

CYGNETT PTY LTD

TEST REPORT

SCOPE OF WORK

SAR Assessment– CY4432PBCHE

REPORT NUMBER

220415036SZN-002

ISSUE DATE

31 October 2022

[REVISED DATE]

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PAGES

13

DOCUMENT CONTROL NUMBER

RF Exposure

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Test Report

Applicant : CYGNETT PTY LTD
Level 1, 858 Lorimer Street, Port Melbourne VIC 3207 Australia

Sample Description :
Product : ChargeUp Swift 10K Gen2
Model No. : CY4432PBCHE
Electrical Rating : Capacity: 10000mAh/37Wh; Wireless Output: 10.0W,
7.5W, 5.0W
USB-C Output: 5.0V-3.0A(15.0W), 9.0V-2.22A(20.0W), 12.0 V-
1.5A(18.0W)
USB-A Output1: 5.0V-3.0A(15.0W), 9.0V-2.0A(18.0W), 12.0V-
1.5A(18.0W)
USB-A Output2: 5.0V-3.0A(15.0W), 9.0V-2.0A(18.0W), 12.0V-
1.5A(18.0W)
USB-C Input: 5.0V-3.0A(15.0W), 9.0V-2.0A(18.0W), 12.0V-
1.5A(18.0W)
Micro-USB Input: 5.0V-2.0A(10.0W), 9.0V-2.0A(18.0W), 12.0V-
1.5A(18.0W)
Total Output: 15.0W Max

Date Received : 11 October 2022
Date Test Conducted : 11 October 2022 to 24 October 2022

Test Requested : Test for compliance with CFR 47 part 1
Test Method : Environmental evaluation and exposure limit according to FCC CFR
47 part 1, 1.1307(c) and (d), 1.1310
KDB 680106 D01 RF Exposure Wireless Charging App v03r01

Test Result : Pass
Conclusion : When determining of test conclusion, measurement uncertainty of
tests have been considered.

***** End of Page *****

Prepared and Checked By:

Approved By:

Karot Huang
Assistant Engineer

Peter Kang
Senior Technical Supervisor
Date: 31 October 2022

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Intertek Testing Services Shenzhen Ltd. Longhua Branch

