HCT CO.,LTD.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
TEL: +82-31-645-6300 FAX: +82-31-645-6401

FCC MPE REPORT

Certification

Applicant Name:
HYUNDAI MOBIS CO., LTD.

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

Date of Issue:
January 07, 2019

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

Report No.: HCT-RF-1810-FI024-R2

FCC ID:	**TQ8-AC142C6AN**
APPLICANT:	**HYUNDAI MOBIS CO., LTD.**

FCC Model:	AC142C6AN
EUT Type:	Car Audio System
Frequency Range:	2402 MHz - 2480 MHz (Bluetooth)

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)

Report prepared by : Se Wook Park
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1810-FI024	October 31, 2018	- First Approval Report
HCT-RF-1810-FI024-R1	December 17, 2018	- Changed the FCC ID
HCT-RF-1810-FI024-R2	January 07, 2019	- Changed the FCC ID and Model name

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

3-1. Bluetooth

Average output Power at antenna input terminal	4.00	dBm
Average output Power at antenna input terminal	2.512	mW
Prediction distance	20.00	cm
Prediction frequency	2402 ~ 2480	MHz
Antenna Gain(typical)	-0.10	dBi
Antenna Gain(numeric)	0.977	-
Power density at prediction frequency(S)	0.00049	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.00	mW/cm^2

2.1091

EIRP	3.90 (dBm)
ERP	1.75 (dBm)
ERP	0.001 (W)
ERP Limit	3.0 (W)
MARGIN	33.02 (dB)

3-2. CDMA BC0

Average output Power at antenna input terminal	26.000	dBm
Average output Power at antenna input terminal	398.107	mW
Prediction distance	20.000	cm
Prediction frequency	824-849	MHz
Cable Loss	-1.71	dB
Antenna Gain(typical)	2.800	dBi
Antenna Gain(numeric)	1.905	-
Power density at prediction frequency(S)	0.1018	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.5493	mW/cm^2

2.1091

EIRP	27.090	(dBm)
ERP	24.94	(dBm)
ERP	0.31	(W)
ERP Limit	1.50	(W)
MARGIN	6.82	(dB)

3-3. CDMA BC1

Average output Power at antenna input terminal	26.000	dBm
Average output Power at antenna input terminal	398.107	mW
Prediction distance	20.000	cm
Prediction frequency	1850-1910	MHz
Cable Loss	-3.300	dB
Antenna Gain(typical)	5.230	dBi
Antenna Gain(numeric)	3.334	-
Power density at prediction frequency(S)	0.12352	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	27.930	(dBm)
ERP	25.78	(dBm)
ERP	0.378	(W)
ERP Limit	3.00	(W)
MARGIN	8.99	(dB)

3-4. LTE B4

Average output Power at antenna input terminal	25.000	dBm
Average output Power at antenna input terminal	316.228	mW
Prediction distance	20.000	cm
Prediction frequency	1710-1755	MHz
Cable Loss	-3.300	dB
Antenna Gain(typical)	3.960	dBi
Antenna Gain(numeric)	2.489	-
Power density at prediction frequency(S)	0.07324	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	25.660	(dBm)
ERP	23.51	(dBm)
ERP	0.224	(W)
ERP Limit	3.00	(W)
MARGIN	11.26	(dB)

3-5. LTE B13

Average output Power at antenna input terminal	25.000	dBm
Average output Power at antenna input terminal	316.228	mW
Prediction distance	20.000	cm
Prediction frequency	777-787	MHz
Cable Loss	-1.710	dB
Antenna Gain(typical)	1.380	dBi
Antenna Gain(numeric)	1.374	-
Power density at prediction frequency(S)	0.0583	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.5180	mW/cm^2

2.1091

EIRP	24.670	(dBm)
ERP	22.52	(dBm)
ERP	0.18	(W)
ERP Limit	1.50	(W)
MARGIN	9.24	(dB)

-> Worst Case: Simultaneous MPE 20cm is

BT (0.00049 / 1.00) + CDMA BC0 (0.1018 / 0.5493) + LTE B13 (0.0583 / 0.5180) = 0.298365 < 1