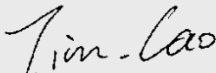
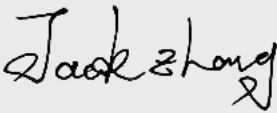


Test report No:
2280049R-RF-US-P20V01

SAR Exemption Evaluation Report

Product Name	Car Aroma Diffuser OlfaPure
TradeMark	Philips
Model and /or type reference	OP7300
FCC ID	2A3TQ-OP7300
Applicant's name / address	Lumileds (Shanghai) Management Co., Ltd. 3rd Floor, No.19-20, Lane 299, Wen Shui Road, Jing An District.
Test method requested, standard	FCC 47CFR §2.1091
Verdict Summary	IN COMPLIANCE
Documented By (name / position & signature)	Tim Cao/ Project Engineer 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2023-04-04
Report Version	V1.1
Report template No	Template_FCC MPE-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Aug. 01, 2022
Date (start test)	Aug. 05, 2022
Date (finish test)	Sep. 30, 2022

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15°C - 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
UN	: Nominal voltage
Tx	: Transmitter
Rx	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2280049R-RF-US-P20V01	V1.0	Initial issue of report.	2023-02-20
2280049R-RF-US-P20V01	V1.1	Modify the applicant address, as well as the SAR exclusion threshold. Page 5 adds KDB 447498 standard. V1.0 has expired.	2023-04-04

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with KDB 447498 D04 and FCC 47CFR §2.1093.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, it is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;

1 General Information

1.1 General Description of the Item(s)

Product Name	Car Aroma Diffuser OlfaPure
Model No.	OP7300
FCC ID.....	2A3TQ-OP7300
Hardware Version	1.3
Software Version.....	V1.1.6
Manufacturer.....	Lumileds (Shanghai) Management Co., Ltd.
Manufacturer Address.....	3rd Floor, No.19-20, Lane 299, Wen Shui Road, Jing An District.
Factory	Arts Electronics Co. Ltd.
Address	No.1, Shang Xing Road, Shangjiao Community, Chang' an Town, DG

Wireless specification.....	BLE					
Operating frequency range(s).....	2400~2483.5MHz					
Type of Modulation.....	GFSK					
PHYS	☒	LE 1M	☒	LE 2M	☐	LE Coded S=2/8
Data Rate	☒	1Mbit/s	☒	2Mbit/s	☐	500/125 Kbit/s
Number of channel.....	40					
Operating Temperature Range.....	-20℃~50℃					

Rated power supply	Voltage and Frequency	
	☐	AC: 220-240 V, 50/60 Hz, 8.5W/11.5W
	☐	AC: 100 - 240 V, 50/60 Hz
	☒	DC: 5 V
	☐	Battery:
	☐	Adapter: 5Vdc
Brand of adapter	N/A	
Adapter model.....	N/A	
Mounting position	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held/portable equipment
	☒	Other: In-vehicle equipment

1.2 Antenna Information

Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	Others:.....	
Antenna technology.....	☒	SISO	
	☐	MIMO	☐ CDD ☐ Beam-forming
	☐	External	☐ Dipole ☐ Sectorized
Antenna Type.....	☒	Internal	☐ PIFA ☒ FPC ☐ Dipole ☐ Others.....
Antenna Gain	-0.58dBi		

2. RF Exposure Evaluation

2.1. Limits

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

The example values shown in Table B.2 are for illustration only

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

2.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

2.3. Test Result of RF Exposure Evaluation

Product	:	Car Aroma Diffuser OlfaPure
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

The tune-up tolerance is 1 dB, the maximum conducted power we used to calculate RF exposure is 1.13dBm.

Wireless Configuration	Exposure Condition	Pmax	Pmax	Distance	Frequency (GHz)	Calculation Result	Stand-alone Test exclusion threshold	SAR Test
		(dBm)	(mw)			(mw)	(mw)	
BT	Body	1.13	1.30	5.	2.48	1.30	2.77	No

Threshold for no SAR evaluation in 5mm is 2.77mW.

Maximum TX Power is 1.30mW

Conclusion: 2.4GHz SAR was not required.

_____ The End _____