



Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640

Fax: +86-755-26648637

Website: www.cqa-cert.com

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RF Exposure Evaluation Report

Report No.: CQASZ20250300591E-02
Applicant: ARKON ELECTRONICS (HUIZHOU) CO., LIMITED
Address of Applicant: NO.4 Taihao Road, High-tech Industrial Park, Sandong Town, Huicheng District, Huizhou, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Digital Wireless Headphone System
Model No.: DH170J, DH170, EASY AUDIO PJN240098, E2
Test Model No.: DH170J
Brand Name: ARKON, ARTISTE, DAYSNEW
FCC ID: 2APBSDH171J-001T
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
447498 D04 Interim General RF Exposure Guidance v01
Date of Receipt: 2025-03-20
Date of Test: 2025-03-20 to 2025-03-31
Date of Issue: 2025-04-10
Test Result: **PASS***

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

Lewis Zhou
Tested By: _____

(Lewis Zhou)

Timo Lei
Reviewed By: _____

(Timo Lei)

Jack Ai
Approved By: _____

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250300591E-02	Rev.01	Initial report	2025-04-10

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3 General Information

3.1 Client Information

Applicant:	ARKON ELECTRONICS (HUIZHOU) CO., LIMITED
Address of Applicant:	NO.4 Taihao Road, High-tech Industrial Park,Sandong Town, Huicheng District, Huizhou, Guangdong, China
Manufacturer:	ARKON ELECTRONICS (HUIZHOU) CO., LIMITED
Address of Manufacturer:	NO.4 Taihao Road, High-tech Industrial Park,Sandong Town, Huicheng District, Huizhou, Guangdong, China
Factory:	ARKON ELECTRONICS (HUIZHOU) CO., LIMITED
Address of Factory:	NO.4 Taihao Road, High-tech Industrial Park,Sandong Town, Huicheng District, Huizhou, Guangdong, China

3.2 General Description of EUT

Product Name:	Digital Wireless Headphone System
Model No.:	DH170J, DH170, EASY AUDIO PJN240098, E2
Test Model No.:	DH170J
Trade Mark:	ARKON, ARTISTE, DAYSNEW
Software Version:	V1.0
Hardware Version:	V1.0
EUT Power Supply:	Power supply DC5V form adapter Adapter: Model:YLJXA-T050055 Input:100-240V~50/60Hz 0.5A MAX Output:5V $\pm$ 0.55A

3.3 General Description of 2.4G SRD

Operation Frequency:	2400MHz~2483.5MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK
Number of Channel:	40
Transfer Rate:	1Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	PCB antenna
Antenna Gain:	0dBi

Note:

The above parameters will directly affect the test results. The information is provided by the applicant.

4 MPE Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator. For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave Dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure

1) For 2.4G SRD

Measurement Data

GFSK mode				
Test channel	Max.Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)
2402MHz	6.33	0	6.33	4.18
Tune-up				
Tune up tolerance (dBm)		Maximum tune-up Power		
		(dBm)	(mW)	
4.0±1		5.0	3.16	

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250300591E-01 for EUT test Max Conducted Peak Output Power value.
2) EUT's module is more than 20cm away from the human body.

*** END OF REPORT ***