

Test Report

Report No.: MTi231108005-10E2

Date of issue: 2023-12-15

Applicant: RADIOSHACK WORLDWIDE CORP.

Product: Wireless Power bank

Model(s): 2309279

FCC ID: 2BDXE-2309279

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

Instructions

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2. The test results in this test report are only responsible for the samples submitted
3. This test report is invalid without the seal and signature of the laboratory.
4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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Test Result Certification	
Applicant:	RADIOSHACK WORLDWIDE CORP.
Address:	AFRA building Ave. Samuel Lewis and 54 th Street Panama City Postal BOX /P.O Box 0816-01085 Panama 5, Republic of Panama
Manufacturer:	Fab-chain Service Co.,Ltd.
Address:	5th Floor, Building A, and 4th Floor, Building B, ChuangJian industrial Park, ShiYan Yingrenshi, BaoAn District, Shenzhen, China
Factory:	GD Fab-chain Service Co.,Ltd.
Address:	1F, 3-7F, building 3, No. 31, huifeng west 2nd Road, zhongkai High tech Zone, Huizhou City, Guangdong, China
Product description	
Product name:	Wireless Power bank
Trademark:	Radioshack
Model name:	2309279
Series Model:	N/A
Standards:	FCC CFR 47 PART 1, § 1.1310 FCC CFR 47 PART 2, § 2.1093
Test method:	KDB 680106 D01 Wireless Power Transfer v04
Date of Test	
Date of test:	2023-11-22 to 2023-12-14
Test result:	Pass

Test Engineer	:	<i>Yanice Xie</i>
		(Yanice.Xie)
Reviewed By	:	<i>Leon Chen</i>
		(Leon Chen)
Approved By	:	<i>Tom Xue</i>
		(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	Wireless Power bank
Model name:	2309279
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Capacity:3.85V 10000mAh(38.5Wh) Type-C Input:DC 5V/3A, 9V/2A, 12V/1.5A, PD18W Type-C Output:DC 5V/3A, 9V/2.22A, 12V/1.67A, PD20W USB-A Output:DC 5V/3A, 9V/2A, 12V/1.5A 18W Wirless Output:5W,7.5W,10W,15W Type-C+USB-A+Wirless Output:DC 5V/3A
Accessories:	N/A
Test sample(s) number:	MTi231108005-10S1001
Software version:	SW6201-SB
Hardware version:	AG03-PD10H-W V2.0
RF specification:	
Operation frequency:	115 kHz – 205 kHz
Modulation type:	ASK
Antenna type:	Coil Antenna

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Charging+Wireless Output(5W)
Mode2	Wireless Output(5W)
Mode3	Wireless Output(7.5W)
Mode4	Wireless Output(10W)
Mode5	Wireless Output(15W)
Mode6	Standby

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Mobile phone	Find X3	/	OPPO
MI CHARGE(18W)	HW-059200CHQ	B6828JLC215475	HUAWEI
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurement (9kHz~30MHz)	$\pm 7.8\%$
Electric field measurements (9kHz~30MHz)	$\pm 7.8\%$

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

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

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E115	Electric and Magnetic Field Probe – Analyzer	Narda	EHP-200A	101166	202308/15	2026/08/14

5 Test result

5.1.1 Requirement

§1.1310: 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), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - 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)
(i) 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
300-1500			f/300	<6
1500-100000			5	<6
(ii) 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			1.0	<30

