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RF Exposure REPORT

FCC SAR Exclusion Report for WSM-M3W

APPLICANT
WOOSIM SYSTEMS INC.

REPORT NO.
HCT-SR-2210-FC001

DATE OF ISSUE
Oct. 24, 2022

Technical Manager
Yun Jeang Heo (signature)

Accredited by KOLAS, Republic of KOREA

HCT CO., LTD
BongJai Huh / CEO

HCT Co., Ltd.
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Tel. +82 31 645 6300 F ax. +82 31 645 6401

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HCT Co., Ltd.
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Tel. +82 31 634 6300 Fax. +82 31 645 6401

TEST REPORT

REPORT NO.
HCT-SR-2210-FC001

DATE OF ISSUE
Oct. 24, 2022

Additional Model
-

Applicant	WOOSIM SYSTEMS INC. 60, Sandan-ro 388beon-gil, Chwisaeng-ri, Galsan-myeon,, Korea
Eut Type Model Name	Bluetooth Module WSM-M3W
FCC ID	QDDWSM-M3W
Max. RF Output Power	BT :10 dBm (10 mW) BT LE: 7dBm (5.012 mW)
Modulation type	GFSK
FCC Classification	Digital Transmission System(DSS)
Application Type	Class II Permissive Change
FCC Rule Part(s)	47CFR §2.1093

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	Oct. 24, 2022	Initial Release

Engineering Statement:
The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

Test Report Statement:
The above test report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme) / A2LA(American Association for Laboratory Accreditation), which signed the ILAC-MRA.

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr

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1. EUT DESCRIPTION

Model	WSM-M3W
EUT Type	Bluetooth Module
Application Type	Class II Permissive Change
FCC ID	QDDWSM-M3W
Frequency Range	2 402 MHz – 2 480 MHz
Maximum power	BT :10 dBm (10 mW) BT LE: 7dBm(5.012 mW)
Protocol	L2CAP, RFCOMM, SDP
BT/BT LE	5.2
Profile	GAP, SDAP, SPP, GATT

2. TEST METHODOLOGY for FCC

Body and Limb SAR Test Exclusions Applied _Bluetooth ver.5.2
Since this product is a Mobile Printer, it is used by most users in the hand and the Body, so Body and Limb SAR standard are applied.

According to the FCC KDB 447498 D01 v06 section 4.3.1, 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:

a) 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:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

$$:\frac{Max\ Power\ of\ Channel(mW)}{Test\ \ Separation\ Distance\ (mm)} * \sqrt{Frequency(GHz)} \leq\ \ 3.0\ \ For\ \ 1g\ \ SAR,\ 7.5.for\ \ 10g\ \ SAR$$

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

Calculation Result:

Tx frequency range: 2 402 MHz ~ 2 480 MHz
Body SAR Consideration Min. test separation distance: 10 mm
Limb SAR Consideration Min. test separation distance: 5 mm

Maximum Output Power: 10 mW
The Highest RF channel frequency: 2 480 MHz

For Body SAR Exclusion.

Mode	Frequency [MHz]	Maximum Allowed Power [mW]	Separation Distance [mm]	≤ 3.0 for 1g SAR
Bluetooth 5.2	2 480	10.0	10	1.6

For Limb SAR exclusion

Mode	Frequency [MHz]	Maximum Allowed Power [mW]	Separation Distance [mm]	≤ 7.5 for 10g SAR
Bluetooth 5.2	2 480	10	5	3.1

Based on the maximum output power of Bluetooth 5.2 and antenna to use separation distance, Bluetooth Body and Limb SAR were not required.