.00	-20.32	QP	Line
9		1.350	21.62	10.54	32.16	46.00	-13.84	Average	Line
10		1.350	27.21	10.54	37.75	56.00	-18.25	QP	Line
11		1.790	20.30	11.34	31.64	46.00	-14.36	Average	Line
12		1.790	25.69	11.34	37.03	56.00	-18.97	QP	Line

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.



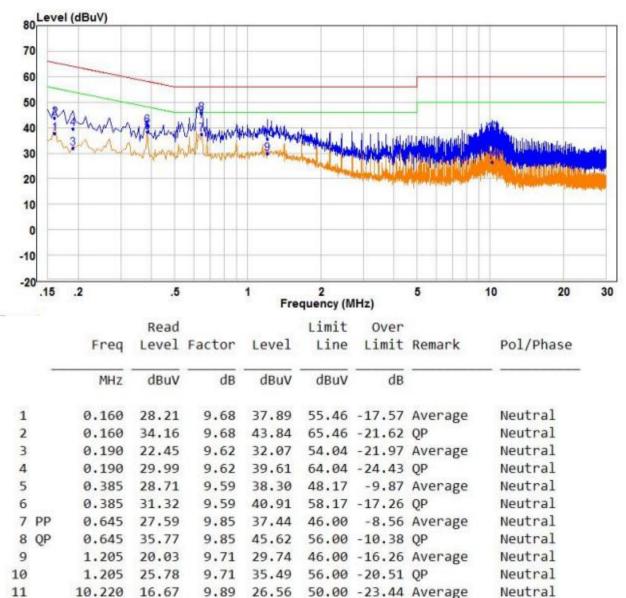
Neutral

The worst case:

Mode f:

12

Neutral line:



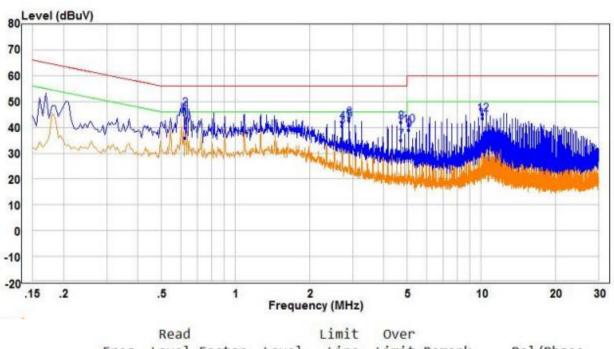
10.220 27.73 9.89 37.62 60.00 -22.38 QP



The worst case:

Mode g:

Live line:



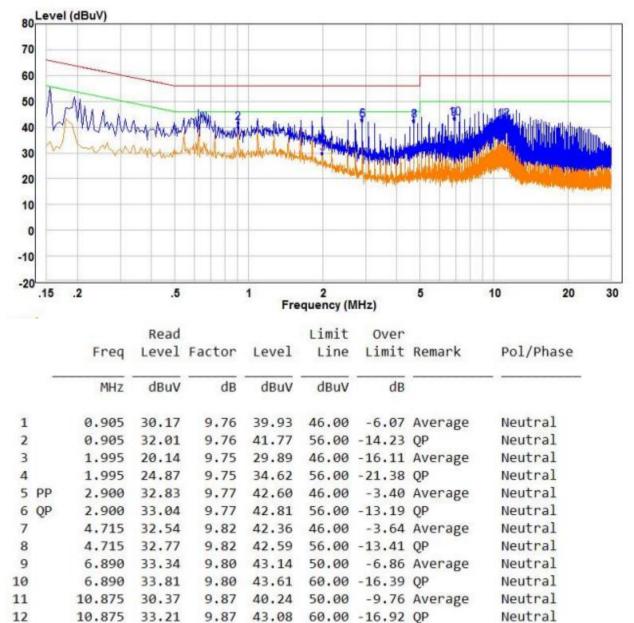
		Freq	Level	Factor	Level	Line	Limit	Remark	Pol/Phase
	-	MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.625	26.01	9.83	35.84	46.00	-10.16	Average	Line
2	QP	0.625	37.26	9.83	47.09	56.00	-8.91	QP	Line
3		2.720	29.57	11.00	40.57	46.00	-5.43	Average	Line
4		2.720	31.02	11.00	42.02	56.00	-13.98	QP	Line
5	PP	2.900	31.77	10.86	42.63	46.00	-3.37	Average	Line
6		2.900	32.68	10.86	43.54	56.00	-12.46	QP	Line
7		4.715	25.04	9.86	34.90	46.00	-11.10	Average	Line
8 9		4.715	32.22	9.86	42.08	56.00	-13.92	QP	Line
9		5.075	29.25	9.74	38.99	50.00	-11.01	Average	Line
10		5.075	31.01	9.74	40.75	60.00	-19.25	QP	Line
11		10.155	33.53	9.90	43.43	50.00	-6.57	Average	Line
12		10.155	35.04	9.90	44.94	60.00	-15.06	QP	Line