f = frequency in MHz

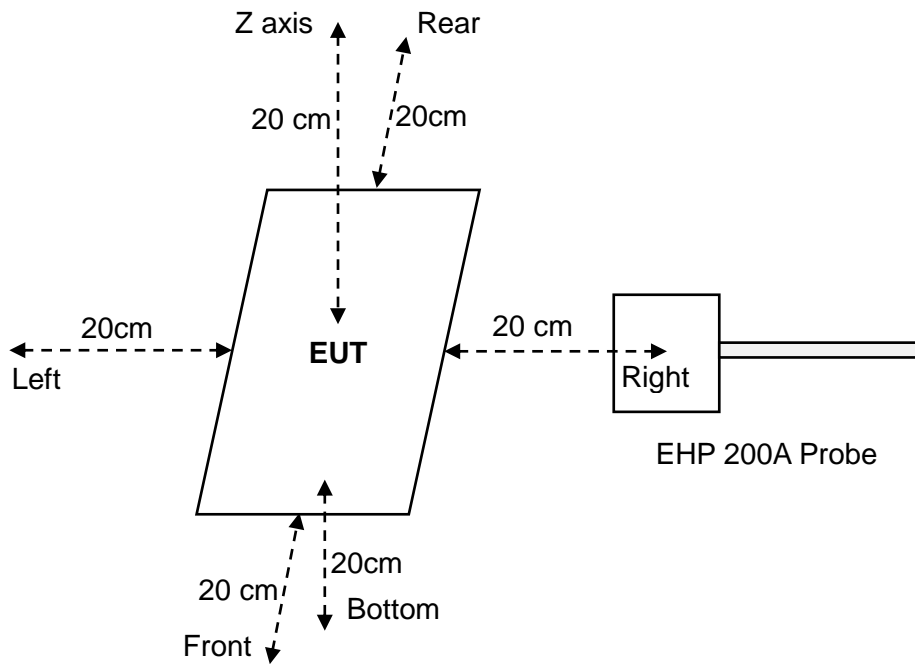
* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

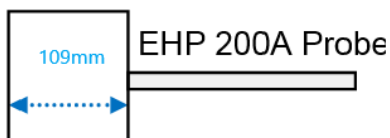
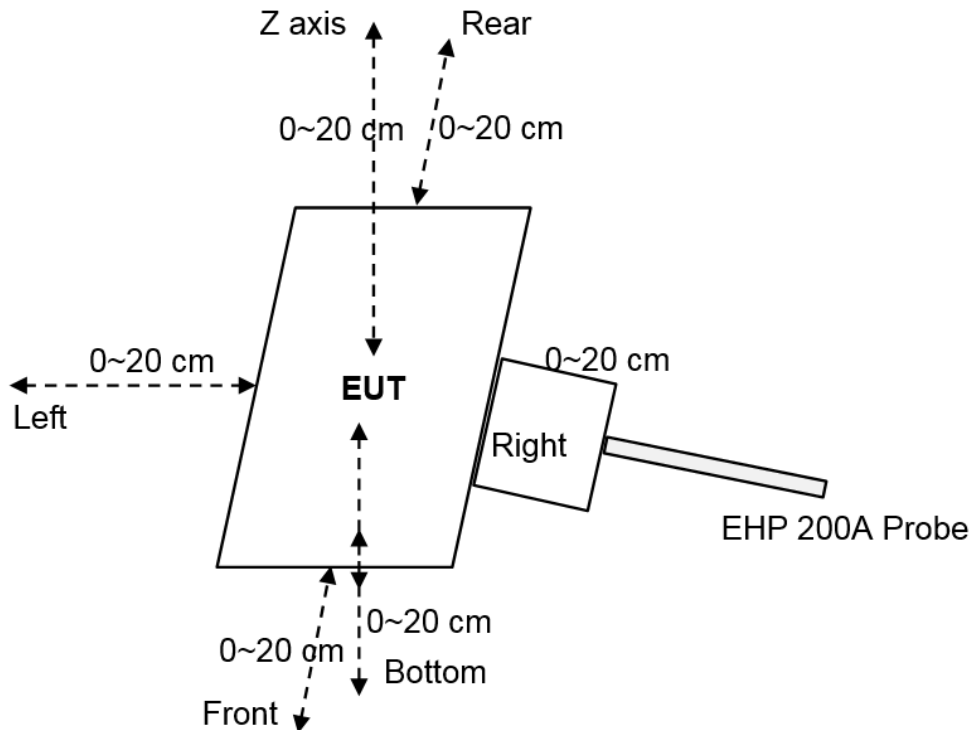
Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

5.2 Test setup

For mobile exposure conditions:



For portable exposure conditions:



Notes: The EHP 200A Probe has a diameter of 10.9cm and a radius of 5.45cm.

