

FCC SAR Exclusion Report

Product name : Onyx 3
Applicant : Feel Robotics
FCC ID : 2AO5N-ONXD18

Test report No. : 180201427 FCC RF exposure Ver 2.00

Laboratory information

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 Netherland

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	03-05-2018	Release version	PvW
v2.00	31-05-2018	Updated version with reference to KDB 447498 D01	PvW

Table of Contents

Revision History	2
1 General Description	4
1.1 Applicant	4
1.2 Manufacturer	4
1.3 Tested Equipment Under Test (EUT)	4
1.4 SAR Measurement Evaluation	5
1.4.1 Maximum Output Power	5
1.4.2 SAR Testing Exclusions	5
Note:	5
1.5 Summary	5

1 General Description

1.1 Applicant

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Contact name: Maurice op de Beek

1.2 Manufacturer

Manufacturer name: Feel Robotics
Address: Amstelplein 62, Amsterdam, the Netherlands
Zip code: 1096 BC
Telephone: (0)20 737 1194
E-mail: maurice@kiiroo.com
Contact name: Maurice op de Beek

1.3 Tested Equipment Under Test (EUT)

Product name: Onyx-PCB
Brand name: Kiiroo
Product type: Massager
FCC ID: 2A05N-ONXD18
IC ID: 23801-ONXD18
Model(s): Onyx 3
Software version: --
Hardware version: B

1.4 SAR Measurement Evaluation

1.4.1 Maximum Output Power

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

Mode	2.4G Bluetooth
Bluetooth LE	-0.16 dBm*

* from Telefication report 180201427 002 v2.00.

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

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

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

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

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

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

Mode	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?
Bluetooth LE	-0.16	0.96	5	0.48	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.