



RF EXPOSURE EVALUATION

FCC ID:2BPMS-WPB-12

Applicant:	Shenzhen Chuangxinxin Technology Co., Ltd.
Address:	2/F, Building 21#, Tongfu Estate Industrial Zone, Dalang Street, Longhua District, Shenzhen, China
Manufacturer:	Shenzhen Chuangxinxin Technology Co., Ltd.
Address:	2/F, Building 21#, Tongfu Estate Industrial Zone, Dalang Street, Longhua District, Shenzhen, China
Product Name:	Wireless charging case for iWatch
Model No.:	WPB-12
Serial No.:	N/A
Model Difference:	N/A
Operation Frequency:	300kHz-350kHz
Modulation Type:	ASK
Antenna Type:	Loop Coil Antenna
Power Supply:	USB-C Input: 5V $\overline{\text{---}}$ 2A USB-C Output: 5V $\overline{\text{---}}$ 1A Lightning Input:5V $\overline{\text{---}}$ 2A Wireless Charging Output:5W
Battery Capacity:	3.7V, 1500mAh, 5.55Wh
Transmitting Mode:	Keep the EUT in continuously wireless charging mode
Date of Test:	May 13, 2026 to May 20, 2026
Date of issue:	May 20, 2026



Testing procedure and testing location:

Testing Laboratory.....: **Shenzhen ZKT Technology Co., Ltd.**

Address.....: 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Jim Liu

Tested by (name + signature).....: Jim Liu

Jackson Fang

Reviewer (name + signature).....: Jackson Fang



Approved (name + signature).....: Lake Xie



a. EUT mode for mobile exposure:

Test Modes:	Test Coil:	Description:
Mode 1	ANT 1	AC/DC Adapter (5V/2A) + EUT + Watch (Battery Status: <1%)
Mode 2		AC/DC Adapter (5V/2A) + EUT + Watch (Battery Status: 50%)
Mode 3		AC/DC Adapter (5V/2A) + EUT + Watch (Battery Status: >98%)

b. EUT mode for portable exposure:

Test Modes:	Test Coil:	Description:
Mode 1a	ANT 1	EUT + Watch (Battery Status: <1%)
Mode 2a		EUT + Watch (Battery Status: 50%)
Mode 3a		EUT + Watch (Battery Status: >98%)



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1. Measuring Standard

1.1 KDB 680106 D01 Wireless Power Transfer v04

1.2 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	H-filed	$\pm 0.93\text{dB}$
2	E-filed	$\pm 0.51\text{dB}$

2. Requirements

2.1 §1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part2.1093 of this chapter.

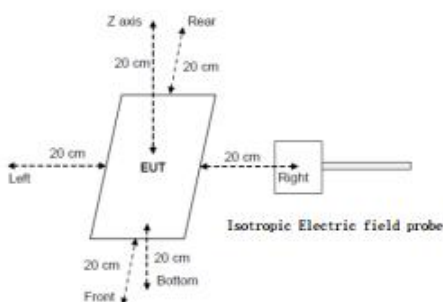
3. Method Of Measurement

3.1 Applicable Standard

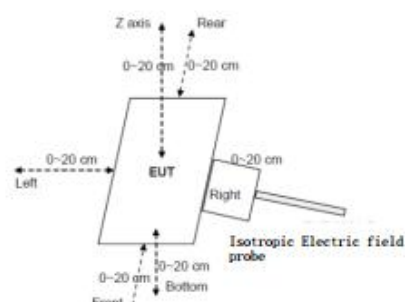
According to S1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB 680106 D01 Wireless Power Transfer v04.

3.2 Block diagram of Test Setup

For mobile exposure conditions:



For portable exposure conditions:



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 20cm - 0cm measured from the center of the top, and 20cm - 0cm measured from the center of the rest.



3.3 For mobile exposure conditions:

- The RF exposure test was performed in an echoic chamber;
- E and H-field measurements should be made with the center of the probe at a distance of 20 cm surrounding the EUT and 20 cm above the top surface of the primary/client pair;
- The highest emission level was recorded and compared with limit;
- The EUT was measured according to the dictates of KDB 680106 D01v04.

3.4 For portable exposure conditions:

- The RF exposure test was performed in an echoic chamber;
- E and H-field measurements should be made with the probe at 0 - 20 cm for all side of the EUT;
- The highest emission level was recorded and compared with limit;
- Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm starting from as close as possible out to 20cm.

