# TEST REPORT

**Report Number. :** 14905094-E2V2

| | | |
|---|---|---|
| **Applicant** | : | BELKIN INTERNATIONAL, INC.<br>555 S. AVIATION BLVD., SUITE 180<br>EL SEGUNDO, CA 90245, USA |
| **Model** | : | WIZ020 |
| **FCC ID** | : | K7SWIZ020 |
| **EUT Description** | : | BoostCharge Pro 2-in-1 Wireless Charging Dock with MagSafe |
| **Test Standard(s)** | : | FCC PART 1 SUBPART I<br>FCC PART 2 SUBPART J |

**Date Of Issue:**
2023-09-01

**Prepared by:**
UL Verification Services Inc.
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ACCREDITED
CERT #0751.05

## Revision History

| Rev. | Issue Date | Revisions | Revised By |
|---|---|---|---|
| V1 | 2023-08-23 | Initial Issue | --- |
| V2 | 2023-09-01 | Corrected 326kHz to 326.5kHz on Section 6.1 | Tina Chu |

# TABLE OF CONTENTS

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** BELKIN INTERNATIONAL, INC.
555 S. AVIATION BLVD., SUITE 180
EL SEGUNDO, CA 90245, USA

**EUT DESCRIPTION:** BoostCharge Pro 2-in-1 Wireless Charging Dock with MagSafe

**MODEL NUMBER:** WIZ020

**BRAND:** belkin

**SERIAL NUMBER:** 59V00F67D00363

**SAMPLE RECEIPT DATE:** 2023-08-02

**DATE TESTED:** 2023-08-04 TO 2023-08-18

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULTS** |
| FCC PART 1 SUBPART I & PART 2 SUBPART J | Complies |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

Approved & Released For
UL Verification Services Inc. By:

Francisco de Anda
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared and Reviewed By:

Tina Chu
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Consumer Technology Division
UL Verification Services Inc.

# 2. TEST METHODOLOGY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

All testing / calculations were made in accordance with

- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 447498 D03 Supplement C Cross-Reference v01
- FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

# 3. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

| | Address | ISED CABID | ISED Company Number | FCC Registration |
|---|---|---|---|---|
| ☐ | Building 1: 47173 Benicia Street, Fremont, CA 94538, USA | US0104 | 2324A | 550739 |
| ☐ | Building 2: 47266 Benicia Street, Fremont, CA 94538, USA | | | |
| ☒ | Building 4: 47658 Kato Rd, Fremont, CA 94538, USA | | | |

# 4. DECISION RULES AND MEASUREMENT UNCERTAINTY

## 4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

## 4.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

## 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER | $U_{Lab}$ |
|---|---|
| Magnetic Field Reading (A/m) | +/-0.04284 (A/m) |
| Electric Field Reading (V/m) | +/-0.03682 (V/m) |

Uncertainty figures are valid to a confidence level of 95.45%.

# 5. KDB 680106 D01 SECTION 5b EQUIPMENT APPROVAL CONSIDERATIONS

| Requirement | Device |
|---|---|
| (1) Power transfer frequency is less than 1 MHz. | No. The maximum operating frequency is 1.778MHz. |
| (2) Output power from each primary coil is less than or equal to 15 watts. | Yes. The maximum power is 15W. |
| (3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time. | Yes. The system has two separate individual coils and each of them allows for capable wireless power transfer between one source and one client at same time. |
| (4) Client device is placed directly in contact with the transmitter. | Yes. The client device is placed directly in contact with the transmitter. |
| (5)Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion) | Yes. It is a mobile device. |
| (6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit. | Yes.<br>The total aggregate H-field strength is :<br>(7.15 % + 4.27 % )=11.42% of the MPE limit.<br><br>Note above is worst case from each coil<br>See table 1 below |

