



TEST REPORT

Applicant: DONGGUAN YI RUI ELECTRONIC TECHNOLOGY CO.,LTD

Address of Applicant: ROOM NO. 202, BUILDING 2, NO. 11, NIULING ROAD,
CHANGPING TOWN, DONGGUAN CITY, China

Manufacturer/Factory: DONGGUAN YI RUI ELECTRONIC TECHNOLOGY CO.,LTD

Address of
Manufacturer/Factory: ROOM NO. 202, BUILDING 2, NO. 11, NIULING ROAD,
CHANGPING TOWN, DONGGUAN CITY, China

Product Name: Pen holder

Model No.: EAC-AX24, BTWXC

Trade Mark: N/A

FCC ID: 2A6HU-EACAX24

Applicable standards: FCC CFR Title 47 Part 1.1310

Date of Test: May.23, 2024-May.31, 2024

Date of report issued: Jun.17, 2024

Remark:

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

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

Prepared By

Shenzhen ETR Standard Technology Co., Ltd.

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Project Engineer

Reviewed by:

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Authorized Signature



Report Revision History		
Report No.	Description	Issue Date
ET-24050564E02	Original	Jun.17, 2024

Contents

Page

1	TEST SUMMARY	4
2	GENERAL INFORMATION	5
2.1	GENERAL DESCRIPTION OF EUT	5
2.2	TEST MODE	6
2.3	DESCRIPTION OF SUPPORT UNITS	6
2.4	TEST FACILITY	6
2.5	TEST LOCATION	6
2.6	ADDITIONAL INSTRUCTIONS	6
3	TEST INSTRUMENTS LIST	7
4	MAXIMUM PERMISSIBLE EXPOSURE	8
4.1	LIMIT	8
4.2	REQUIREMENTS	8
4.3	MEASURE PROCEDURES	9
4.4	MEASURE SETUP	9
4.5	MEASUREMENT DATA	10
5	TEST SETUP PHOTO	11

1 Test Summary

Test Item	Section in CFR 47	Result	Test by
RF EXPOSURE	KDB 680106 D01 Wireless Power Transfer v04	Pass	Yvan

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
H-Field	$\pm 2.39\text{dB}$	(1)
E-Field	$\pm 2.45\text{dB}$	(1)
conducted RF Power	$\pm 0.65\text{dB}$	(1)
temperature	$\pm 0.2^{\circ}\text{C}$	(1)
humidity	$\pm 1\%$	(1)
DC and low frequency voltages	0.06%	

Note (1): The measurement uncertainty is for coverage factor of $k=2$ and a level of confidence of 95%.

2 General Information

2.1 General Description of EUT

Product Name:	Pen holder
Model No.:	EAC-AX24, BTWXC
Sample(s) Status:	Engineer sample
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	115~205KHz
Modulation type:	ASK
Antenna Type:	Induction coil Antenna
Power supply:	Input: DC 5V from adapter, Output: 5W

2.2 Test mode

Pretest mode	Description
Mode 1	Adapter+empty load
Mode 2	Adapter+half load
Mode 3	Adapter+full load
For conducted emission	
Final test mode	Adapter+full load
For Radiated emission	
Final test mode	Adapter+full load

2.3 Description of Support Units

Equipment	Model	S/N	Manufacturer
Adapter	MDY-11-EM	/	Xiaomi
Load	5W/7.5W/10W/15W Load	/	/

2.4 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064

2.5 Test Location

All tests were performed at:	
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	+86 755 85259392

2.6 Additional Instructions

Test Software	/
Power level setup	Default

3 Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	Exposure level Tester	Narda	ELT-400	N-0231	2023.8.26	2024.8.25
2	Magnetic field probe	Narda	ELT Probe 100cm2	M0675	2023.8.26	2024.8.25

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

4 Maximum permissible exposure

4.1 Limit

Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm ²)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0 6	6
300-1500			f/300	6
1500-100000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100000			1	30
f = frequency in MHz * = Plane-wave equivalent power density				

4.2 Requirements

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting and RF exposure evaluation.

