

RF Exposure Evaluation Report

Product : Minions Collection TWS Wireless Earphones
Trade mark : N/A
Model/Type reference : Q41
Serial Number : N/A
Report Number : EED32N80783802
FCC ID : 2ART4-Q41
Date of Issue : Sep. 16, 2021
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

MINISO Corporation**2501, No. 486 Heye Square, Kangwang Middle Road,
Liwan District, Guangzhou, Guangdong, China**

Prepared by:

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Sep. 16, 2021

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1 Version

Version No.	Date	Description
00	Sep. 16, 2021	Original

2 Contents

	Page
1 VERSION.....	2
2 CONTENTS.....	3
3 GENERAL INFORMATION.....	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF EUT.....	4
3.3 TEST LOCATION.....	5
3.4 DEVIATION FROM STANDARDS.....	5
3.5 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
3.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	5
4 SAR EVALUATION.....	6
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	6
4.1.1 Standard Requirement.....	6
4.1.2 EUT RF Exposure.....	7
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	8

3 General Information

3.1 Client Information

Applicant:	MINISO Corporation
Address of Applicant:	2501, No. 486 Heye Square, Kangwang Middle Road, Liwan District, Guangzhou, Guangdong, China
Manufacturer:	SHENZHEN ABC INDUSTRIAL CO., LTD
Address of Manufacturer:	601, building 3, No. 59, Haoye Road, Zhancheng community, Fuhai street, Bao'an District, Shenzhen, P.R.China.
Factory:	SHENZHEN ABC INDUSTRIAL CO., LTD
Address of Factory:	601, building 3, No. 59, Haoye Road, Zhancheng community, Fuhai street, Bao'an District, Shenzhen, P.R.China.

3.2 General Description of EUT

Product Name:	Minions Collection TWS Wireless Earphones
Model No.:	Q41
Trade Mark:	N/A
Hardware Version:	V1.2
Software Version:	V2.2
Bluetooth Version:	V5.1
Operation Frequency:	2402MHz~2480MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	Chip antenna
Antenna Gain:	2.25dBi
Power Supply:	Lithium battery: DC 3.7V, Charge by DC 5.0V
Test Voltage:	DC 3.7V
Sample Received Date:	Aug. 26, 2021
Sample tested Date:	Aug. 26, 2021 to Sep. 06, 2021
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. Note: Since the RF parameters of the left and right earplugs are the same, only the left ear was tested in this report.	

3.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.4 Deviation from Standards

None.

3.5 Abnormalities from Standard Conditions

None.

3.6 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06
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.

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:

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

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

4.1.2 EUT RF Exposure

1) For BT Classic

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-5.83	-6.5±1	-5.5	0.282
Middle(2441MHz)	-4.20	-5.0±1	-4.0	0.398
Highest(2480MHz)	-2.63	-3.5±1	-2.5	0.562
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-4.96	-5.5±1	-4.5	0.355
Middle(2441MHz)	-3.35	-4.0±1	-3.0	0.501
Highest(2480MHz)	-1.74	-2.5±1	-1.5	0.708

Worst case: π/4DQPSK mode

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-4.96	-5.5±1	-4.5	0.355	0.110	3.0
Middle (2441MHz)	-3.35	-4.0±1	-3.0	0.501	0.157	
Highest (2480MHz)	-1.74	-2.5±1	-1.5	0.708	0.223	

Conclusion: the calculated value ≤3.0, SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: EED32N80783801.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N80783801 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***