

RF Exposure Report

Report No.: SA180627C20

Test Model: Ilium Alpha 9-W

Received Date: Jun. 27, 2018

Test Date: Jul. 03, 2018

Issued Date: Jul. 12, 2018

Applicant: Corporativo Lanix S.A. de C.V.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

FCC Registration / Designation Number: 788550 / TW0003



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Release Control Record

| Issue No. | Description | Date Issued |
|-------------|------------------|---------------|
| SA180627C20 | Original release | Jul. 12, 2018 |

1 Certificate of Conformity

Product: Wireless Charger

Brand: Lanix

Test Model: Ilium Alpha 9-W

Sample Status: Production Unit

Applicant: Corporativo Lanix S.A. de C.V.


Test Date: Jul. 03, 2018


Standards: FCC Part 1 (Section 1.1307(b), 1.1310)

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IEEE C95.1_2005

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** Jul. 12, 2018
Gina Liu / Specialist

Approved by : , **Date:** Jul. 12, 2018
Dylan Chiou / Project Engineer

2 General Information

2.1 General Description of EUT

| | |
|---------------------|---|
| Product | Wireless Charger |
| Brand | Lanix |
| Test Model | Ilium Alpha 9-W |
| Sample Status | Production Unit |
| Power Supply Rating | 9.0 Vdc (adapter) 5.0 Vdc (host equipment) |
| Modulation Type | ASK |
| Operating Frequency | 111~148 kHz |
| Antenna Type | Coil antenna |
| Accessory Device | N/A |
| Data Cable Supplied | N/A |

Note:

1. The EUT has WPC (Wireless Power Consortium) technology.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or User's Manual.

3 RF Exposure

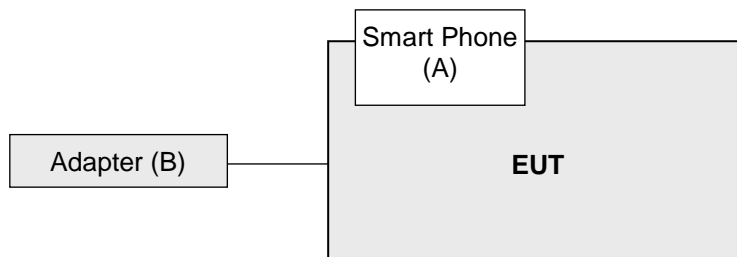
3.1 Description of Support Units

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.

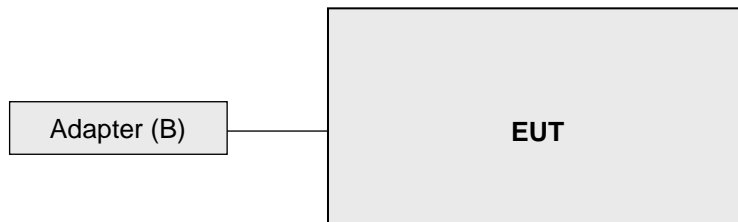
| ID | Product | Brand | Model No. | Serial No. | FCC ID | Remarks |
|----|-------------|-------|-----------------|------------|--------|--------------------|
| A. | Smart Phone | NA | NA | NA | NA | - |
| B. | Adapter | Lanix | Ilium Alpha 9-C | NA | NA | Provided by client |

