

## RF EXPOSURE REPORT



**Applicant:** Voyetra Turtle Beach, Inc.  
44 South Broadway, 4th Floor, White Plains, New York 10601,  
U.S.A.

**Manufacturer:** Voyetra Turtle Beach, Inc.  
44 South Broadway, 4th Floor, White Plains, New York 10601,  
U.S.A.

**Product Name:** Wireless Gaming Mouse

**Brand Name:** ROCCAT

**Model No.:** KONE XP AIR

**Model Difference:** N/A

**Report Number:** ES/2021/B0026

**FCC ID** XGB-KONEXPAIR

**Issue Date:** January 25, 2022

**Date of EUT Received:** November 24, 2021

Approved By \_\_\_\_\_

John Yeh

**We hereby certify that:**

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1093.

The results of this report relate only to the sample identified in this report.

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Revision History					
Report Number	Revision	Description	Issue Date	Revised By	Remark
ES/2021/B0026	00	Original	January 06, 2022	Ruby Ou	*
ES/2021/B0026	01	1. Add information of manufacturer on page 1 2. Update description of RF specification on page 4~5	January 25, 2022	Ruby Ou	

**Note:**

- 1、The remark "\*" indicates modification of the report upon requests from certification body.

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## 1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

### 1.1 Product Description

Product Name:	Wireless Gaming Mouse
Brand Name:	ROCCAT
Model No.:	KONE XP AIR
Model Difference:	N/A
Hardware Version:	V10
Firmware Version:	0.0.0.6
EUT Series No.:	M1446L4100015
Power Supply:	3.7Vdc from Battery

### 1.2 Reference Test Report

Test Lab:	SGS Taiwan Ltd. Central RF Lab.
Report Number:	ER/2021/B0074~75

### 1.3 Antenna Information:

#### 1.3.1 BT / 2.4GHz

Antenna Type	Supplier	Freq. (MHz)	Peak Antenna Gain (dBi)
PCB	Voyetra Turtle Beach, Inc.	2.4GHz	2.22

**Note:** Antenna information is provided by the applicant.

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1.4 Rated Power:

1.4.1 BT / 2.4GHz

Mode	Freq. Range (MHz)	Channels	Module	Modulation Technology	Max Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)
BLE	2402-2480	40	NRF52840	GFSK	7.29	2.22	9.51
2.4G	2402-2480	40	NRF52840	GFSK	7.16	2.22	9.38
Modulation type:		GFSK					

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## 2 RF EXPOSURE EVALUATION FOR PORTABLE CONDITIONS

### 2.1 FCC Standard Applicable:

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

#### 2.1.1 As per KDB 447498 D01 4.3.1,

**Step a:** For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g Head \& Body SAR and } \leq 7.5 \text{ for 10-g extremity Hand SAR, where}$$

- $f(\text{GHz})$  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

**Step b:** 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 (also illustrated in Appendix B):

- 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
- 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  $\leq 6$  GHz

**Step c:** For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

- 1) For test separation distances  $> 50$  mm and  $< 200$  mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$
- 2) For test separation distances  $\leq 50$  mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$
- 3) SAR measurement procedures are not established below 100 MHz

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**2.2 Measurement Result:**

<b>Step a:</b>					
This is a portable device and the max. output power including tune-up tolerance is 5.358 (mW), lower than the threshold given and derived as formula given above, where					
$=5.358(\text{mW})/5(\text{mm})*\sqrt{2.402(\text{GHz})} = 1.661 < 7.5$					
<b>Frequency (MHz)</b>	<b>Max. output power including tune-up tolerance(dBm)</b>	<b>Max. output power including tune-up tolerance(mW)</b>	<b>Distance (mm)</b>	<b>Result</b>	<b>≤ 7.5 for 10-g extremity SAR</b>
2402	7.29	5.358	5	1.661	TRUE

As the result of calculation result indicates, the RF exposure generating from given transmitter (transmitter employed digital modulation) can be excluded from SAR measurement, and is deemed compliant with RF exposure as per FCC.

*~ End of Report ~*

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