

TEST REPORT

Report No.: BCTC2403552271-2E

Applicant: TRANSTYLE TECHNOLOGY CO., LIMITED

Product Name: 4 in 1 Travel Companion TWS Earphones with
Power bank charging case

Test Model: CW21

Tested Date: 2024-03-28 to 2024-04-09

Issued Date: 2024-04-11



Shenzhen **BCTC** Testing Co., Ltd.



FCC ID: 2ALN9-CW21

Product Name: 4 in 1 Travel Companion TWS Earphones with Power bank charging case

Trademark: N/A
CW21

Model/Type reference: AI1011, AI1011-BLK, AI1011-GRY, AI1011-NVY, AI1011-FSA, AI1011-PUR, AI1011-RED, AI1011-BLK-T37-6, AI1011-GRY-T37-6, AI1011-NVY-T37-6, AI1011-FSA-T37-6, AI1011-PUR-T37-6, AI1011-RED-T37-6, CW21, CW20, TW20, CW22, CW23

Prepared For: TRANSTYLE TECHNOLOGY CO., LIMITED

Address: Room 404, Gainian Kongjian Factory, Building B, No.32 Huimin 1st Road, Guihua community, Guanlan Street, Longhua District, Shenzhen City, China

Manufacturer: TRANSTYLE TECHNOLOGY CO., LIMITED

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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: 2024-03-27

Sample tested Date: 2024-03-28 to 2024-04-09

Issue Date: 2024-04-11

Report No.: BCTC2403552271-2E

Test Standards: FCC CFR 47 part1, 1.1307(b), 1.1310
KDB 680106 D01 Wireless Power Transfer v04

Test Results: PASS

Tested by:



Eric Yang/Project Handler

Approved by:



Zero Zhou/Reviewer

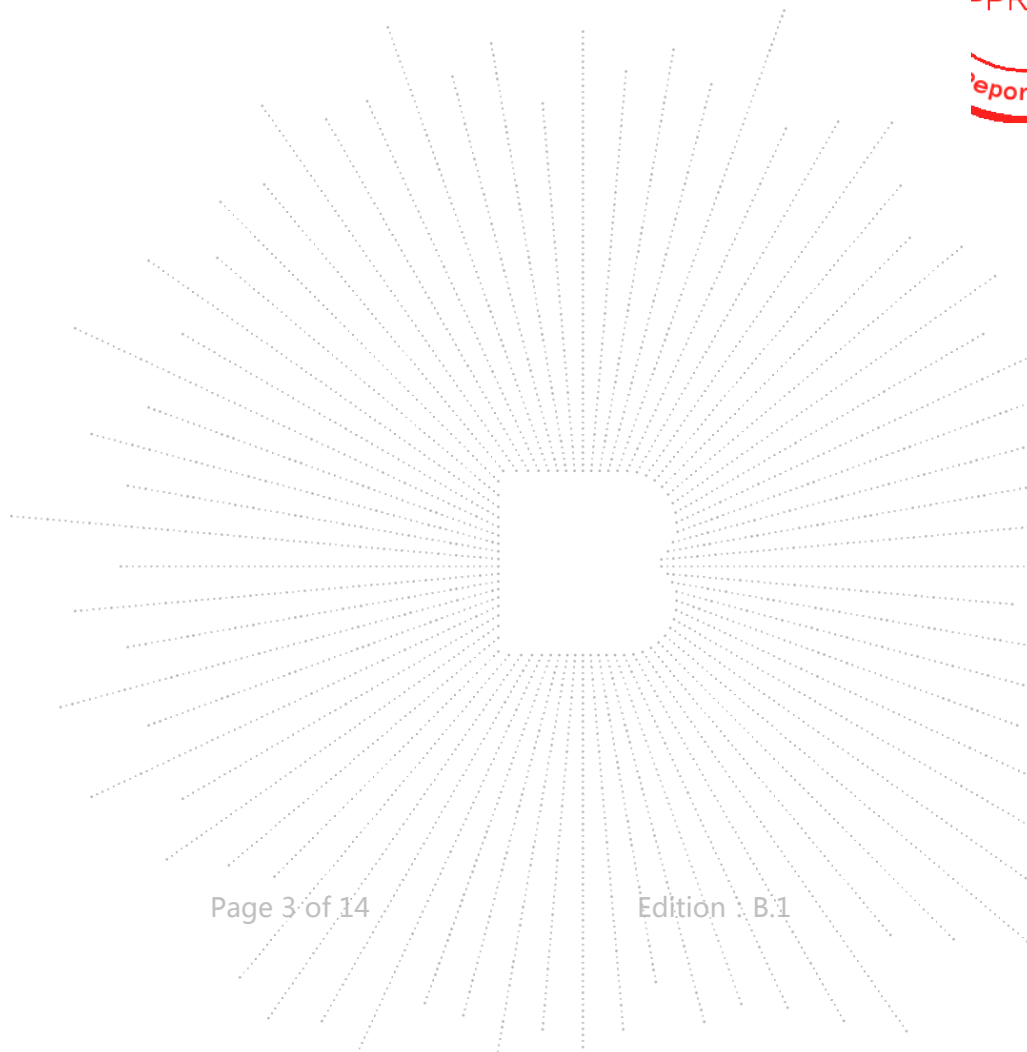
The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information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

