

TEST REPORT

FCC MPE Test for MAR110
Certification

APPLICANT
HYUNDAI MOBIS CO., LTD.

REPORT NO.
HCT-RF-2103-FI002

DATE OF ISSUE
March 8, 2021

Tested by
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TEST REPORT FCC MPE Test for MAR110	REPORT NO. HCT-RF-2103-FI002
	DATE OF ISSUE March 08, 2021
	Additional Model -

Applicant	HYUNDAI MOBIS CO., LTD. 203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea (06141)
Eut Type Model Name	Short Range Rada MAR110
FCC ID	TQ8-MAR110
Frequency range	77 GHz ~ 81 GHz

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	March 08, 2021	Initial Release

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

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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)	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. 79G Radar_Long

EIRP[Radiated Average Power]	21.50	dBm
EIRP[Radiated Average Power]	141.254	mW
Prediction distance	20.00	cm
Prediction frequency	77000~81000	MHz
Power density at prediction frequency(S)	0.0281	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

3-2.1091

EIRP	21.50	(dBm)
ERP	19.35	(dBm)
ERP	0.086	(W)
ERP Limit	3.00	(W)
MARGIN	15.42	(dB)

3-1. 79G Radar_Mid

EIRP[Radiated Average Power]	21.50	dBm
EIRP[Radiated Average Power]	141.254	mW
Prediction distance	20.00	cm
Prediction frequency	77000~81000	MHz
Power density at prediction frequency(S)	0.0281	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

3-2.1091

EIRP	21.50	(dBm)
ERP	19.35	(dBm)
ERP	0.086	(W)
ERP Limit	3.00	(W)
MARGIN	15.42	(dB)

3-1. 79G Radar_High

EIRP[Radiated Average Power]	21.50	dBm
EIRP[Radiated Average Power]	141.254	mW
Prediction distance	20.00	cm
Prediction frequency	77000~81000	MHz
Power density at prediction frequency(S)	0.0281	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

3-2.1091

EIRP	21.50	(dBm)
ERP	19.35	(dBm)
ERP	0.086	(W)
ERP Limit	3.00	(W)
MARGIN	15.42	(dB)