# FCC RF EXPOSURE REPORT

*For*

**ATMOS Soundbar, Nakamichi Dragon11.4.6 Home Surround Sound System, Nakamichi Dragon11.4.6B Home Surround Sound System**

**MODEL NUMBER: Dragon11.4, Dragon11.4.6B**

**REPORT NUMBER: 4790818116.3-1-RF-4**

**ISSUE DATE: May 19, 2023**

**FCC ID:2AGB6-SWDRAGON**

*Prepared for*

**WOW Technologies (Singapore) Pte Ltd**

**19 Ubi Crescent, Singapore, 408577 Singapore**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch**

**Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China**

**Tel: +86 769 22038881**
**Fax: +86 769 33244054**
**Website: www.ul.com**

## Revision History

| Rev. | Issue Date | Revisions | Revised By |
|---|---|---|---|
| V0 | 05/19/2023 | Initial Issue | |

# TABLE OF CONTENTS

# 1. ATTESTATION OF TEST RESULTS

**Applicant Information**

| | |
|---|---|
| Company Name: | WOW Technologies (Singapore) Pte Ltd |
| Address: | FCC: 19 Ubi Crescent, Singapore, 408577 Singapore<br>IC: 62 Burn Road #06-01 TSH CENTRE, Singapore, Singapore (Republic Of) |

**Manufacturer Information**

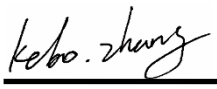
| | |
|---|---|
| Company Name: | WOW Technologies (Singapore) Pte Ltd |
| Address: | FCC: 19 Ubi Crescent, Singapore, 408577 Singapore<br>IC: 62 Burn Road #06-01 TSH CENTRE, Singapore, Singapore (Republic Of) |

**EUT Information**

| | |
|---|---|
| EUT Name: | ATMOS Soundbar, Nakamichi Dragon11.4.6 Home Surround Sound System, Nakamichi Dragon11.4.6B Home Surround Sound System |
| Model: | Dragon11.4.6 |
| Series Model: | Dragon11.4.6B |
| Model Differences: | Please refer to section 5.1. |
| Brand: | Nakamichi |
| Sample Received Date: | April 23, 2023 |
| Sample Status: | Normal |
| Sample ID: | 6014821 |
| Date of Tested: | April 23, 2023 to May 19, 2023 |

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULTS** |
| FCC 47CFR§2.1091 | PASS |
| KDB-447498 D01 V06 | PASS |

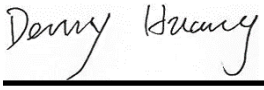
Prepared By:



Kebo Zhang

Senior Project Engineer

Checked By:



Denny Huang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

## 3. FACILITIES AND ACCREDITATION

| | |
|---|---|
| Accreditation Certificate | **A2LA (Certificate No.: 4102.01)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.<br>**FCC (FCC Designation No.: CN1187)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules<br>**ISED (Company No.: 21320)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.<br>**VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.<br>Facility Name:<br>Chamber D, the VCCI registration No. is G-20019 and R-20004<br>Shielding Room B , the VCCI registration No. is C-20012 and T-20011 |

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

# 4. REQUIREMENT

## LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

## RF EXPOSURE LIMIT

| Frequency Range (MHz) | E-field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (Minutes) |
|---|---|---|---|---|
| 0.3 -- 1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34 -- 30 | 824/f | 2.19/f | $(180/f^2)$* | 30 |
| 30 -- 300 | 27.5 | 0.073 | 0.2 | 30 |
| 300 -- 1500 | -- | -- | f/1500 | 30 |
| 1500 -- 100,000 | -- | -- | 1.0 | 30 |

## CALCULATION METHOD

$S=PG/4\pi R^2$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

## CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

| BT | | | | |
|---|---|---|---|---|
| Operating Mode | Max. Tune up Power (dBm) | Max. Antenna Gain (dBi) | Power density ($mW/cm^2$) | Limit |
| 8DPSK | 12 | 2.07 | 0.00508 | 1 |

| BLE | | | | |
|---|---|---|---|---|
| Operating Mode | Max. Tune up Power (dBm) | Max. Antenna Gain (dBi) | Power density ($mW/cm^2$) | Limit |
| GFSK | 8 | 2.07 | 0.00202 | 1 |

| SRD 5.8 GHz Model 1 | | | | |
|---|---|---|---|---|
| Operating Mode | Max. Tune up Power (dBm) | Max. Antenna Gain (dBi) | Power density ($mW/cm^2$) | Limit |
| SRD 5.8 GHz | 12.7 | 4.23 | 0.00981 | 1 |

| SRD 5.8 GHz Model 2 | | | | |
|---|---|---|---|---|
| Operating Mode | Max. Tune up Power (dBm) | Max. Antenna Gain (dBi) | Power density ($mW/cm^2$) | Limit |
| SRD 5.8 GHz | 12.7 | 4.23 | 0.00981 | 1 |

Note:
1. The calculated distance is 20 cm.
2. BT & BLE can't transmit simultaneously.
3. BT + SRD 5.8 GHz Model 1+ SRD 5.8 GHz Model 2
= 0.00508+ 0.00981+0.00981= 0.0247 ($mW/cm^2$)
Therefor the maximum calculations of above situations are less than the "1" limit.

**END OF REPORT**