



MPE Test Report

Report No.: STS2512331H01

Issued for

Shenzhen Nito Power Source Technology Co., Ltd.

201-7, Building 2, Shihua Lixing Fengda Industrial Factory,
No. 49 Wuhe Avenue South, Wuhe Community, Bantian
Street, Longgang District, Shenzhen, China

Product Name: 5W Portable Wireless Watch Charger

Brand Name: JOYROOM

Model Name: JR-W19

Series Model(s): N/A

FCC ID: 2BA8X-JR-W19

Test Standard: FCC CFR 47 part 1, 1.1310

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

**TEST RESULT CERTIFICATION**

Applicant's Name: Shenzhen Nito Power Source Technology Co., Ltd.
Address: 201-7, Building 2, Shihua Lixing Fengda Industrial Factory, No. 49
Wuhe Avenue South, Wuhe Community, Bantian Street, Longgang
District, Shenzhen, China
Manufacturer's Name: Shenzhen Nito Power Source Technology Co., Ltd.
Address: 201-7, Building 2, Shihua Lixing Fengda Industrial Factory, No. 49
Wuhe Avenue South, Wuhe Community, Bantian Street, Longgang
District, Shenzhen, China

Product Description

Product Name: 5W Portable Wireless Watch Charger
Brand Name: JOYROOM
Model Name: JR-W19
Series Model(s): N/A
Standards: FCC CFR 47 part 1, 1.1310
Test Procedure: KDB 680106 D01 Wireless Power Transfer v04

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

Date of Test.....:

Date of receipt of test item: 11 Dec. 2025

Date of performance of tests...: 11 Dec. 2025 to 15 Dec. 2025

Date of Issue.....: 15 Dec. 2025

Test Result.....: **Pass**

Testing Engineer :

Aaron Bu

(Aaron Bu)

Technical Manager :

Skylar Li

(Skylar Li)

Authorized Signatory :

Bovey Yang

(Bovey Yang)



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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	15 Dec. 2025	STS2512331H01	ALL	Initial Issue



1. SUMMARY OF TEST RESULTS

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainly
1	H-filed	$\pm 0.83\text{dB}$
2	E-filed	$\pm 0.91\text{dB}$



1.3 GENERAL DESCRIPTION OF THE EUT

Product Name	5W Portable Wireless Watch Charger
Brand	JOYROOM
Model Number	JR-W19
Series Model(s)	N/A
Model Difference	N/A
Equipemnt Category	Non-ISM frequency
Antenna Type	loop coil antenna
Operating frequency	300-350kHz, 1.778MHz
Modulation Type	ASK
Power Rating	Type-C/C1 Cable Input: DC 5V/3A, DC 9V/2A, DC 12V/1.5A Type-C/C1 Cable Output: DC 5V/2.4A, DC 9V/2.2A, DC 12V/1.67A Lighting Cable Output: DC 5V/2.4A, DC 9V/2.2A, DC 12V/1.67A Wireless Output: 5W (Max) Battery: DC 3.85V
Adapter	N/A
Battery	DC 3.85V
Wireless charging power	5W
Hardware version number	N/A
Software version number	N/A
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	NOTE
1	N/A	N/A	Coil	N/A	Antenna

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.



1.4 DESCRIPTION OF THE TEST MODES

Equipment under test was operated during the measurement under the following conditions:

Test Mode	Description	
Mode 1	AC Adapter + EUT + Load(5W, 1.778MHz) (Battery Status: < 1%)	Record
Mode 2	AC Adapter + EUT + Load(5W, 1.778MHz) (Battery Status: < 50%)	Record
Mode 3	AC Adapter + EUT + Load(5W, 1.778MHz) (Battery Status: < 99%)	Record
Mode 4	AC Adapter + EUT + Load(2.5W, 300-350kHz) (Battery Status: < 1%)	Record
Mode 5	AC Adapter + EUT + Load(2.5W, 300-350kHz) (Battery Status: < 50%)	Record
Mode 6	AC Adapter + EUT + Load(2.5W, 300-350kHz) (Battery Status: < 99%)	Record
Mode 7	EUT + Load(5W, 1.778MHz) (Battery Status: < 1%)	Record
Mode 8	EUT + Load(5W, 1.778MHz) (Battery Status: < 50%)	Pre-tested
Mode 9	EUT + Load(5W, 1.778MHz) (Battery Status: < 99%)	Pre-tested
Mode 10	EUT + Load(2.5W, 300-350kHz) (Battery Status: < 1%)	Record
Mode 11	EUT + Load(2.5W, 300-350kHz) (Battery Status: < 50%)	Pre-tested
Mode 12	EUT + Load(2.5W, 300-350kHz) (Battery Status: < 99%)	Pre-tested
Mode 13	Test the EUT in idle mode.	Pre-tested
Note: All test modes were pre-tested, but we only recorded the worst case in this report.		