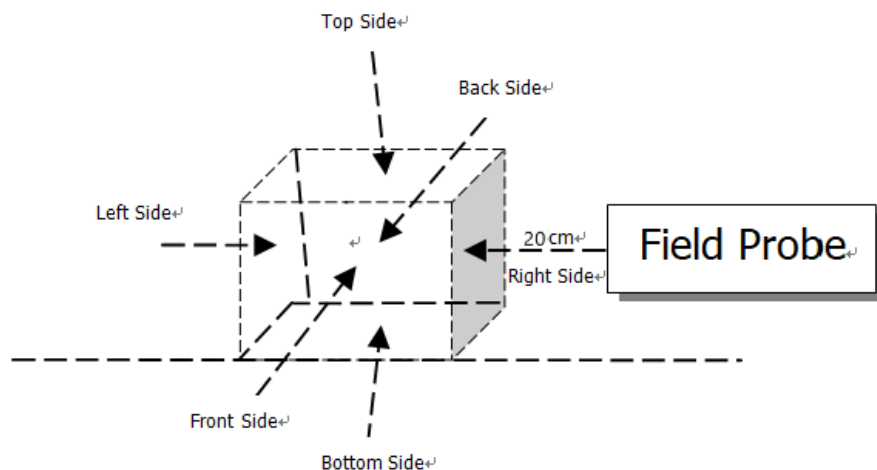
Requirements of KDB D01680106 D01 Wireless Power Transfer v04	Yes / No	Description
Power transfer frequency is less than 1 MHz	Yes	The device operate in the frequency range 115 KHz - 205 KHz
The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts	Yes	The maximum output power of the primary coil is 5W Max.
A client device providing the maximum permitted load is placed in physical contact with the transmitter(i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)	Yes	Surface physical contact between transmitter and client device enclosures
Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).	Yes	Mobile exposure conditions only
The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength,	Yes	The EUT H-field strengths at 20 cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios(i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.		
For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.	Yes	EUT with more than one radiating structure, When the system is fully loaded, the conditions specified in (5) are met.

4.3 Measure Procedures

E and H-field measurements should be made with the center of the probe at a distance of 20 cm surrounding the device.

