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# FCC Test Report

# Test report On Behalf of SABRINA MANUFACTURING GROUP IRELAND LIMITED For Wireless Charging Pen Holder Model No.: SMGF8 FCC ID: 2BAOX-SMGF8

Prepared For :

SABRINA MANUFACTURING GROUP IRELAND LIMITED LITTLETON FACTORY, KILLEENS BALLYNONTY THURLES CO. TIPPERARY, E41R960 Ireland

Prepared By :

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| Date of Test:   | Mar. 07, 2023 ~ Mar. 20, 2023 |
|-----------------|-------------------------------|
| Date of Report: | Mar. 20, 2023                 |
| Report Number:  | HK2303070684-2E               |

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# **Test Result Certification**

| Applicant's Name:             | SABRINA MANUFACTURING GROUP IRELAND LIMITED                                      |  |  |  |  |
|-------------------------------|--|--|--|--|--|
| Address:                      | LITTLETON FACTORY, KILLEENS BALLYNONTY THURLES<br>CO. TIPPERARY, E41R960 Ireland |  |  |  |  |
| Manufacture's Name:           | SABRINA MANUFACTURING GROUP LIMITED  |  |  |  |  |
| Address:                      | 19/F, Hua Le Building, 2017 East Shen Nan Road, Shenzhen, China 518002           |  |  |  |  |
| Product Description           |  |  |  |  |  |
| Trade Mark:                   | N/A  |  |  |  |  |
| Product Name:                 | Wireless Charging Pen Holder   |  |  |  |  |
| Model and/or type reference : | SMGF8  |  |  |  |  |
| Standards                     | FCC CFR 47 PART 18, KDB 680106 D01   |  |  |  |  |

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| Date of lest                     |                               |
|----------------------------------|-------------------------------|
| Date (s) of performance of tests | Mar. 07, 2023 ~ Mar. 20, 2023 |
| Date of Issue                    | Mar. 20, 2023                 |
| Test Result                      | Pass                          |

Testing Engineer

(Gary Qian)

Technical Manager

(Eden Hu)

Authorized Signatory :

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(Jason Zhou)

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Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

|         | -NG                |         | Chan               | nel List |                    | -mG     | OM                 |
|---------|--------------------|---------|--------------------|----------|--------------------|---------|--------------------|
| Channel | Frequency<br>(KHz) | Channel | Frequency<br>(MHz) | Channel  | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) |
| 01      | 128                | ~       | ~                  |          |                    |         | ~                  |
|         |                    | TESTING |                    |          | 45                 | 1040    |                    |
| STING   |                    | HUAK    |                    | MNG      | HUAK               |         | STING              |
| HUAKIL  |                    |         | HUAK               |          |                    | ~ · · · | UAK                |

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.

#### 2. Summary of Test Results

2.1. Test procedures according to the technical standards: FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

| FCC CFR 47          |                                   |          |              |  |  |  |
|---------------------|-----------------------------------|----------|--------------|--|--|--|
| Standard<br>Section | Test Item                         | Judgment | Remark       |  |  |  |
| FCC CFR 47 part1,   | Electric Field Strength (E) (V/m) | PASS     | ALAK TESTING |  |  |  |
| D01v03r01 (3)(3)    | Magnetic Field Strength (H) (A/m) | PASS     | 0            |  |  |  |

## 2.2. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

| No.     | Item                                      | Uncertainty |
|---------|---|-------------|
| 1 miles | All Emissions, Radiated(<30M)(9KHz-30MHz) | ±3.90dB     |
| 2       | Temperature                               | ±0.5°C      |
| 3       | Humidity                                  | ±2%         |
| 105     |   | 5           |

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### 2.3. Test Instruments

| ALC  |       | Allow VVV           | 2307990. *         | ATTING AND      | Carlos and Carlos |
|--|-------|---------------------|--------------------|-----------------|--|
| Description                                | Brand | Model No.           | Frequency<br>Range | Calibrated Date | Calibrated Until   |
| Exposure Level<br>Tester                   | narda | ELT-400             | N-0231             | Feb. 17, 2023   | Feb. 16, 2024  |
| Magnetic field<br>probe 100cm <sup>2</sup> | narda | ELT probe<br>100cm2 | M0675              | Feb. 17, 2023   | Feb. 16, 2024  |

NOTE: 1. The calibration interval of the above test instruments is 12 months.