1.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Electric and Magnetic field Probe - Analyzer	NARDA	EHP-200A	180ZX10220	2025.02.22	2026.02.21

1.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Adapter	ZTC	NB-A515A	N/A
E-2	Load	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.8m	N/A

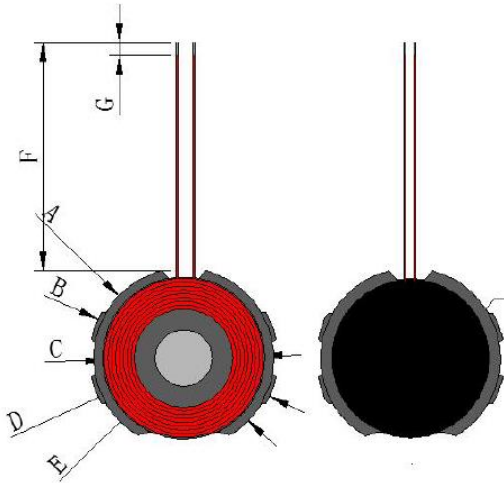
Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (2) “YES” is means “with core”; “NO” is means “without core”.

2. COIL SPECIFICATIONS

Item	Parameter
Input inductance:	L1: 3.8uH-4.4uH
Material of enclosure(s):	Silk wrapped wire
Number of turns:	Transmitter 1: 10turns

2.1 COIL SIZE



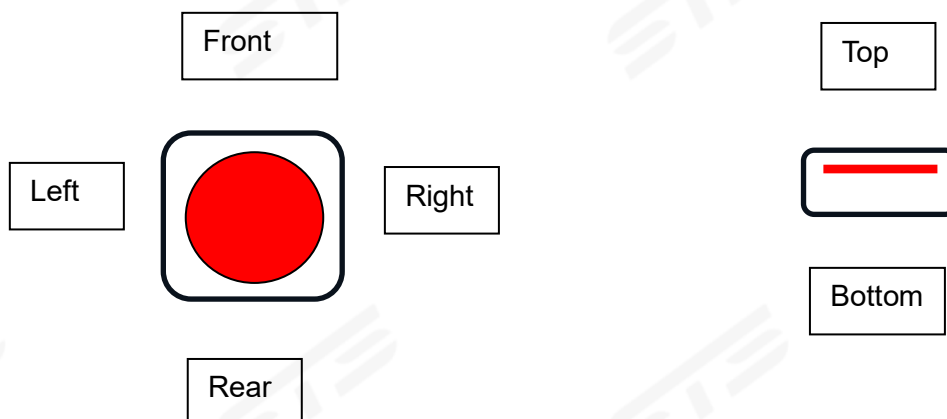
Unit: mm

A	B	C	D	E	F	G
23.5±0.5	24.5±0.5	21MAX	14.5±0.5	7.6±0.3	40±1	2±1

2.2 LOCATION(S) – COIL TO THE OUTER SURFACE OF THE ENCLOSURE(S)

Unit: mm

Front A	Rear B	Left C	Right D	Top E	Bottom F
20	120	50	50	2	20





3. MAXIMUM PERMISSIBLE EXPOSURE

3.1 MEASURING STANDARD

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1091 RF exposure is calculated. According KDB680106 D01: KDB 680106 D01 Wireless Power Transfer v04.

3.2 REQUIREMENTS

According to the item 3 of KDB 680106 D01v04:

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

- (1) Mobile Device and Portable Device Configurations
- (2) Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz
- (3) The aggregate H-field strengths anywhere at or beyond 20 cm surrounding the device.

Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Limit of Maximum Permissible Exposure

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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6



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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

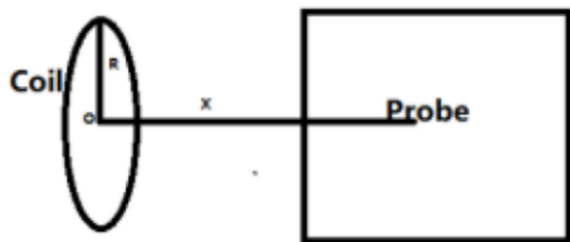
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths at 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

3.3 TEST PROCEDURE

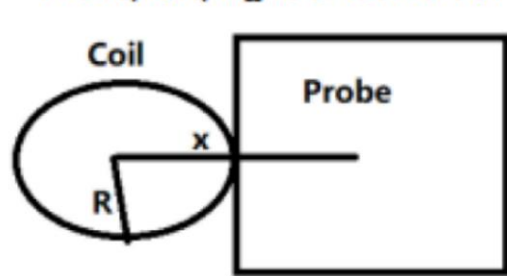
- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at test distance (2cm increments from 0 ~ 20 cm for all sides for portable mode, 20 cm from all sides for mobile mode) which is between the edge of the charger and the geometric edge of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.
- 5) According to the requirements if KDB 680106 D01 v04, If the center of the probe sensing element is located more than 5mm from the probe outer surface, the field strengths need to be estimated through modeling for those positions that are not reachable. (The sensitive elements are located approximately 18.5 mm below the external surface specified in user manual of MAGPy-8H3D+E3D)
- 6) Use Biot-Savart Law, the value of 0 cm can be estimated through the results of 2 cm, according to the formula:

Top & Bottom Side:



$$B = \frac{\mu_0 * I * N * R^2}{2 * (R^2 + x^2)^{3/2}}$$

Front, left, right & rear Side:



$$B = \frac{\mu_0 * I * N}{2 * x}$$

Remark:

B: H-field (Unit:T)

μ_0 : Space permeability = $4 * \pi * 10^{-7}$

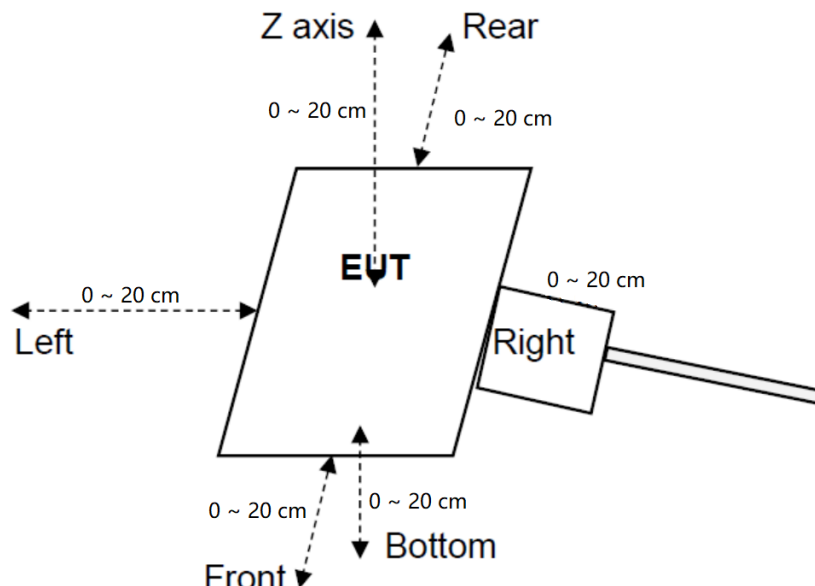
I (Unit: A): The current element passing through a radiated coil

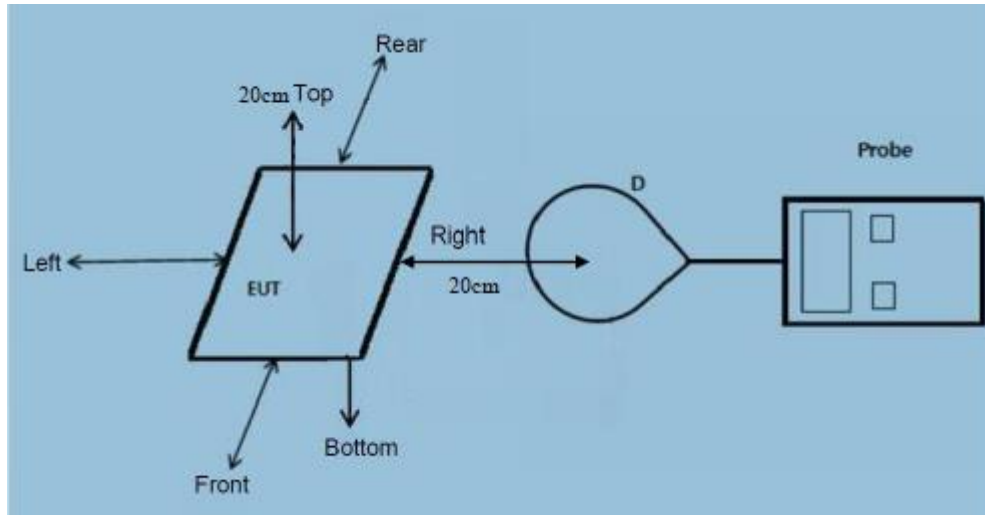
R: Radius of radiated coil, according to the coil specification: R=0.015m