3.5 Limits for Maximum Permissible Exposure (MPE):

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30
F=frequency in MHz *=Plane-wave equivalent power density RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310 (use the 300kHz limits for 150kHz: 614V/m, 1.63A/m).				

3.6 Test Procedure:

- The RF exposure test was performed on 360 degree turn table in an echoic chamber.
- 20 cm-0cm measured from the center of the top, and 20cm-0cm measured from the center of the rest sides.
- The turn table was rotated 360 degree to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points were completed.
- The EUT were measured according to the dictates of KDB 680106 D01v04.



4. Test instrument and equipment list

4.1 Test Instruments list

Test Equipment	Manufacturer	Model No.	SN.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Exposure Level Tester	Narda	ELT-400	180ZX10220	Sep. 29, 2025	Sep. 28, 2026
Magnetic field probe 100cm ²	Narda	ELT probe 100cm ²	M0675	Sep. 29, 2025	Sep. 28, 2026

4.2 Test auxiliary equipment list

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E1	Wireless charging case for iWatch	N/A	WPB-12	N/A	EUT
E2	AC/DC Adapter	N/A	X569	N/A	Auxiliary
E3	Watch	Apple	Watch S11	N/A	Auxiliary



5. Test Result

5.1 For portable exposure result (Test mode 1a to 3a recorded)

H-Filed Strength at (distance from 6cm to 20cm at 2cm iteration) surrounding the EUT (A/m):

distance (cm)	Battery Level:	Position Left (uT)	Position Right (uT)	Position Rear (uT)	Position Front (uT)	Position Top (uT)	Position Bottom (uT)
20	<1%	0.0183	0.0180	0.0184	0.0185	0.0183	0.0181
18	<1%	0.0244	0.0241	0.0246	0.0248	0.0244	0.0243
16	<1%	0.0336	0.0332	0.0339	0.0341	0.0336	0.0334
14	<1%	0.0477	0.0473	0.0482	0.0486	0.0477	0.0475
12	<1%	0.0705	0.0701	0.0714	0.0719	0.0705	0.0703
10	<1%	0.1091	0.1085	0.1104	0.1114	0.1091	0.1087
8	<1%	0.1773	0.1763	0.1795	0.1809	0.1773	0.1767
6	<1%	0.3008	0.2991	0.3046	0.3071	0.3008	0.2997

distance (cm)	Battery Level:	Position Left (A/m)	Position Right (A/m)	Position Rear (A/m)	Position Front (A/m)	Position Top (A/m)	Position Bottom (A/m)	50% Limits (A/m)	Limits (A/m)
20	<1%	0.0146	0.0144	0.0147	0.0148	0.0146	0.0145	0.815	1.63
18	<1%	0.0195	0.0193	0.0197	0.0198	0.0195	0.0194	0.815	1.63
16	<1%	0.0268	0.0266	0.0271	0.0273	0.0268	0.0267	0.815	1.63
14	<1%	0.0381	0.0379	0.0386	0.0389	0.0381	0.0380	0.815	1.63
12	<1%	0.0564	0.0561	0.0571	0.0576	0.0564	0.0562	0.815	1.63
10	<1%	0.0873	0.0868	0.0884	0.0891	0.0873	0.0870	0.815	1.63
8	<1%	0.1418	0.1410	0.1436	0.1448	0.1418	0.1413	0.815	1.63
6	<1%	0.2406	0.2393	0.2437	0.2457	0.2406	0.2398	0.815	1.63



H-Filed Strength at (distance from 6cm to 20cm at 2cm iteration) surrounding the EUT (A/m):

distance (cm)	Battery Level:	Position Left (uT)	Position Right (uT)	Position Rear (uT)	Position Front (uT)	Position Top (uT)	Position Bottom (uT)
20	50%	0.0174	0.0171	0.0170	0.0175	0.0176	0.0174
18	50%	0.0233	0.0229	0.0228	0.0234	0.0236	0.0233
16	50%	0.0320	0.0315	0.0313	0.0322	0.0325	0.0320
14	50%	0.0455	0.0448	0.0446	0.0457	0.0463	0.0455
12	50%	0.0673	0.0664	0.0660	0.0677	0.0684	0.0673
10	50%	0.1043	0.1027	0.1021	0.1048	0.1058	0.1043
8	50%	0.1694	0.1669	0.1659	0.1704	0.1718	0.1694
6	50%	0.2874	0.2832	0.2815	0.2891	0.2914	0.2874