5.3 Test Procedures

For portable exposure conditions:

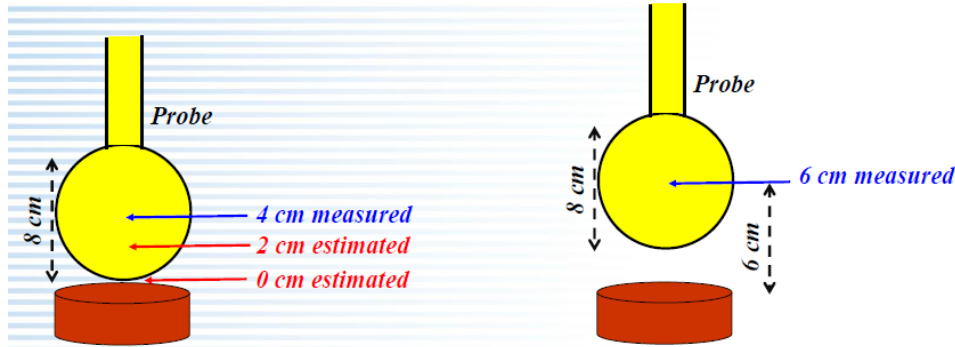
- a. The RF exposure test was performed in anechoic chamber.
- b. Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 20 cm
- c. The highest emission level was recorded and compared with limit.

Notes: The EUT was setted to transmit continuously with the duty cycle of 100%.

5.4 Test results

For portable exposure condition: Note:

- (1). The portable test modes have covered the considerations of the mobile test, only record the test data of the portable conditions in this report.
- (2) Operating modes with client device (1 %, 50%, 99% battery status of client device) have been test, only show the data of worst case of 1% battery status of client device.
- (3) 20-2cm is the actual test value, and 0 cm is the estimated value.
- (4) Perform H-field/E-field measurements are taken along all three axes the device from 0cm~20cm in 2cm minimum increment for each edge surface of the host/client pair. If the center of the probe sensing element is more than 5mm from the probe outer edge, the field strengths need to be estimated for the positions that are not reachable.



