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Order No.:	11715502
Report No.:	17-11715502-FCC-RF2
Date:	May 29, 2017
Model No.:	OCB-1000
FCC ID :	WSX-OCB-1000

FCC RF Exposure Report

in accordance with
FCC Part 1 Subpart I §1.1307(b) & §1.1310

for

O'Care Bluetooth Bridge

OSANG Healthcare Co., Ltd
132, Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do 14040, Korea

Summary of Test Results:

The following tests were performed on a sample submitted for evaluation of compliance with FCC Part 1 Subpart I Section 1.1307(b) & 1.1310.

No	FCC Reference Clause No.	Conformance Requirements	Result Verdict	Remark
1	1.1307(b)(1) 1.1310	RF Exposure of Humans to RF Fields	Complied	Note 1

Note 1. The EUT uses a Wi-Fi module that is approved by FCC FMA. (FCC ID: T9J-RN171) Also module was installed on this device as same condition with original approval condition. RF exposure evaluation was not performed about Wi-Fi in this report. The Wi-Fi usage conditions of this product are limited and can only be used after connecting to OSANG Healthcare's device. (Refer user manual.) And the EUT does not operate a simultaneous transmission between Wi-Fi and Bluetooth LE. RF Exposure evaluation for Wi-Fi replaces the MPE test report for the Wi-Fi module.

Conclusion:

The tests listed above have been performed and the results recorded by UL Korea Ltd. in accordance with the procedures stated in each test requirement and specification. The test items were determined to ensure the requirements set out in the FCC CFR 47 Part 1 Subpart I. As a result, the subject product has been verified to comply or not comply with each test specification. The test results relate only to the items tested.

Witness tested by
Hyunsik Yun, WiSE Laboratory Engineer
Consumer Technology Division
UL Korea Ltd.
May 29, 2017

Reviewed by
Changyoung Choi, WiSE Senior Engineer
Consumer Technology Division
UL Korea Ltd.
May 29, 2017

Test Report Details

Witnessed By:	UL Korea Ltd. 26th FL. GFC Center, 737 Yeoksam-dong, Gangnam-gu, Seoul, 135-984, Korea
Test Site:	ONETECH Corp. 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea
Applicant:	OSANG Helathcare Co., Ltd 132, Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do 14040, Korea
Manufacturer:	OSANG Helathcare Co., Ltd 132, Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do 14040, Korea
Applicant Contact:	Ryu Myungseok
Title:	Senior Engineer
Phone:	82-31-460-0448
E-mail:	msryu@infopia21.com
Product Type:	O'Care Bluetooth Bridge
Model Number:	OCB-1000
Trademark	OSANG Healthcare
Sample Serial Number:	N/A
Test standards:	FCC Part 1 Subpart I §1.1307(b) & §1.1310
Sample Receive Date:	April 24, 2017
Testing Start Date:	April 25, 2017
Testing Complete Date:	May 26, 2017
Overall Results:	Pass

The test reports apply only to the specific test samples and test results submitted for UL's review. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. UL Korea Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from UL Korea Ltd. issued reports. This report shall not be used to claim, constitute or imply product certification, approval, or any agency of the National Authorities. This report may contain test results that are not covered by the NVLAP or KOLAS accreditation.

Report Directory

1. General Product Information

1.1. Equipment Description:

OCB-1000 is an O'Care Bluetooth Bridge.

1.2. Details of Test Equipment (EUT)

- Equipment Type : O'Care Bluetooth Bridge
- Model No. : OCB-1000
- Type of test Equipment : Portable type
- Operating characteristic : Short range wireless device operating in the 2 400 MHz ~ 2 483.5 MHz ISM frequency band
- Manufacturer : OSANG Helathcare Co., Ltd 132, Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do 14040, Korea

1.3. Equipment Configuration

The EUT is consisted of the following component provided by the manufacturer.

Use*	Product Type	Manufacturer	Model	Comments
EUT	O'Care Bluetooth Bridge	OSANG Helathcare Co., Ltd	OCB-1000	-
Note: Use = EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment. SIM - Simulator (Not Subjected to Test)				

1.4. Technical Data:

Item	Description
Frequency Ranges	2 402 MHz ~ 2 480 MHz
Output power	Max. 1.0 dBm (Peak)
Kind of modulation (s)	GFSK
Channel	40 channels (Bluetooth Low Energy)
Antenna Gain	Max. 0 dBi
Working temperature	-20 ~ 55 ℃
Supply Voltage	DC 5.0 V

Note ;
1. All the technical data described above were provided by the manufacturer.

1.5. Antenna Information:

Antenna Type : PCB antenna
Manufacturer : ShenZhen RF-STAR Technology Co.,Ltd.
Transmit Gain dBi : Max. 0 dBi

1.6. Equipment Type:

☐ Radio and ancillary equipment for fixed or semi-fixed use
☐ Radio and ancillary equipment for vehicular mounted use
☒ Radio and ancillary equipment for portable or handheld use

☐ Stand alone ☒ Host connected

☐ Self contained single unit ☒ Module with associated connection or interface

1.7. Technical description and documents:

No.	Document Title and Description
1	User Manual
Note: The following documents were provided by the manufacturer.	

1.8. Equipment Marking Plate

2. Test Specification

The following test specifications and standards have been applied and used for testing.

1) KDB 447498 D01 v06 : Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies

3. RF Exposure Evaluation

Maximum Permissible Exposure

RF Exposure Evaluation of the EUT were measured according to the dictates in KDB 447498

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.

Friis transmission formula: Pd = (Pout*G)/(4*pi*R^2)

Where Pd = power density in mW/cm^2

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 츠

Limits

Environmental evaluation and exposure limit according to FCC Part 1, Subpart I, Section 1.1307(b) & 1.1310

According to Section 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)

Frequency Range (MHz)	Electric Field Strength(V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	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	6
1 500 – 100 000	--	--	**1**	**30**

3.1. The Result of RF Exposure Evaluation

3.1.1. Evaluation at 20 cm distance

Operating frequency: 2 402 MHz ~ 2 480 MHz (Bluetooth LE)

Modulation Type	Frequency (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Power Density at 20cm (mW/cm^2)	FCC Limit (mW/cm^2)
GFSK	2 480	1.0	0.0	0.000 25	1.0