

Test Report

Report No.: MTi240326015-07E1
Date of issue: 2024-07-17
Applicant: Zhonghui Chuangzhi (Fuyang) Technology Co., Ltd
Product name: Robot Wireless Recharger
Model(s): HY01

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.cn>

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Test Result Certification	
Applicant:	Zhonghui Chuangzhi (Fuyang) Technology Co., Ltd
Address:	Building A12, Drone Industrial Park, Intersection of Lixin Road and Ruixiang Road, Yingquan District, Fuyang City, Anhui Province
Manufacturer:	Zhonghui Chuangzhi (Fuyang) Technology Co., Ltd
Address:	Building A12, Drone Industrial Park, Intersection of Lixin Road and Ruixiang Road, Yingquan District, Fuyang City, Anhui Province
Product description	
Product name:	Robot Wireless Recharger
Trademark:	ZONECHARGE
Model name:	HY01
Series Model(s):	N/A
Standards:	47 CFR Part 18
Test Standards:	FCC/OST MP-5 (1986)
Date of Test	
Date of test:	2024-04-15 to 2024-07-15
Test result:	Pass

Test Engineer	:	<i>Letter. Lan.</i>
		(Letter Lan)
Reviewed By	:	<i>David. Lee</i>
		(David Lee)
Approved By	:	<i>Leon Chen</i>
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	Robot Wireless Recharger
Model name:	HY01
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Input: AC 100-240V Wireless output power: 780W
Accessories:	N/A
Hardware version:	V0.0.1
Software version:	V0.0.1
Test sample(s) number:	MTi240326015-07S1001
RF specification	
Operating frequency range:	Transmitter: 49-89 kHz
Modulation type:	FSK
Antenna(s) type:	Coil

1.2 Description of test modes

For test, the EUT has been pre-tested under the following test modes, Only the worst case data will be shown in the report.

No.	Emission test modes
Mode1	wrieless out

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list			
Description	Model	Serial No.	Manufacturer
/	/	/	/
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	±3.1dB
Radiated emissions (9kHz~30MHz)	±4.3dB
Radiated emissions (30MHz~1GHz)	±4.7dB
Temperature	±1 °C
Humidity	± 5 %

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

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Conducted Emissions on AC Power Line	47 CFR Part 18	18.307	Pass
2	Radiated Emissions (9kHz-30MHz)	47 CFR Part 18	18.305	Pass

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emissions on AC Power Line						
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2023-04-26	2024-04-25
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2023-05-05	2024-05-04
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2023-06-03	2024-06-02
Radiated Emissions (9kHz-30MHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2023-04-26	2024-04-25
2	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2023-06-11	2025-06-10
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2023-04-25	2024-04-24
Radiated Emissions (30MHz-1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19

5 Emission Test Results (EMI)

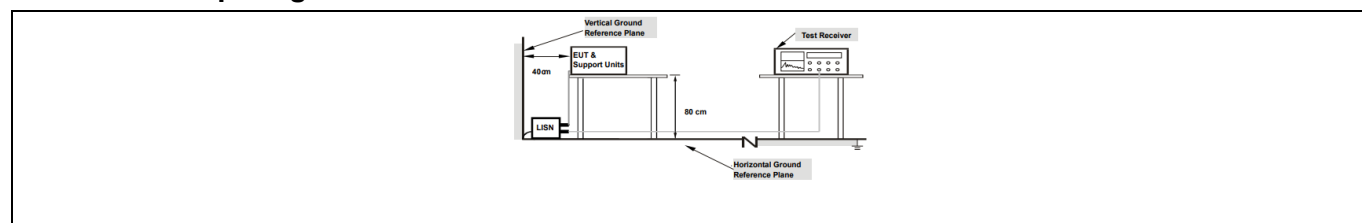
5.1 Conducted Emissions on AC Power Line

Test Requirement:	18.307
Test Method:	MP-5 Clause 7
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

