

TEST REPORT

FCC MPE Test for MAR120

Certification

APPLICANT HYUNDAI MOBIS CO., LTD.

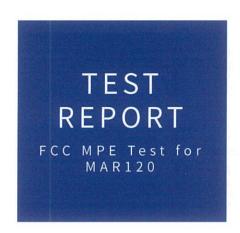
REPORT NO. HCT-RF-2002-FI002

DATE OF ISSUE February 14, 2020



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FCC ID TQ8-MAR120

| Applicant | HYUNDAI MOBIS CO., LTD. 203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea | |
|------------------------|--|--|
| Eut Type Model Name | UNIT ASSY-RR CORNER RADAR MAR120 | |
| Date of Receipt | May 28, 2019 | |
| Frequency range | 76 GHz ~ 77 GHz | |

Tested by Kwang Il Yoon

Technical Manager Jong Seok Lee

HCT CO., LTD.

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han Lee / CEC



REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue | Description |
|--------------|-------------------|-----------------|
| 0 | February 14, 2020 | Initial Release |

The measurements shown in this report were made in accordance with the procedures specified in § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

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RF Exposure Statement

1. Limit

According to § 1.1310, § 2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

| Frequency range (MHz) | Electric field Strength (V/m) | Magneticfield Strength (A/m) | Powerdensity (mW/cm²) | Averagingtime (minutes) |
|--------------------------|----------------------------------|---------------------------------|--------------------------|----------------------------|
| 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 - | | | 1.0 | 30 |
| 100.000 | | | | |

F = frequency in MHz

2. Maximum Permissible Exposure Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density

P = Power input to antenna

G = Power gain to the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

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^{* =} Plane-wave equivalent power density



3. RESULTS

3-1.77G Radar_Normal Resolution

| Max Average EIRP output Power | 19.15 | dBm |
|---|-------------|--------------------|
| Max Average EIRP output Power | 82.22 | mW |
| Prediction distance | 20.00 | cm |
| Prediction frequency | 76000~77000 | MHz |
| Power density at prediction frequency(S) | 0.0164 | mW/cm ² |
| MPE limit for uncontrolled exposure at prediction frequency | 1.000 | mW/cm ² |

3-2.1091

| EIRP | 19.15 | (dBm) |
|-----------|-------|-------|
| ERP | 17.00 | (dBm) |
| ERP | 0.050 | (W) |
| ERP Limit | 3.00 | (W) |
| MARGIN | 17.77 | (dB) |

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3-1.77G Radar_ High Resolution

| Max Average EIRP output Power | 20.71 | dBm |
|---|-------------|--------------------|
| Max Average EIRP output Power | 117.76 | mW |
| Prediction distance | 20.00 | cm |
| Prediction frequency | 76000~77000 | MHz |
| Power density at prediction frequency(S) | 0.0234 | mW/cm ² |
| MPE limit for uncontrolled exposure at prediction frequency | 1.000 | mW/cm ² |

3-2.1091

| EIRP | 20.71 | (dBm) |
|-----------|-------|-------|
| ERP | 18.56 | (dBm) |
| ERP | 0.072 | (W) |
| ERP Limit | 3.00 | (W) |
| MARGIN | 16.21 | (dB) |

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