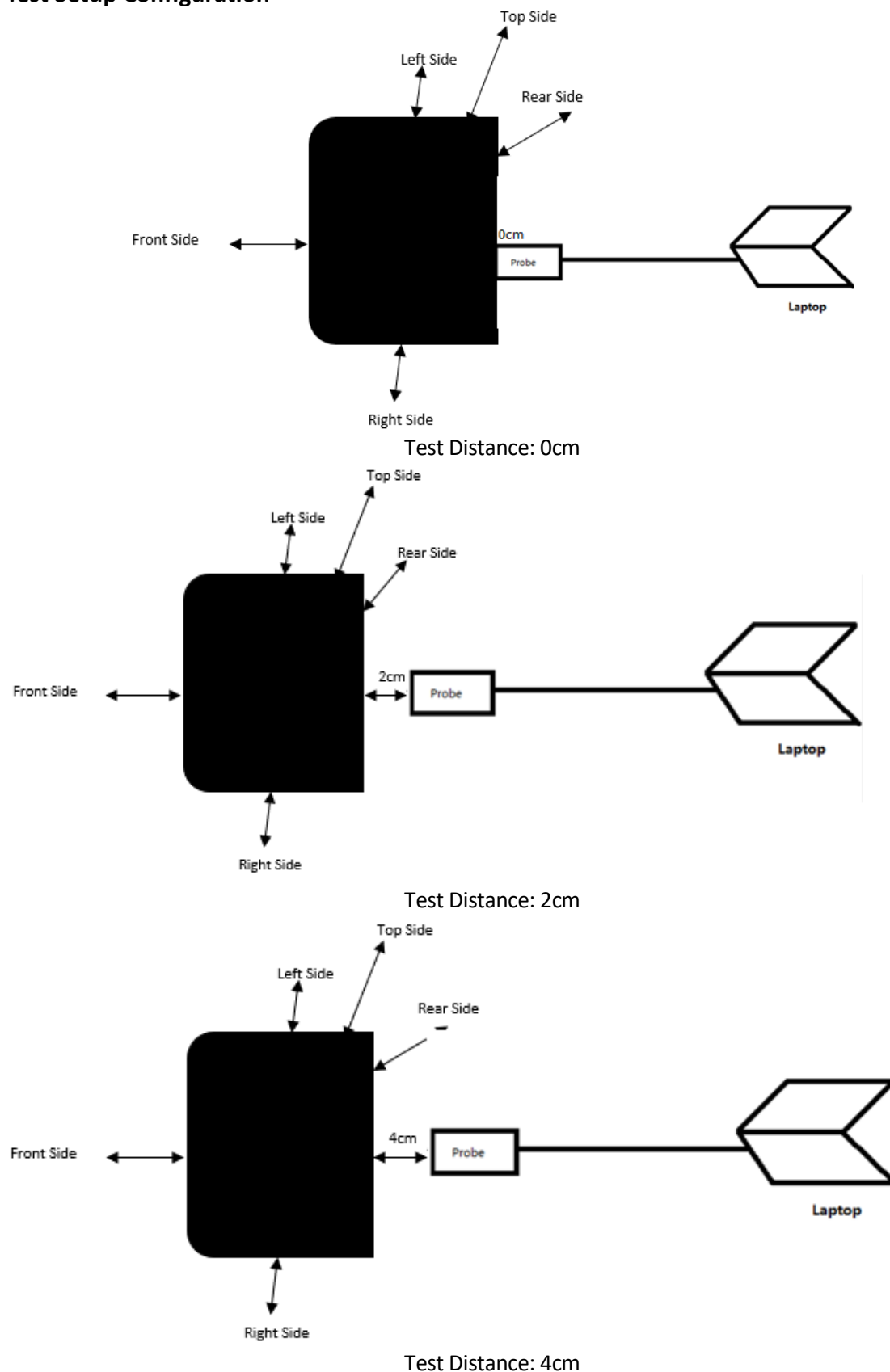
101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, ShenZhen.

