TEST REPORT

Report No.:	BCTC2407884229-4E
Applicant:	Shenzhen Kenuo Digital Technology Co., Ltd
Product Name:	Multifunction Alarm Clock
Test Model:	A21-B
Tested Date:	2024-08-20 to 2024-11-28
Issued Date:	2024-11-28

Shenzhen BCTC Testing Co., Ltd.

FCC ID:2AW3E-A21B

Product Name:	Multifunction Alarm Clock
Trademark:	CARVAAN
Model/Type Reference:	A21-B A29, AL01, AL02, AL03, AL05, AL07, AL08
Prepared For:	Shenzhen Kenuo Digital Technology Co., Ltd
Address:	3A01, Building U3, Junxiang U8 Intelligent Manufacturing Industrial Park, Guxing Community, Xixiang Street, Baoan District, Shenzhen
Manufacturer:	Shenzhen Kenuo Digital Technology Co., Ltd
Address:	3A01, Building U3, Junxiang U8 Intelligent Manufacturing Industrial Park, Guxing Community, Xixiang Street, Baoan District, Shenzhen
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2024-08-20
Sample Tested Date:	2024-08-20 to 2024-11-28
Issue Date:	2024-11-28
Report No.:	BCTC2407884229-4E
Test Standards:	FCC CFR 47 part1, 1.1307(b), 1.1310 KDB 680106 D01 Wireless Power Transfer v04
Test Results:	PASS

Tested by:

Tang Changyu/ Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2407884229-4E	2024-11-28	Original	Valid

2. Product Information

2.1 Product Information

Model/Type Reference:	A21-B A29, AL01, AL02, AL03, AL05, AL07, AL08
Model Differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	115kHz-205kHz
Modulation:	ASK
Antenna installation:	Internal antenna
Antenna Gain:	0 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 9V From Adapter USB-A Output: AC 120V/60Hz 1A Wireless Charging:5W
Adapter Information:	Model No.: OBL-0901500U Input: AC 100-240V 50/60Hz 1.0A Max Output: DC 9V 1.5A 13.5W

2.2 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Multifunction Alarm Clock	CARVAAN	A21-B	N/A	EUT
E-2	Adapter	N/A	OBL-0901500U	N/A	Auxiliary
E-3	Load	N/A	--	N/A	Auxiliary

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

2.3 Test Mode

AC Mode	Mode 1	Wireless Charging(Full Load)+BT Linking
	Mode 2	Wireless Charging(Half Load)+BT Linking
	Mode 3	Wireless Charging(Null Load)+BT Linking

Note:
All test mode were tested and passed, only shows the worst case mode which were recorded in this report.

3. Test Facility And Test Instrument Used

3.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.
FCC Test Firm Registration Number: 712850
A2LA certificate registration number is: CN1212
ISED Registered No.: 23583
ISED CAB identifier: CN0017

3.2 Test Instrument Used

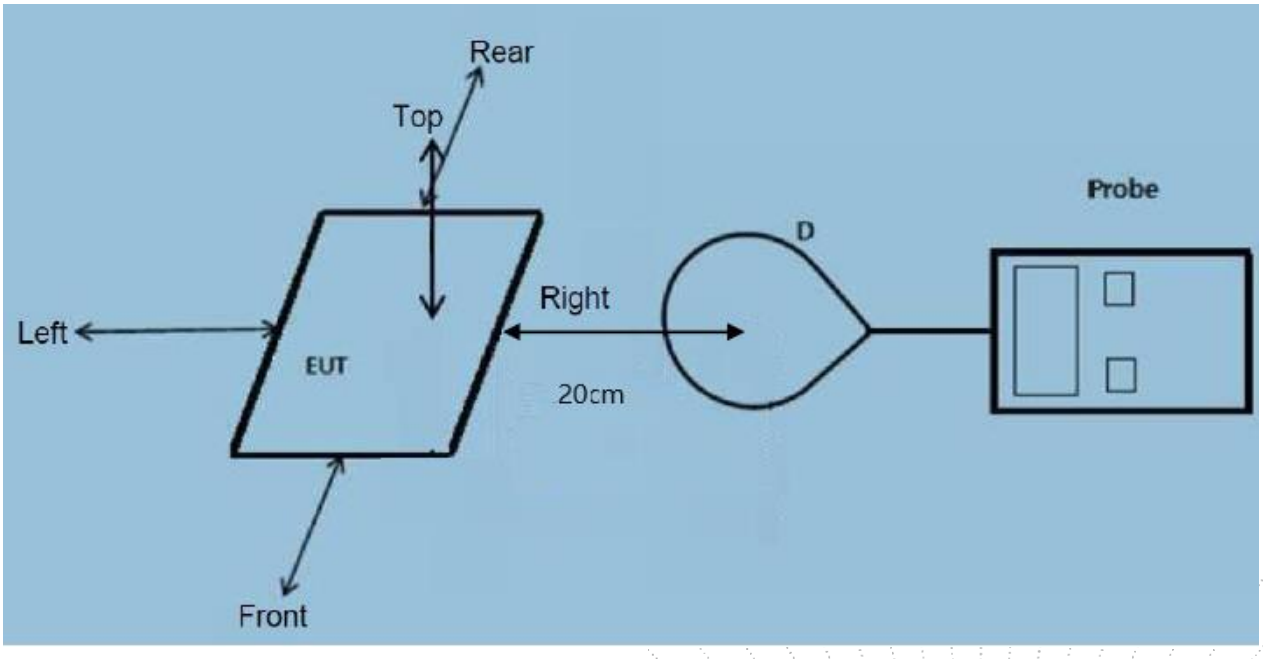
EMF Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Electromagnet -ic radiation tester	Wavecontrol	SMP160	19SN0980	May 25, 2024	May 24, 2025
Electromagnet -ic field probe	Wavecontrol	WP400-3	20WP120082	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

