

Test Report

Report No. : MTi250725003-0102E2

Date of Issue : 2025-10-22

Applicant : U2O GLOBAL CO., LTD.

Product : WatchMan 2

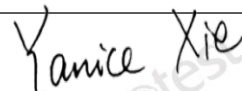
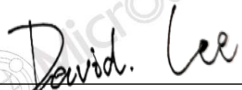
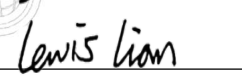
Model(s) : SBW002

FCC ID : SXQ-SBW002

Shenzhen Microtest Co., Ltd.

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Test Result Certification		
Applicant	U2O GLOBAL CO., LTD.	
Applicant Address	U2O building, Huanzhu Road 385, Jimei district Xiamen, Fujian, China	
Manufacturer	U2O GLOBAL CO., LTD.	
Manufacturer Address	U2O building, Huanzhu Road 385, Jimei district Xiamen, Fujian, China	
Factory	Heyuan Esorun Technology Company Limited	
Factory Address	4-5th Floor, Hongzhuo Technical Park, Dongyuan Industrial Park, Dongyuan County, Heyuan City, Guangdong Province, China	
Product description		
Product name	WatchMan 2	
Trademark	/	
Model name	SBW002	
Series Model(s)	N/A	
Standards	47 CFR PART 1, § 1.1310 47 CFR PART 2.1093	
Test Method	KDB 680106 D01 Wireless Power Transfer v04	
Testing Information		
Date of test	2025-07-31 to 2025-10-14	
Test result	Pass	
Prepared by:	Yanice Xie	
Reviewed by:	David Lee	
Approved by:	Lewis Lian	

1 General Description

1.1 Description of the EUT

Product name:	WatchMan 2
Model name:	SBW002
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Capacity:36Wh(7.2V 5000mAh) USB-C Port/Cable Input: 5V=3A,9V=2.22A,12V=1.67A USB-C Port/Cable Output: 5V=3A,9V=3A,12V=2.5A,15V=2A,20V=1.5A Wireless Charging: 5W Total Output: 15W Max(5V=3A)
Accessories:	N/A
Hardware version:	V3.0
Software version:	V1.0
Test sample(s) number:	MTi250725003-01-R001
RF specification:	
Operation frequency:	Coil(2.5W): 320-330kHz Coil(5W): 1.57MHz
Modulation type:	ASK
Antenna type:	Coil

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Wireless Output Watch(Apple Watch SE)
Mode2	Wireless Output Watch(Apple Watch S7)
Mode3	Charging(cable)+Watch(Apple Watch SE)
Mode4	Charging(port)+Watch(Apple Watch SE)
Mode5	Charging(cable)+Watch(Apple Watch S7)
Mode6	Charging(port)+Watch(Apple Watch S7)
Mode7	Standby

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list

Description	Model	Serial No.	Manufacturer
(USB-A)5W Adapter	A1443	/	Apple
Apple Watch (Operating frequency: 320-330kHz)	Apple Watch SE	FH7PP6BAG91J6	Apple
Apple Watch (Operating frequency: 1.57MHz)	Apple Watch S7	M0JVGQG1VP	Apple

Support cable list

Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurements(3kHz~10MHz)	$\pm 14.8\%$
Electric field measurements(3kHz~10MHz)	$\pm 17.5\%$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

3 Test facilities and accreditations**3.1 Test laboratory**

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E143	Near-field Electric and Magnetic Field Sensor System	SPEAG	MAGPy-8H3 D+E3D	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.6	2.6	/	/

5 Test result

5.1.1 Requirement

§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 part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