Table 1

| Summary of E- and H-fields as percentage of RF exposure limits | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency / coil | Coil #2 326.5kHz (Standby) | | Coil #1 360kHz (MagSafe iPhone) | | Coil #1 127.7kHz (Legacy iPhone) | | Coil #1 127.7kHz (AirPods Pro Case) | | Coil #2 326.5kHz (Legacy Watch) | | Coil #2 1778kHz (New Watch) | |
| Test Config | E | H | E | H | E | H | E | H | E | H | E | H |
| 1 | 0.02% | 1.11% | | | | | | | | | | |
| 2 | | | 0.08% | 2.88% | | | | | | | | |
| 3 | | | | | **0.15%** | 3.78% | | | | | | |
| 4 | | | | | | | 0.07% | 5.82% | | | | |
| 5 | | | | | | | | | 0.06% | 2.98% | | |
| 6 | | | | | | | | | | | 0.08% | 4.27% |
| 7 | | | | | | | 0.07% | **7.15%** | | | 0.08% | **4.27%** |
| Worst E-field (in relative to limit) | 0.15% | | | | | | | | | | | |
| | 0.895(V/m) | | | | | | | | | | | |
| Worst H-field (in relative to limit) | 7.15% | | | | | | | | | | | |
| | 0.948 (A/m) | | | | | | | | | | | |

# 6. EQUIPMENT UNDER TEST

## 6.1. DESCRIPTION OF EUT

The EUT is a BoostCharge Pro 2-in-1 Wireless Charging Dock with MagSafe with two separate induction coils that can charge two client devices at the same time.

The first coil is used for charging a MagSafe iPhone at 360kHz (15W max), a legacy iPhone at 127.7kHz (7.5W max), and an AirPods Pro case at 127.7kHz (1W max). The second coil is used for charging an Apple watch at either 326.5kHz or 1.778Mhz (5W max). The EUT is powered by a USB-C cable that is connected to a USB-C AC/DC adapter. The cable is tethered to the EUT at the EUT end.

The EUT is sold with 30W single port USB PD Type-C Power Supply.

## 6.2. SOFTWARE AND FIRMWARE

The firmware version installed in the EUT during testing was:
360kHz/127.7kHz: V274
326.5kHz/1.778MHz: V203

## 6.3. WORST-CASE CONFIGURATION AND MODE

Testing for MagSafe phone is based on direct contact with no shifts in position due to the embedded magnet in the charger pads.

Legacy phone does not have an embedded magnet, is placed at the maximum power position during the testing.

Even though New AirPods Pro Case has embedded magnet, it is not strong enough to be attached to the charging pad, it is placed at the maximum power position during the testing.

Investigation has been performed and it is determined that AirPods Pro Case on Coil #1 and new watch (1.778MHz) on Coil#2 are the worst case, thus configuration 7 is tested when AirPods Pro Case and new watch are placed on both coils in charging mode.

The EUT was tested in desktop(mobile) mode in the following configurations:

| Config | Descriptions | Frequency | Client and worst-case orientation |
|---|---|---|---|
| 1 | EUT is powered by AC/DC adapter. | 326.5kHz | No WPT client used. Stand-by. |
| 2 | EUT is powered by AC/DC adapter. Direct contact during charging/operating between the EUT & WPT Client(s). | 360kHz (15W) | Coil 1: MagSafe Phone. 180 degrees when the front camera facing USB cable. Charging bed in flatbed position as worse case position. |
| 3 | | 127.7kHz (7.5W) | Coil 1: Legacy Phone. 180 degrees when the front camera facing USB cable. Charging pad as flatbed position as normal used. |
| 4 | | 127.7kHz (1W) | Coil 1: AirPods Pro Case: lighting connector 180 degree away from USB cable. Charging pad as flatbed position as normal used. |
| 5 | | 326.5kHz (1W) | Coil 2: Legacy watch. In portrait position with the digital crown/home button is on the right, 3 clock relative to the type C port. |
| 6 | | 1.778MHz (5W) | Coil 2: Series 8 watch. In landscape position with the digital crown/home button is on top facing the type C port. |
| 7 | | 360kHz (15W) + 1.778MHz (5W) | Coil 1: MagSafe Phone. 180 degrees when the front camera facing USB cable. Charging bed in flatbed position.<br><br>Coil 2: Series 8 watch. In landscape position with the digital crown/home button is on top facing the type C port. |

# 7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was used for the tests documented in this report:

| Test Equipment List | | | | | |
|---|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Label ID** | **Cal Due** | **Cal Date** |
| Electric and Magnetic Field Probe | Narda | EHP-200A | 87095 | 2024-03-31 | 2023-03-15 |
| Spectrum Analyzer, PXA, 3Hz to 44GHz | Keysight Technologies Inc | N9030A | 125179 | 2024-02-29 | 2023-02-07 |
| Thermometer - Digital | Control Company | 14-650-118 | 175731 | 2024-02-29 | 2023-02-08 |

# 8. DUTY CYCLE

**LIMITS**

None; for reporting purposes only.