The worst case:

Mode g:

Neutral line:

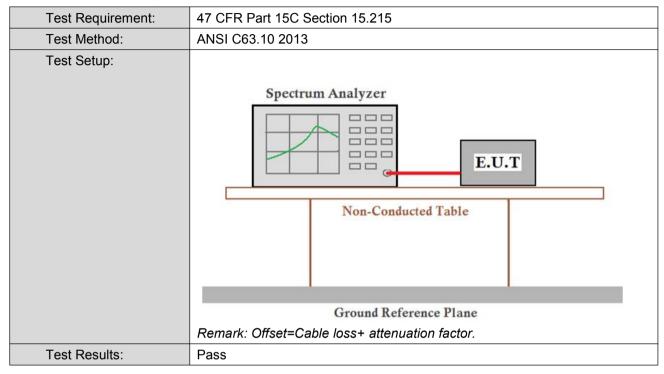


Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
- 3. If the Peak value under Average limit, the Average value is not recorded in the report.



5.3 20dB Occupy Bandwidth



Measurement Data

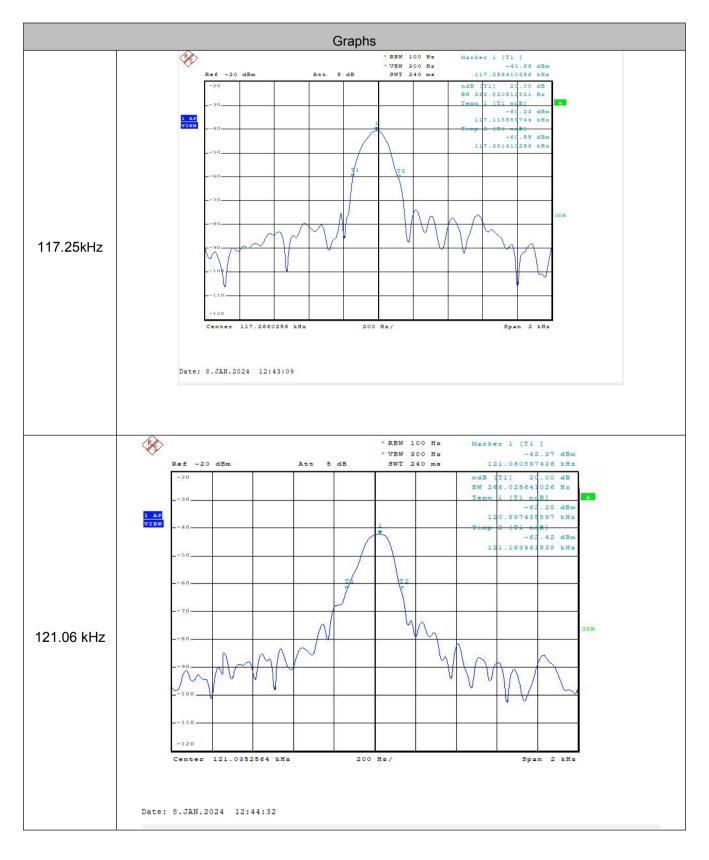
Mode b				
Test Frequency (kHz)	Result			
117.25	262.00	Pass		

