

Test Report

Report No.: MTi240110001-06E2

Date of issue: 2024-03-26

Applicant: ALOGIC Corporation Pty Ltd.

Product: AXIE 10500mAh GLOBAL CHARGER & POWER BANK

Model(s): JUT10WH, JUT10XX (XX represents color)

FCC ID: 2ATCA-JUT10

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
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Test Result Certification	
Applicant:	ALOGIC Corporation Pty Ltd.
Address:	Level 40,140 William Street, Melbourne VIC, 3000 Australia
Manufacturer:	ALOGIC Corporation Pty Ltd.
Address:	Level 40,140 William Street, Melbourne VIC, 3000 Australia
Product description	
Product name:	AXIE 10500mAh GLOBAL CHARGER & POWER BANK
Trademark:	Journey, JRNY, JR-NY
Model name:	JUT10WH
Series Model:	JUT10XX (XX represents color)
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:	2024-02-20 to 2024-03-01
Test result:	Pass

Test Engineer	:	
		(Maleah Deng)
Reviewed By	:	
		(Leon Chen)
Approved By	:	
		(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	AXIE 10500mAh GLOBAL CHARGER & POWER BANK
Model name:	JUT10WH
Series Model:	JUT10XX (XX represents color)
Model difference:	All the models are the same circuit and module, except the model name and color.
Electrical rating:	Input: TYPE-C1: DC 5V3A, 9V3A, 12V2.92A, 15V/2.33A, 20V1.75, 35W max Output: TYPE-C1: DC 5V3A, 9V3A, 12V2.92A, 15V/2.33A, 20V1.75, 35W max TYPE-C2: DC 5V3A, 9V3A, 12V2.92A, 15V/2.33A, 20V1.75, 35W max Wireless Output: 15W max TYPE-C1+ TYPE-C2+WPT: 15W+15W, 30W max TYPE-C1+ TYPE-C2: 15Wmax TYPE-C1/ TYPE-C2+WPT: 20+15W, 35W max Input: 100Vac-240Vac 50Hz /60Hz, 0.8A max Output: TYPE-C1: DC 5V3A, 9V3A, 12V2.5A, 15V2A, 20V1.5A, 30W max TYPE-C2: DC 5V3A, 9V3A, 12V2.5A, 15V2A, 20V1.5A, 30W max TYPE-C1+TYPE-C2: 15W max Battery: DC 3.635V 10500mAh
Accessories:	N/A
Software version:	V1.0
Hardware version:	V1.0
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(USB-C1)+Wireless Output(5W)
Mode2	Charging(USB-C1)+Wireless Output(7.5W)
Mode3	Charging(USB-C1)+Wireless Output(10W)
Mode4	Charging(USB-C1)+Wireless Output(15W)
Mode5	Wireless Output(5W)
Mode6	Wireless Output(7.5W)
Mode7	Wireless Output(10W)

Mode8	Wireless Output(15W)
Mode9	Stand by(USB-C1)
Mode10	Stand by(AC IN)

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
HUAWEI QUICK CHARGE(65W)	HW-200200ZP1	JN67LSN7N03451	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

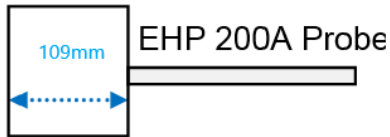
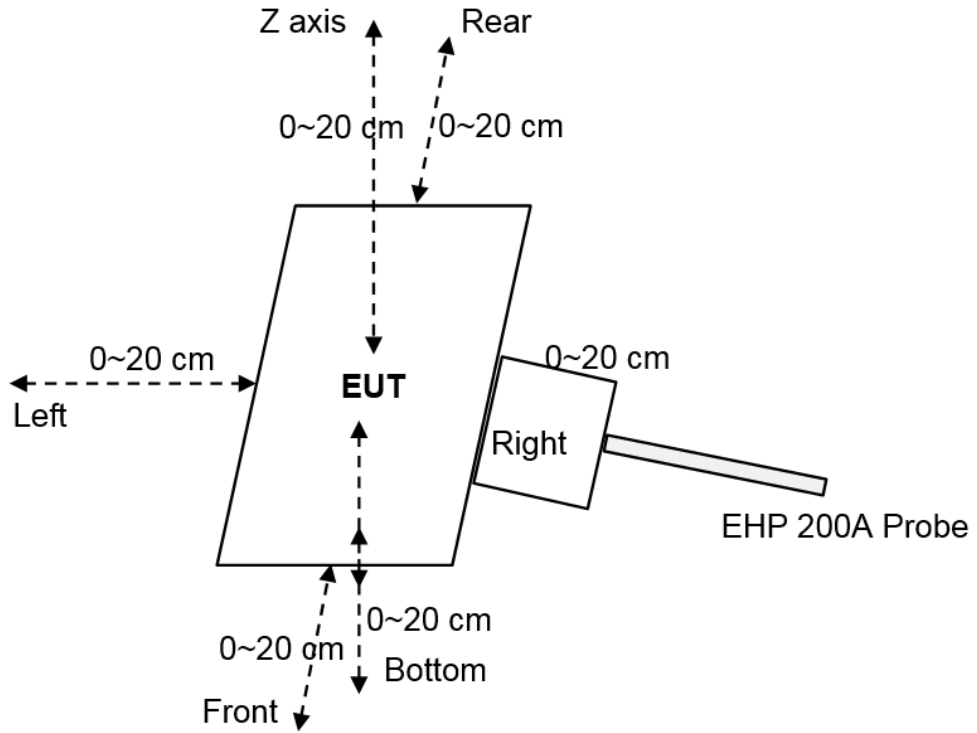
* = Plane-wave equivalent power density