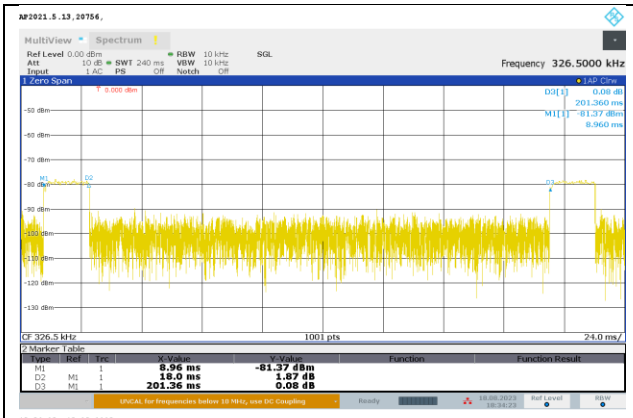
**PROCEDURE**

Zero-Span Spectrum Analyzer Method.

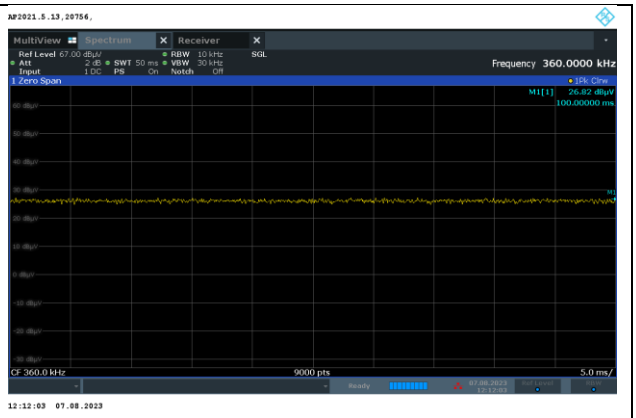
**ON TIME AND DUTY CYCLE RESULTS**

| Test Engineer: | 28199 JM |
|---|---|

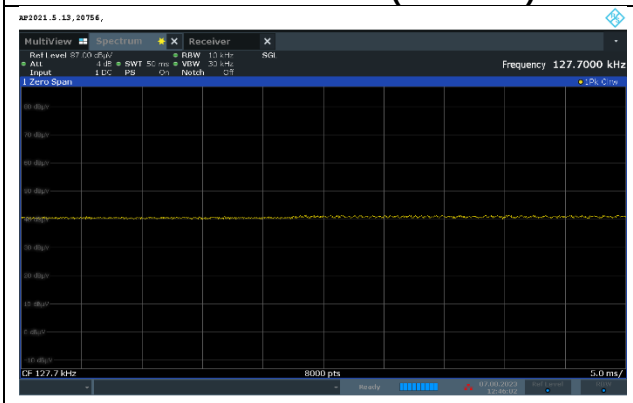
| Configuration | Mode | ON Time B (msec) | Period (msec) | Duty Cycle x (linear) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) |
|---|---|---|---|---|---|---|
| 1 | Standby @ 326.5kHz | 18.00 | 201.36 | 0.09 | 8.94 | 10.49 |
| 2 | Operating Frequency @ 360kHz (15W) | 1.00 | 1.00 | 1.00 | 100.00 | 0.00 |
| 3 | Operating Frequency @ 127.7kHz (7.5W) | 1.00 | 1.00 | 1.00 | 100.00 | 0.00 |
| 4 | Operating Frequency @ 127.7kHz (1W) | 1.00 | 1.00 | 1.00 | 100.00 | 0.00 |
| 5 | Operating Frequency @ 326.5kHz (1W) | 1.00 | 1.00 | 1.00 | 100.00 | 0.00 |
| 6 | Operating Frequency @ 1.778MHz (5W) | 1.00 | 1.00 | 1.00 | 100.00 | 0.00 |