Mode f					
Test Frequency (kHz)	20dB Occupy Bandwidth (Hz)	Result			
126.06	266.00	Pass			

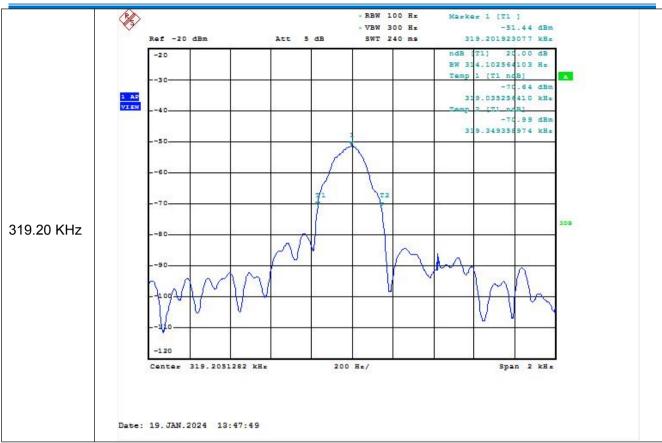
Mode a				
Test Frequency (kHz)	Result			
319.20	314.00	Pass		



Test plot as follows:









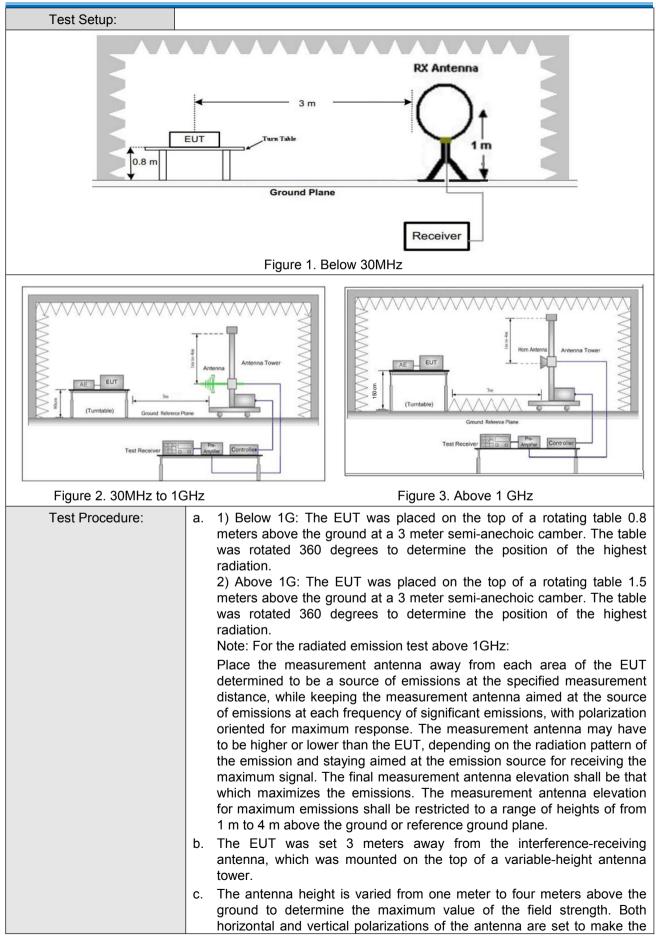
5.4 Radiated Spurious Emission & Restricted bands