5.1.1 E.U.T. Operation:

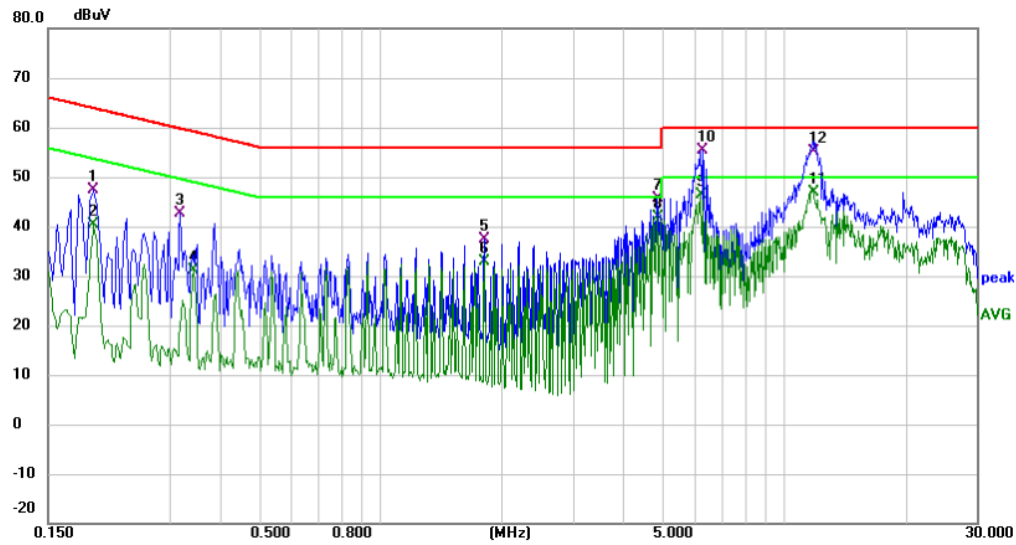
Operating Environment:					
Temperature:	25.9 °C	Humidity:	44 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

5.1.2 Test Setup Diagram:



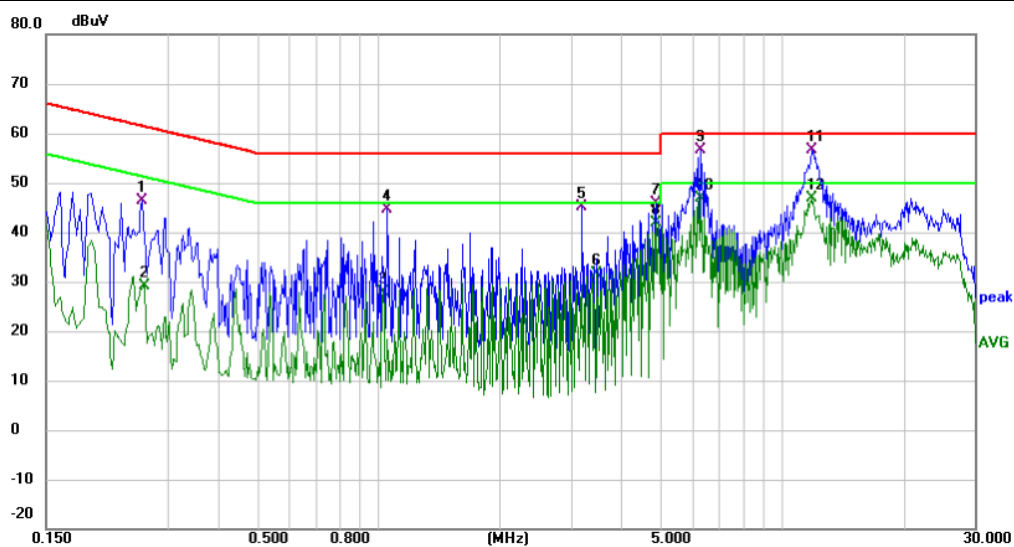
5.1.3 Test Data:

Mode1 / Line: Line



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1940	36.14	11.14	47.28	63.86	-16.58	QP	
2	0.1940	29.14	11.14	40.28	53.86	-13.58	AVG	
3	0.3180	31.92	10.75	42.67	59.76	-17.09	QP	
4	0.3420	20.48	10.75	31.23	49.15	-17.92	AVG	
5	1.8100	26.62	10.78	37.40	56.00	-18.60	QP	
6	1.8100	22.02	10.78	32.80	46.00	-13.20	AVG	
7	4.8460	34.77	10.88	45.65	56.00	-10.35	QP	
8	4.8460	31.06	10.88	41.94	46.00	-4.06	AVG	
9	6.2060	35.40	10.93	46.33	50.00	-3.67	AVG	
10	6.2740	44.48	10.95	55.43	60.00	-4.57	QP	
11 *	11.7660	35.55	11.25	46.80	50.00	-3.20	AVG	
12	11.8300	43.85	11.25	55.10	60.00	-4.90	QP	

Mode1 / Line: Neutral



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.2580	35.09	11.25	46.34	61.50	-15.16	QP	
2	0.2620	18.50	10.73	29.23	51.37	-22.14	AVG	
3	1.0300	17.10	10.74	27.84	46.00	-18.16	AVG	
4	1.0500	33.99	10.74	44.73	56.00	-11.27	QP	
5	3.1900	34.21	10.81	45.02	56.00	-10.98	QP	
6	3.4780	20.70	10.81	31.51	46.00	-14.49	AVG	
7	4.8500	35.07	10.86	45.93	56.00	-10.07	QP	
8	4.8500	30.97	10.86	41.83	46.00	-4.17	AVG	
9	6.2660	44.97	11.56	56.53	60.00	-3.47	QP	
10 *	6.2660	35.38	11.56	46.94	50.00	-3.06	AVG	
11	11.8180	45.27	11.24	56.51	60.00	-3.49	QP	
12	11.8180	35.67	11.24	46.91	50.00	-3.09	AVG	

5.2 Radiated Emissions (9kHz-30MHz)

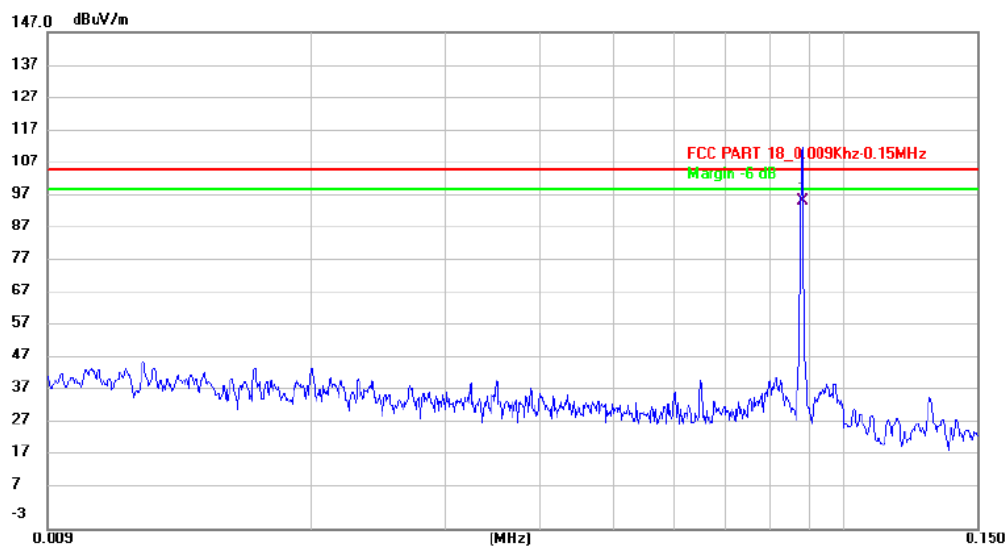
Test Requirement:	18.305				
Test Limit:	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)	
	Any ISM frequency	Below 500	25	300	
		500 or more	$25 \times \text{SQRT}(\text{power}/500)$	300 (1)	
	Any non-ISM frequency	Below 500	15	300	
		500 or more	$15 \times \text{SQRT}(\text{power}/500)$	300 (1)	
	On or below 5,725 MHz	Any	10	1,600	
	Above 5,725 MHz	Any	(2)	(2)	
	Any ISM frequency	Any	25	300	
	Any non-ISM frequency	Any	15	300	
	Below 490 kHz	Below 500	$2,400/\text{F}(\text{kHz})$	300	
		500 or more	$2,400/\text{F}(\text{kHz}) \times \text{SQRT}(\text{power}/500)$	300 (3)	
	490 to 1,600 kHz	Any	$24,000/\text{F}(\text{kHz})$	30	
	Above 1,600 kHz	Any	15	30	
	Below 90 kHz	Any	1,500	30 (4)	
	On or above 90 kHz	Any	300	30 (4)	
	(1) Field strength may not exceed 10 $\mu\text{V}/\text{m}$ at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts. (2) Reduced to the greatest extent possible. (3) Field strength may not exceed 10 $\mu\text{V}/\text{m}$ at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts. (4) Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.				
Test Method:	MP-5 Clause 5/6				
Procedure:	Frequency range: 9KHz-30MHz An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by loop antenna with 2 orthogonal polarities. The red line show in graphic is the limit in standard used in this section. Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor				