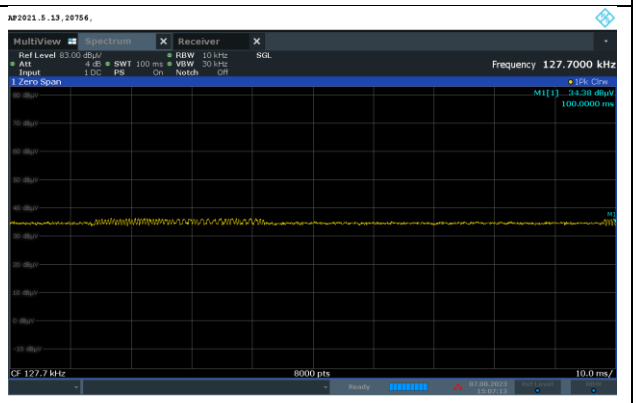

**CONFIGURATION 1 (326.5kHz)**



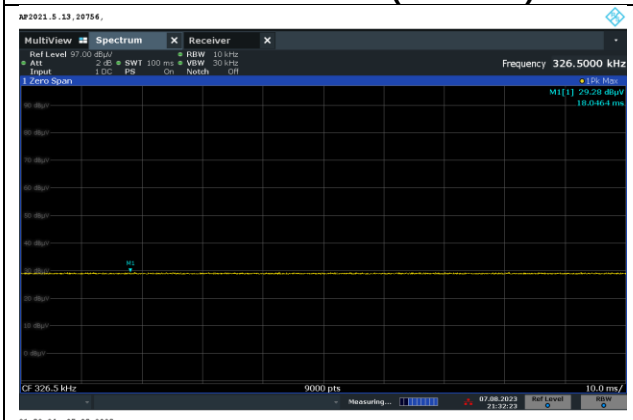

**CONFIGURATION 2 (360kHz)**



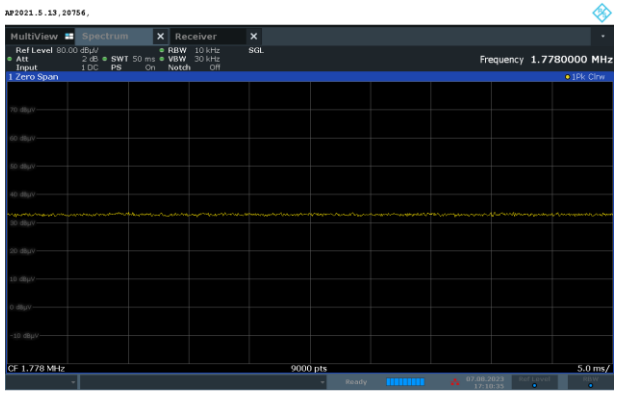

**CONFIGURATION 3 (127.7kHz)**




**CONFIGURATION 4 (127.7kHz)**




**CONFIGURATION 5 (326.5kHz)**




**CONFIGURATION 6 (1.778MHz)**

# 9. MAXIMUM PERMISSIBLE RF EXPOSURE

## 9.1. FCC LIMITS AND SUMMARY

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental 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 §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 |
| 300-1,500 | | | f/300 | <6 |
| 1,500-100,000 | | | 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 |
| 300-1,500 | | | f/1500 | <30 |
| 1,500-100,000 | | | 1.0 | <30 |

f = frequency in MHz. * = Plane-wave equivalent power density.

According to KDB 680106 D01 RF Exposure Wireless Charging App v03r01, section 3 (c) Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

**RESULT**

| Test Engineer: | 29435 TC | Test Date: | 2023-08-04 TO 2023-08-16 |
|---|---|---|---|

### 9.1.1. MAXIMUM RESULT SUMMARY

**FCC Config 1: 326.5kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.115 | 0.02% | 1.63 | 0.018 | 1.11% |

**FCC Config 2: MagSafe iPhone 360kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.494 | 0.08% | 1.63 | 0.047 | 2.88% |

**FCC Config 3: Legacy iPhone 127.7kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.895 | 0.15% | 1.63 | 0.062 | 3.78% |

**FCC Config 4: AirPods Pro Case 127.7kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.418 | 0.07% | 1.63 | 0.095 | 5.82% |

**FCC Config 5: Legacy Watch 326.5kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.381 | 0.06% | 1.63 | 0.049 | 2.98% |

**FCC Config 6: New Watch 1.778MHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 463.44 | 0.365 | 0.08% | 1.23 | 0.053 | 4.27% |

**FCC Config 7:**

**AirPods Pro Case 127.7kHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 614 | 0.402 | 0.07% | 1.63 | 0.117 | 7.15% |

**New Watch 1.778MHz**

| Electric Field Limit | | | Magnetic Field Limit | | |
|---|---|---|---|---|---|
| FCC RF Exposure Limit | Maximum Average (V/m) | Percentage (%) | FCC RF Exposure Limit | Maximum Average (A/m) | Percentage (%) |
| 463.44 | 0.380 | 0.08% | 1.23 | 0.053 | 4.27% |

## 9.1.2. E- FIELD AND H- FIELD MEASUREMENTS

Note: Peak measurements were performed. RMS values were calculated from the peak measurement. Please refer to the formula for calculating the RMS values: [Field Strength x √Duty Cycle].

