

RF EXPOSURE REPORT

Equipment Under Test	TWS Ear-phone
Modle Name	ACCUID Button
Variant Model Name	-
FCC ID	2AWHT-ACCUIDBUTTON
IC Number	-
Applicant	ORFEO Soundworks Inc.
Manufacturer	ORFEO Soundworks Inc.
Date of Test(s)	2020. 05. 06 ~ 2020. 05. 21
Date of Issue	2020. 06. 29

In the configuration tested, the EUT complied with the standards specified above.

Issue to	Issue by
ORFEO Soundworks Inc. 5th Floor, 36, Seolleung-ro 92-gil, Gangnam-gu, Seoul, South Korea Tel.: +82-70-8677-3378 Fax: +82-70-8677-3387	MOVON CORPORATION 498-2, Geumeo-ro, Pogok-eup, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17030 Tel.: +82-31-338-8837 Fax: +82-31-338-8847

RF EXPOSURE

KDB447498 was used as the guidance.

SAR test exclusion considerations

Step.1 For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion threshold are determined by the following :

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})]}{[f(\text{GHz})]} \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR}$$

Step.2 For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following

Step.2-1 $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

Step.2-2 $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

SAR test exclusion considerations : Bluetooth BDR(Left)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.50 dBm
- Target Power & Tolerance 8.50 dBm & $\pm$ 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{ 2.48 }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
---	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth EDR(Left)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.31 dBm
- Target Power & Tolerance 8.50 dBm & $\pm$ 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{(2.48) }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth LE(Left)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.35 dBm
- Target Power & Tolerance 8.50 dBm & ± 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{(2.48) }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth BDR(Left) + Bluetooth LE(Left)

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

Bluetooth BDR + Bluetooth LE

$ \begin{aligned} - P &= 8.91 \text{ mW} + 8.91 \text{ mW} \\ &= \underline{17.83 \text{ mW}} \end{aligned} $	- NOTE Bluetooth BDR + Bluetooth LE Bluetooth BDR = 8.91 mW Bluetooth LE = 8.91 mW
--	--

Power Density at the specific separation

$ \begin{aligned} - S &= 2.807 \text{ 09} + 2.807 \text{ 09} \\ &= \underline{5.614 \text{ 17}} \end{aligned} $	- NOTE Bluetooth BDR + Bluetooth LE Bluetooth BDR = 2.807 09 Bluetooth LE = 2.807 09
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth BDR(Right)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.35 dBm
- Target Power & Tolerance 8.50 dBm & $\pm$ 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{(2.48) }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth EDR(Right)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.44 dBm
- Target Power & Tolerance 8.50 dBm & $\pm$ 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{(2.48) }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations : Bluetooth LE(Right)

- Frequency Range : 2 402 MHz ~ 2 480 MHz
- Measured RF Maximum Output Power (Peak) : 9.36 dBm
- Target Power & Tolerance 8.50 dBm & $\pm$ 1.00 dB
(Maximum : 9.50 dBm & Minimum : 7.50 dBm)
- Maximum Output Power for the Calculation : 9.50 dBm

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

- P = <u>9.50</u> dBm = <u>8.91</u> mW	- NOTE P : Max tuneup Power (dBm)
---	--------------------------------------

Power Density at the specific separation

- S = $[(P(\text{mW}) / R)] \times [\sqrt{f(\text{GHz})}]$ = $[(8.91 / 5.00)] \times [\sqrt{(2.48) }]$ = <u>2.807 09</u> NOTE : f(GHz) was used as worst case is highest frequency.	- NOTE S : Maximum Power Density P(mW) : Max tuneup Power (mW) R : Distance to the center of the radiation of the antenna (<u>5.00</u> mm) f(GHz) : the RF channel transmit frequency in GHz
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

SAR test exclusion considerations :

Bluetooth EDR(Right) + Bluetooth LE(Right)

The EUT will only be used with a separation of 50 millimeters or lesser between the antenna and the body of the SAR Exclusion calculation for this exposure is shown below.

Bluetooth EDR + Bluetooth LE

$ \begin{aligned} - P &= 8.91 \text{ mW} + 8.91 \text{ mW} \\ &= \underline{17.83 \text{ mW}} \end{aligned} $	- NOTE Bluetooth EDR + Bluetooth LE Bluetooth EDR = 8.91 mW Bluetooth LE = 8.91 mW
--	--

Power Density at the specific separation

$ \begin{aligned} - S &= 2.807 \text{ 09} + 2.807 \text{ 09} \\ &= \underline{5.614 \text{ 17}} \end{aligned} $	- NOTE Bluetooth EDR + Bluetooth LE Bluetooth EDR = 2.807 09 Bluetooth LE = 2.807 09
--	--

RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.