

## RF Exposure Evaluation Report

**Report Reference No.**.....: **MTWG22020071-H**

**FCC ID**..... : **2A2WN-OR1091BS**

Compiled by

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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.

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

Trade Mark .....: N/A

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

Model/Type reference.....: OR1091BS

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 .....: DC3.7V by Battery  
DC 5V(by USB )

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

**TEST REPORT**

Equipment under Test : COMBO Wireless Bluetooth Speaker

Model /Type : OR1091BS

Listed Models : N/A

Remark : N/A.

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

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

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>
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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)	(mW)
Lowest(2402MHz)	-1.716	$-1.716 \pm 1$	-0.716	0.848
Middle(2440MHz)	-1.529	$-1.529 \pm 1$	-0.529	0.885
Highest(2480MHz)	-1.985	$-1.985 \pm 1$	-0.985	0.797

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2440MHz)	-1.529	-0.529	0.885	0.276	3.0	Yes

EDR

GFSK				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.868	$-1.868 \pm 1$	-0.868	0.819
Middle(2441MHz)	-1.749	$-1.749 \pm 1$	-0.749	0.842
Highest(2480MHz)	-2.363	$-2.363 \pm 1$	-1.363	0.731

$\pi/4$ DQPSK				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.222	$-1.222 \pm 1$	-0.222	0.950
Middle(2441MHz)	-1.120	$-1.120 \pm 1$	-0.120	0.973
Highest(2480MHz)	-1.731	$-1.731 \pm 1$	-0.731	0.845

8DPSK				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.915	$-0.915 \pm 1$	0.085	1.020
Middle(2441MHz)	-0.824	$-0.824 \pm 1$	0.176	1.041
Highest(2480MHz)	-1.446	$-1.446 \pm 1$	-0.446	0.902

Worst case: 8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2441MHz)	-0.824	0.176	1.041	0.325	3.0	Yes

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