**CONFIGURATION 1: WPT ON STANDBY**

Coil#2

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC Limit | Location | Peak | Duty Cycle % | FCC Average | FCC Limit | Location | Peak | Duty Cycle % | FCC Average |
| 1 | Standby | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.351 | 8.94 | 0.105 | 1.63 | S1 | 0.044 | 8.94 | 0.013 |
| | | | | S2 | 0.351 | | 0.105 | | S2 | 0.044 | | 0.013 |
| | | | | S3 | 0.369 | | 0.110 | | S3 | 0.048 | | 0.014 |
| | | | | S4 | 0.360 | | 0.108 | | S4 | 0.042 | | 0.012 |
| | | | | Top | 0.380 | | 0.113 | | Top | 0.061 | | **0.018** |
| | | | | Bottom | 0.386 | | **0.115** | | Bottom | 0.046 | | 0.014 |
| | | | | Max | 0.386 | | **0.115** | | Max | 0.061 | | **0.018** |

**CONFIGURATION 2: OPERATING MODE WITH iPhone (360kHz)**

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 2 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.345 | 100 | 0.345 | 1.63 | S1 | 0.040 | 100 | 0.040 |
| | | | | S2 | 0.391 | | 0.391 | | S2 | 0.045 | | 0.045 |
| | | | | S3 | 0.494 | | **0.494** | | S3 | 0.047 | | **0.047** |
| | | | | S4 | 0.466 | | 0.466 | | S4 | 0.047 | | **0.047** |
| | | | | Top | 0.345 | | 0.345 | | Top | 0.044 | | 0.044 |
| | | | | Bottom | 0.371 | | 0.371 | | Bottom | 0.043 | | 0.043 |
| | | | | Max | 0.494 | | **0.494** | | Max | 0.047 | | **0.047** |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.343 | 100 | 0.343 | | S1 | 0.043 | 100 | 0.043 |
| | | | | S2 | 0.403 | | 0.403 | | S2 | 0.045 | | 0.045 |
| | | | | S3 | 0.464 | | 0.464 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.452 | | 0.452 | | S4 | 0.046 | | 0.046 |
| | | | | Top | 0.360 | | 0.360 | | Top | 0.047 | | **0.047** |
| | | | | Bottom | 0.365 | | 0.365 | | Bottom | 0.042 | | 0.042 |
| | | | | Max | 0.464 | | 0.464 | | Max | 0.047 | | **0.047** |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.346 | 100 | 0.346 | | S1 | 0.042 | 100 | 0.042 |
| | | | | S2 | 0.407 | | 0.407 | | S2 | 0.045 | | 0.045 |
| | | | | S3 | 0.444 | | 0.444 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.452 | | 0.452 | | S4 | 0.047 | | **0.047** |
| | | | | Top | 0.365 | | 0.365 | | Top | 0.047 | | **0.047** |
| | | | | Bottom | 0.335 | | 0.335 | | Bottom | 0.042 | | 0.042 |
| | | | | Max | 0.452 | | 0.452 | | Max | 0.047 | | **0.047** |

