

RF Exposure Evaluation Report

Product Name : Car Audio

Model No. : 55T0

FCC ID : AX277S0

Applicant : Faurecia Clarion Electronics Co., Ltd.

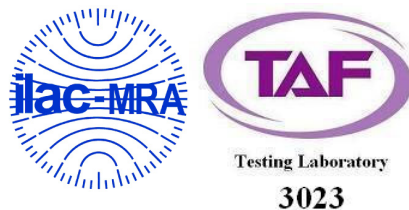
Address : 7-2, Shintoshin, Chuo-ku, Saitama Shi, Saitama, 330-0081 Japan

Date of Receipt : Aug. 20, 2021

Date of Declaration : Sep. 27, 2021

Report No. : 2180835R-RFUSWL2V01

Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Issued Date: Sep. 27, 2021

Report No.: 2180835R-RFUSWL2V01



Product Name	Car Audio	
Applicant	Faurecia Clarion Electronics Co., Ltd.	
Address	7-2, Shintoshin, Chuo-ku, Saitama Shi, Saitama, 330-0081 Japan	
Manufacturer	Faurecia Clarion Electronics Co., Ltd.	
Model No.	55T0	
FCC ID.	AX277S0	
Trade Name	Clarion	
Applicable Standard	KDB 447498 D01 v06	<input checked="" type="checkbox"/> Minimum test separation distance \geq 20 cm <input type="checkbox"/> For low power devices
Test Result	Complied	

Documented By :



(Senior Adm. Specialist / Joanne Lin)

Tested By :



(Supervisor / Wen Lee)

Approved By :



(Manager / Tim Sung)

Revision History

Report No.	Version	Description	Issued Date
2180835R-RFUSWL2V01	V1.0	Initial issue of report.	2021-09-27

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Car Audio
Trade Name	Clarion
Model No.	55T0
FCC ID.	AX277S0
Frequency Range	802.11b/g/n-20MHz: 2412-2462MHz 802.11n-40MHz: 2422-2452MHz 802.11a/n-20MHz: 5180-5240MHz, 802.11n-40MHz: 5190-5230 802.11ac-80MHz: 5210MHz, 5775MHz
Number of Channels	802.11b/g/n-20MHz: 11CH, 802.11n-40MHz: 9CH 802.11a/n-20MHz: 4CH, 802.11n-40MHz: 2CH, 802.11ac-80MHz: 2CH
Data Speed	802.11a/g: 6 - 54Mbps, 802.11b: 1-11Mbps 802.11n: up to 72.2Mbps, 150Mbps 802.11ac-80MHz: up to 433.3Mbps
Channel separation	802.11b/g/n: 5MHz 802.11n-40MHz: 40MHz
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11a/g/n/ac: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type	Pattern Antenna
Channel Control	Auto
Antenna Gain	Refer to the table "Antenna List"

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Clarion	N/A	Pattern Antenna	-0.98dBi for 2.4GHz -1.37dBi for 5.15~5.25GHz 0.39dBi for 5.725~5.825GHz

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. Limits

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 (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

2.3. Test Result of RF Exposure Evaluation

Product : Car Audio
Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: -0.98dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
2.4G	2462	20.84	121.339	0.0193	1	Pass

Note: The Maximum conducted output power is refer to report No.: 2180835R-RFUSWL2V01 from the DEKRA.

WLAN 5G Peak Gain: 0.39dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
2.4G	5240	13.02	20.045	0.0044	1	Pass

Note: The Maximum conducted output power is refer to report No.: 2180835R-RFUSWL5V01 from the DEKRA.