



RF Exposure Evaluation Report

Application No.: DNT2410170162R2749-04502
Applicant: Systec&Solutions
Address of Applicant: Wilhelm-Schickard-Straße 9, Karlsruhe, Karlsruhe, Germany
EUT Description: Wireless charger module
Model No.: HG-EPP15W-V3.0
FCC ID: 2BMCR-HG-EPP15W-V3
Power supply DC 24V
Trade Mark: /
Standards: FCC CFR 47 Part 1.1307(b)&1.1310
KDB 680106 D01 Wireless Power Transfer v04
Date of Receipt: 2024/10/25
Date of Test: 2024/10/26 to 2024/11/4
Date of Issue: 2024/12/12
Test Result: **PASS ***

Prepared By: Wayne Lin (Testing Engineer)

Reviewed By: Penails Chen (Project Engineer)

Approved By: Heise Chen (Manager)



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec.12, 2024	Valid	Original Report



Test Summary

No.	Description of Test Item	FCC Standard Section	Results
1	Maximum Permissible Exposure	Part 1.1307(b)&1.1310	PASS



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1 General Information

1.1 Test Location

Company:	Dongguan DN Testing Co., Ltd
Address:	No. 1, West Fourth Street, South Xinfu Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China
Test engineer:	Wayne Lin

1.2 General Description of EUT

Manufacturer:	Shenzhen Huagon Technology Co.,Ltd
Address of Manufacturer:	6 floor, Building A,WeiHuada Industrial Park, No. 5, Lirong Road, Xinshi community, Dalang street, Longhua District, Shenzhen 518109
EUT Description::	Wireless charger module
Test Model No.:	HG-EPP15W-V3.0
Additional Model(s):	/
Chip Type:	SC5004
Serial Number	PR2410170162R2749
Power Supply	DC 24V
Output Max Wireless Charge Power:	15W
Trade Mark:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Sample Type:	<input type="checkbox"/> Portable Device, <input checked="" type="checkbox"/> Module, <input checked="" type="checkbox"/> Mobile Device
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated

Remark:

*Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information , DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.



1.3 Test Mode

Test Item	Test Mode
Maximum Permissible Exposure	Wireless Charging
Note: The worst Full Load status is recorded in the report	

1.4 Test Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Electric and Magnetic Field Probe-Analyzer	Senfu STT	LF-04	I-1044	Oct 18,2024	Oct 17,2025

1.5 Assistant equipment used for test

Code	Equipment	Manufacturer	Model No.	Equipment No.
1	iPhone	Apple	iPhone 14	NA



1.6 Description of Support Units

The EUT has been tested independent unit.

1.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

• **FCC, USA**

Designation Number: CN1348

• **A2LA (Certificate No. 7050.01)**

DONGGUAN DN TESTING CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7050.01.

• **Innovation, Science and Economic Development Canada**

DONGGUAN DN TESTING CO., LTD. EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier is CN0149.

IC#: 30755.

1.8 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	20dB Emission Bandwidth	$\pm 0.0196\%$
2	Carrier Frequency Separation	$\pm 1.9\%$
3	Number of Hopping Channel	$\pm 1.9\%$
4	Time of Occupancy	$\pm 0.028\%$
5	Max Peak Conducted Output Power	± 0.743 dB
6	Band-edge Spurious Emission	± 1.328 dB
7	Conducted RF Spurious Emission	9KHz-1GHz: ± 0.746 dB 1GHz-26GHz: ± 1.328 dB

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0 dB (150kHz to 30MHz)
2	Radiated Emission	± 4.8 dB (Below 1GHz)
		± 4.8 dB (1GHz to 6GHz)
		± 4.5 dB (6GHz to 18GHz)
		± 5.02 dB (Above 18GHz)



2 Maximum Permissible Exposure

2.1 Limit

Limits for Maximum Permissible Exposure (MPE)