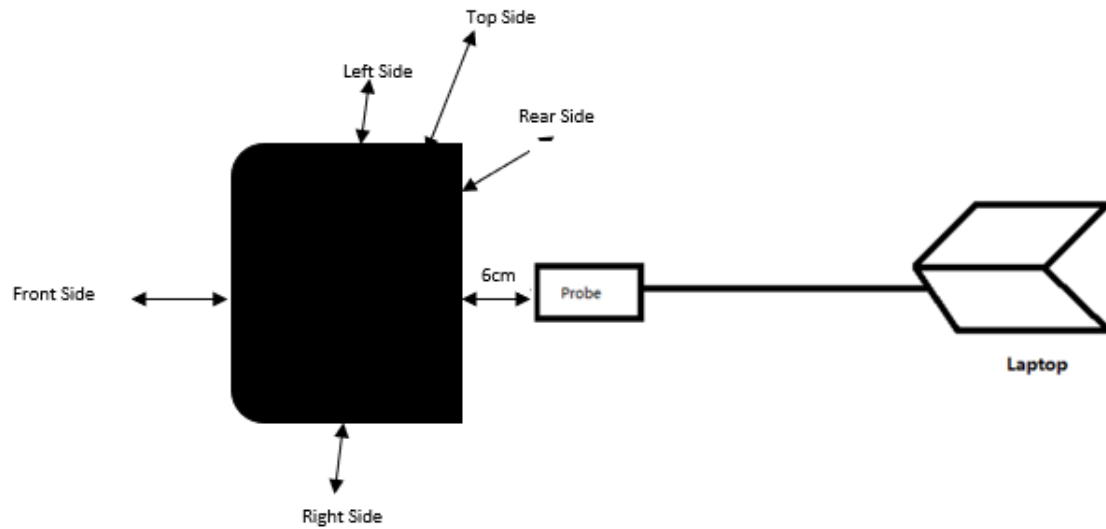
Tel: (86 755) 8601 6288

Fax: (86 755) 8601 6751

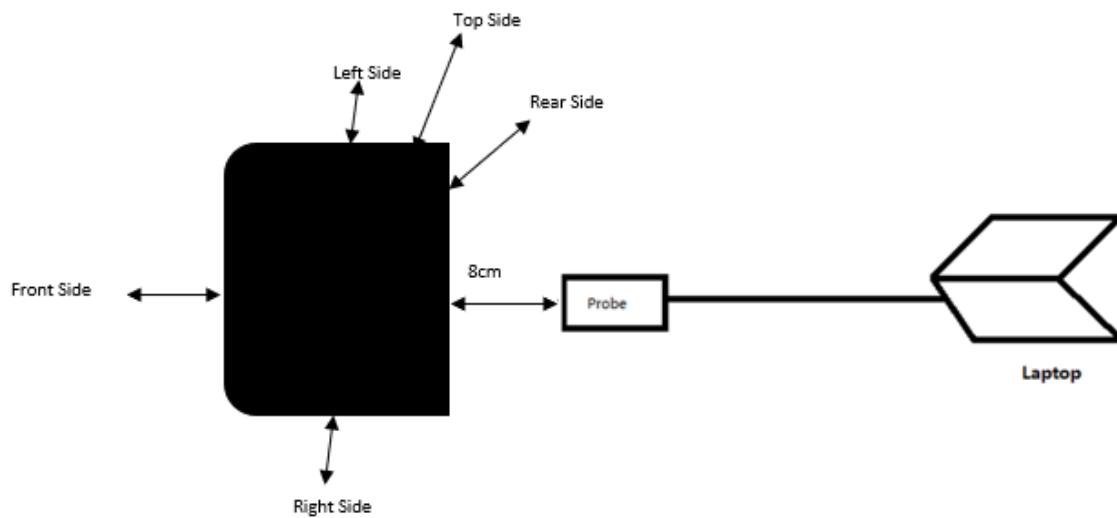
Test Report

Test Setup Configuration

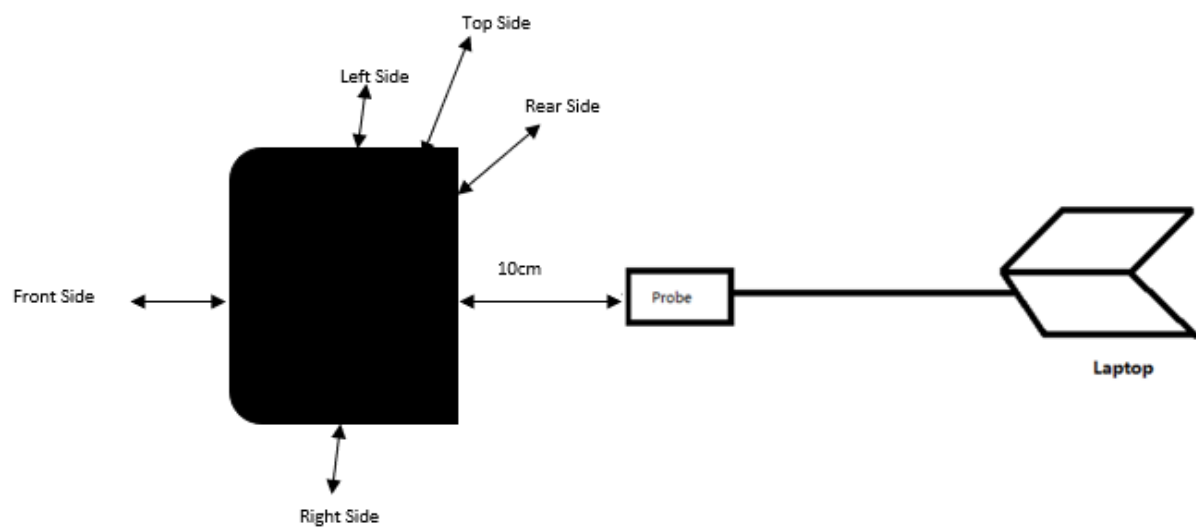




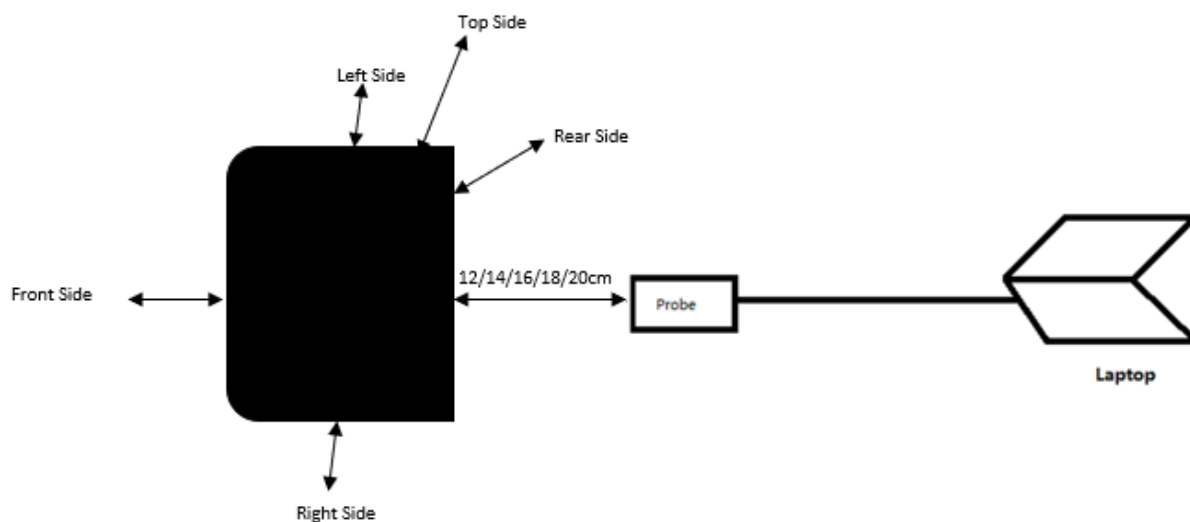
Test Distance: 6cm



Test Distance: 8cm



Test Distance: 10cm



Test Distance: 12, 14cm, 16cm, 18, 20cm

Note

- The RF exposure test is performed in the shield room.
- The test distance is between the edge of the charger and the geometric centre of probe.

Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ186-04	Electric and Magnetic Field Analyzer	Narda	EHP-50F	510WY90119	2022-08-01	2023-08-01

This product was tested in the following configuration:

Description	Manufacturer	Detail
ZMI USB-C Power Adapter	Nanjing Cuk Electronics Technology Co., Ltd. (Provided by Client)	Model: TY0500200A1mn Input: 100-240Vac 50/60Hz 0.4A Output: 5Vdc 3A, 9Vdc 3A, 12Vdc 3A, 15Vdc 3A, 20Vdc 3.25A
Adjustable Load	NIL (Provided by Client)	/

Justification

Pertest mode	Description
Mode 1	Standby mode
Mode 2	Mobile phone is charging at 1% battery power
Mode 3	Mobile phone is charging at 50% battery power
Mode 4	Mobile phone is charging at 99% battery power

The EUT was powered by an adapter with DC 5/9/12V input during the test. The test system was pre-scanning tested based on the consideration of following EUT operation mode. All cases (5W, 7.5W, 10W) have been tested, only the worst-case data was shown in this report.

Reference Limit:

Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(c) and (d), 1.1310

According to FCC 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.

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 1.34	614	1.63	(100) *	30

Note: * = Plane wave equivalent power density

Test Result:

During test, the mobile handset is being charged.

