

# Maximum Permissible Exposure

**FCC ID** : 2APYS-HSNL01NFM  
**Equipment** : Wireless Charging Module  
**Brand Name** : hp  
**Model Name** : HSN-L01NFM  
**Applicant** : Lanto Electronic Ltd  
No.399 baisheng Road, jinxi Town, Kunshan City,  
Jiangsu, 215324, China  
**Manufacturer** : Lanto Electronic Ltd  
No.399 baisheng Road, jinxi Town, Kunshan City,  
Jiangsu, 215324, China  
**Standard** : 47 CFR Part 2.1093

The product was received on Aug. 25, 2021, and testing was started from Sep. 11, 2021 and completed on Sep. 11, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1093 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

**SPORTON INTERNATIONAL INC. Hsinhua Laboratory**

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



## **Table of Contents**

<b>HISTORY OF THIS TEST REPORT .....</b>	<b>3</b>
<b>1     GENERAL DESCRIPTION .....</b>	<b>5</b>
1.1    Information.....	5
1.2    Testing Applied Standards .....	6
1.3    Testing Location Information .....	6
<b>2     HUMAN EXPOSURE ASSESSMENT .....</b>	<b>7</b>
2.1    Maximum Permissible Exposure .....	7
<b>3     TEST EQUIPMENT AND CALIBRATION DATA .....</b>	<b>11</b>
<b>TEST PHOTOS</b>	
<b>PHOTOGRAPHS OF EUT V01</b>	





## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Maximum Permissible Exposure	PASS	-

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

None

**Reviewed by: Sam Tsai**

**Report Producer: Debby Hung**

# 1 General Description

## 1.1 Information

### 1.1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range	Operating Frequency	Modulation Type
WLC	13.56 MHz	13.56 MHz	ASK

### 1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	Lbtcoil	WL1167	FPC	N/A

### 1.1.3 Support Equipment

Support Equipment					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	DC Power Supply	GW	GPS-3030DD	-	-
2	RX Load Fixture	luxshare	NFC WLC RX	-	Provided by Customer

## 1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2.1093

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB680106 D01 RF Exposure Wireless Charging Apps v03r01

## 1.3 Testing Location Information

<b>Test Lab. : Sporton International Inc. Hsinhua Laboratory</b>				
<input checked="" type="checkbox"/> Hsinhua (TAF: 3785)	<b>ADD:</b> No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.) <b>TEL:</b> 886-3-327-3456 <b>FAX:</b> 886-3-327-0973			
Test site Designation No. TW3785 with FCC.				
<b>Test Condition</b>	<b>Test Site No.</b>	<b>Test Engineer</b>	<b>Test Environment</b>	<b>Test Date</b>
RF Conducted	TH01-HY	Alan Chien	20.1~26.9°C / 50~60%	11/Sep/2021
<b>Subcontractor : Sporton International Inc. Hsinchu Laboratory</b>				
<input type="checkbox"/> Hsinchu (TAF: 3787)	<b>ADD:</b> No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) <b>TEL:</b> 886-3-656-9065 <b>FAX:</b> 886-3-656-9085			
Test site Designation No. TW0008 with FCC.				