X: The distance from the sensing elements of the probe to the edge of the radiated coil (the dimensions of EUT and load are take into account), (Unit: m)

N: Turns of the radiated coil, according to the coil specification: N=15.

3.4 TEST SETUP





3.5 TEST RESULTS

The EUT does comply with item 3 KDB680106 D01 v04.



- (1) Power transfer frequency is less than 1 MHz.

No, The working frequency is 300-350KHz and 1.778MHz.

- (2) Output power from each primary coil is less than or equal to 15 watts.

Yes, The maximum output power is 5 watts.

- (3) 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, The maximum permitted load is placed in physical contact with the transmitter.

- (4) Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions)

No, the EUT is Portable condition assessment.

- (5) (5)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, 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.

Yes, The H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit ; coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.

- (6) 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, For systems with single 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.



3.6 MAXIMUM PERMISSIBLE EXPOSURE

300-350kHz:

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 1%	Top	0.133	0.096
20cm	< 1%	Top	0.115	0.029
20cm	< 1%	Left	0.077	0.103
20cm	< 1%	Right	0.068	0.151
20cm	< 1%	Front	0.034	0.006
20cm	< 1%	Rear	0.025	0.004
Limit			614	1.63

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 50%	Top	0.128	0.098
20cm	< 50%	Top	0.109	0.037
20cm	< 50%	Left	0.085	0.096
20cm	< 50%	Right	0.066	0.099
20cm	< 50%	Front	0.057	0.004
20cm	< 50%	Rear	0.025	0.016
Limit			614	1.63

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 99%	Top	0.131	0.108
20cm	< 99%	Top	0.105	0.036
20cm	< 99%	Left	0.087	0.106
20cm	< 99%	Right	0.055	0.096
20cm	< 99%	Front	0.032	0.002
20cm	< 99%	Rear	0.022	0.008
Limit			614	1.63



1.778MHz

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 1%	Top	0.134	0.104
20cm	< 1%	Top	0.115	0.041
20cm	< 1%	Left	0.082	0.108
20cm	< 1%	Right	0.064	0.171
20cm	< 1%	Front	0.034	0.008
20cm	< 1%	Rear	0.030	0.003
Limit			614	1.63

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 50%	Top	0.138	0.102
20cm	< 50%	Top	0.104	0.032
20cm	< 50%	Left	0.097	0.092
20cm	< 50%	Right	0.068	0.101
20cm	< 50%	Front	0.044	0.009
20cm	< 50%	Rear	0.024	0.008
Limit			614	1.63

MPE				
Test distance	Battery levels	Probe from EUT Side	E-field (V/m)	H-field (A/m)
20cm	< 99%	Top	0.123	0.108
20cm	< 99%	Top	0.111	0.025
20cm	< 99%	Left	0.080	0.099
20cm	< 99%	Right	0.061	0.101
20cm	< 99%	Front	0.037	0.002
20cm	< 99%	Rear	0.018	0.004
Limit			614	1.63

Note: All test modes were pre-tested, but we only recorded the worst case in this report.



Mode 7

Note: <1%, 50%, >95% load all have been tested, only worse case Max load (<1%) is reported.

H-Filed Strength at (distance 0cm to 20cm at 2cm iteration, i.e. at a distance of 20cm, 18cm, 16cm, ... 0cm, Which is between the edge of the charger and the edge of of probe,) surrounding the EUT (A/m)

Battery < 1% (Worst case)

Test Distance (cm)	Test Position A (A/m)	Test Position B (A/m)	Test Position C (A/m)	Test Position D (A/m)	Test Position E (A/m)	Test Position F (A/m)	Limit (A/m)
6	0.132	0.098	0.129	0.131	0.052	0.058	1.63
8	0.125	0.095	0.121	0.125	0.021	0.024	
10	0.119	0.083	0.119	0.121	0.013	0.015	
12	0.114	0.074	0.112	0.116	0.011	0.013	
14	0.109	0.062	0.108	0.113	0.009	0.011	
16	0.105	0.051	0.104	0.107	0.008	0.009	
18	0.102	0.049	0.097	0.102	0.006	0.008	
20	0.101	0.033	0.095	0.096	0.005	0.007	