4. Method Of Measurement

4.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1091 RF exposure is calculated. According KDB 680106 D01 v04.

4.2 Block Diagram Of Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 20cm measured from the center of the probe(s) to the edge of the device

4.3 Limit

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

4.4 Test procedure

a) The RF exposure test was performed in anechoic chamber.
b) The measurement probe was placed at 0 cm surrounding the device for test setup A; and the measurement Probe was placed at 20/22/24 cm for the test setup B.
c) The highest emission level was recorded and compared with limit as soon as measurement of each
d) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
d) The EUT was measured according to the dictates of KDB680106 D01v04
f) Remark: The EUT's test position A, B, C, D , E and F is valid for the E and H field measurements.

4.5 Equipment Approval Considerations

The EUT does comply with item 5(b) of KDB 680106 D01v04

1) The power transfer frequency is below 1 MHz.
Yes, the device operate in the frequency range from 115-205kHz.

2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts..
Yes, the maximum output power of the primary coil is 5W.

3) A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)
Yes, client device is placed directly in contact with the transmitter.

4) Only § 2.1091-Mobile exposure conditions apply
Yes, the EUT is mobile condition assessment.

5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1.
Yes, confirm.

6) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time.
Not applicable, the product has only one coil

4.6 E and H field Strength

We measured the H-Field Strength of 20cm, 22cm and 24cm, and recorded the test data of the worst 20cm Test Mode 1 (the worst mode)

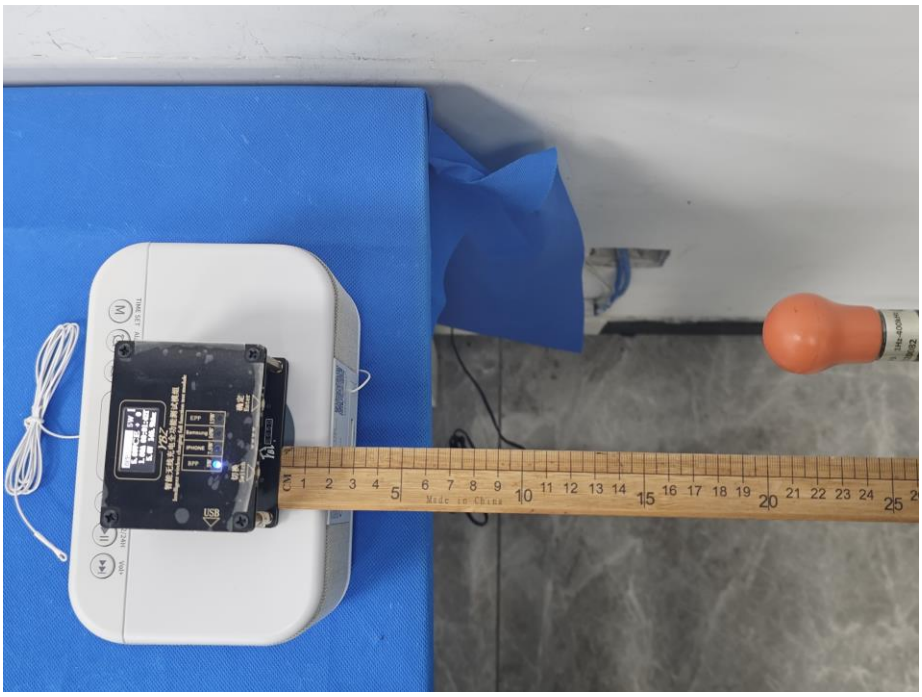
H-Field Strength at 20 cm surrounding the EUT and 20cm above the top surface of the EUT

Frequency Range (MHz)	Test Position A(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position Top(uT)
0.115-0.205	0.1524	0.1605	0.1308	0.1620	0.0229	0.0166

Frequency Range (MHz)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position Top(A/m)	50% Limits Test (A/m)	Limits Test (A/m)
0.115-0.205	0.1219	0.1284	0.1046	0.1296	0.0184	0.0133	0.815	1.63

Note: A/m=uT÷1.25

5. Photographs Of Test Set-Up



STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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