## CONFIGURATION 3: OPERATING MODE WITH iPhone (127.7kHz)

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 3 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.489 | 100 | 0.489 | 1.63 | S1 | 0.047 | 100 | 0.047 |
| | | | | S2 | 0.857 | | 0.857 | | S2 | 0.049 | | 0.049 |
| | | | | S3 | 0.446 | | 0.446 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.718 | | 0.718 | | S4 | 0.051 | | 0.051 |
| | | | | Top | 0.465 | | 0.465 | | Top | 0.049 | | 0.049 |
| | | | | Bottom | 0.410 | | 0.410 | | Bottom | 0.045 | | 0.045 |
| | | | | Max | 0.857 | | 0.857 | | Max | 0.051 | | 0.051 |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.590 | 100 | 0.590 | | S1 | 0.057 | 100 | 0.057 |
| | | | | S2 | 0.895 | | **0.895** | | S2 | 0.049 | | 0.049 |
| | | | | S3 | 0.695 | | 0.695 | | S3 | 0.056 | | 0.056 |
| | | | | S4 | 0.878 | | 0.878 | | S4 | 0.055 | | 0.055 |
| | | | | Top | 0.604 | | 0.604 | | Top | 0.047 | | 0.047 |
| | | | | Bottom | 0.345 | | 0.345 | | Bottom | 0.047 | | 0.047 |
| | | | | Max | 0.895 | | **0.895** | | Max | 0.057 | | 0.057 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.501 | 100 | 0.501 | | S1 | 0.053 | 100 | 0.053 |
| | | | | S2 | 0.549 | | 0.549 | | S2 | 0.049 | | 0.049 |
| | | | | S3 | 0.520 | | 0.520 | | S3 | 0.062 | | **0.062** |
| | | | | S4 | 0.613 | | 0.613 | | S4 | 0.053 | | 0.053 |
| | | | | Top | 0.602 | | 0.602 | | Top | 0.051 | | 0.051 |
| | | | | Bottom | 0.348 | | 0.348 | | Bottom | 0.047 | | 0.047 |
| | | | | Max | 0.613 | | 0.613 | | Max | 0.062 | | **0.062** |

## CONFIGURATION 4: OPERATING MODE WITH AirPods Pro Case (127.7kHz)

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 4 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.364 | 100 | 0.364 | 1.63 | S1 | 0.056 | 100 | 0.056 |
| | | | | S2 | 0.381 | | 0.381 | | S2 | 0.054 | | 0.054 |
| | | | | S3 | 0.379 | | 0.379 | | S3 | 0.060 | | 0.060 |
| | | | | S4 | 0.389 | | 0.389 | | S4 | 0.095 | | **0.095** |
| | | | | Top | 0.418 | | **0.418** | | Top | 0.081 | | 0.081 |
| | | | | Bottom | 0.374 | | 0.374 | | Bottom | 0.051 | | 0.051 |
| | | | | Max | 0.418 | | **0.418** | | Max | 0.095 | | **0.095** |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.361 | 100 | 0.361 | | S1 | 0.079 | 100 | 0.079 |
| | | | | S2 | 0.381 | | 0.381 | | S2 | 0.054 | | 0.054 |
| | | | | S3 | 0.379 | | 0.379 | | S3 | 0.060 | | 0.060 |
| | | | | S4 | 0.389 | | 0.389 | | S4 | 0.085 | | 0.085 |
| | | | | Top | 0.361 | | 0.361 | | Top | 0.086 | | 0.086 |
| | | | | Bottom | 0.374 | | 0.374 | | Bottom | 0.051 | | 0.051 |
| | | | | Max | 0.389 | | 0.389 | | Max | 0.085 | | 0.085 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.362 | 100 | 0.362 | | S1 | 0.079 | 100 | 0.079 |
| | | | | S2 | 0.383 | | 0.383 | | S2 | 0.055 | | 0.055 |
| | | | | S3 | 0.375 | | 0.375 | | S3 | 0.061 | | 0.061 |
| | | | | S4 | 0.398 | | 0.398 | | S4 | 0.075 | | 0.075 |
| | | | | Top | 0.380 | | 0.380 | | Top | 0.085 | | 0.085 |
| | | | | Bottom | 0.375 | | 0.375 | | Bottom | 0.052 | | 0.052 |
| | | | | Max | 0.398 | | 0.398 | | Max | 0.085 | | 0.085 |