Use the Biot-Sacart Law to estimated the results of 6cm through 8cm

Test position	Measure Value (A/m)	Estimated Value (A/m)	Agreement Ratio	Limits
A	0.132	0.150	13.45%	30%
B	0.098	0.104	6.58%	30%
C	0.129	0.139	8.12%	30%
D	0.131	0.144	9.99%	30%
E	0.052	0.045	-12.68%	30%
F	0.058	0.045	-21.98%	30%

Use the Biot-Sacart Law to estimated the results of 8cm through 10cm

Test position	Measure Value (A/m)	Estimated Value (A/m)	Agreement Ratio	Limits
A	0.125	0.139	10.94%	30%
B	0.095	0.091	-4.72%	30%
C	0.121	0.135	11.37%	30%
D	0.125	0.137	9.62%	30%
E	0.021	0.024	15.28%	30%
F	0.024	0.025	5.92%	30%

As the model is sufficient, the value of 4cm can be estimated through the results of 6 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.165	1.63
B	0.109	
C	0.152	
D	0.155	
E	0.141	
F	0.128	



As the model is sufficient, the value of 2cm can be estimated through the results of 4 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.122	1.63
B	0.186	
C	0.189	
D	0.518	
E	0.356	
F	0.122	

As the model is sufficient, the value of 0cm can be estimated through the results of 2 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.325	1.63
B	0.140	
C	0.238	
D	0.242	
E	1.554	
F	1.346	

Mode 10

Note: <1%, 50%, >95% load all have been tested, only worse case Max load (<1%) is reported.
H-Filed Strength at (distance 0cm to 20cm at 2cm iteration, i.e. at a distance of 20cm, 18cm, 16cm, ... 0cm, Which is between the edge of the charger and the edge of of probe,) surrounding the EUT (A/m)
Battery < 1% (Worst case)

Test Distance (cm)	Test Position A (A/m)	Test Position B (A/m)	Test Position C (A/m)	Test Position D (A/m)	Test Position E (A/m)	Test Position F (A/m)	Limit (A/m)
6	0.131	0.098	0.127	0.129	0.051	0.057	1.63
8	0.124	0.095	0.119	0.124	0.02	0.022	
10	0.118	0.083	0.119	0.12	0.013	0.014	
12	0.113	0.072	0.111	0.115	0.011	0.011	
14	0.108	0.061	0.107	0.113	0.009	0.009	
16	0.104	0.051	0.102	0.106	0.008	0.008	
18	0.102	0.047	0.095	0.1	0.005	0.008	
20	0.101	0.031	0.095	0.095	0.005	0.007	

Use the Biot-Sacart Law to estimated the results of 6cm through 8cm

Test position	Measure Value (A/m)	Estimated Value (A/m)	Agreement Ratio	Limits
A	0.131	0.149	13.40%	30%
B	0.098	0.104	6.58%	30%
C	0.127	0.137	8.01%	30%
D	0.129	0.143	10.80%	30%
E	0.051	0.043	-15.21%	30%
F	0.057	0.041	-27.23%	30%

Use the Biot-Sacart Law to estimated the results of 8cm through 10cm

Test position	Measure Value (A/m)	Estimated Value (A/m)	Agreement Ratio	Limits
A	0.124	0.138	10.89%	30%
B	0.095	0.091	-4.72%	30%
C	0.119	0.135	13.25%	30%
D	0.124	0.136	9.59%	30%
E	0.02	0.024	21.04%	30%
F	0.022	0.024	7.84%	30%

As the model is sufficient, the value of 4cm can be estimated through the results of 6 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.163	1.63
B	0.109	
C	0.150	
D	0.152	
E	0.138	
F	0.126	



As the model is sufficient, the value of 2cm can be estimated through the results of 4 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.217	1.63
B	0.122	
C	0.183	
D	0.186	
E	0.508	
F	0.350	

As the model is sufficient, the value of 0cm can be estimated through the results of 2 cm

Test position	Estimated Value (A/m)	Limits (A/m)
A	0.323	1.63
B	0.140	
C	0.234	
D	0.238	
E	1.524	
F	1.322	

MPE Setup photo

0cm



20cm



※※※※※END OF THE REPORT※※※※※