



RF Exposure Evaluation Report

Application No.: DNT2504290726R4455-06629
Applicant: DGL Group LTD.
Address of Applicant: 2045 Lincoln Highway, 3rd Floor, Edison, NJ 08817, United States
EUT Description: WIRELESS MOUSE & CHARGING PAD COMBO
Model No.: BRK-MSPM-ASST
Additional Model(s): BRK-MSPM, BRK-MSPM-XXX, BRK-MSPM-BLK, BRK-MSPM-BLSH, BRK-MSPM-WHT
FCC ID: 2AANZMSPMP
Power supply Input DC 5V/2A or 9V/2A
Trade Mark: BREAKOUT
Standards: FCC CFR 47 Part 1.1307(b)&1.1310
KDB 680106 D01 Wireless Power Transfer v04
Date of Receipt: 2025/4/29
Date of Test: 2025/5/6 to 2025/6/9
Date of Issue: 2025/6/9
Test Result: **PASS ***

Prepared By: Wayne Lin (Testing Engineer)

Reviewed By: Pengfei Chen (Project Engineer)

Approved By: Heine Shen (Manager)



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

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Report Revise Record

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
|----------------|-------------|--------------|---------------|-----------------|
| V1.0 | / | June 9, 2025 | Valid | Original Report |



Test Summary

| No. | Description of Test Item | FCC Standard Section | Results |
|-----|------------------------------|-----------------------|---------|
| 1 | Maximum Permissible Exposure | Part 1.1307(b)&1.1310 | PASS |



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1 General Information

1.1 Test Location

| | |
|----------------|--|
| Company: | Dongguan DN Testing Co., Ltd |
| Address: | No. 1, West Fourth Street, South Xinfu Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China |
| Test engineer: | Wayne Lin |

1.2 General Description of EUT

| | |
|-----------------------------------|--|
| Manufacturer: | DGL Group LTD. |
| Address of Manufacturer: | 2045 Lincoln Highway, 3rd Floor, Edison, NJ 08817, United States |
| EUT Description:: | WIRELESS MOUSE & CHARGING PAD COMBO |
| Test Model No.: | BRK-MSPM-ASST |
| Additional Model(s): | BRK-MSPM, BRK-MSPM-XXX, BRK-MSPM-BLK, BRK-MSPM-BLSH, BRK-MSPM-WHT |
| Chip Type: | YM-616N |
| Serial Number | PR2504290726R4455 |
| Power Supply | Input DC 5V/2A or 9V/2A |
| Output Max Wireless Charge Power: | 15W |
| Trade Mark: | BREAKOUT |
| Hardware Version: | V1.0 |
| Software Version: | V1.0 |
| Operation Frequency: | 110.5KHz-205KHz |
| Modulation Technique: | FSK |
| Sample Type: | <input checked="" type="checkbox"/> Portable Device, <input type="checkbox"/> Module, <input type="checkbox"/> Mobile Device |
| Antenna Type: | Copper inducted coil |

Remark:

*Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information , DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

*Only the color of the product is different, everything else is completely consistent.



1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

• **FCC, USA**

Designation Number: CN1348

• **A2LA (Certificate No. 7050.01)**

DONGGUAN DN TESTING CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7050.01.

• **Innovation, Science and Economic Development Canada**

DONGGUAN DN TESTING CO., LTD. EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier is CN0149.

IC#: 30755.

1.4 Test Mode

| Test Item | Test Mode |
|--|-------------------|
| Maximum Permissible Exposure | Wireless Charging |
| Note: The worst Full Load status is recorded in the report | |

1.5 Test Equipment List

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|--|--------------|-----------|------------|------------|------------|
| Electric and Magnetic Field Probe-Analyzer | Nearda | NBM550 | B-0264 | 2024-10-23 | 2025-10-22 |
| Electric and Magnetic Field Probe-Analyzer | Nearda | EF0391 | A-1131 | 2024-10-23 | 2025-10-22 |

1.6 Assistant equipment used for test

| Code | Equipment | Manufacturer | Model No. | Equipment No. |
|------|-----------|--------------|--------------|---------------|
| 1 | iPhone | Apple | MQ8A3CH/A | N/A |
| 2 | Adapter | HUAWEI | HW-100225C00 | N/A |

**1.7 Measurement Uncertainty (95% confidence levels, k=2)**

| Electric Field | | | | |
|--------------------------------|-------------------------|---|---|--------------------------------------|
| Plot | Average value x, V/m | The Class A standard is uncertain u_a (E), V/m | The standards for Class B are uncertain u_b (E), V/m | Combined uncertainty u (E), V/m |
| 1 | 220.31 | 0.023 | 12.815 | 12.815 |
| Expanded uncertainty: 25.63V/m | | | | |

| Magnetic Field | | | | |
|-----------------|------------------------|--|--|-------------------------------------|
| Plot | Average value x, nT | The Class A standard is uncertain u_a (B), nT | The standards for Class B are uncertain u_b (B), nT | Combined uncertainty u (B), nT |
| 1 | 630.15 | 0.559 | 33.393 | 33.398 |
| 扩展不确定: 66.796nT | | | | |