3.1.1 Configuration of System Under Test

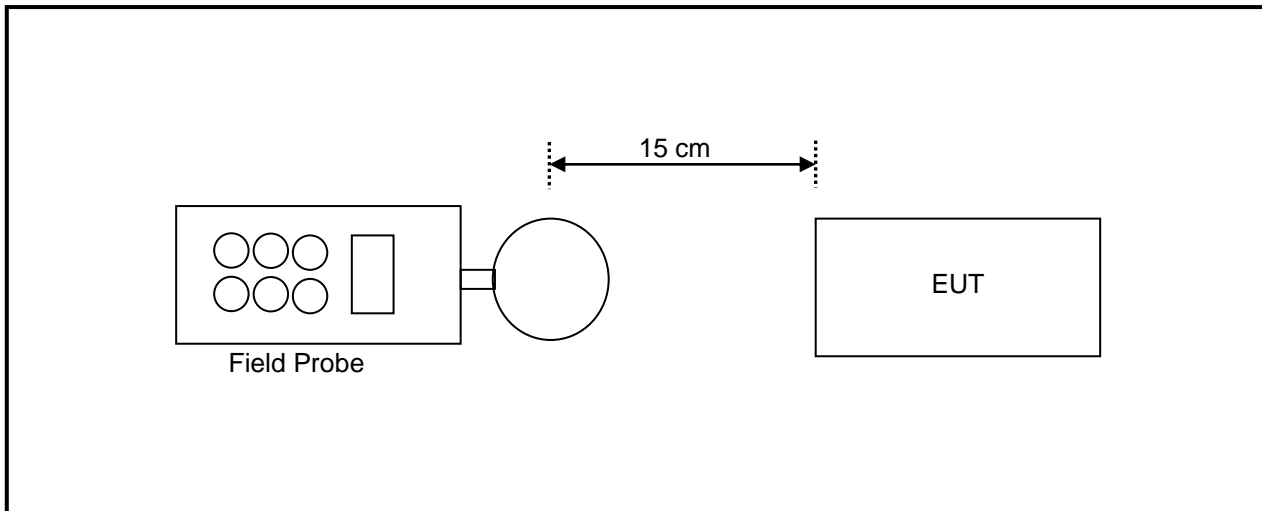
Charging Mode with phone



Standby Mode



3.2 Test Setup



Note: Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

3.3 Test Instruments

| Description | Brand | Model No. | Frequency Range | Calibrated Date | Calibrated Until |
|-----------------------|-------|------------|-----------------|-----------------|------------------|
| Broadband Field Meter | NARDA | NBM-550 | - | Mar. 28, 2018 | Mar. 27, 2020 |
| Magnetic Field Meter | NARDA | ELT-400 | 1 – 400kHz | Apr. 12, 2018 | Apr. 11, 2020 |
| Magnetic Probe | NARDA | HF 3061 | 300kHz – 30MHz | Apr. 16, 2018 | Apr. 15, 2020 |
| Magnetic Probe | NARDA | HF-0191 | 27 – 1000MHz | Apr. 17, 2018 | Apr. 16, 2020 |
| Broadband Field Meter | NARDA | NBM-550 | - | Mar. 28, 2018 | Mar. 27, 2020 |
| Magnetic Field Probe | NARDA | 2300/90.10 | 1Hz – 400kHz | Apr. 12, 2018 | Apr. 11, 2020 |
| E-Field Probe | NARDA | EF 0391 | 100kHz – 3GHz | Apr. 16, 2018 | Apr. 15, 2020 |
| E-Field Probe | NARDA | EF6091 | 100MHz – 60GHz | Apr. 17, 2018 | Apr. 16, 2020 |

Note: 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa RF Chamber

3.4 Limits for Maximum Permissible Exposure (MPE)

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 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) |
|--|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 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 |
| 1500–100,000 | | | 5 | 6 |
| (B) 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 |
| 1500–100,000 | | | 1.0 | 30 |

f = frequency in MHz

* = Plane-wave equivalent power density

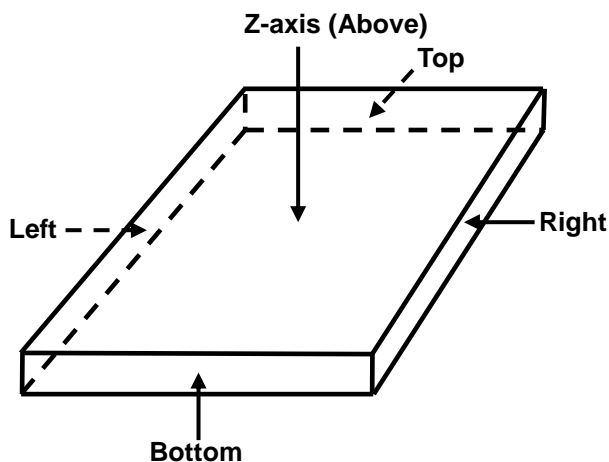
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

3.5 Test Point Description



4 Calculation Result Of Maximum Conducted Power

For single frequency:

Charging Mode with phone, battery 10% Charge

| E-Field Measurement (15cm) | | | | | E-Field (20cm) |
|----------------------------|---------|---------|---------|---------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max E-field (V/m) | 0.88 | 0.98 | 1.02 | 0.92 | 0.97 |
| Limit (V/m) | 614 | 614 | 614 | 614 | 614 |
| Margin (V/m) | -613.12 | -613.02 | -612.98 | -613.08 | -613.03 |
| 50 % Limit (V/m) | 307 | 307 | 307 | 307 | 307 |
| 50 % Margin (V/m) | -306.56 | -306.51 | -306.49 | -306.54 | -306.515 |

Charging Mode with phone, battery 10% Charge

| H-Field Measurement (15cm) | | | | | H-Field (20cm) |
|----------------------------|---------|---------|---------|---------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max H-field (uT) | 0.118 | 0.121 | 0.109 | 0.124 | 0.113 |
| Max H-field (A/m) | 0.0944 | 0.0968 | 0.0872 | 0.0992 | 0.0904 |
| Limit (A/m) | 1.63 | 1.63 | 1.63 | 1.63 | 1.63 |
| Margin (A/m) | -1.5356 | -1.5332 | -1.5428 | -1.5308 | -1.5396 |
| 50 % Limit (A/m) | 0.815 | 0.815 | 0.815 | 0.815 | 0.815 |
| 50 % Margin (A/m) | -0.7678 | -0.7666 | -0.7714 | -0.7654 | -0.7698 |