5.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.5 °C	Humidity:	43 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

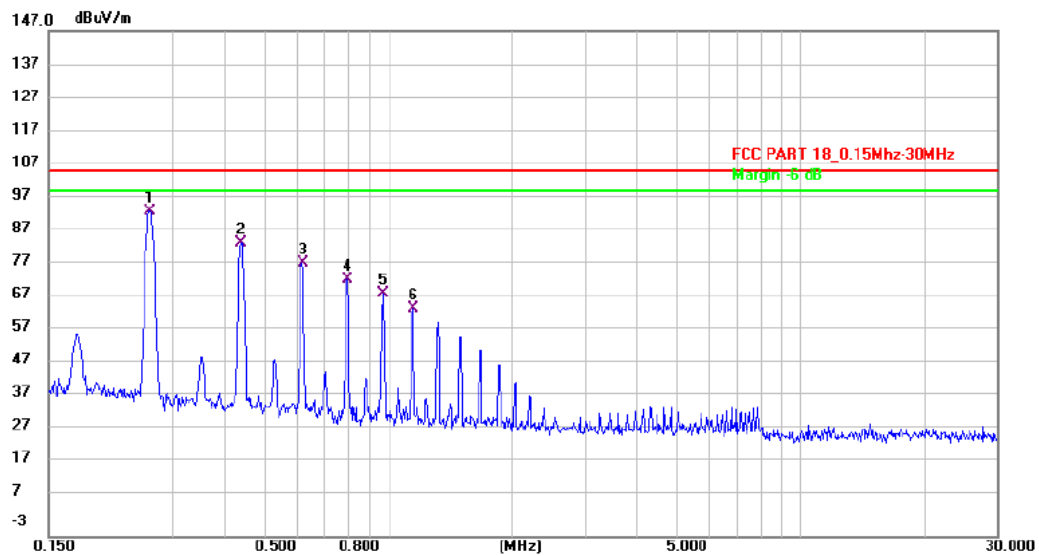
5.2.2 Test Data:

Mode1 / Polarization: Coaxial



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0884	75.04	21.16	96.20	107.38	-11.18	QP	

Mode1 / Polarization: Coaxial



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.2644	72.44	21.07	93.51	107.38	-13.87	QP	
2		0.4397	63.12	21.12	84.24	107.38	-23.14	QP	
3		0.6173	57.12	21.19	78.31	107.38	-29.07	QP	
4		0.7918	52.16	21.26	73.42	107.38	-33.96	QP	
5		0.9684	47.74	21.33	69.07	107.38	-38.31	QP	
6		1.1473	43.33	21.35	64.68	107.38	-42.70	QP	

Photographs of the test setup

Refer to Appendix - Test Setup Photos

Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----