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FCC RF Exposure Test Report



FCC SAR Exemption Evaluation Report

Report No. : W7L-P24010008SA02
Applicant : Xiaomi Communications Co., Ltd.
Address : #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Product : Tablet Keyboard
FCC ID : 2AFZZBD5G
Brand : Redmi
Model No. : 24042KBD5G
Standards : FCC 47 CFR Part 2 (2.1093)
KDB 447498 D01 v06
Sample Received Date : Jan. 15, 2024
Date of Testing : Jan. 15, 2024 ~ Jan. 24, 2024

CERTIFICATION: The above equipment have been tested by **BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD.**, 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 SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by A2LA or any government agencies.

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1. Description of Equipment Under Test

EUT Type	Tablet Keyboard
Brand Name	Redmi
Model Name	24042KBD5G
Tx Frequency Bands (Unit: MHz)	Bluetooth LE: 2402 ~ 2480
Uplink Modulations	Bluetooth LE: GFSK
Maximum Tune-up Conducted Power (Unit: dBm)	Bluetooth LE: 1dBm
Antenna Type	PCB onboard Antenna
EUT Stage	Production Unit

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.
2. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.



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2. SAR Exemption Evaluation

Following FCC KDB 447498 D01 “General SAR test exclusion guidance”

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

- 2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:
- a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) \cdot (f(MHz)/150)] mW, at 100MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) \cdot 10] mW at > 1500 MHz and ≤ 6 GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
- a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm.
 - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm.
 - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

Smallest distance from the antenna and radiating structures or outer surface of the device

The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.



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2.1 Maximum Tune-up Power (declared by manufacturer)

Mode	Tune-up Power
Bluetooth LE	1 dBm

2.2 SAR Test Exclusion Thresholds

Mode	Frequency (MHz)	Max. Tune-up Conducted Power (dBm)	Minimum separation distance (mm)	Calculated Result	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
Bluetooth LE	2480	1	5	0.40	3.0	7.5	Exempt from SAR

Conclusion

According to the table above, the device can meet the SAR test exclusion thresholds requirement of FCC KDB 447498 D01, and SAR evaluation is not required.

Therefore, this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.



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3. Information on the Testing Laboratories

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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The road map of all our labs can be found in our web site also.

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