

Test Report

Report No.: MTi240821003-12E2

Date of issue: 2024-09-12

Applicant: Shenzhen Xiangdangwen Technology Co., Ltd.

Product: LISEN P601 Magnetic Wireless Charging Power Bank

Model(s): 2E422

FCC ID: 2AW73-2E422

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.cn>

Instructions

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2. The test results in this test report are only responsible for the samples submitted
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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:	Shenzhen Xiangdangwen Technology Co., Ltd.
Address:	106, 1/F, No.313-4 Building, Huachang Road, Langkou Community, Dalang Street, Longhua District, Shenzhen, China
Manufacturer:	Huizhou Yimai Electronics Technology Co., Ltd.
Address:	3rd Floor, Building B, Huakai High-tech Industrial Park, Electronic City Road, Longxi Street, Boluo Country
Product description	
Product name:	LISEN P601 Magnetic Wireless Charging Power Bank
Trademark:	LISEN, AINOPE, VEICO
Model name:	2E422
Series Model:	N/A
Standards:	47 CFR PART 1, § 1.1310
Test method:	KDB 680106 D01 Wireless Power Transfer v04
Date of Test	
Date of test:	2024-08-28 to 2024-09-09
Test result:	Pass

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

1 General Description

1.1 Description of the EUT

Product name:	LISEN P601 Magnetic Wireless Charging Power Bank
Model name:	2E422
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: DC 5V/3A, 9V/2A Wireless Output: 5W/7.5W/10W/15W USB-C output: DC 5V/2A, 9V/2A, 10V/2.25A Battery: DC 3.87V 10000mAh 38.7Wh
Accessories:	Cable: USB-C to USB-C cable (0.5m)*1
Hardware version:	ABN-162
Software version:	GPM8FD3331B-V1.0
Test sample(s) number:	MTi240821003-12S1001
RF specification:	
Operation frequency:	Coil(5W,10W,15W):115-205kHz Coil(7.5W):360kHz
Modulation type:	ASK
Antenna type:	Coil

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
Mobile phone	iPhone 15	KXPWNQFK90	Apple
Adapter	65W	/	HUAWEI
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurements(3kHz~10MHz)	$\pm 14.8\%$
Electric field measurements(3kHz~10MHz)	$\pm 17.5\%$

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-E143	Near-field Electric and Magnetic Field Sensor System	SPEAG	MAGPy-8H3D+ED3	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.4	2.4.1	/	/

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

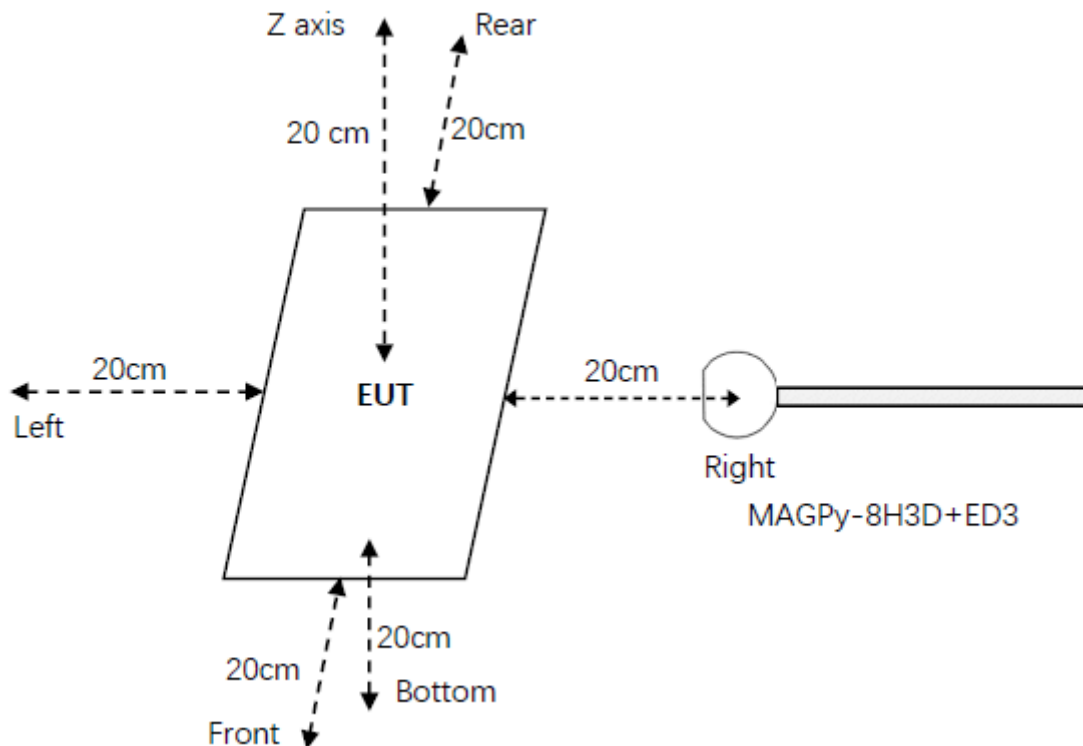
f = frequency in MHz

* = 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



5.3 Test Procedures

- The RF exposure test was performed in anechoic chamber.
- E and H-field measurements should be made with these devices considered to meet the § 2.1091-Mobile conditions ("generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and [the nearest person]").
- The highest emission level was recorded and compared with limit.
- The EUT was measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.