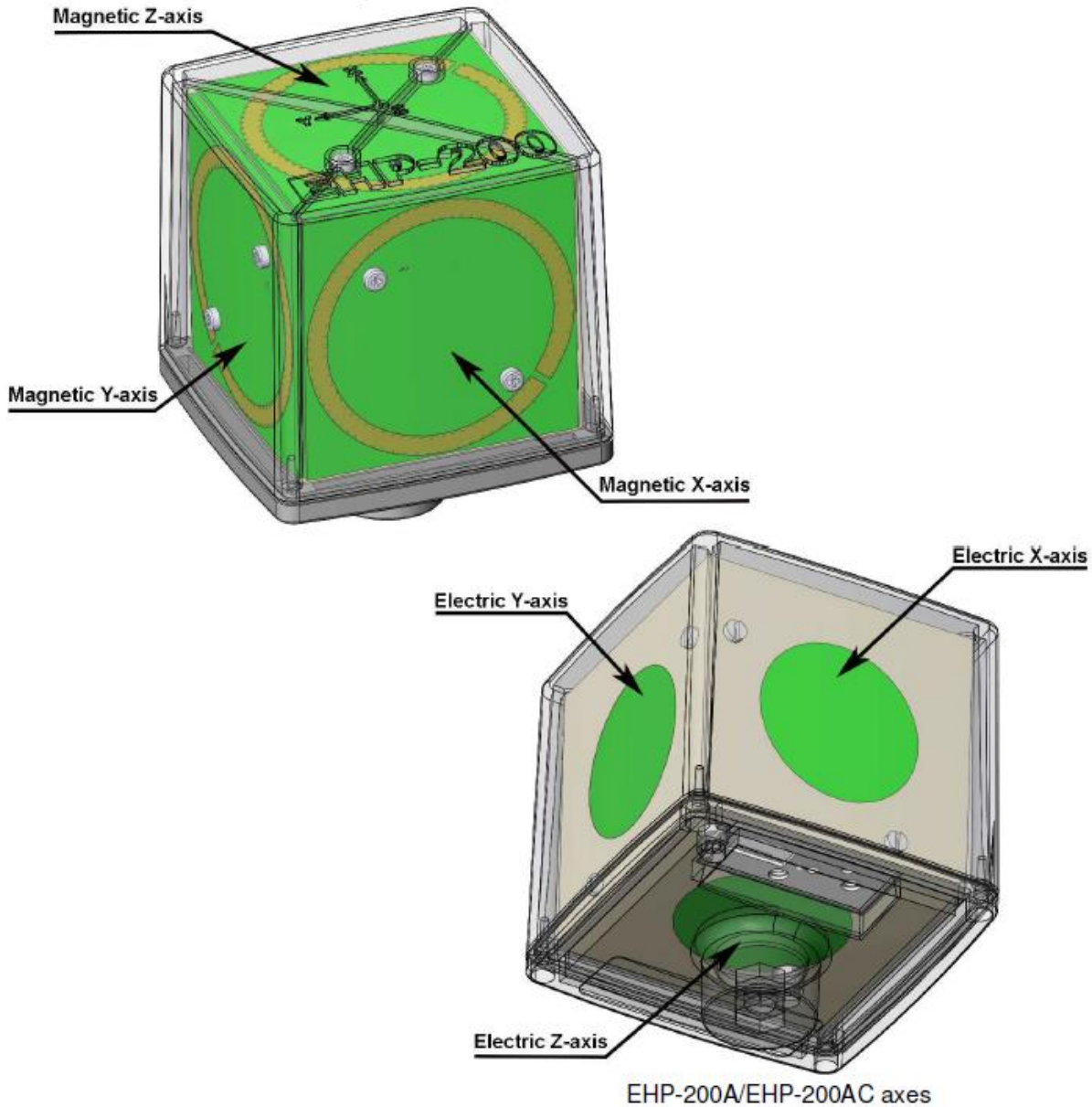
Example of probe measurements in points close to the device surface: estimates compared with measurements at 4 and 6 cm provide validation

According to Calibration information and specification about EHP-200A, The Probe EHP-200A's sensitive elements center are 8mm below the external surface, and the dimensions is 92x92x109mm. so the actual 0cm field strengths need to be estimated for the positions that are not reachable. The Extrapolated Value Calculation Method please below). And the result of test distance 2cm~20cm was measured value.

Probe	Length	Width	Height
	109mm	92mm	92mm



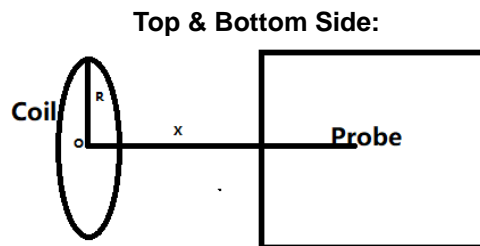
Note: EUT is a loop/coil emitting structure, so E-field not required. Just recorded the H-field value.



The sensitive elements are located approximately 8 mm below the external surface

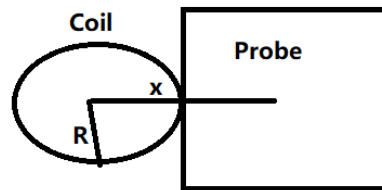
(5) Estimated method for portable RF Exposure condition:

We use Biot-Savart formula theory to estimate the strength of the magnetic field that the measuring instrument cannot measure. According to Biot-Savart formula:



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

Front, left, right & rear Side:



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

B: means H-field value;

μ_0 is space permeability; $\mu_0=4\pi*10^{-7}$;

I: A current element passing through a coil;

R: means the Radius of coil(According to provided Antenna specification: We can get the minimum $R=38/2=19\text{mm}=0.019\text{m}$);

Test Distance: The distance from the sensing element of the probe to the edge of the device surface.

x: means the center of the coil to the sensing elements of the probe. (For top & bottom side: $x=\text{test distance}$; For other side: $x=\text{test distance}+R$)

N: Number of turns, according to providing "Antenna specification" files: $N=10$.

