

# 1. Radio Frequency Exposure

## RESULT:

Pass

Test standard : FCC Part 2: Section 2.1091  
KDB 447498 D01 General RF Exposure Guidance v06  
RSS-102 Issue 6, December 15, 2023

## 1.1 Product Technical Information

The EUT is a WisDuo, it supports Bluetooth Low Energy wireless technology.

Model RAK3400 is identical with model RAK3401 except the model RAK3401 is the extend of RAK3400, The RAK3401 is a breakout module designed to work with a baseboard. Essentially, it is a RAK3400 stamp module with an expansion PCB and connectors compatible with the baseboard. It allows an easy way to access to the pins of the RAK3400 module in order to simplify development and testing processes.

For details refer to the User Manual, Technical Description and Circuit Diagram.

General Information of EUT	Value
Kind of Equipment	WisDuo
Type Designation	RAK3400, RAK3401
FCC ID	2AF6B-RAK3400
IC	25908-RAK3400
HVIN	RAK3400, RAK3401
Operating Voltage	DC 5V via USB interface
Testing Voltage	DC 5V
Technical Specification of Bluetooth Low Energy	
Operating Frequency	2402 – 2480 MHz
Bluetooth Core Version	Bluetooth 5.0, single mode
Data rate	1Mbps, 2Mbps
Channel Number	40 channels
Channel separation	2MHz
Modulation	GFSK
Antenna Type	IPEX Antenna
Smart Antenna Systems:	Not Applicable
Number of Antenna	1
Antenna Gain	1.68 dBi (declared by client)
Alternative Antenna Gain	3.4dBi (declared by client)

## 1.2 Product Classification

This device defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

## 1.3 Result of Exemption for Routine Evaluation

The measured maximum e.i.r.p. of the EUT is 6.7dBm = 4.68mW, which is far below the SAR exclusion threshold level 10mW (SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and  $\leq 50$  mm), hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile and Portable RF Exposure. Guidance v06.

The measured maximum specified e.i.r.p of the EUT is 6.7dBm =4.68mW, which is far below the exposure exclusion threshold level 2.67W, hence the EUT is excluded from SAR evaluation according to RSS-102 Issue 6 section 6.6.

Refer to test report CN21UVL1 002 for the max. e.i.r.p.

Therefore, RAK3400, RAK3401 are meet the requirement of Radio Frequency Exposure (MPE) limit.