5.4.1 Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10 2013	ANSI C63.10 2013						
Test Site:	Measurement Distance	Measurement Distance: 3m (Semi-Anechoic Chamber)						
Receiver Setup:	Frequency		Detector	RBW		VBW	Remark	
	0.009MHz-0.090MH	z	Peak	10kHz	z (30kHz	Peak	
	0.009MHz-0.090MH	z	Average	10kHz	z (30kHz	Average	
	0.090MHz-0.110MH	z	Quasi-peak	10kHz	z (30kHz	Quasi-peak	
	0.110MHz-0.490MH	z	Peak	10kHz	z (30kHz	Peak	
	0.110MHz-0.490MH	z	Average	10kHz	z (30kHz	Average	
	0.490MHz -30MHz		Quasi-peak	10kHz	z (30kHz	Quasi-peak	
	30MHz-1GHz		Quasi-peak	100 kH	lz 3	800kHz	Quasi-peak	
			Peak	1MHz	<u> </u>	3MHz	Peak	
	Above 1GHz		Peak	1MHz	2	10Hz	Average	
Limit:	Frequency		eld strength crovolt/meter)	Limit (dBuV/m)	Re	emark	Measureme distance (m	
	0.009MHz-0.490MHz	2	400/F(kHz)	-		-	300	_
	0.490MHz-1.705MHz	24	1000/F(kHz)	-	-		30	
	1.705MHz-30MHz		30	-	-		30	
	30MHz-88MHz		100	40.0	Qua	asi-peak	3	
	88MHz-216MHz		150	43.5	Qua	asi-peak	3	
	216MHz-960MHz		200	46.0	Qua	asi-peak	3	
	960MHz-1GHz		500	54.0	Qua	asi-peak	3	
	Above 1GHz	500		54.0	Av	verage	3	
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.							









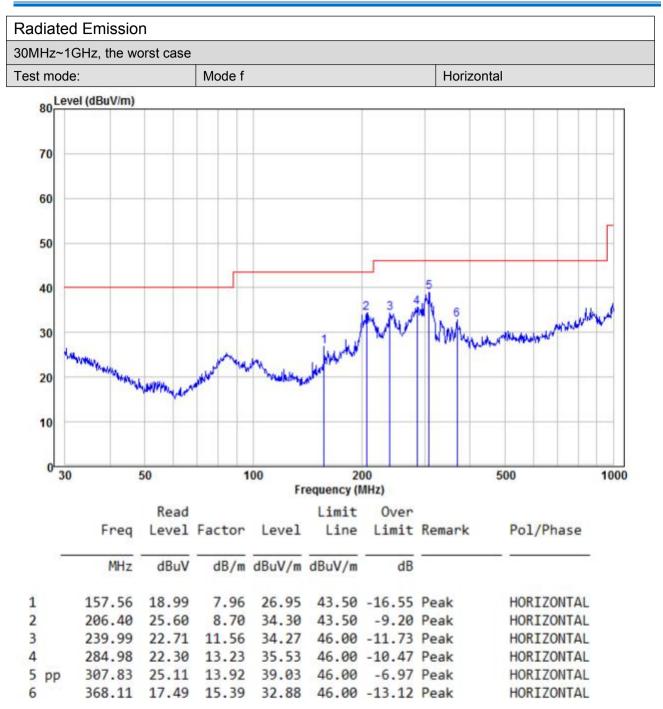
	measurement.
	 d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Deadwidth with Maximum Hold Mode.
	Bandwidth with Maximum Hold Mode.
	f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
	g. Repeat above procedures until all frequencies measured was complete.
Test Results:	Pass

Radiated Emission below 9k~30MHz				
the worst case				
Test mode:	Mode g			

Frequency MHz	Detector	Reading dB(uV)	Factor dB (1/m)	Level dB(uV/m) Peak	Limit dB(uV/m) Average	Margin dB	Pass/Fail
0.115	AV	43.80	19.80	63.60	80.41	-16.81	Pass
0.167	AV	41.66	19.80	61.46	80.17	-18.71	Pass
0.212	AV	41.72	19.80	61.52	80.09	-18.57	Pass
0.419	AV	37.42	19.80	57.22	70.16	-12.94	Pass
1.577	QP	18.02	19.70	37.72	63.65	-25.93	Pass
10.740	QP	13.82	19.70	33.52	69.54	-36.02	Pass



