

FCC SAR Exclusion Report

Product name : Wireless ergonomic Bluetooth mouse small size
Applicant : Hippus N.V.
FCC ID : XBBHSM-SHIFT
IC ID : 10466A-HSM-SHIFT

Test report No. : 200500625 005 V1.00

Laboratory information

Accreditation

Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2017. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

Telefication is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001.

Telefication is a Wireless Device Testing laboratory recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.

The Industry Canada registration number for the 3 meter test chamber of Telefication is: 4173A-1.

Telefication is a registered Conformity Assessment body (CAB) under the Japan-EC MRA (Agreement on Mutual Recognition between Japan and the European Community). The registration number is: 201.

Documentation

The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Telefication Netherlands.

Testing Location

Test Site	Telefication BV
Test Site location	Edisonstraat 12a 6902 PK Zevenaar The Netherlands Tel. +31889983600 Fax. +31316583189

Revision History

Version	Date	Remarks	By
v1.00	05-03-2021	Release version	PS

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1 General Description

1.1 Applicant

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Contact name:	Sjoerd Eisma

1.2 Manufacturer

Manufacturer name:	Hippus N.V.
Address:	Stationsstraat 1K
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Telephone:	+44 1872 562-715
E-mail:	eisma@handshoemouse.com
Contact name:	Sjoerd Eisma

1.3 Tested Equipment Under Test (EUT)

Product name:	Wireless ergonomic Bluetooth mouse small size
Brand name:	HandshoeMouse
Product type:	2.4 GHz wideband data transmission equipment
FCC ID:	XBBHSM-SHIFT
IC ID:	10466A-HSM-SHIFT
Model(s):	ShiftHSMs+, ShiftHSMm+, ShiftHSMl+
Software version:	--
Hardware version:	--

1.4 SAR Measurement Evaluation

1.4.1 Maximum Output Power

The maximum radiated power including tune-up tolerance is shown as below.

Technology	Max power level (dBm)
BLE	-8.56*

* from Telefication report 200500625 001 V1.00

1.4.2 SAR Testing Exclusions

According to KDB 447498 D01, the SAR test exclusion condition is based on source-based time-averaged maximum conducted output power, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The SAR exclusion threshold is determined by the following formula.

- For the test separation distance ≤ 50 mm

$$\frac{\text{Max. Tune up Power}_{(\text{mW})}}{\text{Min. Test Separation Distance}_{(\text{mm})}} \times \sqrt{f_{(\text{GHz})}} \leq 3.0$$

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

- For the test separation distance > 50 mm, and the frequency at 100 MHz to 1500 MHz

$$\left[(\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times \left(\frac{f_{(\text{MHz})}}{150} \right) \right]_{(\text{mW})}$$

- For the test separation distance > 50 mm, and the frequency at > 1500 MHz to 6 GHz

$$[(\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times 10]_{(\text{mW})}$$

Mode	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?
BLE	-8.56	0.14	10	0.022	No

Note:

- When separation distance ≤ 50 mm and the calculated result shown in above table is ≤ 3.0 , the SAR testing exclusion is applied.
- When separation distance > 50 mm and the device output power is less than the calculated result (power threshold, mW) shown in above table, the SAR testing exclusion is applied.

1.5 Summary

Considering the SAR test exclusion conditions per KDB 447498, SAR testing for this device is not required.