2 Maximum Permissible Exposure

2.1 Limit

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 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 |
| (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 |
| 300-1,500 | / | / | f/1500 | 30 |
| 1,500-100,000 | / | / | 1.0 | 30 |

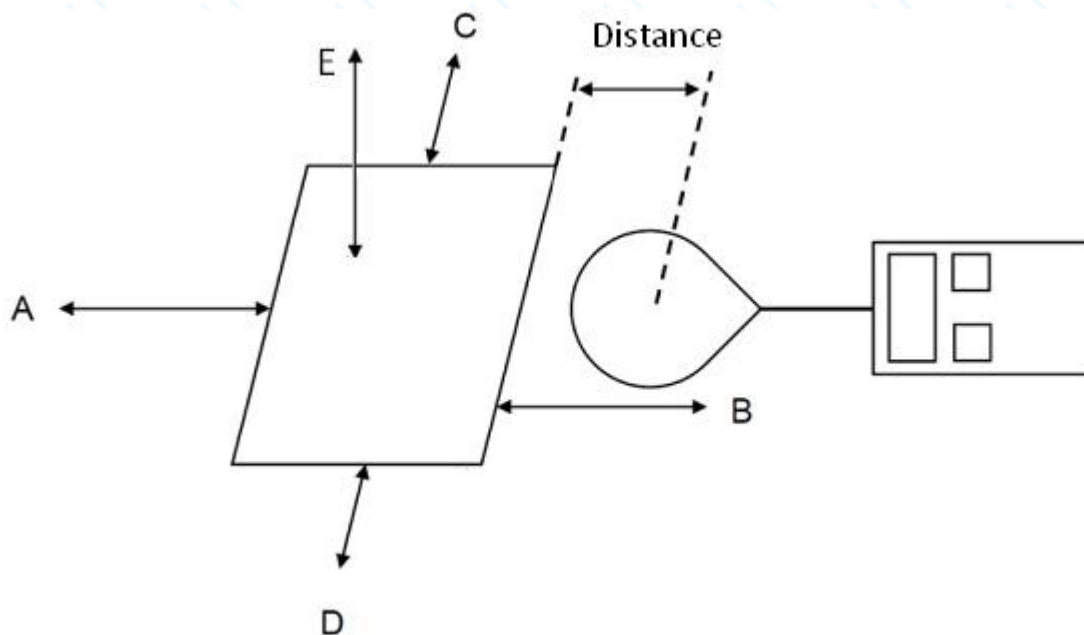
Note:

1. f = frequency in MHz * = Plane-wave equivalent power density.
2. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. 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. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

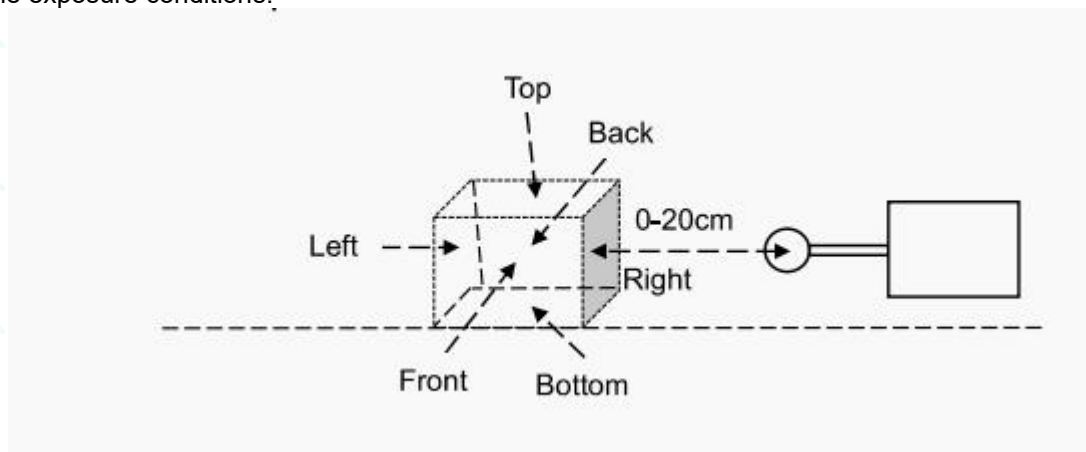


2.2 Test Setup A

For mobile exposure conditions:



For portable exposure conditions:



