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TEST REPORT

of

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

FCC ID: TQ8-AU210GYGG

Equipment Under Test	:	DIGITAL CAR AUDIO SYSTEM
Model Name	:	AU210GYGG
Variant Model Name(s)	:	Refer to the page 3
Applicant	:	Hyundai Mobis Co., Ltd.
Manufacturer	:	Hyundai Mobis Co., Ltd.
Date of Receipt	:	2021.02.17
Date of Test(s)	:	2021.02.22 ~ 2021.03.19
Date of Issue	:	2021.03.22

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

Tested by: Jinhyoung Cho

Technical Manager: Jungmin Yang

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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.

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1.2. Details of Applicant

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

1.3. Details of Manufacturer

Company : Same as applicant
Address : Same as applicant

1.4. Description of EUT

Kind of Product	DIGITAL CAR AUDIO SYSTEM
Model Name	AU210GYGG
Variant Model Names	AU210GYGN, AU210GYGP, AU210GYEG, AU210GYEP, AU211GYEP, AU212GYGL, AU211GYGG, AU210GYBB, AU211GYMG
Power Supply	DC 14.4 V
Frequency Range	2 402 ㎒ ~ 2 480 ㎒ (Bluetooth)
Modulation Technique	GFSK, π/4DQPSK, 8DPSK
Number of Channels	79 channels (Bluetooth)
Antenna Type	Pattern antenna
Antenna Gain	-0.01 ㏈i
H/W Version	1.0
S/W Version	1.0

1.5. Information of Variant Models

Model Names		Broadcast Frequency
Basic Model	AU210GYGG	A1
Variant Models	AU210GYGN	A2
	AU210GYGP	A8
	AU210GYEG	A1
	AU210GYEP	A8
	AU211GYEP	A8
	AU212GYGL	A5
	AU211GYGG	A1
	AU210GYBB	A7
	AU211GYMG	A1

Band	Code	Frequency Range	Step
FM	A1	87.5-108.0 ㎒	100 ㎑
AM		531-1 602 ㎑	9 ㎑
FM	A2	87.5-107.9 ㎒	200 ㎑
AM		530-1 710 ㎑	10 ㎑
FM	A5	87.5-107.9 ㎒	100 ㎑
AM		530-1 710 ㎑	10 ㎑
FM	A7	76.1-107.9 ㎒	100 ㎑
AM		530-1 710 ㎑	10 ㎑
FM	A8	87.5-108.0 ㎒	100 ㎑
AM		522-1 620 ㎑	9 ㎑

1.6. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL001819	2021.03.22	Initial

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

Bluetooth

- Maximum tune up tolerance

Frequency Range (㎒)	Output Average Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 ㎝ (㎽/㎠)	Limits (㎽/㎠)
2 400 ~ 2 483.5	4	-0.01	0.000 499	1

Note;

- The power density Pd (5th column) at a distance of 20 ㎝ calculated from the friis transmission formula is far below the limit of 1 ㎽/㎠.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with minimum 20 ㎝ between the radiator and your body.
- The antenna gain of this transmitter is less than 6 dBi and must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.
- According to KDB 447498 D01 RF Exposure Guidance 4.1.

- End of the Test Report -