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# 3. Maximum Permissible Exposure

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Limit of Maximum Permissible Exposure

|                          | Limits for Occ                       | cupational / Controlle               | ed Exposure                                 |  |
|--------------------------|--------------------------------------|--------------------------------------|---|--|
| Frequency Range<br>(MHz) | Electric Field<br>Strength (E) (V/m) | Magnetic Field<br>Strength (H) (A/m) | Power Density (S)<br>(mW/ cm <sup>2</sup> ) | Averaging Time<br> E  <sup>2</sup> , H  <sup>2</sup> or<br>S (minutes) |
| 0.3-3.0                  | 614                                  | 1.63                                 | (100)*                                      | 6  |
| 3.0-30                   | 1842 / f                             | 4.89 / f                             | (900 / f)*                                  | 6,500  |
| 30-300                   | 61.4                                 | 0.163                                | 1.0   | 6  |
| 300-1500                 | KTESTING                             |                                      | F/300                                       | 6  |
| 1500-100,000             | NG O HOM                             | TING                                 | ۵ <sup>۳۰</sup> 5                           | 6  |
|                          | Limits for General                   | Population / Uncon                   | trolled Exposure                            |  |
| Frequency Range<br>(MHz) | Electric Field<br>Strength (E) (V/m) | Magnetic Field<br>Strength (H) (A/m) | Power Density (S)<br>(mW/ cm <sup>2</sup> ) | Averaging Time<br> E ², H ² or S<br>(minutes)                          |
| 0.3-1.34 614             |                                      | 1.63                                 | (100)*                                      | 30   |
| 1.34-30 824/f            |                                      | 2.19/f                               | (180 / f)*                                  | 30   |
| 30-300                   | 27.5                                 | 0.073                                | 0.2   | 30   |
| 300-1500                 |                                      | HUAKIL                               | F/1500                                      | 30   |
| 1500-100,000             | STING                                |                                      |   | 30   |

Note 1: f = frequency in MHz ; \*Plane-wave equivalent power density.

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03.

Note 3: 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 1.63A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

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#### 4. Test Procedure

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a. For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of (H-field & E- field strengths for all sides is 15cm, H-field strengths of top side is 20cm).

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.

4.1 Test Setup



4.2 Result of Maximum Permissible Exposure

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#### All test modes are tested, and the report shows only the worst mode: 10W

# For Full load:

H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| TES | Field<br>strength | Test<br>Position<br>A | Test<br>Position<br>B | Test<br>Position<br>C | Test<br>Position<br>D | Test<br>Position<br>E | Limits<br>(A/m)       |
|-----|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|     | uT 🕚              | 0.231                 | 0.199                 | 0.150                 | 0.264                 | 0.168                 | /                     |
| NG. | A/m               | 0.185                 | 0.159                 | <sup>©</sup> 0.120    | 0.211                 | 0.134                 | s <sup>ano</sup> 1.63 |

Note.

Calculation: A/m=uT/1.25

For Half Load mode:

# H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| Field<br>strength | Test<br>Position<br>A | Test<br>Position<br>B | Test<br>Position<br>C | Test<br>Position<br>D | Test<br>Position<br>E | Limits<br>(A/m) |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| uT 🌘              | 0.208                 | 0.213                 | 0.212                 | 0.229                 | 0.250                 | /               |
| ြ A/m             | 0.166                 | 0.170                 | 0.170                 | 0.183                 | 0.200                 | 1.63            |

Note.

Calculation: A/m=uT/1.25

## For No load mode:

## H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| Field<br>strength | Test<br>Position<br>A | Test<br>Position<br>B | Test<br>Position<br>C | Test<br>Position<br>D | Test<br>Position<br>E | Limits<br>(A/m) |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| ⊌ uT              | 0.176                 | 0.202                 | 。 0.211               | 0.163                 | 0.227                 | e /             |
| A/m               | 0.141                 | 0.162                 | 0.169                 | 0.130                 | 0.182                 | 1.63            |

Note.

Calculation: A/m=uT/1.25

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Remark: According KDB 680106 D01 RF Exposure Wireless Charging App v03r01, section 5, b). 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. The E- field evaluation conducted assuming a user separation distance of 15 cm according to the KDB 680106 D01 RF Exposure Wireless Charging App v03 section 3, c).

Result: The device comply with the RF exposure requirement according to 680106 D01 v03r01, section 5, b):

(1) Power transfer frequency is less than 1 MHz.

- The device operate in the frequency range for 112KHz~ 205KHz

(2) Output power from each primary coil is less than or equal to 15 watts. - The maximum output power is 10W

(3) The system 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. -- The transfer system is a charging system with only one main coil.

(4) Client device is placed directly in contact with the transmitter.The EUT is placed directly in contact with the transmitter

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

- Yes, mobile device only.

(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.

- The EUT meet the conditions.

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Photograph of Test

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\*\*\*\*\*\*THE END\*\*\*\*\*

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