

RF Exposure Report

Report No.: SA170208C45

FCC ID: 2AK45-NSD-SW01

Test Model: SW-01

Received Date: Feb. 08, 2017

Test Date: Mar. 16 ~ Mar. 20, 2017

Issued Date: Mar. 30, 2017

Applicant: Nano-Second Technology Company LTD

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Release Control Record

Issue No.	Description	Date Issued
SA170208C45	Original release	Mar. 30, 2017

1 Certificate of Conformity

Product: Swim Training Aid

Brand: NSD

Test Model: SW-01

Sample Status: Engineering Sample

Applicant: Nano-Second Technology Company LTD

Test Date: Mar. 16 ~ Mar. 20, 2017

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06 (October 23, 2015)

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, 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 EMC characteristics under the conditions specified in this report.

Prepared by :



Date:

Mar. 30, 2017

Polly Chien / Specialist

Approved by :



Date:

Mar. 30, 2017

Ken Liu / Senior Manager

2 Accessories of EUT

The EUT contains the following accessories.

No.	Product	Brand	Model	Description
1	Battery	GEB	GEB602535	Rating: 3.7Vdc, 1.67Wh, 450mAh
2	USB Charging Cable	NSD Swim	KL-YQ1606-0701	0.6m non-shielded cable w/o core
3	Float belt	NSD Swim	ZH-G13	1.43m
4	Rope	NSD Swim	253A200	2.0m
5	Rope	NSD Swim	253A80	0.8m

* The USB cable is for charging only, it does not have data transmission function.

3 Evaluation Result

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

$$\leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, 16 where}$$
 - $f(\text{GHz})$ 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 - 50mm) · (f(MHz)/150)] mW, at 100MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 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.

4 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

Mode	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value ^(NOTE 2)	1-g body SAR test exclusion thresholds	Result
2.402 ~ 2.480	0.8017	5	0.248	3	Pass

NOTE: 1. The antenna type is Onboard F Antenna with 3.3dBi gain.
2. Calculate SAR test exclusion thresholds from condition "1" formulas.

5 Conclusion

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

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