

FCC SAR Exclusion Report

Product name : Alpha Motion Trackers 2.0
Applicant : Sword Health S.A.
FCC ID : 2AQ4A-AA2
ISED ID : 24618-AA2

Test report No. : 200800252 FCC RF exposure Ver 1.0

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 |
|---------|------------|-----------------|-----|
| v1.0 | 17-10-2020 | Release version | PvW |
| | | | |

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1 General Description

1.1 Applicant

| | |
|----------------------|---------------------------------------|
| Client name: | Sword Health S.A. |
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| Telephone: | +351 223 248 286 |
| E-mail: | Sara Francisco |
| Contact name: | sara@swordhealth.com |

1.2 Manufacturer

| | |
|---------------------------|---------------------------------------|
| Manufacturer name: | Sword Health S.A. |
| Address: | Rua de Sá da Bandeira 651, 1º Direito |
| Zip code: | Sword Health S.A. |
| Telephone: | +351 926 625 048 |
| E-mail: | filipesantos@swordhealth.com |
| Contact name: | Filipe Santos |

1.3 Tested Equipment Under Test (EUT)

| | |
|--------------------------------|--|
| Product name: | Alpha Motion Trackers 2.0 |
| Brand name: | SWORD Motion Trackers |
| FCC ID: | 2AQ4A-AA2 |
| IC ID: | 24618-AA2 |
| Product type: | Wireless battery-powered motion trackers |
| Model(s): | -- |
| Batch and/or serial No. | -- |
| Software version: | -- |
| Hardware version: | -- |
| Date of receipt: | 24-08-2020 |
| Tests started: | 23-09-2020 |
| Testing ended: | 24-09-2020 |

1.4 SAR Measurement Evaluation

1.4.1 Maximum Output Power

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

| Mode | Output power (dBm) |
|--------------|--------------------|
| Bluetooth LE | -1.45 |

* from Telefication report no. 200800252 004

1.4.2 SAR Testing Exclusions, Portable use

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 | -1.45 | 0.72 | 5 | 0.23 | 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

Since the SAR testing for all device orientations apply SAR test exclusion per KDB 447498, SAR testing for this device is not required.