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 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 Equipment Approval Considerations

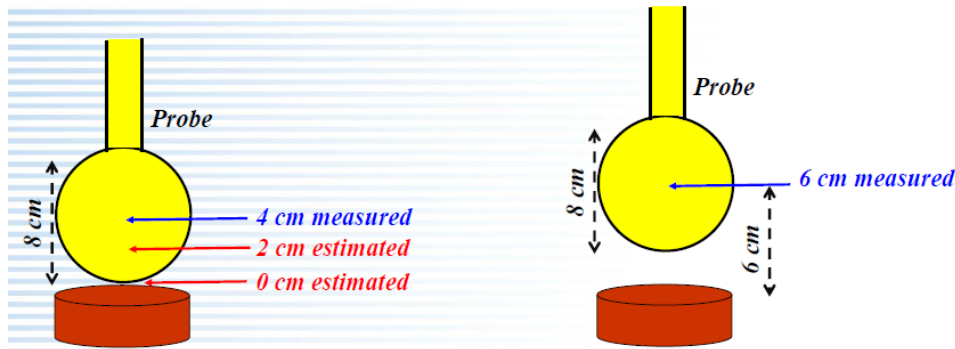
Requirement	Device
1. The power transfer frequency is below 1 MHz.	Yes. The operating frequencies: 115 kHz – 205 kHz
2. The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.	Yes. The maximum output power is: 15W
3. A client device providing the maximum permitted 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 client device is placed directly in 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 has portable exposure condition.
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. See the test result in item 5.5.
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. The EUT has a radiating structure and all scenarios have been tested.

5.5 Test results

5.6 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.



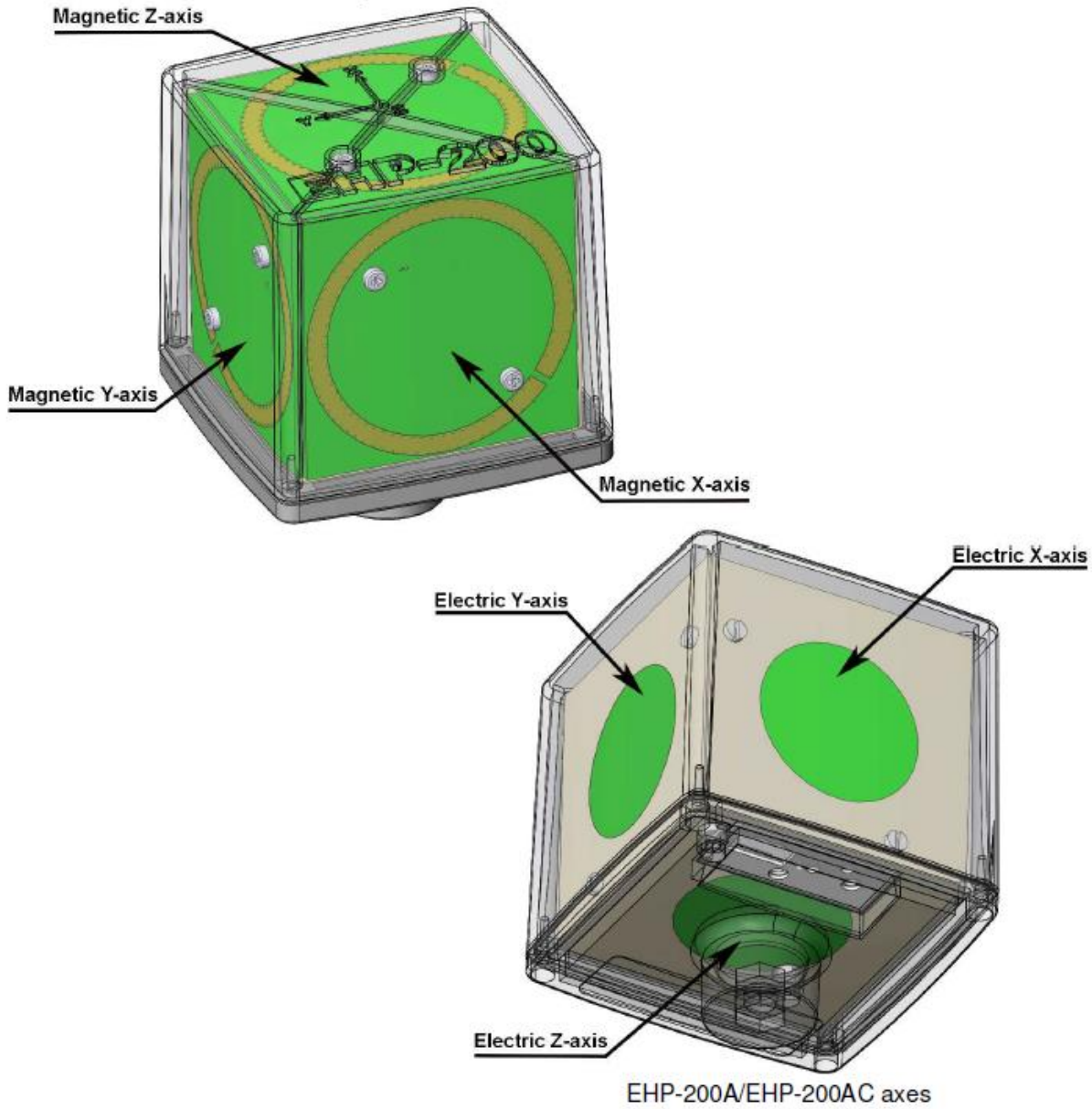
Example of probe measurements in points close to the device surface: estimates compared with measurements at 4 and 6 cm provide validation