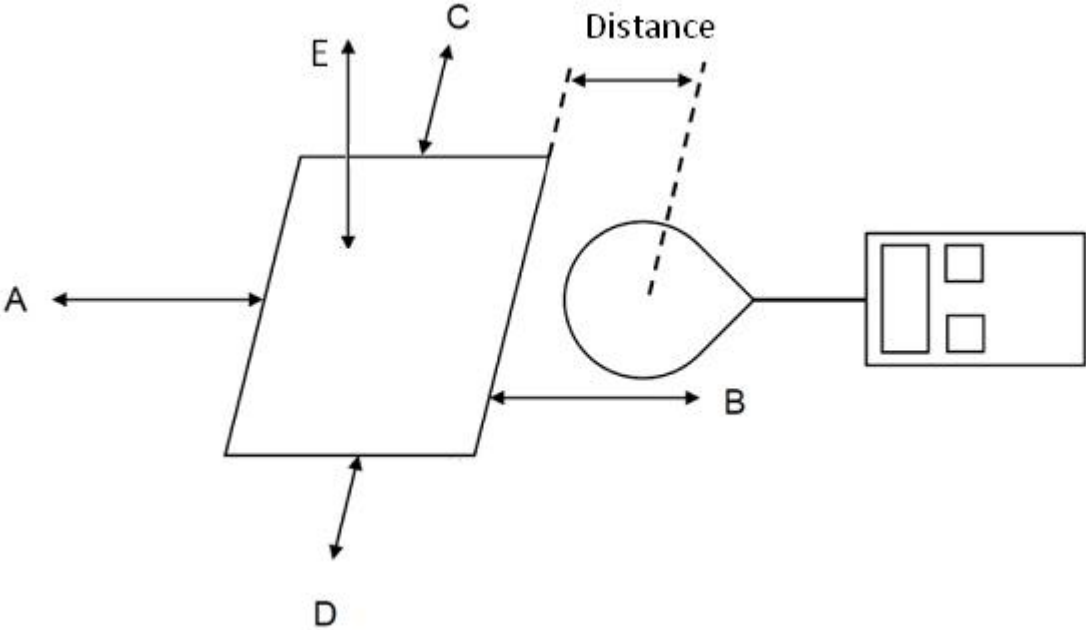
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	/	/	f/300	6
1,500-100,000	/	/	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
300-1,500	/	/	f/1500	30
1,500-100,000	/	/	1.0	30

Note:

1. f = frequency in MHz * = Plane-wave equivalent power density.
2. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.



2.2 Test Setup A



2.3 Test Procedure

- The test was performed on 360 degree turn table in anechoic chamber.
- The probe was placed at 15 cm surrounding the device and 20 cm above the top of the charger and the geometric centre of the probe, for test setup A.
-
- The highest emission level was recorded and compared with limit as soon as measurement of each point; A, B, C, D, E were completed.



2.4 Equipment Approval Considerations

Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC or a PAG for equipment approved using certification to address RF exposure compliance.

1	Power transfer frequency is less than 1 MHz
	YES; the device operated in the frequency range from 110.5-205KHz.
2	Output power from each primary coil is less than or equal to 15 watts.
	YES; the maximum output power of the primary coil is 15W.
3	The system may consist of more than one source primary coils, charging one or more clients.
	If more than one primary coil is present, the coil pairs may be powered on at the same time.
	YES; the transfer system includes only single primary and secondary coils.
4	Client device is placed directly in contact with the transmitter.
	YES; Client device is placed directly in contact with the transmitter.
5	Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
	YES.
6	The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
	YES; The EUT field strength levels are 50% x MPE limits.



2.5 Test Result for Test setup A:

E-field strength		Distance(cm)
Frequency range (KHz)	110.5 to 205	/
Test Mode	Full Load	/
Position A(V/m)	2.788	15
Position B(V/m)	2.689	15
Position C(V/m)	2.358	15
Position D(V/m)	2.126	15
Position E(V/m)	6.614	20
Limits (V/m)	614	/
50% Limits(V/m)	307	/

H-field strength		Distance(cm)
Frequency range (KHz)	110.5 to 205	/
Test Mode	Full Load	/
Position A(A/m)	0.011	15
Position B(A/m)	0.021	15
Position C(A/m)	0.024	15
Position D(A/m)	0.019	15
Position E(A/m)	0.087	20
Limits (A/m)	1.630	/
50% Limits (A/m)	0.815	/

---END REPORT---