

RF Exposure Evaluation Report

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

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

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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

Test Result:	PASS
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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 ≤ 50 mm are determined by:

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

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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

2.1.3 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 ± 1	-0.716	0.848
Middle(2440MHz)	-1.529	-1.529 ± 1	-0.529	0.885
Highest(2480MHz)	-1.985	-1.985 ± 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 ± 1	-0.868	0.819
Middle(2441MHz)	-1.749	-1.749 ± 1	-0.749	0.842
Highest(2480MHz)	-2.363	-2.363 ± 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 ± 1	-0.222	0.950
Middle(2441MHz)	-1.120	-1.120 ± 1	-0.120	0.973
Highest(2480MHz)	-1.731	-1.731 ± 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 ± 1	0.085	1.020
Middle(2441MHz)	-0.824	-0.824 ± 1	0.176	1.041
Highest(2480MHz)	-1.446	-1.446 ± 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.....