

RF EXPOSURE REPORT

Equipment under test Wireless Phone Charger

Model name D7F76-AC000

FCC ID TQ8-D7F76AC000

Applicant Hyundai Mobis Co., Ltd.

Manufacturer DONGYANG E&P Inc.

Date of test(s) 2019.10.07~2019.10.17

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Issued to

Hyundai Mobis Co., Ltd.

203, Teheran-Ro, Gangnam-gu,
Seoul, 135-977, Korea

Tel: +82-31-260-0098 / Mobile: +82-10-8845-0683



Issued by

KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si,
Gyeonggi-do, 14057, Korea

473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, Korea

Tel: +82-31-425-6200 / Fax: +82-31-424-0450

| Test and report completed by : | Report approval by : |
|---|--|
|  |  |
| Won-Jun Sim Test engineer | Hyeon-Su Jang Technical manager |

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KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

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Revision history

| Revision | Date of issue | Test report No. | Description |
|----------|---------------|-----------------|-------------|
| - | 2019.10.17 | KES-RF-19T0155 | Initial |

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1.5. Information about derivative model

N/A

1.6. Device modifications

N/A

1.7. Accessory information

| Equipment | Manufacturer | Model | Serial No. | Power source |
|-----------|--------------|-------|------------|--------------|
| - | - | - | - | - |

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2. Environmental evaluation and exposure limit

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 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.

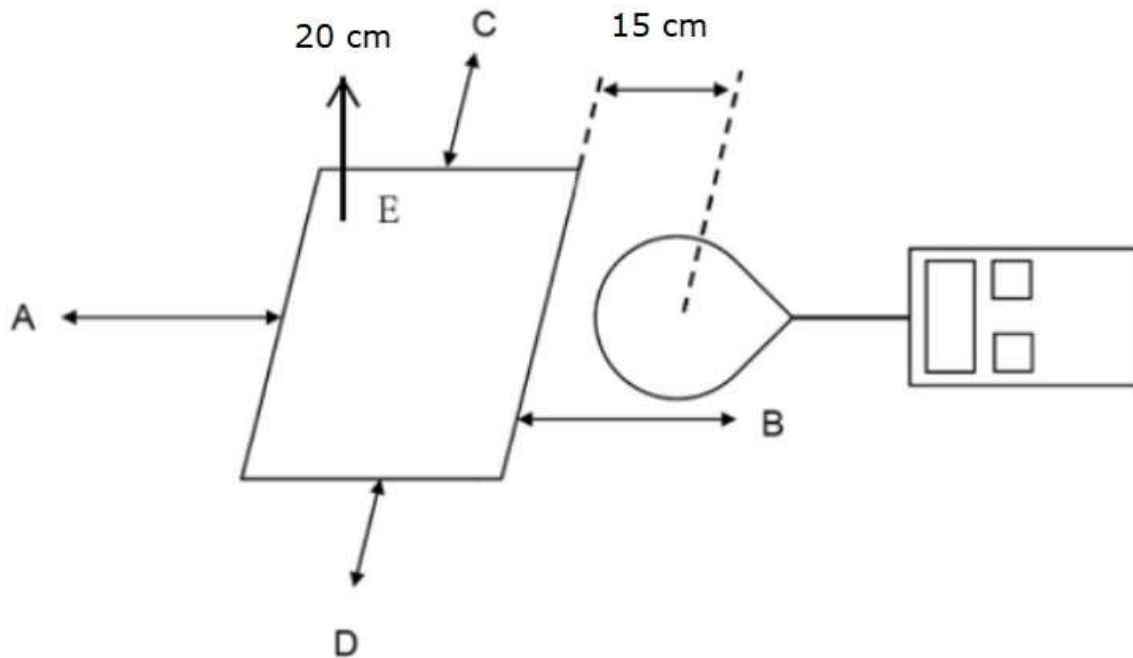
TABLE 1 - Limits for Maximum Permissible Exposure (MPE)

| 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 / Control 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 | 0.613 | 1.0 | 6 |
| 300 - 1 500 | | | f/300 | 6 |
| 1 500 - 100 000 | | | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| <u>0.3-1.34</u> | <u>614</u> | <u>1.63</u> | *(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/1 500 | 30 |
| 1 500 - 100 000 | | | 1.0 | 30 |

Note.

1. f= frequency in MHz
2. “*” means Plane-wave equivalent power density

2.1. Test Setup



1. The test was performed on 360° turn table in anechoic chamber.
2. The probe was placed at distance 15 cm or 20 cm which is between the edge of the charger and the geometric center of the probe.
3. The highest emission level was recorded and compared with limit as soon as measurement of each point ; A, B, C, D, E were completed.
4. Point F is highest measured field from moving the probe around the device at distance 15 cm.
5. The EUT was measured according to the KDB 680106 D01v03.

Note.

Equipment Approval Considerations item 5.b) of KDB 680106 D01 v03.

- a) Power transfer frequency is less than 1 MHz.
 - The device operates at a frequency of 110 kHz to 205 kHz.
- b) Output power from each primary coil is less than or equal to 15 watts.
 - Output power from each primary coil : 15 watts.
- c) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
 - The transfer system including a charging system with single coil. .
- d) Client device is placed directly in contact with the transmitter.
 - Client device is placed directly.
- e) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
 - The device is a mobile device.
- f) 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.
 - Refer to following test results.

