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# RF Exposure Evaluation Report

**Report No.:** CQASZ20220400621E-02  
**Applicant:** GANZHOU DEHUIDA TECHNOLOGY CO., LTD  
**Address of Applicant:** Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.  
**Equipment Under Test (EUT):**  
**EUT Name:** ONN. SMALL RUGGED SPEAKER  
**Model No.:** AAGRY100081918, AAORRA100081918, AALUN100081918, AALAV100081918, AABLSV100081918  
**Test Model No.:** AAGRY100081918  
**Brand Name:** ONN.  
**FCC ID:** 2AO5X-BM1023  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2022-04-13  
**Date of Test:** 2022-04-13 to 2022-04-20  
**Date of Issue:** 2022-04-26  
**Test Result:** **PASS\***

\*In the configuration tested, the EUT complied with the standards specified above.

**Tested By:**                     Lewis Zhou                    

( Lewis Zhou )

**Reviewed By:**                     Rock Huang                    

( Rock Huang )

**Approved By:**                     Jack Ai                    

( Jack Ai )



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220400621E-02	Rev.01	Initial report	2022-04-26

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### 3 General Information

#### 3.1 Client Information

Applicant:	GANZHOU DEHUIDA TECHNOLOGY CO., LTD
Address of Applicant:	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.
Manufacturer:	GANZHOU DEHUIDA TECHNOLOGY CO., LTD
Address of Manufacturer:	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.
Factory 1:	GANZHOU DEHUIDA TECHNOLOGY CO., LTD
Address of Factory:	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.
Factory 2:	DEHUIDA VIET NAM TECHNOLOGY COMPANY LIMITED
Address of Factory:	Factory No.1, Lot 13 Noi Hoang industrial cluster (Rent factory of Viet Australia Steel Joint Stock Company), Noi Hoang Commune, Yen Dung District, Bac Giang Province, Vietnam

#### 3.2 General Description of EUT

Product Name:	ONN. SMALL RUGGED SPEAKER
Model No.:	AAGRY100081918, AAORRA100081918, AALUN100081918, AALAV100081918, AABLSV100081918
Test Model No.:	AAGRY100081918
Trade Mark:	ONN.
Software Version:	V1.3
Hardware Version:	V2.0
Power Supply:	Li-ion battery: DC 3.7V 1200mAh, Charge by DC 5V for adapter

#### 3.3 General Description of BT

Operation Frequency:	2402MHz~2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi

Note:

Model No.: AAGRY100081918, AAORRA100081918, AALUN100081918, AALAV100081918, AABLSV100081918

The circuit design, layout, components used and internal wiring are all the same, except for the color difference

## 4 SAR Evaluation

### 4.1 RF Exposure Compliance Requirement

#### 4.1.1 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.

#### 4.1.2 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:

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

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

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

### 4.1.3 EUT RF Exposure

For BT

#### Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	5.06	5.0±1	6.0	3.981
Middle(2441MHz)	5.54	5.5±1	6.5	4.467
Highest(2480MHz)	6.08	6.0±1	7.0	5.012
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	5.28	5.0±1	6.0	3.981
Middle(2441MHz)	5.7	5.5±1	6.5	4.467
Highest(2480MHz)	6.17	6.0±1	7.0	5.012
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	5.98	6.0±1	7.0	5.012
Middle(2441MHz)	6.44	6.5±1	7.5	5.623
Highest(2480MHz)	6.57	6.5±1	7.5	5.623

Worst case: 8DPSK mode						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	5.98	6.0±1	7.0	5.012	1.554	3.0
Middle (2441MHz)	6.44	6.5±1	7.5	5.623	1.757	
Highest (2480MHz)	6.57	6.5±1	7.5	5.623	1.771	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20220400621E-01

\*\*\* END OF REPORT \*\*\*