

## RF Exposure Evaluation Report

**Report Reference No.**.....: **MTWG22020070-H**

**FCC ID**.....: **2A2WN-OR1086NS**

Compiled by

( position+printed name+signature)...: File administrators Alisa Luo

Supervised by

( position+printed name+signature)...: Test Engineer Sunny Deng

Approved by

( position+printed name+signature)...: Manager Yvette Zhou

Date of issue.....: **February 21, 2022**

**Representative Laboratory Name**..: **Shenzhen Most Technology Service Co., Ltd.**

Address.....: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,  
Nanshan, Shenzhen, Guangdong, China.

**Applicant's name**.....: **NINGBO SC-STARMAX IMP. & EXP. CO., LTD.**

Address .....: **Room513, 5F, No.3 Building, 1377 Loft Center, No.1377 Jianlan  
Road Ningbo China**

**Test specification/ Standard** .....: **47 CFR Part 1.1307**

**47 CFR Part 2.1093**

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

**Shenzhen Most Technology Service Co., Ltd. All rights reserved.**

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Most Technology Service Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen Most Technology Service Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

**Test item description** .....: COMBO Novelty Bluetooth Speaker

Trade Mark .....: N/A

Manufacturer .....: **NINGBO SC-STARMAX IMP. & EXP. CO., LTD.**

Model/Type reference.....: OR1086NS

Listed Models .....: N/A

Modulation Type.....: GFSK,  $\pi/4$ DQPSK, 8DPSK

Operation Frequency.....: From 2402MHz to 2480MHz

Hardware Version.....: V1.1

Software Version .....: V017

Rating .....: DC 5V (by USB)

.....: DC 3.7V (by battery)

Result.....: **PASS**

**TEST REPORT**

Equipment under Test : COMBO Novelty Bluetooth Speaker

Model /Type : OR1086NS

Listed Models : N/A

Remark : N/A

Applicant : **NINGBO SC-STARMAX IMP. & EXP. CO., LTD.**

Address : Room513, 5F, No.3 Building, 1377 Loft Center, No.1377 Jianlan Road Ningbo China

Manufacturer : **NINGBO SC-STARMAX IMP. & EXP. CO., LTD.**

Address : 15F, MU Group, Building B16 (West Area), No.2560 Yongjiang Avenue, Yinzhou District, Ningbo, China. 315048

<b>Test Result:</b>	<b>PASS</b>
---------------------	-------------

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

## 1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2022.02.21	Initial Issue	Alisa Luo

## 2. SAR Evaluation

### 2.1 RF Exposure Compliance Requirement

#### 2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 2.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[ \sqrt{f(\text{GHz})} \right]$$
  
 $\leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, 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<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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

## 2.1.3 EUT RF Exposure

## Measurement Data

## BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.67	$-1.67 \pm 1$	-0.67
Middle(2440MHz)	-1.56	$-1.56 \pm 1$	-0.56
Highest(2480MHz)	-1.96	$-1.96 \pm 1$	-0.96

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Middle(2440MHz)	-1.56	-0.56	0.879	0.275	3.0	Yes

## BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.82	$-1.82 \pm 1$	-0.82
Middle(2441MHz)	-1.75	$-1.75 \pm 1$	-0.75
Highest(2480MHz)	-2.25	$-2.25 \pm 1$	-1.25

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.25	$-1.25 \pm 1$	-0.25
Middle(2441MHz)	-1.12	$-1.12 \pm 1$	-0.12
Highest(2480MHz)	-1.67	$-1.67 \pm 1$	-0.67

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-0.97	$-0.97 \pm 1$	0.03
Middle(2441MHz)	-0.83	$-0.83 \pm 1$	0.17
Highest(2480MHz)	-1.61	$-1.61 \pm 1$	-0.61

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Middle(2441MHz)	-0.83	0.17	1.040	0.325	3.0	Yes

.....THE END OF REPORT.....