Worst Case Operating Mode: Mode 2

Test Result for wireless power transmit part:

H-Field Strength at 0 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	1.3897	1.3945	0.9862	0.9844	1.2293	1.63
0.112-0.205	50% Battery Level	1.3924	1.3952	0.9925	0.9916	1.2464	1.63
0.112-0.205	99% Battery Level	1.3884	1.3931	0.9742	0.9862	1.2311	1.63
0.112-0.205	Stand-by	1.3772	1.3731	0.8874	0.9724	1.1073	1.63

E-Field Strength at 0 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.9723	0.9685	0.8724	0.8513	0.9421	614
0.112-0.205	50% Battery Level	0.9815	0.9691	0.8848	0.8449	0.9532	614
0.112-0.205	99% Battery Level	0.9744	0.9532	0.8761	0.8472	0.9412	614
0.112-0.205	Stand-by	0.6957	0.7029	0.8327	0.7792	0.7942	614

H-Field Strength at 2 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	1.2942	1.3044	1.0266	1.1847	1.2837	1.63
0.112-0.205	50% Battery Level	1.3122	1.3091	0.9972	1.2059	1.2810	1.63
0.112-0.205	99% Battery Level	1.2883	1.2919	0.9849	1.0893	1.2784	1.63
0.112-0.205	Stand-by	0.9583	1.0322	0.8753	0.8935	1.1271	1.63

E-Field Strength at 2 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.8923	0.9023	0.8724	0.8802	0.8420	614
0.112-0.205	50% Battery Level	0.9021	0.8621	0.8848	0.8792	0.8401	614
0.112-0.205	99% Battery Level	0.8922	0.9002	0.8761	0.8821	0.8191	614
0.112-0.205	Stand-by	0.7232	0.8211	0.8327	0.7212	0.8036	614

H-Field Strength at 4 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	1.1021	1.1294	1.0211	1.0411	1.1034	1.63
0.112-0.205	50% Battery Level	1.0902	1.1021	1.1084	1.0324	1.1904	1.63
0.112-0.205	99% Battery Level	1.1011	1.0142	1.1032	1.1321	1.0942	1.63
0.112-0.205	Stand-by	0.9231	0.8921	0.9825	1.0232	1.0232	1.63

E-Field Strength at 4 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.7221	0.7242	0.7421	0.7521	0.7021	614
0.112-0.205	50% Battery Level	0.7892	0.7341	0.7214	0.7592	0.6925	614
0.112-0.205	99% Battery Level	0.6920	0.7721	0.7591	0.7412	0.6812	614
0.112-0.205	Stand-by	0.6721	0.7012	0.6214	0.7113	0.6052	614

H-Field Strength at 6 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.8823	0.8239	0.8421	0.8305	0.8502	1.63
0.112-0.205	50% Battery Level	0.9823	0.8214	0.8490	0.8429	0.8642	1.63
0.112-0.205	99% Battery Level	0.8812	0.8142	0.8301	0.8322	0.8293	1.63
0.112-0.205	Stand-by	0.7842	0.7824	0.7921	0.7215	0.7905	1.63

E-Field Strength at 6 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4256	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.4547	0.7764	0.4775	0.4816	0.4391	614

H-Field Strength at 8 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.6823	0.6942	0.7021	0.7105	0.6902	1.63
0.112-0.205	50% Battery Level	0.6924	0.6852	0.7152	0.7217	0.7044	1.63
0.112-0.205	99% Battery Level	0.6851	0.6921	0.7052	0.7041	0.6922	1.63
0.112-0.205	Stand-by	0.5925	0.5924	0.6925	0.6852	0.5752	1.63

E-Field Strength at 8 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4256	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.4547	0.7764	0.4775	0.4816	0.4391	614

