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TEST REPORT

FCC MPE Test for DA330SNFN

Certification

APPLICANT
HYUNDAI MOBIS CO., LTD

REPORT NO.
HCT-RF-2004-FC005

DATE OF ISSUE
April 03, 2020

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Additional Model
DA330SNGG, DA331SNGG, DA332SNGG, DA330SNGN, DA330SNGL, DA330SNMG, DA330SNEP, DA331SNEP, DA333SNGG, DA334SNGG, DA331SNGN, DA333SNEP, DA330SNUA

Applicant	**HYUNDAI MOBIS CO., LTD** 203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea
Eut Type	Car Audio System
Model Name	DA330SNFN
FCC ID	TQ8-DA330SNFN

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.

Tested by
Jin Gwan Lee (signature)

Technical Manager
Jong Seok Lee (signature)

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	April 03, 2020	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.

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. Bluetooth

Average output Power at antenna input terminal	4.00	dBm
Average output Power at antenna input terminal	2.51	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	-0.18	dBi
Antenna Gain(numeric)	0.959	-
Power density at prediction frequency(S)	0.0005	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	3.82	(dBm)
ERP	1.67	(dBm)
ERP	0.001	(W)
ERP Limit	3.00	(W)
MARGIN	33.10	(dB)

3-2. DTS

Average output Power at antenna input terminal	6.00	dBm
Average output Power at antenna input terminal	3.96	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2462	MHz
Antenna Gain(typical)	-0.01	dBi
Antenna Gain(numeric)	0.998	-
Power density at prediction frequency(S)	0.0008	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	5.99	(dBm)
ERP	3.84	(dBm)
ERP	0.002	(W)
ERP Limit	3.00	(W)
MARGIN	30.93	(dB)

3-3. UNII

Average output Power at antenna input terminal	10.00	dBm
Average output Power at antenna input terminal	10.00	mW
Prediction distance	20.00	cm
Prediction frequency	5180 – 5825	MHz
Antenna Gain(typical)	-0.18	dBi
Antenna Gain(numeric)	0.959	-
Power density at prediction frequency(S)	0.0019	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	9.82	(dBm)
ERP	7.67	(dBm)
ERP	0.006	(W)
ERP Limit	3.00	(W)
MARGIN	27.10	(dB)

Simultaneous transmission operations

->Simultaneous MPE 20cm is DTS (0.0008/1.0) + BT (0.0005/1.0) = 0.0013 < 1

->Simultaneous MPE 20cm is UNII (0.0019/1.0) + BT (0.0005/1.0) = 0.0024 < 1