4.4 Measure setup



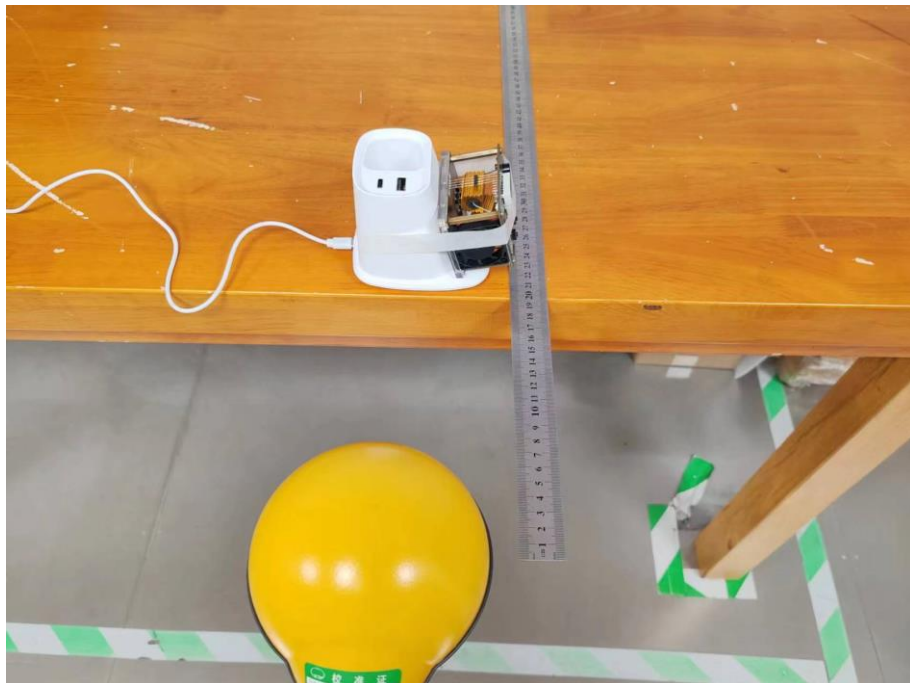
4.5 Measurement data

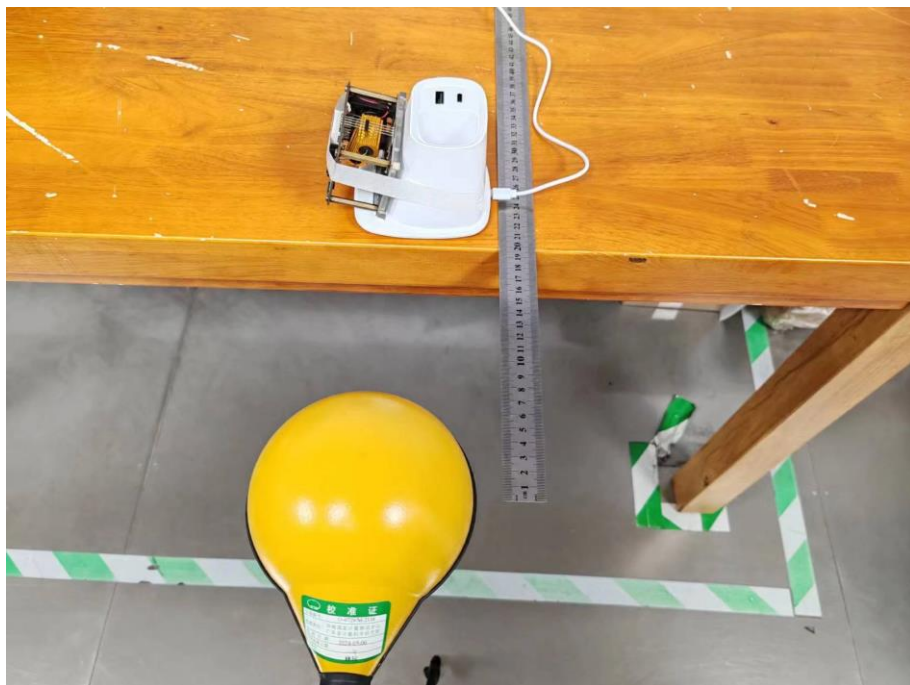
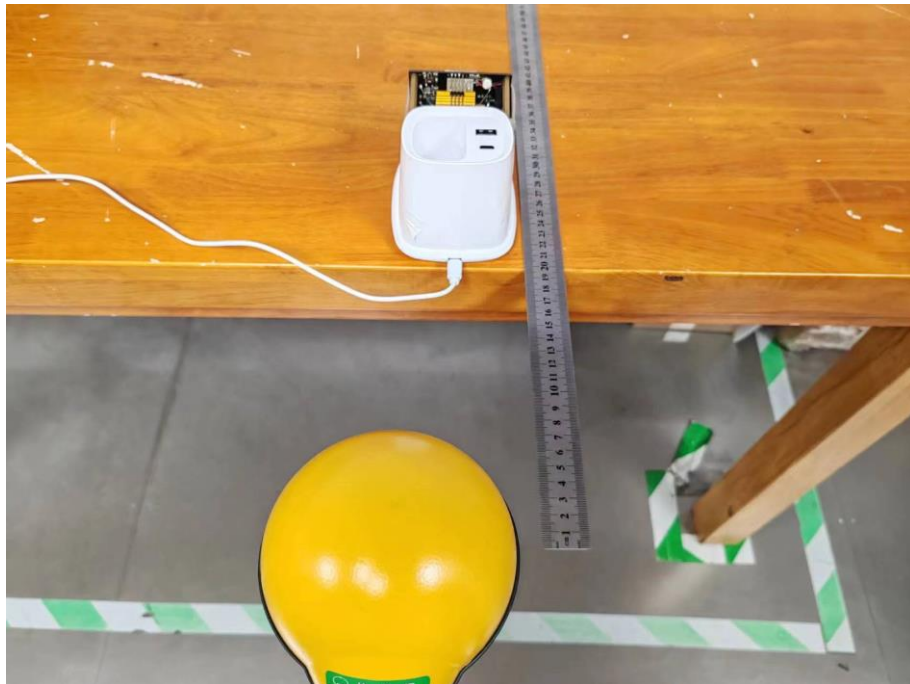
Maximum permissible Exposure					
Frequency range	Test sides	Separation (cm)	H-field (uT)	H-field (A/m)	50% Limit (A/m)
115-205kHz	Top	20	0.554	0.443	0.815
	Left	20	0.523	0.418	0.815
	Right	20	0.608	0.486	0.815
	Front	20	0.581	0.465	0.815
	Back	20	0.559	0.447	0.815

Remark:

1. $A/m = uT/1.25$

5 Test Setup Photo







-----End-----