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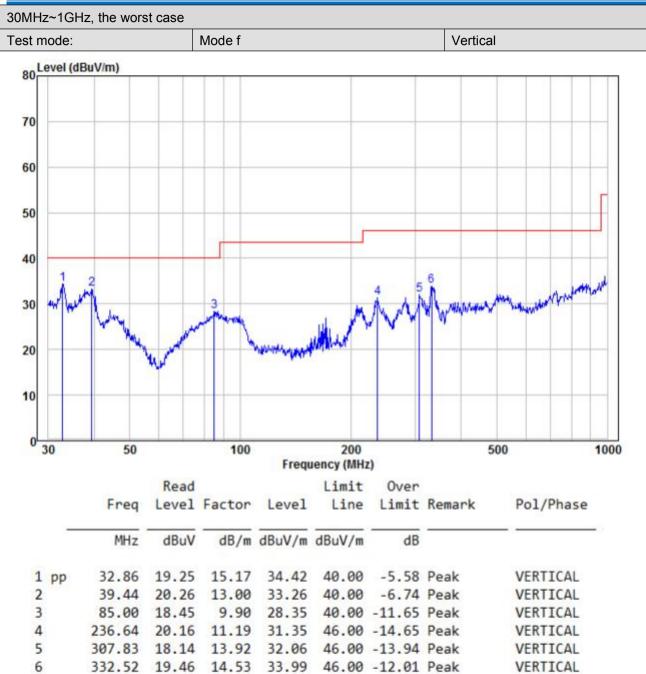
Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

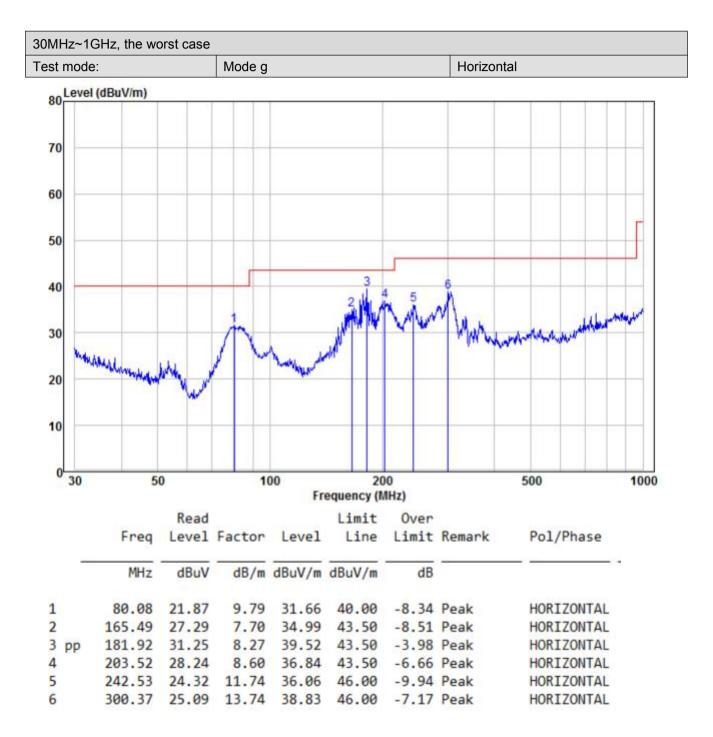
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor







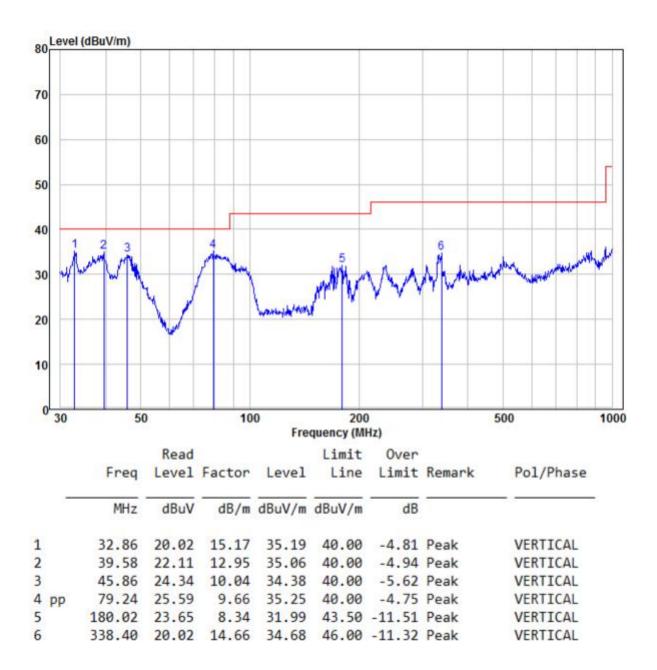






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30MHz~1GHz, the worst case		
Test mode:	Mode g	Vertical