## CONFIGURATION 5: OPERATING MODE WITH Apple Watch (326.5kHz)

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 5 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.335 | 100 | 0.335 | 1.63 | S1 | 0.044 | 100 | 0.044 |
| | | | | S2 | 0.381 | | **0.381** | | S2 | 0.049 | | **0.049** |
| | | | | S3 | 0.371 | | 0.371 | | S3 | 0.047 | | 0.047 |
| | | | | S4 | 0.343 | | 0.343 | | S4 | 0.043 | | 0.043 |
| | | | | Top | 0.352 | | 0.352 | | Top | 0.041 | | 0.041 |
| | | | | Bottom | 0.344 | | 0.344 | | Bottom | 0.040 | | 0.040 |
| | | | | Max | 0.381 | | **0.381** | | Max | 0.049 | | **0.049** |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.335 | 100 | 0.335 | | S1 | 0.044 | 100 | 0.044 |
| | | | | S2 | 0.361 | | 0.361 | | S2 | 0.043 | | 0.043 |
| | | | | S3 | 0.371 | | 0.371 | | S3 | 0.047 | | 0.047 |
| | | | | S4 | 0.343 | | 0.343 | | S4 | 0.043 | | 0.043 |
| | | | | Top | 0.352 | | 0.352 | | Top | 0.041 | | 0.041 |
| | | | | Bottom | 0.344 | | 0.344 | | Bottom | 0.040 | | 0.040 |
| | | | | Max | 0.371 | | 0.371 | | Max | 0.047 | | 0.047 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.334 | 100 | 0.334 | | S1 | 0.044 | 100 | 0.044 |
| | | | | S2 | 0.351 | | 0.351 | | S2 | 0.043 | | 0.043 |
| | | | | S3 | 0.370 | | 0.370 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.342 | | 0.342 | | S4 | 0.044 | | 0.044 |
| | | | | Top | 0.342 | | 0.342 | | Top | 0.043 | | 0.043 |
| | | | | Bottom | 0.324 | | 0.324 | | Bottom | 0.040 | | 0.040 |
| | | | | Max | 0.370 | | 0.370 | | Max | 0.045 | | 0.045 |

## CONFIGURATION 6: OPERATING MODE WITH Apple Watch (1.778MHz)

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 6 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 463.44 | S1 | 0.342 | 100 | 0.342 | 1.23 | S1 | 0.047 | 100 | 0.047 |
| | | | | S2 | 0.309 | | 0.309 | | S2 | 0.051 | | 0.051 |
| | | | | S3 | 0.335 | | 0.335 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.335 | | 0.335 | | S4 | 0.048 | | 0.048 |
| | | | | Top | 0.344 | | 0.344 | | Top | 0.047 | | 0.047 |
| | | | | Bottom | 0.351 | | 0.351 | | Bottom | 0.049 | | 0.049 |
| | | | | Max | 0.351 | | 0.351 | | Max | 0.051 | | 0.051 |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.352 | 100 | 0.352 | | S1 | 0.051 | 100 | 0.051 |
| | | | | S2 | 0.309 | | 0.309 | | S2 | 0.051 | | 0.051 |
| | | | | S3 | 0.335 | | 0.335 | | S3 | 0.045 | | 0.045 |
| | | | | S4 | 0.335 | | 0.335 | | S4 | 0.049 | | 0.049 |
| | | | | Top | 0.364 | | 0.364 | | Top | 0.047 | | 0.047 |
| | | | | Bottom | 0.361 | | 0.361 | | Bottom | 0.051 | | 0.051 |
| | | | | Max | 0.364 | | 0.364 | | Max | 0.051 | | 0.051 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.364 | 100 | 0.364 | | S1 | 0.053 | 100 | **0.053** |
| | | | | S2 | 0.364 | | 0.364 | | S2 | 0.049 | | 0.049 |
| | | | | S3 | 0.345 | | 0.345 | | S3 | 0.044 | | 0.044 |
| | | | | S4 | 0.334 | | 0.334 | | S4 | 0.047 | | 0.047 |
| | | | | Top | 0.365 | | **0.365** | | Top | 0.047 | | 0.047 |
| | | | | Bottom | 0.360 | | 0.360 | | Bottom | 0.052 | | 0.052 |
| | | | | Max | 0.365 | | **0.365** | | Max | 0.053 | | **0.053** |

