

FCC MPE REPORT

Certification

Applicant Name:
HYUNDAI MOBIS CO., LTD.

Address:
203, Teheran-ro, Gangnam-gu, Seoul, Korea (135-977)

Date of Issue:

May 26, 2017

Test Site/Location:

HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeo, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Report No.: HCT-R-1705-E033

HCT FRN: 0005866421

FCC ID : TQ8-ADC31A9AN

APPLICANT : HYUNDAI MOBIS CO., LTD.

Model(s): ADC31A9AN

EUT Type: Car Audio System

Frequency Range: 2 402 MHz – 2 480 MHz (Bluetooth)
2 412 MHz – 2 462 MHz (2.4 GHz Band)
5 180 MHz – 5 825 MHz (5 GHz Band)

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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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1705-E033	May 26, 2017	- First Approval Report

RF Exposure Statement

1. LIMITS

According to §1.1310 and §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 of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

3. RESULTS

*Bluetooth mode

Max Peak output Power at antenna input terminal	-0.876	dBm
Max Peak output Power at antenna input terminal	0.817	mW
Prediction distance	20.000	cm
Prediction frequency	2480.000	MHz
Antenna Gain(typical)	2.460	dBi
Antenna Gain(numeric)	1.762	-
Power density at prediction frequency(S)	0.0003	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

*WLAN DTS Band (2.4 GHz_802.11b)

Max Peak output Power at antenna input terminal	22.990	dBm
Max Peak output Power at antenna input terminal	199.067	mW
Prediction distance	20.000	cm
Prediction frequency	2412.000	MHz
Antenna Gain(typical)	-0.500	dBi
Antenna Gain(numeric)	0.891	-
Power density at prediction frequency(S)	0.0353	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

UNII Band 1(802.11a, n, ac)

Max Peak output Power at antenna input terminal	14.040	dBm
Max Peak output Power at antenna input terminal	25.351	mW
Prediction distance	20.000	cm
Prediction frequency	5180.000	MHz
Antenna Gain(typical)	5.780	dBi
Antenna Gain(numeric)	3.784	-
Power density at prediction frequency(S)	0.0191	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

UNII Band 2A(802.11a, n, ac)

Max Peak output Power at antenna input terminal	14.070	dBm
Max Peak output Power at antenna input terminal	25.527	mW
Prediction distance	20.000	cm
Prediction frequency	5260.000	MHz
Antenna Gain(typical)	5.780	dBi
Antenna Gain(numeric)	3.784	-
Power density at prediction frequency(S)	0.0192	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

UNII Band 2C(802.11a, n, ac)

Max Peak output Power at antenna input terminal	13.660	dBm
Max Peak output Power at antenna input terminal	23.227	mW
Prediction distance	20.000	cm
Prediction frequency	5720.000	MHz
Antenna Gain(typical)	5.780	dBi
Antenna Gain(numeric)	3.784	-
Power density at prediction frequency(S)	0.0175	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

UNII Band 3(802.11a, n, ac)

Max Peak output Power at antenna input terminal	13.350	dBm
Max Peak output Power at antenna input terminal	21.627	mW
Prediction distance	20.000	cm
Prediction frequency	5825.000	MHz
Antenna Gain(typical)	5.780	dBi
Antenna Gain(numeric)	3.784	-
Power density at prediction frequency(S)	0.0163	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²