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(Note: N/A Means Not Applicable)

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Report



1. Version

Report No.	Issue Date	Description	Approved
BCTC2403552271-2E	2024-04-11	Original	Valid

2. Product Information

2.1 Product Information

Model/Type Reference: CW21
 AI1011, AI1011-BLK, AI1011-GRY, AI1011-NVY, AI1011-FSA, AI1011-PUR,
 AI1011-RED, AI1011-BLK-T37-6, AI1011-GRY-T37-6, AI1011-NVY-T37-6,
 AI1011-FSA-T37-6, AI1011-PUR-T37-6, AI1011-RED-T37-6, CW21, CW20, TW20,
 CW22, CW23

Model Differences: All the model are the same circuit and RF module, except model names.

Modulation: MSK

Operation Frequency: 115kHz-205kHz

Antenna installation: Chip Antenna

Ratings: DC 3.85V From battery
 DC 5V/9V/12V From adapter
 Wireless charging output: 5W/7.5W/10W

2.2 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1.	---	---	---	---	---

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	Test Mode 1	Wireless Charging (Full load)
	Test Mode 2	Wireless Charging (Half load)
	Test Mode 3	Wireless Charging (Null load)
DC	Test Mode 4	Wireless Charging (Full load) *
	Test Mode 5	Wireless Charging (Half load)
	Test Mode 6	Wireless Charging (Null load)
	Test Mode 7	Charging(Bluetooth headset)

Note:

All test mode were tested and passed, only Conducted Emissions, Radiated Emissions shows (*) is 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

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Electromagnet-ic radiation tester	Wavecontrol	SMP160	19SN0980	Sept. 26, 2023	Sept. 25, 2024
Electromagne-tic field probe	Wavecontrol	WP400-3	20WP120082	Sept. 26, 2023	Sept. 25, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

CO., LTD.