(6) For validation purposes: If the value to show a **30% agreement** between the mode and the (E- and/or H-field) probe measurements for the two closest points to the device surface, and with 2cm increments. Then this extrapolation method is reasonable.

Note: The percent ratio of agreement is the difference between the estimated and measured values divided by the average of the estimated and measured values.

Validation:

Magnetic Field Emissions							
Test Distance(cm)	Top	Left	Right	Rear	Front	Bottom	Conclusion
	Unit: Agreement (%); H-field (A/m)						
Agreement -2cm	26.92	24.80	21.91	27.62	22.11	19.15	Compliance (Within 30%)
2cm(estimated)	0.4665	0.1523	0.159	0.1949	0.1577	0.4097	
2cm(measured)	0.3558	0.1187	0.1276	0.1476	0.1263	0.3381	

Magnetic Field Emissions							
Test Distance(cm)	Top	Left	Right	Rear	Front	Bottom	Conclusion
	Unit: Agreement (%); H-field (A/m)						
Agreement -2cm	16.85	18.08	19.91	16.25	22.50	17.42	Compliance (Within 30%)
4cm(estimated)	0.1519	0.0567	0.0602	0.0712	0.0613	0.1342	
4cm(measured)	0.1283	0.0473	0.0493	0.0605	0.0489	0.1127	

Test condition 1: Mode 5 operating mode with client device (1 % battery status of client device)
-estimated value: 0cm

Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.8837	1.63	63.42%
	Left	0.8313		
	Right	0.8936		
	Front	1.0337		
	Rear	0.8845		
	Bottom	0.8397		

Test condition 2: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance: 2cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.3558	1.63	21.83%
	Left	0.1187		
	Right	0.1276		
	Front	0.1476		
	Rear	0.1263		
	Bottom	0.3381		

Test condition 3: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 4cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.1283	1.63	7.87%
	Left	0.0473		
	Right	0.0493		
	Front	0.0605		
	Rear	0.0489		
	Bottom	0.1127		

Test condition 4: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 6cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.1011	1.63	6.20%
	Left	0.0413		
	Right	0.0426		
	Front	0.0547		
	Rear	0.0448		
	Bottom	0.0964		

Test condition 5: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 8cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0962	1.63	5.90%
	Left	0.0409		
	Right	0.0410		
	Front	0.0507		
	Rear	0.0403		
	Bottom	0.0864		

Test condition 6: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 10cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0851	1.63	5.22%
	Left	0.0394		
	Right	0.0376		
	Front	0.0468		
	Rear	0.0388		
	Bottom	0.0741		

Test condition 7: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 12cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0792	1.63	4.84%
	Left	0.0385		
	Right	0.0317		
	Front	0.0422		
	Rear	0.0353		
	Bottom	0.0614		

Test condition 8: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 14cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0733	1.63	4.5%
	Left	0.0351		
	Right	0.0302		
	Front	0.0384		
	Rear	0.0319		
	Bottom	0.0577		

Test condition 9: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 16cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0685	1.63	4.20%
	Left	0.0321		
	Right	0.0293		
	Front	0.0352		
	Rear	0.0284		
	Bottom	0.0486		

Test condition 10: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 18cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0657	1.63	4.03%
	Left	0.0315		
	Right	0.0237		
	Front	0.0334		
	Rear	0.0261		
	Bottom	0.0453		

Test condition 11: Mode 5 operating mode with client device (1 % battery status of client device)
- Test distance 20cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0594	1.63	3.64%
	Left	0.0304		
	Right	0.0216		
	Front	0.0317		
	Rear	0.0252		
	Bottom	0.0449		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----