5.4 Information of test equipment

Test equipment: MAGPy-8H3D+ED3	
Diameter	60mm
8 isotropic H-field sensors	Concentric loops of 1cm ² arranged at the corner of a cube of 22mm side length
1 isotropic E-field sensor	Orthogonal dipole/monopole (arm length: 50mm)
Measurement center	18.5mm from the probe tip
Dimensions	110*635*35mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)
	
Test probe, without the casing	

5.5 Test results

Distance: 0cm

Test condition 1: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	143	614	27.52%	1.01	1.63	61.96%
Left	169			0.65		
Right	49.4			0.62		
Front	54.6			0.49		
Rear	27			0.87		
bottom	36.9			0.87		

Test condition 2: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	142.95	614	26.36%	1.00	1.63	61.55%
Left	168.99			0.65		
Right	49.39			0.62		
Front	54.61			0.50		
Rear	27.01			0.87		
Bottom	36.89			0.87		

Test condition 3: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	143.00	614	26.36%	1.01	1.63	61.82%
Left	168.99			0.65		
Right	49.39			0.62		
Front	54.60			0.49		
Rear	26.99			0.86		
bottom	36.90			0.86		

Distance: 2cm

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

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	27.1	614	4.41%	0.4	1.63	26.38%
Left	5.18			0.43		
Right	3.25			0.35		
Front	4			0.26		
Rear	5.43			0.26		
bottom	7.26			0.13		

Test condition 5: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	27.08	614	4.23%	0.39	1.63	25.79%
Left	5.17			0.42		
Right	3.26			0.35		
Front	4.00			0.27		
Rear	5.42			0.26		
Bottom	7.25			0.13		

Test condition 6: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	27.09	614	4.23 %	0.40	1.63	26.23%
Left	5.18			0.43		
Right	3.23			0.35		
Front	3.99			0.25		
Rear	5.41			0.25		
bottom	7.25			0.12		

Distance: 4cm

Test condition 7: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	16.4	614	2.67%	0.35	1.63	21.47%
Left	4.67			0.32		
Right	3.11			0.28		
Front	3.67			0.24		
Rear	4.23			0.21		
bottom	6.78			0.09		

Test condition 8: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	16.38	614	2.56%	0.35	1.63	21.18%
Left	4.67			0.32		
Right	3.12			0.27		
Front	3.67			0.24		
Rear	4.23			0.20		
Bottom	6.79			0.10		

Test condition 9: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	16.39	614	2.56 %	0.34	1.63	20.94%
Left	4.67			0.31		
Right	3.11			0.28		
Front	3.65			0.23		
Rear	4.23			0.20		
bottom	6.76			0.09		

Distance: 6cm

Test condition 10: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	14.2	614	2.31%	0.25	1.63	15.95%
Left	3.45			0.26		
Right	2.67			0.22		
Front	2.84			0.18		
Rear	3.24			0.16		
bottom	5.36			0.05		

Test condition 11: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	14.17	614	2.21%	0.25	1.63	16.18%
Left	3.45			0.26		
Right	2.69			0.22		
Front	2.84			0.18		
Rear	3.23			0.17		
Bottom	5.36			0.05		

Test condition 12: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	14.19	614	2.21%	0.24	1.63	15.49%
Left	3.43			0.25		
Right	2.67			0.21		
Front	2.83			0.17		
Rear	3.23			0.15		
bottom	5.36			0.05		

Distance: 8cm

Test condition 13: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	8.56	614	1.39%	0.16	1.63	10.43%
Left	2.56			0.17		
Right	1.84			0.13		
Front	1.56			0.11		
Rear	2.67			0.09		
bottom	4.34			0.03		

Test condition 14: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	8.53	614	1.33%	0.15	1.63	10.23%
Left	2.57			0.17		
Right	1.83			0.14		
Front	1.56			0.10		
Rear	2.69			0.10		
Bottom	4.35			0.03		

Test condition 15: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	8.54	614	1.33 %	0.16	1.63	10.02%
Left	2.55			0.16		
Right	1.83			0.13		
Front	1.55			0.11		
Rear	2.65			0.08		
bottom	4.33			0.02		

Distance: 10cm
Test condition 16: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	5.45	614	0.89%	0.11	1.63	6.75%
Left	1.56			0.09		
Right	1.12			0.06		
Front	1.09			0.04		
Rear	1.43			0.03		
bottom	3.23			0.005		

Test condition 17: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	5.44	614	0.85%	0.11	1.63	6.99%
Left	1.56			0.09		
Right	1.12			0.07		
Front	1.07			0.04		
Rear	1.42			0.02		
Bottom	3.23			0.01		