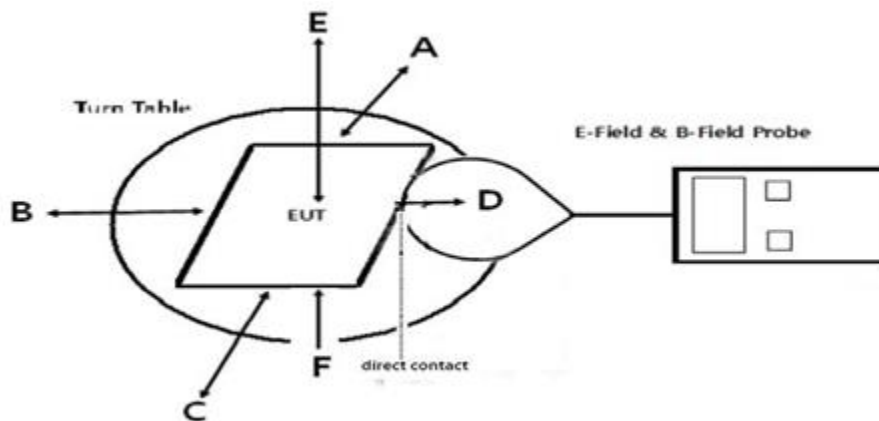
4. Method Of Measurement

4.1 Applicable Standard

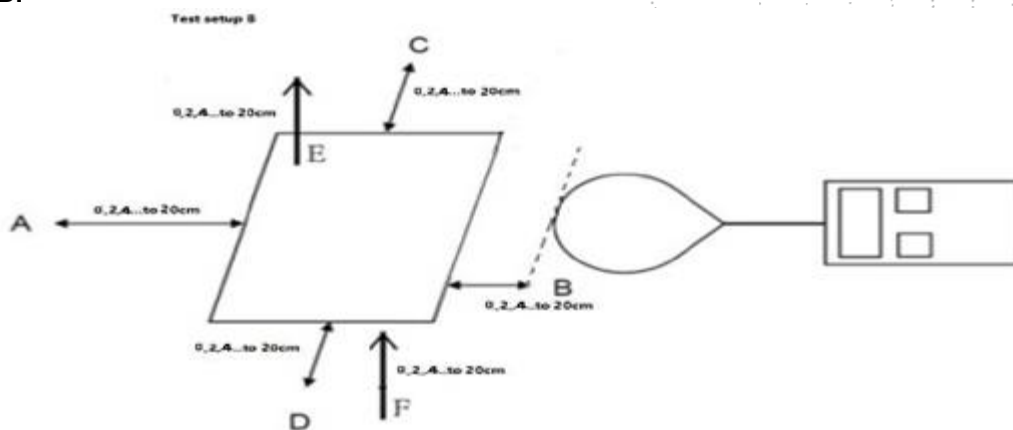
According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB680106 D01v04: RF Exposure Wireless Charging Apps v04.

4.2 Block Diagram Of Test Setup

A:



B:



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/ cm ²)	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/ cm ²)	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

- The RF exposure test was performed in anechoic chamber.
- The measurement probe was placed at 0 cm surrounding the device for test setup A; and the measurement Probe was placed from 0 cm to 20 cm, in 2 cm maximum increment measured from the edge of the device For the test setup B.
- The highest emission level was recorded and compared with limit as soon as measurement of each
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT was measured according to the dictates of KDB680106 D01v04
- 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

1. The power transfer frequency is below 1 MHz.

Yes. The operating frequencies: 115-205 kHz

2. The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.

Yes. The maximum output power is: 10W

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. The client device is placed directly in contact with the transmitter.

4. Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).

No. The EUT has portable exposure condition.

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. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a $1/d$ (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.

Yes. See the test result in item 4.6.

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, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.

Yes. The EUT has a radiating structure and all scenarios have been tested.

4.6 E and H field Strength

Mobile: Test Mode 1 (the worst mode)

H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Frequency Range (KHz)	Test Position A(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position Top(uT)
115-205	0.0248	0.0244	0.0234	0.0241	0.0245	0.0235

Frequency Range (KHz)	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)
115-205	0.0198	0.0195	0.0187	0.0193	0.0196	0.0188	0.815	1.63

Note: $A/m = uT \div 1.25$

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Portable: Test Mode 4 (the worst mode)
Transmitter Battery level: 100% battery

H-Filed Strength at (distance from 0cm to 20cm at 2cm iteration) surrounding the EUT (A/m)

Test distance (cm)	Test Position A(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position F(uT)
2	0.1202	0.1229	0.1280	0.1351	0.1383	0.1109
4	0.0862	0.0598	0.0923	0.1035	0.0433	0.0273
6	0.0449	0.0691	0.0960	0.0848	0.0498	0.0250
8	0.0566	0.0749	0.0880	0.0883	0.0557	0.0338
10	0.0375	0.0877	0.0633	0.0917	0.0437	0.0172
12	0.0547	0.0754	0.0756	0.0785	0.0614	0.0180
14	0.0370	0.0702	0.0762	0.0714	0.0199	0.0284
16	0.0458	0.0714	0.0803	0.0711	0.0177	0.0218
18	0.0326	0.0611	0.0839	0.0866	0.0207	0.0176
20	0.0256	0.0675	0.0782	0.0795	0.0171	0.0152

