TEST REPORT

of

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

FCC ID : TQ8-AC110ENGG

Equipment Under Test	:	DIGITAL CAR AUDIO SYSTEM
Model Name	:	AC110ENGG
Variant Model Name	:	AC110ENGN, AC111ENGG, AC111ENGN,AC110ENGE, AC110ENGL
Applicant	:	Hyundai MOBIS Co., Ltd.
Manufacturer	:	Hyundai MOBIS Co., Ltd.
Date of Test(s)	:	2015.10.05 ~ 215.10.12
Date of Issue	:	2015.10.12

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

Tested By: _Jinhyoung Cho_   Date: **2015.10.12**

Approved By: _Hyunchae You_   Date: **2015.10.12**

INDEX

<u>Table of Contents</u>   Page

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory)   **4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807**   *http://www.sgsgroup.kr*

RTT5041-20(2015.10.01)(3)   *Tel. +82 31 428 5700 / Fax. +82 31 427 2370*   A4(210mm x 297mm)

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, 15807
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.
Phone No.   :   + 82 31 688 0901
Fax No.   :   + 82 31 688 0921

1.2. Details of Applicant

Applicant   :   Hyundai MOBIS Co., Ltd.
Address   :   203, Teheran-ro, Gangnam-gu, Seoul, 06141, Republic of 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	AC110ENGG
Variant Model Name	AC110ENGN, AC111ENGG, AC111ENGN, AC110ENGE, AC110ENGL
Power Supply	DC 14.4 V (Vehicle battery)
Frequency Range	2 402 ㎒ ~ 2 480 ㎒ (Bluetooth)
Modulation Technique	GFSK, π/4DQPSK, 8DPSK
Number of Channels	79 channels
Antenna Type	Multilayer Chip Antenna
Antenna Gain	3.50 ㏈ i

1.4. Test report revision

Revision	Report number	Date of Issue	Description
0	F690501/RF-RTL009177	2015.10.12	Initial

1.5. Information of variant model

HM PE (B Type)		H/W		S/W	
		Bluetooth	Voice Recognition	RDS	FM/AM BAND
Basic Model	AC110ENGG	◯	X	X	General Band
Variant Model	AC110ENGN	◯	X	X	North America Band
	AC111ENGG	◯	X	X	General Band
	AC111ENGN	◯	X	X	North America Band
	AC110ENGE	◯	X	X	Europe Band
	AC110ENGL	◯	X	X	Colombia Band

2. RF Exposure Evaluation

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

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b)

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 /Control Exposures				
300 – 1 500	--	--	F/300	6
1 500 – 100 000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300 – 1 500	--	--	F/1500	30
1 500 – 100 000	**--**	**--**	**1**	**30**

2.2. 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 = 3.141 6

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.

2.3. Test Result of RF Exposure Evaluation

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

2.4. Output Power into Antenna & RF Exposure Evaluation Distance

Channel	Output Average Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 ㎝ (㎽/㎠)	LIMITS (㎽/㎠)
Maximum tune up tolerance	4.00	3.50	0.001 453	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 ㎽/㎠.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.