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



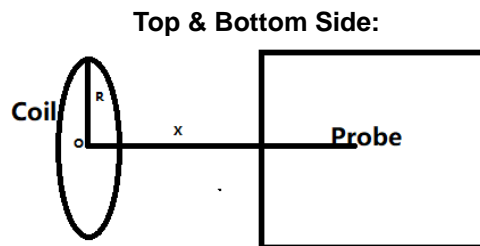
Note: EUT is a loop/coil emitting structure, so E-field not required. Just recorded the H-field value.



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

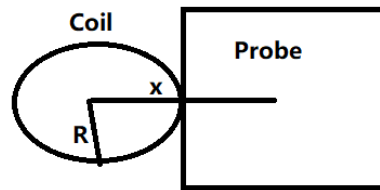
(5) Estimated method for portable RF Exposure condition:

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 $R=39/2=19.5\text{mm}=0.0195\text{m}$);

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	10.84	24.22	25.35	18.13	19.20	29.47	Compliance (Within 30%)
2cm(estimated)	0.4036	0.1731	0.1569	0.1414	0.137	0.3854	
2cm(measured)	0.3621	0.1357	0.1216	0.1179	0.113	0.2864	

Magnetic Field Emissions							
Test Distance(cm)	Top	Left	Right	Rear	Front	Bottom	Conclusion
	Unit: Agreement (%); H-field (A/m)						
Agreement -2cm	28.91	26.98	23.70	29.15	28.87	18.52	Compliance (Within 30%)
4cm(estimated)	0.1366	0.0673	0.059	0.0562	0.0543	0.1174	
4cm(measured)	0.1021	0.0513	0.0465	0.0419	0.0406	0.0975	

Test condition 1: Mode 8 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	1.0242	1.63	66.60%
	Left	1.0856		
	Right	0.9728		
	Front	0.9432		
	Rear	0.9040		
	Bottom	0.8101		

Test condition 2: Mode 8 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	0.3621	1.63	22.21%
	Left	0.1357		
	Right	0.1216		
	Front	0.1179		
	Rear	0.1130		
	Bottom	0.2864		

Test condition 3: Mode 8 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	0.1021	1.63	6.26%
	Left	0.0513		
	Right	0.0465		
	Front	0.0419		
	Rear	0.0406		
	Bottom	0.0975		

Test condition 4: Mode 8 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	0.0483	1.63	2.96%
	Left	0.0284		
	Right	0.0249		
	Front	0.0237		
	Rear	0.0229		
	Bottom	0.0415		

Test condition 5: Mode 8 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	0.0435	1.63	2.67%
	Left	0.0259		
	Right	0.0223		
	Front	0.0220		
	Rear	0.0210		
	Bottom	0.0379		

Test condition 6: Mode 8 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	0.0399	1.63	2.45%
	Left	0.0234		
	Right	0.0207		
	Front	0.0203		
	Rear	0.0206		
	Bottom	0.0355		

Test condition 7: Mode 8 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	0.0363	1.63	2.23%
	Left	0.0209		
	Right	0.0191		
	Front	0.0186		
	Rear	0.0202		
	Bottom	0.0331		

Test condition 8: Mode 8 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	0.0327	1.63	2.01%
	Left	0.0184		
	Right	0.0175		
	Front	0.0169		
	Rear	0.0198		
	Bottom	0.0307		

Test condition 9: Mode 8 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	0.0311	1.63	1.91%
	Left	0.0169		
	Right	0.0159		
	Front	0.0152		
	Rear	0.0191		
	Bottom	0.0293		

Test condition 10: Mode 8 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	0.0295	1.63	1.81%
	Left	0.0154		
	Right	0.0143		
	Front	0.0135		
	Rear	0.0184		
	Bottom	0.0279		

Test condition 11: Mode 8 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	0.0279	1.63	1.71%
	Left	0.0139		
	Right	0.0127		
	Front	0.0118		
	Rear	0.0177		
	Bottom	0.0265		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----