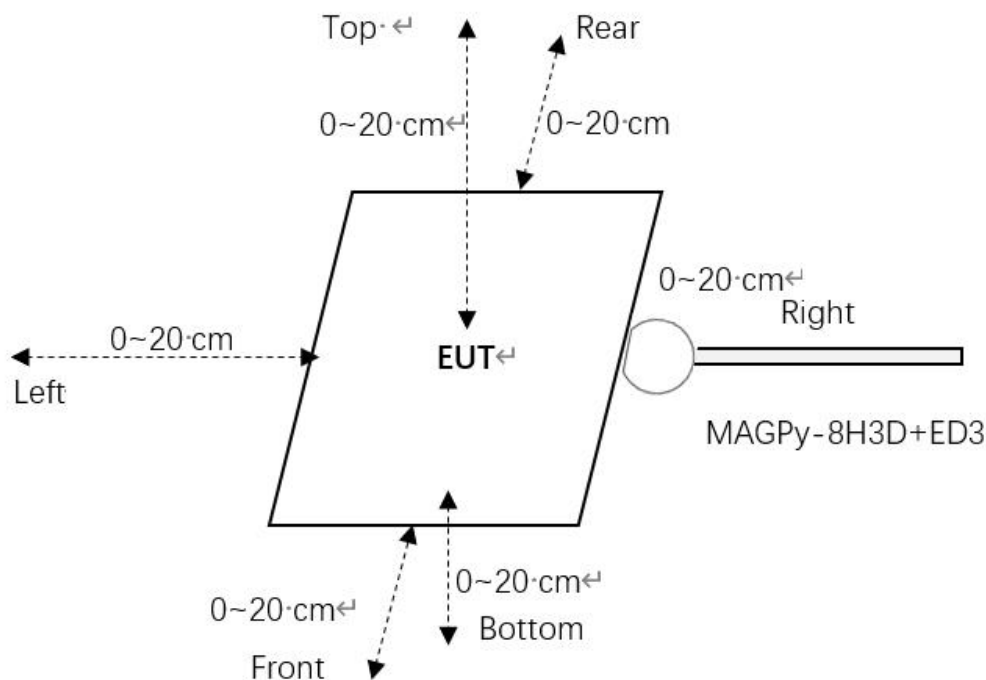
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1500			f/300	<6
1500-100000			5	<6
(ii) 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
1500-100000			1.0	<30

f = frequency in MHz

* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.



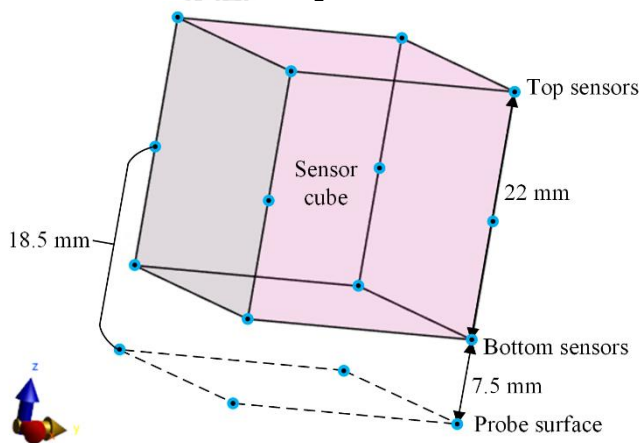
Note: tips mode of the test probe is used for 0cm measurement.

5.3 Test Procedures

The center of the probe to the tip surface of the probe is 18.5 mm, so the directly testing can be performed at the probe center from 2 cm to 20 cm.

To measure the 0 cm H-filed, the probe tip mode is used. The total H-field at the tip-surface $H_{\text{tip-surface}}$ can be extrapolated using the total H-field measured at the top and bottom sensors, H_{top} and H_{bottom} , as well as the normalized H-field gradient G_n . The field extrapolation formula is a polynomial function of G_n ($\Delta d = 18.5$ mm)

$$H_{tip-surface} = \frac{H_{bottom} + H_{top}}{2} \sum_{i=0}^7 ci(G_n \Delta d)^i$$



5.4 Information of test equipment

Test equipment: MAGPy-8H3D+E3D	
Diameter	60mm
8 isotropic H-field sensors	Concentric loops of 1cm ² arranged at the corner of a cube of 22mm side length
1 isotropic E-field sensor	Orthogonal dipole/monopole (arm length: 50mm)
Measurement center	18.5mm from the probe tip
Dimensions	110*635*35mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)
	
Test probe, without the casing	

Item	Specification
Test frequency range:	3kHz ~ 10MHz
Probe sensitivity	E-field: 0.08-2000 V/m H-field: 0.1-3200 A/m
Probe level response	E-field: ±1dB H-field: ±1dB
linearity error	E-field: ±0.3dB H-field: ±0.3dB
Isotropy	E-field: ±0.8dB H-field: ±0.6dB

5.5 Test results

All client power has been assessed (1%,50%, 99%), and the 1% battery status of client device was the worst.