distance (cm)	Battery Level:	Position Left (A/m)	Position Right (A/m)	Position Rear (A/m)	Position Front (A/m)	Position Top (A/m)	Position Bottom (A/m)	50% Limits (A/m)	Limits (A/m)
20	50%	0.0139	0.0137	0.0136	0.0140	0.0141	0.0139	0.815	1.63
18	50%	0.0186	0.0183	0.0182	0.0187	0.0189	0.0186	0.815	1.63
16	50%	0.0256	0.0252	0.0251	0.0257	0.0260	0.0256	0.815	1.63
14	50%	0.0364	0.0359	0.0357	0.0366	0.0370	0.0364	0.815	1.63
12	50%	0.0539	0.0531	0.0528	0.0542	0.0547	0.0539	0.815	1.63
10	50%	0.0834	0.0822	0.0817	0.0839	0.0846	0.0834	0.815	1.63
8	50%	0.1355	0.1335	0.1327	0.1363	0.1374	0.1355	0.815	1.63
6	50%	0.2299	0.2265	0.2252	0.2313	0.2331	0.2299	0.815	1.63



H-Filed Strength at (distance from 6cm to 20cm at 2cm iteration) surrounding the EUT (A/m):

distance (cm)	Battery Level:	Position Left (uT)	Position Right (uT)	Position Rear (uT)	Position Front (uT)	Position Top (uT)	Position Bottom (uT)
20	>98%	0.0165	0.0164	0.0166	0.0400	0.0166	0.0164
18	>98%	0.0221	0.0219	0.0223	0.0535	0.0223	0.0219
16	>98%	0.0305	0.0301	0.0306	0.0737	0.0306	0.0301
14	>98%	0.0434	0.0429	0.0436	0.1048	0.0436	0.0429
12	>98%	0.0642	0.0634	0.0645	0.1550	0.0645	0.0634
10	>98%	0.0992	0.0981	0.0998	0.2398	0.0998	0.0981
8	>98%	0.1612	0.1594	0.1621	0.3897	0.1621	0.1594
6	>98%	0.2736	0.2704	0.2749	0.6613	0.2749	0.2704

distance (cm)	Battery Level:	Position Left (A/m)	Position Right (A/m)	Position Rear (A/m)	Position Front (A/m)	Position Top (A/m)	Position Bottom (A/m)	50% Limits (A/m)	Limits (A/m)
20	>98%	0.0132	0.0131	0.0133	0.0320	0.0133	0.0131	0.815	1.63
18	>98%	0.0177	0.0175	0.0178	0.0428	0.0178	0.0175	0.815	1.63
16	>98%	0.0244	0.0241	0.0245	0.0589	0.0245	0.0241	0.815	1.63
14	>98%	0.0347	0.0343	0.0349	0.0838	0.0349	0.0343	0.815	1.63
12	>98%	0.0513	0.0507	0.0516	0.1240	0.0516	0.0507	0.815	1.63
10	>98%	0.0794	0.0785	0.0798	0.1919	0.0798	0.0785	0.815	1.63
8	>98%	0.1290	0.1275	0.1296	0.3118	0.1296	0.1275	0.815	1.63
6	>98%	0.2189	0.2163	0.2199	0.5291	0.2199	0.2163	0.815	1.63

Note: A/m = uT/1.25



H-Filed Strength at (distance from 4cm to 0cm) surrounding the EUT (A/m):

distance (cm)	Battery Level:	Position Left (A/m)	Position Right (A/m)	Position Rear (A/m)	Position Front (A/m)	Position Top (A/m)	Position Bottom (A/m)	50% Limits (A/m)	Limits (A/m)
4	<1%	0.4125	0.4103	0.4178	0.4212	0.4125	0.4111	0.815	1.63
2	<1%	0.6473	0.6438	0.6556	0.6609	0.6473	0.6451	0.815	1.63
0	<1%	0.7798	0.7756	0.7898	0.7962	0.7798	0.7772	0.815	1.63
4	50%	0.3941	0.3883	0.3861	0.3965	0.3996	0.3941	0.815	1.63
2	50%	0.6184	0.6093	0.6059	0.6222	0.6271	0.6184	0.815	1.63
0	50%	0.7450	0.7341	0.7300	0.7496	0.7555	0.7450	0.815	1.63
4	>98%	0.3753	0.3708	0.3770	0.9071	0.3770	0.3708	0.815	1.63
2	>98%	0.5889	0.5819	0.5916	1.4234	0.5916	0.5819	0.815	1.63
0	>98%	0.7095	0.7011	0.7127	1.7149	0.7127	0.7011	0.815	1.63

Note: Biot-Savar law:

(1) Magnetic field on the axis of a current-carrying circle coil:

$$B = \frac{\mu_0 I R^2}{2(R^2 + X^2)^{\frac{3}{2}}}$$

R is the coil outside diameter radius.