Remark:

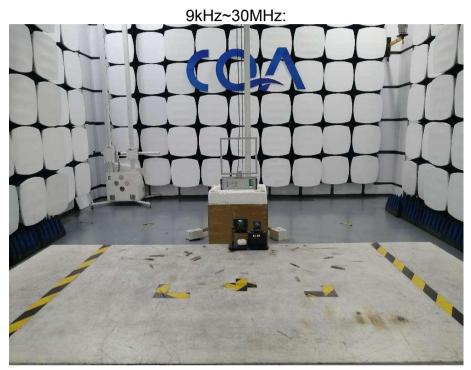
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

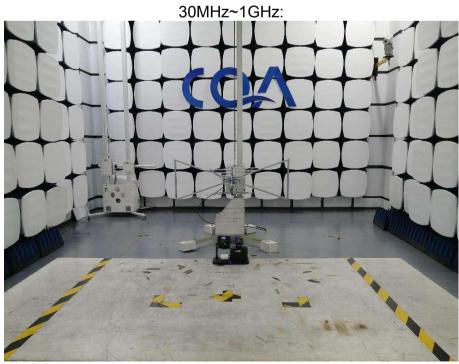
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor



6 Photographs - EUT Test Setup

6.1 Radiated Emission







6.2 Conducted Emission





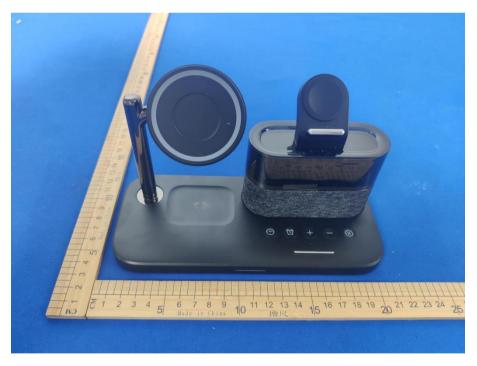
7 Photographs - EUT Constructional Details















