

# RF Exposure Evaluation Report

Product Name : Car Audio

Model No. : 77S0

FCC ID : AX277S0

Applicant : Clarion Co., Ltd.

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

Date of Receipt : Aug. 13, 2020

Date of Declaration : Oct. 22, 2020

Report No. : 2080390R-E3082100013

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.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.

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: Oct. 22, 2020

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Product Name	Car Audio	
Applicant	Clarion Co., Ltd.	
Address	7-2, Shintoshin, Chuo-ku, Saitama Shi, Saitama, 330-0081 Japan	
Manufacturer	Clarion Co., Ltd.	
Model No.	77S0	
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 :

Jinn Chen

( Senior Adm. Specialist / Jinn Chen )

Tested By :

wen Lee

( Senior Engineer / Wen Lee )

Approved By :



( Director / Vincent Lin )

## **Revision History**

Report No.	Version	Description	Issued Date
2080390R-E3082100013	V1.0	Initial issue of report.	2020-10-22

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Car Audio
Trade Name	Clarion
Model No.	77S0
FCC ID.	AX277S0
Frequency Range	2402-2480MHz
Number of Channels	79
Type of Modulation	FHSS: GFSK(1Mbps) / $\pi$ / 4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PCB Antenna
Channel Control	Auto
Antenna Gain	Refer to the table "Antenna List"

### 1.2. Antenna List :

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Clarion Malaysia Sdn.Bhd.	N/A	PCB Antenna	4dBi for 2.4GHz

## 2. RF Exposure Evaluation

### 2.1. 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

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

## 2.2. Test Result of RF Exposure Evaluation

Product : Car Audio  
Test Item : RF Exposure Evaluation

### BT 2.4G Peak Gain: 4dBi

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
78	2480	-0.91	100	0.811	0.0004	1	Pass

Note: The conducted output power is refer to report No.: 2080390R-E3082100013 from the DEKRA.