H-Field Strength at 10 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.4921	0.5245	0.5148	0.4256	0.4658	1.63
0.112-0.205	50% Battery Level	0.5052	0.5406	0.5327	0.4752	0.4925	1.63
0.112-0.205	99% Battery Level	0.5102	0.5123	0.5216	0.4105	0.4256	1.63
0.112-0.205	Stand-by	0.4055	0.3985	0.4725	0.3952	0.3526	1.63

E-Field Strength at 10 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4234	0.3683	0.4480	0.4214	0.4244	614
0.112-0.205	50% Battery Level	0.4356	0.4275	0.4602	0.4025	0.4436	614
0.112-0.205	99% Battery Level	0.4632	0.4024	0.4602	0.4951	0.4436	614
0.112-0.205	Stand-by	0.4367	0.3951	0.4775	0.3095	0.4391	614

H-Field Strength at 12 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.2194	0.2513	0.2425	0.2315	0.1924	1.63
0.112-0.205	50% Battery Level	0.2491	0.2512	0.2695	0.2490	0.2042	1.63
0.112-0.205	99% Battery Level	0.2932	0.2145	0.2145	0.2214	0.1854	1.63
0.112-0.205	Stand-by	0.1924	0.1952	0.1528	0.1325	0.1024	1.63

E-Field Strength at 12 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4224	0.5239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4457	0.5772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.3957	0.4772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.3547	0.3764	0.4775	0.4816	0.4391	614

H-Field Strength at 14 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.1223	0.1491	0.1246	0.1456	0.1364	1.63
0.112-0.205	50% Battery Level	0.1823	0.1521	0.1325	0.1424	0.1364	1.63
0.112-0.205	99% Battery Level	0.1022	0.1237	0.1424	0.1142	0.1362	1.63
0.112-0.205	Stand-by	0.0822	0.0927	0.0752	0.0952	0.1362	1.63

E-Field Strength at 14 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.2256	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.3357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.3317	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.2132	0.7764	0.4775	0.4816	0.4391	614

H-Field Strength at 16 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.0823	0.0924	0.0777	0.0636	0.0764	1.63
0.112-0.205	50% Battery Level	0.0823	0.0991	0.0803	0.0636	0.0864	1.63
0.112-0.205	99% Battery Level	0.0822	0.0827	0.0773	0.0646	0.0762	1.63
0.112-0.205	Stand-by	0.0822	0.0527	0.0773	0.0646	0.0462	1.63

E-Field Strength at 16 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4223	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4325	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.4241	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.4547	0.7764	0.4775	0.4816	0.4391	614

H-Field Strength at 18 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.0622	0.0491	0.0777	0.0336	0.0864	1.63
0.112-0.205	50% Battery Level	0.0725	0.0491	0.0777	0.0336	0.1064	1.63
0.112-0.205	99% Battery Level	0.0525	0.0527	0.0773	0.0346	0.0662	1.63
0.112-0.205	Stand-by	0.0234	0.0527	0.0773	0.0346	0.0162	1.63

E-Field Strength at 18 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4256	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.4547	0.7764	0.4775	0.4816	0.4391	614

H-Field Strength at 20 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits (A/m)
0.112-0.205	1% Battery Level	0.0823	0.0491	0.0777	0.0336	0.1364	1.63
0.112-0.205	50% Battery Level	0.0823	0.0491	0.0777	0.0336	0.1364	1.63
0.112-0.205	99% Battery Level	0.0822	0.0527	0.0773	0.0346	0.1362	1.63
0.112-0.205	Stand-by	0.0822	0.0527	0.0773	0.0346	0.1362	1.63

E-Field Strength at 20 cm surrounding the EUT

Frequency Range (MHz)	EUT Operation mode	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits (V/m)
0.112-0.205	1% Battery Level	0.4256	0.6239	0.4480	0.4865	0.4244	614
0.112-0.205	50% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	99% Battery Level	0.4357	0.7772	0.4602	0.5100	0.4436	614
0.112-0.205	Stand-by	0.4547	0.7764	0.4775	0.4816	0.4391	614

***** End of Report*****