The EUT H-Field Strength levels at 15 cm < 50 % of the MPE H-Field Strength limit 1.63 A/m
0.069 A/m (Max) < 0.815 A/m

2.2. Test results

- E-Field Strength from each edges the EUT

| Test Mode | | Point A (V/m) | Point B (V/m) | Point C (V/m) | Point D (V/m) | Point E (V/m) | Point F (V/m) |
|---------------|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Charging mode | Less than 1% of Battery | 0.433 | 0.721 | 0.433 | 0.413 | 0.422 | 0.393 |
| | Less than 50% of Battery | 0.428 | 0.718 | 0.431 | 0.408 | 0.435 | 0.376 |
| | 100% full charging of Battery. | 0.431 | 0.717 | 0.451 | 0.420 | 0.418 | 0.388 |

- H-Field Strength from each edges the EUT

| Test Mode | | Point A (A/m) | Point B (A/m) | Point C (A/m) | Point D (A/m) | Point E (A/m) | Point F (A/m) |
|---------------|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Charging mode | Less than 1% of Battery | 0.064 | 0.052 | 0.069 | 0.055 | 0.053 | 0.067 |
| | Less than 50% of Battery | 0.066 | 0.052 | 0.067 | 0.053 | 0.050 | 0.062 |
| | 100% full charging of Battery. | 0.068 | 0.054 | 0.066 | 0.054 | 0.052 | 0.064 |

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Appendix A. Measurement equipment

| Equipment | Manufacturer | Model | Serial No. | Calibration interval | Calibration due. |
|--------------------------------|--------------|---------|------------|----------------------|------------------|
| Isotropic electric Field Probe | ETS LINDGREN | HI-6105 | 00151770 | 1 year | 202.06.14 |
| Exposure Level Meter | Narda | ELT-400 | N-0538 | 1 year | 2019.11.12 |

Peripheral device




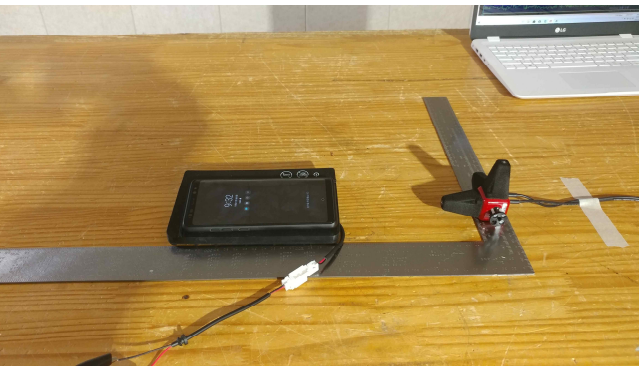

| Device | Manufacturer | Model No. | Note |
|---------------|--------------|-----------|--------------|
| Client device | Samsung | SM-N950N | Mobile Phone |

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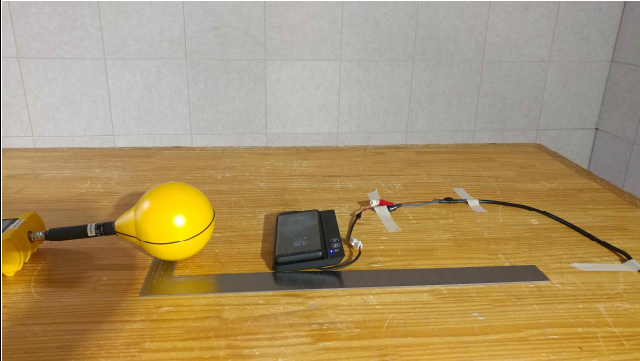

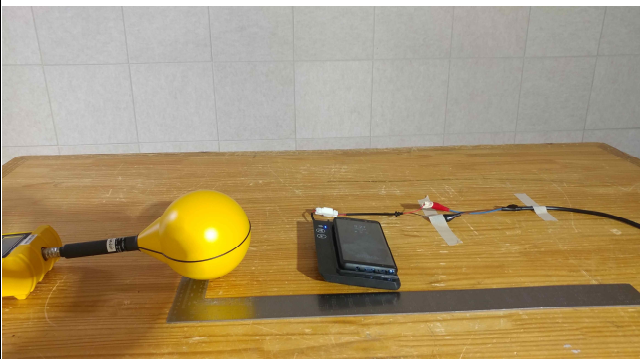
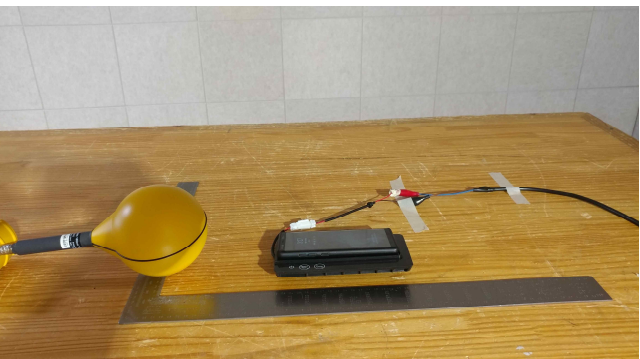

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Appendix B. Test setup photo

| E-Field | |
|---|--|
| Position A | Position B |
|  |  |
| Position C | Position D |
|  |  |
| Position E | |
|  | |

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| H-Field | |
|---|---|
| Position A | Position B |
|  |  |
| Position C | Position D |
|  |  |
| Position E | |
|  | |

The end of test report.

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