Test condition 18: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	5.43	614	0.85 %	0.10	1.63	6.26%
Left	1.56			0.09		
Right	1.12			0.05		
Front	1.07			0.03		
Rear	1.42			0.03		
bottom	3.23			0.00		

Distance: 0cm

Test condition 19: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	115	614	21.50%	1.56	1.63	95.71%
Left	83			0.67		
Right	108			1.51		
Front	50.7			0.55		
Rear	122			1.22		
bottom	132			0.99		

Test condition 20: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	114.96	614	20.59%	1.56	1.63	95.94%
Left	83.01			0.67		
Right	108.01			1.52		
Front	50.70			0.55		
Rear	122.02			1.22		
Bottom	131.99			1.00		

Test condition 21: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	114.99	614	20.59%	1.55	1.63	95.27%
Left	82.99			0.67		
Right	107.99			1.51		
Front	50.68			0.54		
Rear	121.99			1.21		
bottom	131.99			0.99		

Distance: 2cm

Test condition 22: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	25	614	4.63%	1.03	1.63	77.30%
Left	28.4			0.24		
Right	6.5			1.26		
Front	6.46			1.23		
Rear	15			0.65		
bottom	24.2			0.42		

Test condition 23: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	24.97	614	4.43%	1.03	1.63	76.91%
Left	28.40			0.23		
Right	6.52			1.25		
Front	6.48			1.24		
Rear	15.02			0.66		
Bottom	24.21			0.42		

Test condition 24: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	24.99	614	4.43 %	1.03	1.63	76.74%
Left	28.39			0.23		
Right	6.49			1.25		
Front	6.44			1.22		
Rear	14.99			0.65		
bottom	24.18			0.42		

Distance: 4cm
Test condition 25: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	11.49	614	3.14%	0.34	1.63	56.44%
Left	8.02			0.92		
Right	2.82			0.31		
Front	7.28			0.65		
Rear	5.78			0.24		
bottom	19.3			0.18		

Test condition 26: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	11.44	614	3.01%	0.35	1.63	56.59%
Left	8.01			0.92		
Right	2.83			0.32		
Front	7.29			0.66		
Rear	5.78			0.24		
Bottom	19.30			0.18		

Test condition 27: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	11.47	614	3.01 %	0.34	1.63	55.94%
Left	8.01			0.91		
Right	2.81			0.30		
Front	7.26			0.64		
Rear	5.78			0.23		
bottom	19.28			0.17		

Distance: 6cm

Test condition 28: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	8.67	614	1.41%	0.32	1.63	19.63%
Left	2.4			0.15		
Right	2.24			0.15		
Front	3.58			0.15		
Rear	4			0.15		
bottom	5.58			0.04		

Test condition 29: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	8.65	614	1.35%	0.31	1.63	19.26%
Left	2.38			0.15		
Right	2.24			0.15		
Front	3.59			0.15		
Rear	3.99			0.15		
Bottom	5.59			0.03		

Test condition 30: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	8.66	614	1.35 %	0.32	1.63	19.63%
Left	2.38			0.14		
Right	2.23			0.15		
Front	3.57			0.15		
Rear	4.00			0.14		
bottom	5.57			0.04		

Distance: 8cm

Test condition 31: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	6.45	614	1.05%	0.26	1.63	15.95%
Left	2.46			0.11		
Right	1.68			0.13		
Front	2.57			0.11		
Rear	3.24			0.09		
bottom	4.36			0.01		

Test condition 32: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	6.43	614	1.00%	0.27	1.63	16.43%
Left	2.46			0.12		
Right	1.70			0.12		
Front	2.56			0.10		
Rear	3.23			0.09		
Bottom	4.36			0.00		

Test condition 33: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	6.43	614	1.00 %	0.26	1.63	15.68%
Left	2.45			0.10		
Right	1.68			0.13		
Front	2.56			0.11		
Rear	3.23			0.08		
bottom	4.35			0.00		

Distance: 10cm
Test condition 34: Mode 5 operating mode with client device (1 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	5.34	614	0.87%	0.15	1.63	9.20%
Left	1.45			0.09		
Right	1.23			0.08		
Front	1.58			0.07		
Rear	2.62			0.05		
bottom	3.42			0.006		

Test condition 35: Mode 5 operating mode with client device (50 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	5.31	614	0.83%	0.15	1.63	8.93%
Left	1.45			0.09		
Right	1.24			0.07		
Front	1.59			0.07		
Rear	2.62			0.04		
Bottom	3.43			0.01		

Test condition 36: Mode 5 operating mode with client device (99 % battery status of client device)

Probe Position	E -field (V/m)			H-field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	5.34	614	0.83 %	0.15	1.63	8.92%
Left	1.45			0.09		
Right	1.21			0.08		
Front	1.57			0.07		
Rear	2.61			0.05		
bottom	3.40			0.00		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----