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode with phone, battery 50% Charge

| E-Field Measurement (15cm) | | | | | E-Field (20cm) |
|----------------------------|---------|---------|---------|--------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max E-field (V/m) | 0.96 | 1.12 | 1.24 | 1 | 1.03 |
| Limit (V/m) | 614 | 614 | 614 | 614 | 614 |
| Margin (V/m) | -613.04 | -612.88 | -612.76 | -613 | -612.97 |
| 50 % Limit (V/m) | 307 | 307 | 307 | 307 | 307 |
| 50 % Margin (V/m) | -306.52 | -306.44 | -306.38 | -306.5 | -306.485 |

Charging Mode with phone, battery 50% Charge

| H-Field Measurement (15cm) | | | | | H-Field (20cm) |
|----------------------------|---------|---------|---------|---------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max H-field (uT) | 0.128 | 0.127 | 0.116 | 0.136 | 0.125 |
| Max H-field (A/m) | 0.1024 | 0.1016 | 0.0928 | 0.1088 | 0.1 |
| Limit (A/m) | 1.63 | 1.63 | 1.63 | 1.63 | 1.63 |
| Margin (A/m) | -1.5276 | -1.5284 | -1.5372 | -1.5212 | -1.53 |
| 50 % Limit (A/m) | 0.815 | 0.815 | 0.815 | 0.815 | 0.815 |
| 50 % Margin (A/m) | -0.7638 | -0.7642 | -0.7686 | -0.7606 | -0.765 |

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode with phone, battery 90% Charge

| E-Field Measurement (15cm) | | | | | E-Field (20cm) |
|----------------------------|---------|---------|---------|--------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max E-field (V/m) | 1.1 | 1.42 | 1.64 | 1.2 | 1.21 |
| Limit (V/m) | 614 | 614 | 614 | 614 | 614 |
| Margin (V/m) | -612.9 | -612.58 | -612.36 | -612.8 | -612.79 |
| 50 % Limit (V/m) | 307 | 307 | 307 | 307 | 307 |
| 50 % Margin (V/m) | -306.45 | -306.29 | -306.18 | -306.4 | -306.395 |

Charging Mode with phone, battery 90% Charge

| H-Field Measurement (15cm) | | | | | H-Field (20cm) |
|----------------------------|---------|---------|---------|---------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max H-field (uT) | 0.133 | 0.134 | 0.122 | 0.147 | 0.137 |
| Max H-field (A/m) | 0.1064 | 0.1072 | 0.0976 | 0.1176 | 0.1096 |
| Limit (A/m) | 1.63 | 1.63 | 1.63 | 1.63 | 1.63 |
| Margin (A/m) | -1.5236 | -1.5228 | -1.5324 | -1.5124 | -1.5204 |
| 50 % Limit (A/m) | 0.815 | 0.815 | 0.815 | 0.815 | 0.815 |
| 50 % Margin (A/m) | -0.7618 | -0.7614 | -0.7662 | -0.7562 | -0.7602 |

Standby Mode

| E-Field Measurement (15cm) | | | | | E-Field (20cm) |
|----------------------------|----------|---------|----------|---------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max E-field (V/m) | 0.21 | 0.18 | 0.17 | 0.24 | 0.37 |
| Limit (V/m) | 614 | 614 | 614 | 614 | 614 |
| Margin (V/m) | -613.79 | -613.82 | -613.83 | -613.76 | -613.63 |
| 50 % Limit (V/m) | 307 | 307 | 307 | 307 | 307 |
| 50 % Margin (V/m) | -306.895 | -306.91 | -306.915 | -306.88 | -306.815 |

| H-Field Measurement (15cm) | | | | | H-Field (20cm) |
|----------------------------|---------|---------|---------|--------|----------------|
| EUT Side | Left | Right | Top | Bottom | Z-axis (Above) |
| Max H-field (uT) | 0.124 | 0.132 | 0.118 | 0.145 | 0.135 |
| Max H-field (A/m) | 0.0992 | 0.1056 | 0.0944 | 0.116 | 0.108 |
| Limit (A/m) | 1.63 | 1.63 | 1.63 | 1.63 | 1.63 |
| Margin (A/m) | -1.5308 | -1.5244 | -1.5356 | -1.514 | -1.522 |
| 50 % Limit (A/m) | 0.815 | 0.815 | 0.815 | 0.815 | 0.815 |
| 50 % Margin (A/m) | -0.7654 | -0.7622 | -0.7678 | -0.757 | -0.761 |

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

5 Photographs of the Test Configuration

Please refer to the attached file (Test Setup Photo).

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