Test condition 1: Mode 2 operating mode with client device (1 % battery status of client device)

-estimated value: 0cm

Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1724	1.63	20.37%
Bottom	0.1005		
Left	0.1319		
Right	0.2437		
Front	0.3321		
Rear	0.2605		

Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)

- Test distance: 2cm

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1638	1.63	19.36%
Bottom	0.0955		
Left	0.1253		
Right	0.2315		
Front	0.3155		
Rear	0.2475		

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Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 4cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1474	1.63	17.42%
Bottom	0.0859		
Left	0.1128		
Right	0.2084		
Front	0.2839		
Rear	0.2227		

Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 6cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1297	1.63	15.33%
Bottom	0.0756		
Left	0.0992		
Right	0.1834		
Front	0.2499		
Rear	0.1960		

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Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 8cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1103	1.63	13.03%
Bottom	0.0643		
Left	0.0844		
Right	0.1559		
Front	0.2124		
Rear	0.1666		

Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 10cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0937	1.63	11.08%
Bottom	0.0546		
Left	0.0717		
Right	0.1325		
Front	0.1805		
Rear	0.1416		

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Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 12cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0750	1.63	8.86%
Bottom	0.0437		
Left	0.0574		
Right	0.1060		
Front	0.1444		
Rear	0.1133		

Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 14cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0562	1.63	6.65%
Bottom	0.0328		
Left	0.0430		
Right	0.0795		
Front	0.1083		
Rear	0.0850		

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Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 16cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0422	1.63	4.98%
Bottom	0.0246		
Left	0.0323		
Right	0.0596		
Front	0.0812		
Rear	0.0637		

Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 18cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0295	1.63	13.29%
Bottom	0.0172		
Left	0.0226		
Right	0.0417		
Front	0.0569		
Rear	0.0446		

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Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**- Test distance: 20cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0207	1.63	2.44%
Bottom	0.0120		
Left	0.0158		
Right	0.0292		
Front	0.0398		
Rear	0.0312		

Test condition 1: Mode 1 operating mode with client device (1 % battery status of client device)

-estimated value: 0cm

Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1095	1.63	77.59%
Bottom	0.2957		
Left	0.2598		
Right	0.5343		
Front	1.2647		
Rear	0.4387		

Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)

- Test distance: 2cm

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.1040	1.63	66.34%
Bottom	0.2809		
Left	0.2468		
Right	0.5076		
Front	1.2015		
Rear	0.4168		

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Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 4cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0936	1.63	66.75%
Bottom	0.2528		
Left	0.2221		
Right	0.4568		
Front	1.0813		
Rear	0.3751		

Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 6cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0824	1.63	47.80%
Bottom	0.2225		
Left	0.1955		
Right	0.4020		
Front	0.9516		
Rear	0.3301		

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Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 8cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0700	1.63	33.45%
Bottom	0.1891		
Left	0.1662		
Right	0.3417		
Front	0.8088		
Rear	0.2806		

Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 10cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0595	1.63	23.40%
Bottom	0.1607		
Left	0.1412		
Right	0.2905		
Front	0.6875		
Rear	0.2385		

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Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)

- Test distance: 12cm

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0476	1.63	16.40%
Bottom	0.1286		
Left	0.1130		
Right	0.2324		
Front	0.5500		
Rear	0.1908		

Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)

- Test distance: 14cm

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0357	1.63	11.47%
Bottom	0.0964		
Left	0.0847		
Right	0.1743		
Front	0.4125		
Rear	0.1431		

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Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 16cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0268	1.63	8.03%
Bottom	0.0723		
Left	0.0636		
Right	0.1307		
Front	0.3094		
Rear	0.1073		

Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 18cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0188	1.63	13.29%
Bottom	0.0506		
Left	0.0445		
Right	0.0915		
Front	0.2166		
Rear	0.0751		

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Test condition 2: Mode 1 operating mode with client device (1 % battery status of client device)**- Test distance: 20cm**

Probe Position	H-field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.0131	1.63	9.30%
Bottom	0.0354		
Left	0.0311		
Right	0.0640		
Front	0.1516		
Rear	0.0526		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

Statement

1. This report is invalid without the seal and signature of the laboratory.
2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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