**CONFIGURATION 7: OPERATING MODE WITH AirPods Pro Case (127.7kHz) + Apple Watch (1.778MHz)**

Coil#1

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 7 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 614 | S1 | 0.397 | 100 | 0.397 | 1.63 | S1 | 0.052 | 100 | 0.052 |
| | | | | S2 | 0.357 | | 0.357 | | S2 | 0.117 | | **0.117** |
| | | | | S3 | 0.354 | | 0.354 | | S3 | 0.051 | | 0.051 |
| | | | | S4 | 0.345 | | 0.345 | | S4 | 0.071 | | 0.071 |
| | | | | Top | 0.352 | | 0.352 | | Top | 0.079 | | 0.079 |
| | | | | Bottom | 0.370 | | 0.370 | | Bottom | 0.071 | | 0.071 |
| | | | | Max | 0.397 | | 0.397 | | Max | 0.117 | | **0.117** |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.380 | 100 | 0.380 | | S1 | 0.052 | 100 | 0.052 |
| | | | | S2 | 0.366 | | 0.366 | | S2 | 0.115 | | 0.115 |
| | | | | S3 | 0.380 | | 0.380 | | S3 | 0.050 | | 0.050 |
| | | | | S4 | 0.355 | | 0.355 | | S4 | 0.071 | | 0.071 |
| | | | | Top | 0.355 | | 0.355 | | Top | 0.078 | | 0.078 |
| | | | | Bottom | 0.335 | | 0.335 | | Bottom | 0.071 | | 0.071 |
| | | | | Max | 0.380 | | 0.380 | | Max | 0.115 | | 0.115 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.398 | 100 | 0.398 | | S1 | 0.052 | 100 | 0.052 |
| | | | | S2 | 0.402 | | **0.402** | | S2 | 0.105 | | 0.105 |
| | | | | S3 | 0.364 | | 0.364 | | S3 | 0.051 | | 0.051 |
| | | | | S4 | 0.335 | | 0.335 | | S4 | 0.070 | | 0.070 |
| | | | | Top | 0.352 | | 0.352 | | Top | 0.080 | | 0.080 |
| | | | | Bottom | 0.380 | | 0.380 | | Bottom | 0.072 | | 0.072 |
| | | | | Max | 0.402 | | **0.402** | | Max | 0.105 | | 0.105 |

Coil#2

| Configuration | Test Mode | Measuring Distance (cm) | Electric Field Limit (V/m) | Electric Field Reading (V/m) | | | | Magnetic Field Limit (A/m) | Magnetic Field Reading (A/m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FCC | Location | Peak | Duty Cycle % | FCC Average | FCC | Location | Peak | Duty Cycle % | FCC Average |
| 7 | Operating Real Product (Power ~10% Charging) | 15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the EUT | 463.44 | S1 | 0.380 | 100 | **0.380** | 1.23 | S1 | 0.051 | 100 | 0.051 |
| | | | | S2 | 0.336 | | 0.336 | | S2 | 0.049 | | 0.049 |
| | | | | S3 | 0.345 | | 0.345 | | S3 | 0.049 | | 0.049 |
| | | | | S4 | 0.346 | | 0.346 | | S4 | 0.047 | | 0.047 |
| | | | | Top | 0.352 | | 0.352 | | Top | 0.052 | | 0.052 |
| | | | | Bottom | 0.371 | | 0.371 | | Bottom | 0.049 | | 0.049 |
| | | | | Max | 0.380 | | **0.380** | | Max | 0.052 | | 0.052 |
| | Operating Real Product (Power 20% ~ 60% Charging) | | | S1 | 0.371 | 100 | 0.371 | | S1 | 0.051 | 100 | 0.051 |
| | | | | S2 | 0.364 | | 0.364 | | S2 | 0.052 | | 0.052 |
| | | | | S3 | 0.352 | | 0.352 | | S3 | 0.052 | | 0.052 |
| | | | | S4 | 0.345 | | 0.345 | | S4 | 0.051 | | 0.051 |
| | | | | Top | 0.348 | | 0.348 | | Top | 0.047 | | 0.047 |
| | | | | Bottom | 0.351 | | 0.351 | | Bottom | 0.052 | | 0.052 |
| | | | | Max | 0.371 | | 0.371 | | Max | 0.052 | | 0.052 |
| | Operating Real Product (Power >75% Charging) | | | S1 | 0.380 | 100 | **0.380** | | S1 | 0.051 | 100 | 0.051 |
| | | | | S2 | 0.345 | | 0.345 | | S2 | 0.047 | | 0.047 |
| | | | | S3 | 0.380 | | **0.380** | | S3 | 0.053 | | **0.053** |
| | | | | S4 | 0.336 | | 0.336 | | S4 | 0.047 | | 0.047 |
| | | | | Top | 0.342 | | 0.342 | | Top | 0.053 | | **0.053** |
| | | | | Bottom | 0.351 | | 0.351 | | Bottom | 0.048 | | 0.048 |
| | | | | Max | 0.380 | | **0.380** | | Max | 0.053 | | **0.053** |

# 10. RF EXPOSURE TEST SETUP AND SETUP PHOTO

Please see description of RF exposure test up and setup photo report 14905094-EP1

## END OF TEST REPORT