Test distance (cm)	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 F(A/m)	Limits (A/m)
2	0.0962	0.0983	0.1024	0.1081	0.1107	0.0887	1.63
4	0.0690	0.0478	0.0738	0.0828	0.0347	0.0218	1.63
6	0.0359	0.0553	0.0768	0.0678	0.0398	0.0200	1.63
8	0.0453	0.0599	0.0704	0.0706	0.0446	0.0270	1.63
10	0.0300	0.0701	0.0507	0.0733	0.0350	0.0137	1.63
12	0.0438	0.0603	0.0604	0.0628	0.0491	0.0144	1.63
14	0.0296	0.0562	0.0610	0.0571	0.0159	0.0228	1.63
16	0.0367	0.0571	0.0642	0.0569	0.0142	0.0175	1.63
18	0.0261	0.0489	0.0671	0.0693	0.0165	0.0141	1.63
20	0.0204	0.0540	0.0625	0.0636	0.0137	0.0122	1.63

Note: A/m=uT/1.25

Using Biot-Savart Law, the value of 0cm can be estimated through the test results of 2cm:
Distance: 0cm

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 F(A/m)	Limits (A/m)
0.1220	0.0898	0.1130	0.1092	0.1212	1.0565	1.63

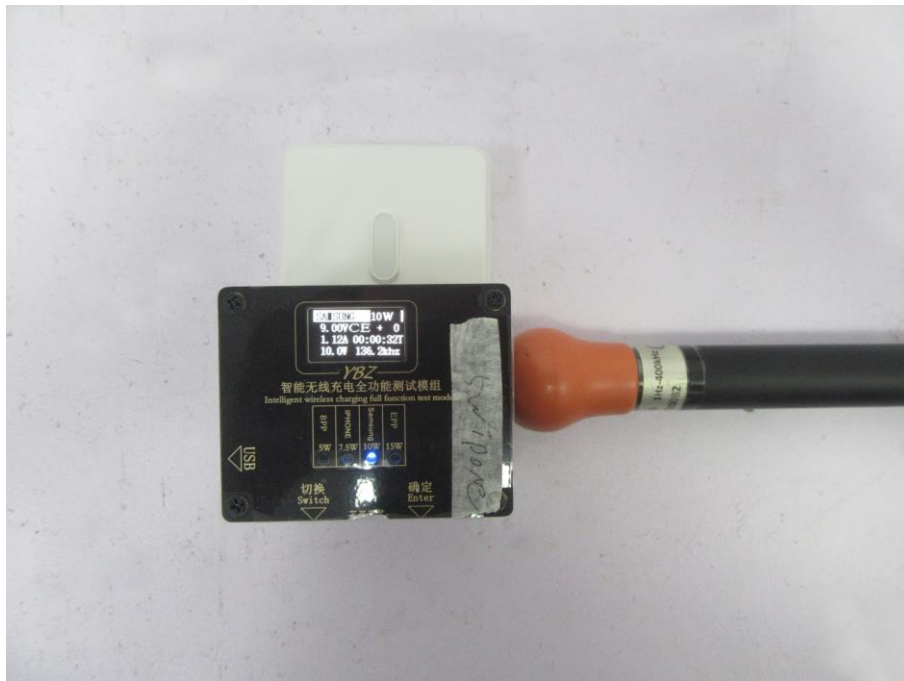
Using Biot-Savart Law, the value of 0cm can be estimated through the test results of 2cm:
Distance: 2cm

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 F(A/m)	Limits (A/m)
0.0822	0.0923	0.0951	0.1015	0.0964	0.0851	1.63

Agreement Ratio
Distance: 2cm

Transmitter Battery level: 100% battery						
Test Position	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 F(A/m)
Measure Value (A/m)	0.0962	0.0983	0.1024	0.1081	0.1107	0.0887
Valuation(A/m)	0.0822	0.0923	0.0951	0.1015	0.0964	0.0851
Agreement ratio	15.66%	6.32%	7.36%	6.34%	13.78%	4.13%
Limits	30%	30%	30%	30%	30%	30%
Test result: Pass						

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.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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***** END *****

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