## 2 Human Exposure Assessment

### 2.1 Maximum Permissible Exposure

#### 2.1.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

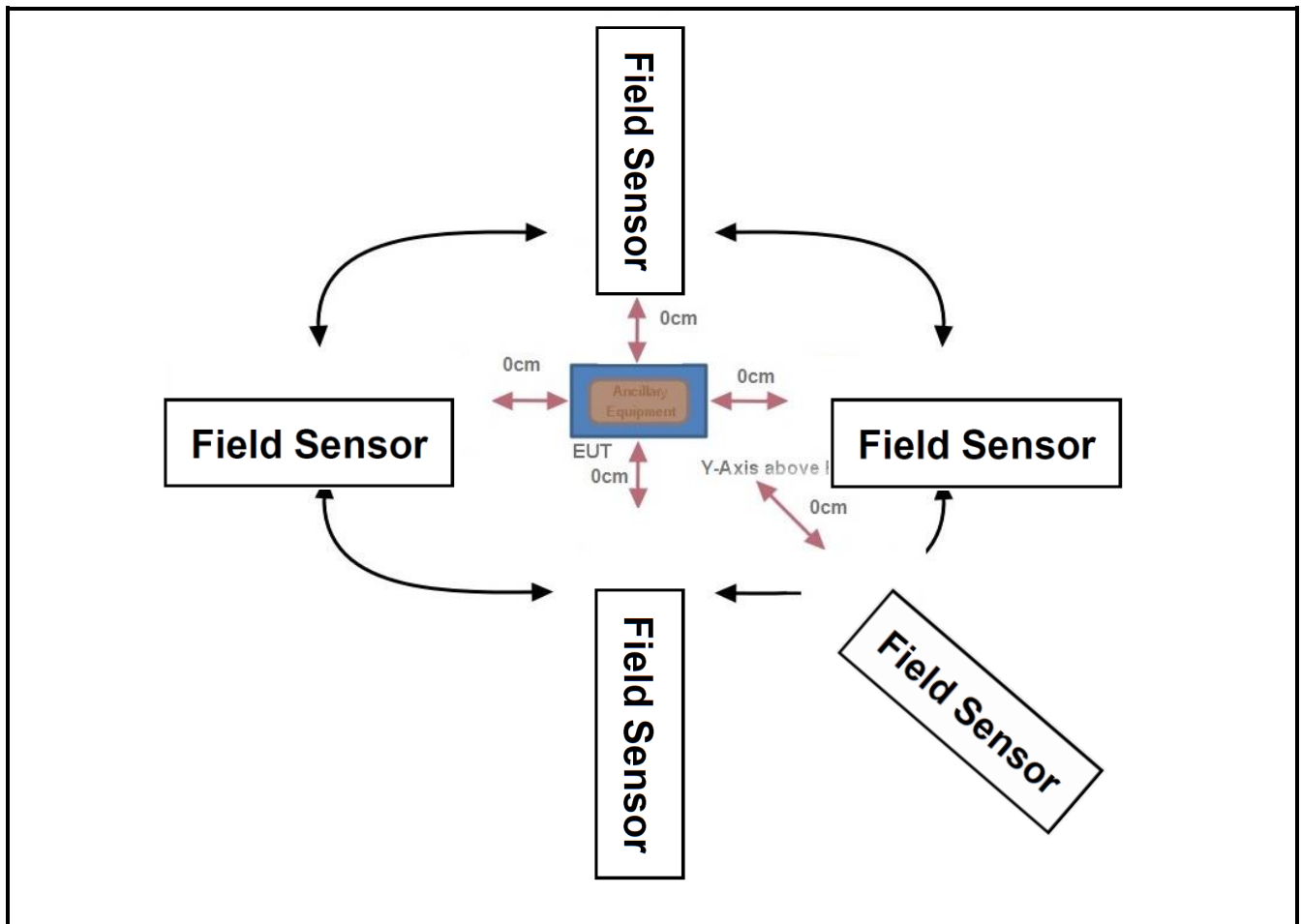
#### 2.1.2 The Worst Condition

Ancillary Equipment	Evaluation Mode	Worse Condition	Remark
RX Load Fixture	WLC	Full load	-

#### 2.1.3 Test Method

Test Method	
<input checked="" type="checkbox"/>	Performed aggregate both leakage E-field and H-field at surrounding the device from all simultaneous transmitting coils.
<input checked="" type="checkbox"/>	During testing, the EUT was placed on a non-conductive table top and the ancillary equipment (e.g., mobile phone) was placed on the EUT for charging. Maximum E-field and H-field measurements were tested 0 cm from each side of the EUT. Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength.
<input checked="" type="checkbox"/>	E-field transfer to H-field
-	E-field = $Z_0 \times H\text{-field}$ H-field = $E\text{-field} \div Z_0$ Where $Z_0$ = Free Space Impedance = $377\Omega$

## 2.1.4 Test Setup



Note 1 : find worst position for each axis.

Note 2 : This shall be measured as the distance from the edge of the device to the center of the measurement probe.



**2.1.5 Result of Maximum Permissible Exposure**

Maximum Permissible Exposure				
Charging Condition	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
Full load	0cm	Left	3.8656	0.0711
	0cm	Right	6.6563	0.0480
	0cm	Top	1.9969	0.0529
	0cm	Bottom	3.3344	0.0360
	0cm	Y-axis above EUT	5.5406	0.0572
Limit			60.77	0.16
Margin Limit (%)			10.95%	44.02%

### 3 RF Exposure Evaluation

#### 3.1 Applicable Standard

In accordance with FCC 47 CFR part 2 (2.1093) this device has been defined as a portable device which is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

Portable devices must be evaluated using the specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

#### 3.2 SAR evaluation

1. Per FCC KDB 447498 D01 v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances*  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f_{\text{(GHz)}}}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Max.EIRP Power (dBm)	Tolerance (dB)	Tune-up Max. Power		Test Distance (mm)	Frequency (MHz)	Exclusion Thresholds
		(dBm)	(mW)			
-35.17	0.5	-34.67	0	5	13.56	0.00025

2. Per FCC KDB 447498 D01 v06 exclusion thresholds is  $0.00025 < 474$ , RF exposure evaluation is not required.



## 4 Test Equipment and Calibration Data

### Instrument for Conducted Test

Instrument	Manufacturer/ Brand Name	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Electric and Magnetic field Probe - Analyzer	Narda S.T.S. / PMM	EHP 200AC	180ZX00640	3kHz~30MHz	09/Nov/2020	08/Nov/2021

—————THE END—————