

On your side



TEST REPORT

FCC MPE Test for MAR320

Certification

APPLICANT

HYUNDAI MOBIS CO., LTD.

REPORT NO.

HCT-RF-1907-FC002-R1

DATE OF ISSUE

July 29, 2019

HCT Co., Ltd.

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Other Model
-

Applicant **HYUNDAI MOBIS CO., LTD.**
203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea

Eut Type
Model Name UNIT ASSY-FR RADAR
MAR320

FCC ID TQ8-MAR320

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.
Soo Chan Lee
SooChan Lee / CEO

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	July 05, 2019	Initial Release
1	July 29, 2019	We changed the distance and recalculated.

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)

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)	Magnetic field Strength (A/m)	Power density (mW/cm ²)	Averaging time (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 - 100.000.....	1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

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

3. RESULTS

3-1. 77G Radar_Short

Max Average EIRP output Power	24.88	dBm
Max Average EIRP output Power	307.610	mW
Prediction distance	20.00	cm
Prediction frequency	76000~77000	MHz
Power density at prediction frequency(S)	0.061	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

3-2.1091

EIRP	24.88 (dBm)
ERP	22.73 (dBm)
ERP	0.187 (W)
ERP Limit	3.00 (W)
MARGIN	12.04 (dB)

3-1. 77G Radar_ Long

Max Average EIRP output Power	29.23	dBm
Max Average EIRP output Power	837.529	mW
Prediction distance	20.00	cm
Prediction frequency	76000~77000	MHz
Power density at prediction frequency(S)	0.167	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

3-2.1091

EIRP	29.23 (dBm)
ERP	27.08 (dBm)
ERP	0.511 (W)
ERP Limit	3.00 (W)
MARGIN	7.69 (dB)