X is the distance from the test point to the center of the coil circle.

B is the magnetic magnetic field.

(2) According to the KDB 680106, the model needs to be validated by probe measurements at the two points closest to the surface of the device, in 2cm increments, and if there is a 30% agreement between the model and the (E-field and/or h-field) probe measurements, the validation is considered sufficient.

(3) We derived the field strengths at 10cm to 8cm and 8cm to 6cm, respectively, which are close to the actual test values, based on the field strength at 6 cm, the field strength at 4cm and 2cm and 0 cm can be deduced.

(4) A table of error data between the assessed and measured values:

distance (cm)	Measurements (A/m)	distance (cm)	Assessed (A/m)	Error (%)	Limit (%)
10	0.0829	\	\	\	\
8	0.1342	10 to 8	0.1307	2.61	<30
6	0.2289	8 to 6	0.2218	3.10	<30



(5) Calculation process:

distance (cm)	Battery Level:	Position Left (A/m)
8	<1%	0.1290
6	<1%	0.2189
4	<1%	0.3753
2	<1%	0.5889
0	<1%	0.7095

$$8\text{cm: } u_0IR^2 = B * 2(R^2 + X^2)^{\frac{3}{2}} = 0.1290 * 2(0.055^2 + 0.08^2)^{\frac{3}{2}} = 0.000236071$$

$$\text{To 6cm: } B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{3}{2}}} = \frac{0.000236071}{2(0.055^2+0.06^2)^{\frac{3}{2}}} = 0.2189$$

$$6\text{cm: } u_0IR^2 = B * 2(R^2 + X^2)^{\frac{3}{2}} = 0.2189 * 2(0.055^2 + 0.06^2)^{\frac{3}{2}} = 0.000236077$$

$$\text{To 4cm: } B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{3}{2}}} = \frac{0.000236077}{2(0.055^2+0.04^2)^{\frac{3}{2}}} = 0.3753$$

$$4\text{cm: } u_0IR^2 = B * 2(R^2 + X^2)^{\frac{3}{2}} = 0.3753 * 2(0.055^2 + 0.04^2)^{\frac{3}{2}} = 0.000236089$$

$$\text{To 2cm: } B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{3}{2}}} = \frac{0.000236089}{2(0.055^2+0.02^2)^{\frac{3}{2}}} = 0.5889$$

$$2\text{cm: } u_0IR^2 = B * 2(R^2 + X^2)^{\frac{3}{2}} = 0.5889 * 2(0.055^2 + 0.02^2)^{\frac{3}{2}} = 0.000236082$$

$$\text{To 0cm: } B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{3}{2}}} = \frac{0.000236082}{2(0.055^2+0^2)^{\frac{3}{2}}} = 0.7095$$



5.2 For mobile exposure result (Test mode 1 to 3 recorded)

H-Filed Strength at (distance from 20cm) surrounding the EUT (A/m):

distance (cm)	Battery Level:	Position Left (uT)	Position Right (uT)	Position Rear (uT)	Position Front (uT)	Position Top (uT)	Position Bottom (uT)
20	<1%	0.0189	0.0186	0.0188	0.0187	0.0184	0.0185
20	50%	0.0178	0.0177	0.0179	0.0176	0.0176	0.0175
20	>98%	0.0164	0.0165	0.0162	0.0165	0.0158	0.0158

distance (cm)	Battery Level:	Position Left (A/m)	Position Right (A/m)	Position Rear (A/m)	Position Front (A/m)	Position Top (A/m)	Position Bottom (A/m)	50% Limits (A/m)	Limits (A/m)
20	<1%	0.01512	0.01488	0.01504	0.01496	0.01472	0.0148	0.815	1.63
20	50%	0.01424	0.01416	0.01432	0.01408	0.01408	0.01400	0.815	1.63
20	>98%	0.01312	0.01320	0.01296	0.01320	0.01264	0.01264	0.815	1.63

Note: A/m = uT/1.25

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