Note: A, B, C, D, E, F for six surfaces of the product

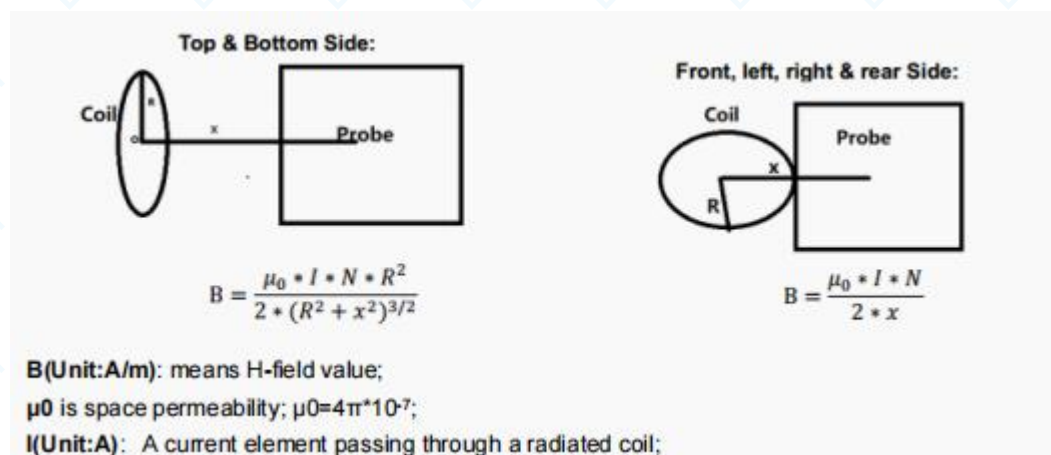
2.3 Test Procedure

- The RF exposure test was performed in anechoic chamber.
- 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.
- The highest emission level was recorded and compared with limit.



2.4 Equipment Approval Considerations

- (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) If the device is powered by a battery, 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) Test performed with all the radiating structures operating at maximum power at the same time.
- (4) H-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.
- (5) According to the requirements of KDB 680106 D01 v04, If the center of the probe sensing element is located more than 5mm from the probe outer surface, the field strengths need to be estimated through modeling for those positions that are not reachable.
- (6) The actual 0cm field strengths need to be estimated for the positions that are not reachable via numerical calculation.
- (7) Use Biot-Savart formula theory to estimate the strength of the magnetic field that the measuring instrument cannot measure. According to Biot-Savart formula:



R(Unit:m): means the Radius of radiated coil, according to provided Antenna specification: R=0.02m;

Test Distance(Unit:m): The distance from the sensing element of the probe to the edge of the device surface.

x(Unit:m): means the center of the coil to the sensing elements of the probe. (x=test distance+R)

N: Number of turns, according to providing "Antenna specification" files: N=10.

For validation purposes: If the value to show a 30% agreement between the mode and the probe measurements for the two closest points to the device surface, and with 2cm increments. Then this extrapolation method is reasonable.



2.5 Test Result :

For exposure condition:

| MPE | | | |
|---------------|---------------|---------|-------|
| Test distance | Test position | E-Field | Limit |
| 20cm | A | 1.017 | 614 |
| 20cm | B | 0.029 | |
| 20cm | C | 1.004 | |
| 20cm | D | 0.981 | |
| 20cm | E | 1.046 | |

The coil : $\mu \approx 3.77 \times 10^{-3} \sim 7.54 \times 10^{-3} \text{ H/m}$ (即 $3.77 \sim 7.54 \text{ mH/m}$) , $H=B/u$

| Test Distance(cm) | Test position A (A/m) | Test position B (A/m) | Test position C (A/m) | Test position D (A/m) | Test position E (A/m) | Test position F (A/m) | Limit |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| 2 | 0.109 | 0.115 | 0.032 | 0.122 | 0.363 | 0.095 | 1.63 |
| 4 | 0.065 | 0.075 | 0.031 | 0.082 | 0.124 | 0.025 | |
| 6 | 0.065 | 0.073 | 0.030 | 0.08 | 0.124 | 0.023 | |
| 8 | 0.064 | 0.068 | 0.028 | 0.072 | 0.117 | 0.023 | |
| 10 | 0.058 | 0.065 | 0.025 | 0.065 | 0.108 | 0.021 | |
| 12 | 0.053 | 0.065 | 0.024 | 0.062 | 0.102 | 0.021 | |
| 14 | 0.052 | 0.057 | 0.023 | 0.061 | 0.095 | 0.02 | |
| 16 | 0.048 | 0.053 | 0.020 | 0.057 | 0.093 | 0.019 | |
| 18 | 0.045 | 0.052 | 0.020 | 0.052 | 0.090 | 0.017 | |
| 20 | 0.041 | 0.050 | 0.018 | 0.050 | 0.084 | 0.017 | |

Use the Biot-Sacart Law to estimate the results of 2cm through 4cm.

| Test Position | Measure Value (A/m) | Estimated Value (A/m) | Agreement Ratio | Limits |
|---------------|---------------------|-----------------------|-----------------|--------|
| A | 0.109 | 0.091 | 19.20% | 30% |
| B | 0.115 | 0.105 | 9.00% | 30% |
| C | 0.032 | 0.038 | -17.06% | 30% |
| D | 0.122 | 0.117 | 4.27% | 30% |
| E | 0.363 | 0.467 | -22.42% | 30% |
| F | 0.095 | 0.083 | 13.62% | 30% |



As the model is sufficient, the 0cm value can be estimated through the results of 4 cm.

| Test position | Estimated Value(A/m) | Limits(A/m) |
|---------------|----------------------|-------------|
| A | 0.182 | 1.63 |
| B | 0.192 | |
| C | 0.041 | |
| D | 0.212 | |
| E | 1.243 | |
| F | 0.398 | |

---END REPORT---