

RF Exposure Report

Report No.: SABHKO-WTW-P22010509

FCC ID: 2A3ULSW02

Model No.: SW02

Received Date: 2022/1/14

Test Date: 2022/1/14 ~ 2022/2/15

Issued Date: 2022/6/28

Applicant: Sonova Consumer Hearing GmbH

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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**FCC Registration /
Designation Number:** 198487 / TW2021



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Release Control Record

Issue No.	Description	Date Issued
SABHKO-WTW-P22010509	Original release.	2022/6/28

1 Certificate of Conformity

Product Name: AMBEO Sub

Brand Name: SENNHEISER

Model No.: SW02

Sample Status: Engineering sample

HW Version: DVT sample

SW Version: V0.0.11

Applicant: Sonova Consumer Hearing GmbH

Test Date: 2022/1/14 ~ 2022/2/15

Standards: FCC Part 2 (Section 2.1091)

References Test Guidance: KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by :



Date:

2022/6/28

Jessica Cheng / Senior Specialist

Approved by :



Date:

2022/6/28

Jeremy Lin / Project Engineer

2 General Description of EUT

Test item description	AMBEO Subwoofer
Product Name	AMBEO Sub
Brand Name	SENNHEISER
Model No.	SW02
Status of EUT	Engineering sample
HW Version	DVT sample
SW Version	V0.0.11
Power Ratings	100-240Vac 50/60Hz max.2.5A
Power Supply (Nominal and Testing)	100-240Vac
Temperature Operating Range	0°C ~ 40°C
Modulation Type	GFSK
Transmission Technology	DSSS
Technology	Bluetooth
Channel Spacing	2MHz
Channel Bandwidth	80MHz
DataTransfer Rate	Bluetooth LE 4.0: 1Mbps Bluetooth LE 5.2: 2Mbps
Operating Frequency	2402MHz ~ 2480MHz
For Frequency Band	2400MHz ~ 2483.5MHz
Number of Channel	40
Output Power	Bluetooth LE 4.0: 1.125mW Bluetooth LE 5.2: 1.138mW
Antenna Type	PCB antenna with 3.13dBi gain
Antenna Connector	N/A
Accessory Device	N/A
Cable supplied	Non-shielded AC cable without core, 2.0m

3 RF Exposure

3.1 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)
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
300-1500	f/1500	30
1500-100,000	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

References: IEEE C95.1 -1992

3.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = 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

3.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

3.4 Antenna Gain

Frequency Band	Gain (dBi)	Antenna Type	Connector Type
2402-2480 (BT LE)	3.13	PCB	none

Note: The above Antenna information refers to the manufacturer's antenna specifications, the laboratory shall not be held responsible.

3.5 Calculation Result Of Maximum Conducted Power

Function	Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT LE	2402-2480	0.45	3.13	20	0.0005	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

References Test Guidance: IEEE C95.1 -1992

4 Construction photos of EUT

Please refer to the attached file: BHKO-WTW-P22010509 (EUT Photo).

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