TEST REPORT

of

FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: TQ8-AM1A1B0AN

Equipment Under Test	:	DIGITAL CAR AUDIO SYSTEM
Model Name	:	AM1A1B0AN
Variant Models	:	AM112A7GG, AM112A7GE, AM112A7GN, AM111B0GL, AM1A1B0KN, AM114A7GG, AM112A7GL, AM1A2A7KN, AM1A2A7AN
Applicant	:	Hyundai MOBIS Co., Ltd.
Manufacturer	:	Hyundai MOBIS Co., Ltd.
Date of Test(s)	:	2015.06.09 ~ 2015.06.15
Date of Issue	:	2015.06.17

In the configuration tested, the EUT complied with the standards specified above.

Tested By: **Jungmin Yang** **Date:** **2015.06.17**

Approved By: **Hyunchae You** **Date:** **2015.06.17**

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
-Wireless Div. 2FL, 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 435-837
All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.
Telephone : +82 31 688 0901
FAX : +82 31 688 0921

1.2. Details of applicant

Applicant : Hyundai MOBIS Co., Ltd.
Address : 203, Teheran-ro, Gangnam-gu, Seoul, 135-977, Korea
Contact Person : Choi, Seung-Hoon
Phone No. : +82 31 260 0098

1.3. Description of EUT

Kind of Product	DIGITAL CAR AUDIO SYSTEM
Model Name	AM1A1B0AN
Variant Models	AM112A7GG, AM112A7GE, AM112A7GN, AM111B0GL, AM1A1B0KN, AM114A7GG, AM112A7GL, AM1A2A7KN, AM1A2A7AN
Power Supply	DC 14.4 V
Frequency Range	2 402 ㎒ ~ 2 480 ㎒ (BT)
Modulation Technique	GFSK, π/4DQPSK, 8DPSK
Number of Channels	79 channels (BT)
Antenna Type	Internal type
Antenna Gain	3.50 ㏈i

1.4. Test report revision

Revision	Report number	Date of Issue	Description
0	F690501/RF-RTL008869	2015.06.17	Initial

1.5. Information of variant models

YD (A Type)		BT	CDP	VR	SR	Country
Basic model	AM1A1B0AN	O	O	O	O	North America band
Variant models	AM1A1B0KN	O	O	O	O	North America band, different SR band from basic model
	AM1A2A7AN	O	O	O	O	North America band, different SR band from basic model
	AM1A2A7KN	O	O	O	O	North America band, different SR band from basic model
	AM112A7GG	O	O	X	X	General band
	AM112A7GE	O	O	X	X	Europe band
	AM112A7GN	O	O	X	X	North America band
	AM111B0GL	O	O	X	X	Colombia band
	AM114A7GG	O	O	X	X	General band
	AM112A7GL	O	O	X	X	Colombia band

Note;
VR: Voice Recordation
BT: BlueTooth
CDP: CD Player
SR: Satellite Radio

2. RF Exposure Evaluation

2.1. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (㎒)	Electric Field Strength(V/m)	Magnetic Field Strength (A/m)	Power Density (㎽/㎠)	Average Time
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f^2	6
30 - 300	61.4	0.163	1.0	6
300 – 1 500	-	-	f/300	6
1 500 – 100 000	-	-	5	6
(B) Limits for General Population/Uncontrolled Exposure				
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 – 1 500	-	-	f/1500	30
1 500 – 100 000	-	-	**1.0**	**30**

2.1.1. Friis transmission formula: Pd = (Pout*G)/(4*pi*R^2)

Where Pd = power density in ㎽/㎠

Pout = output power to antenna in ㎽

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in ㎝

Pd the limit of MPE, 1 ㎽/㎠. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

2.1.2. Test Result of RF Exposure Evaluation

Test Item : RF Exposure Evaluation Data
Test Mode : Normal Operation

2.1.3. Output Power into Antenna & RF Exposure Evaluation Distance

- Maximum tune up tolerance

Operating Frequency Range (㎒)	Maximum Average Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 ㎝ (㎽/㎠)	Limits (㎽/㎠)
2 402 ~ 2 480	4	3.50	0.001 119	1

Note :
1. The power density Pd (5th column) at a distance of 20 ㎝ calculated from the friis transmission formula is far below the limit of 1 ㎽/㎠.