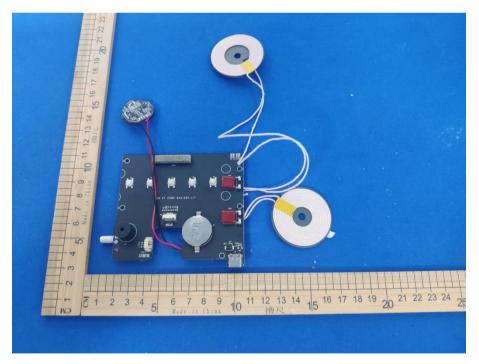




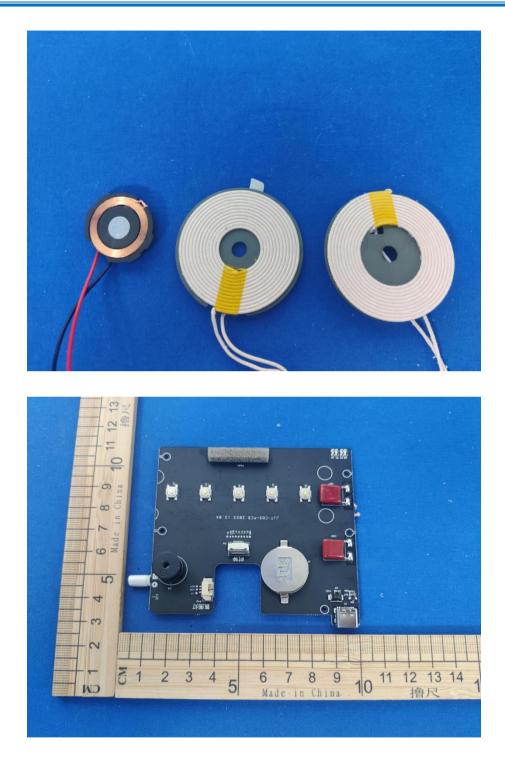




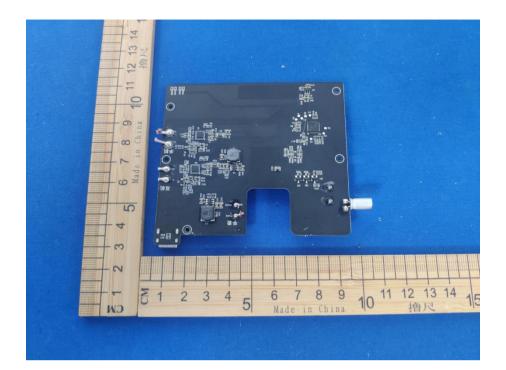


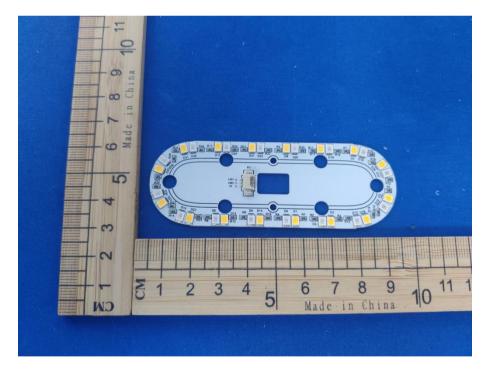






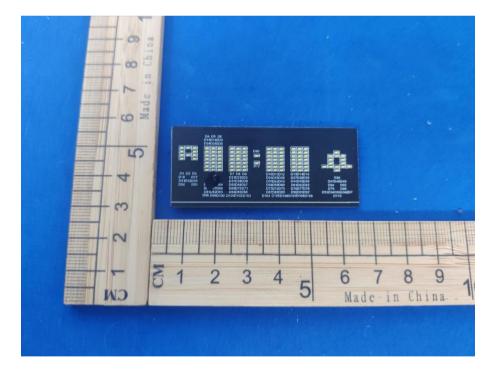




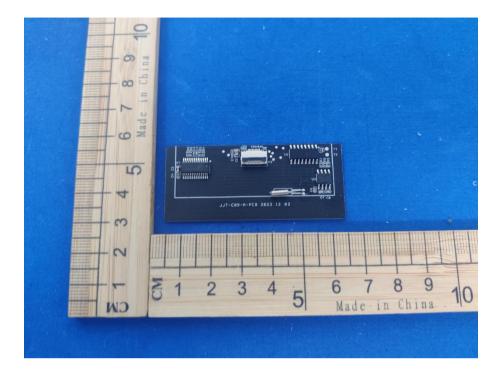


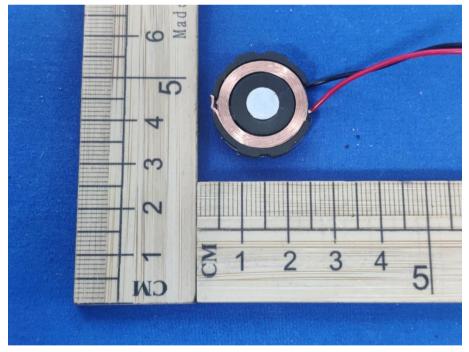




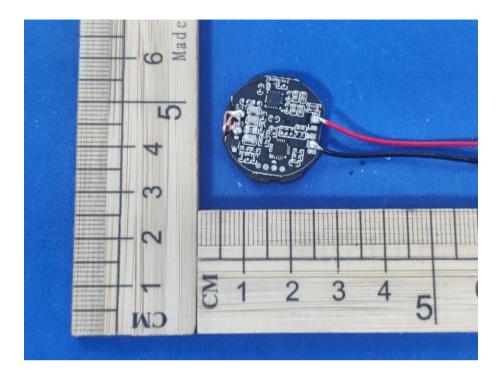












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