

RF Exposure Report

Report No.: MFBFOK-WTW-P23030724-1

FCC ID: RYQGW23

Test Model: GW23

Received Date: 2023/3/31

Test Date: 2023/7/15

Issued Date: 2023/7/26

Applicant: FIH CO., LTD.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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33383, TAIWAN

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
MFBFOK-WTW-P23030724-1	Original release	2023/7/26

1 Certificate of Conformity

Product: Smartwatch

Brand: Gabb

Test Model: GW23

Sample Status: Identical Prototype

Applicant: FIH CO., LTD.


Test Date: 2023/7/15

FCC Rule Part: FCC Part 1 (Section 1.1307(b), Section 1.1310)
FCC Part 2 (Section 2.1093)

Standards: KDB 680106 D01 RF Exposure Wireless Charging Apps v03 r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** 2023/7/26
Polly Chien / Specialist

Approved by : , **Date:** 2023/7/26
Jeremy Lin / Project Engineer

2 General Information

2.1 General Description of EUT

Product	Smartwatch
Brand	Gabb
Test Model	GW23
Sample Status	Identical Prototype
Power Supply Rating	5Vdc or 9Vdc or 12Vdc (From adapter) 3.87Vdc (From battery)
Modulation Type	ASK
Operating Frequency Range	340kHz
Antenna Type	Loop antenna
Field Strength	-20.4dBuV/m (300m)(Average)
Accessory Device	Refer to note
Data Cable Supplied	Refer to note

Note:

1. The EUT uses following accessories.

Battery		
Manufacturer	Model	Specification
SHEN ZHEN UTILITY ENERGY CO.,LTD.	HE409	Rating: 3.87Vdc
WPC		
Brand	Model	Brand
Gabb	WX013	DC Input: 5V, 0.65A DC Output: 0.5A, 2.5W
USB cable attached on WPC		
Manufacturer	Model	Brand
Hubei Hongzhanxin Electronics Co., LTD	P04-0109000005-HF	900±20mm, non-shielded w/o core

2. The EUT uses following support unit only.

Adapter (Support unit)		
Manufacturer	Model	Specification
JiangSu ChenYang Electron Co., Ltd	CK18W02U	AC Input: 100-240 Vac, 50/60 Hz, 0.5A DC Output: 5Vdc, 3A; 9Vdc, 2A; 12Vdc, 1.5A

3. Detail antenna specification please refer to antenna photos/or drawings.

4. Transmitter is only active when connected to a wireless charger in mobile configuration.

2.2 Description of Test Modes

1 channel is provided to this EUT

Channel	Freq. (kHz)
1	340

3 RF Exposure

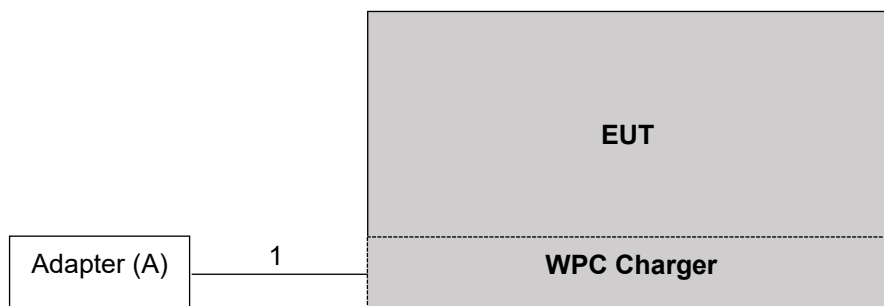
3.1 Description of Support Units

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.

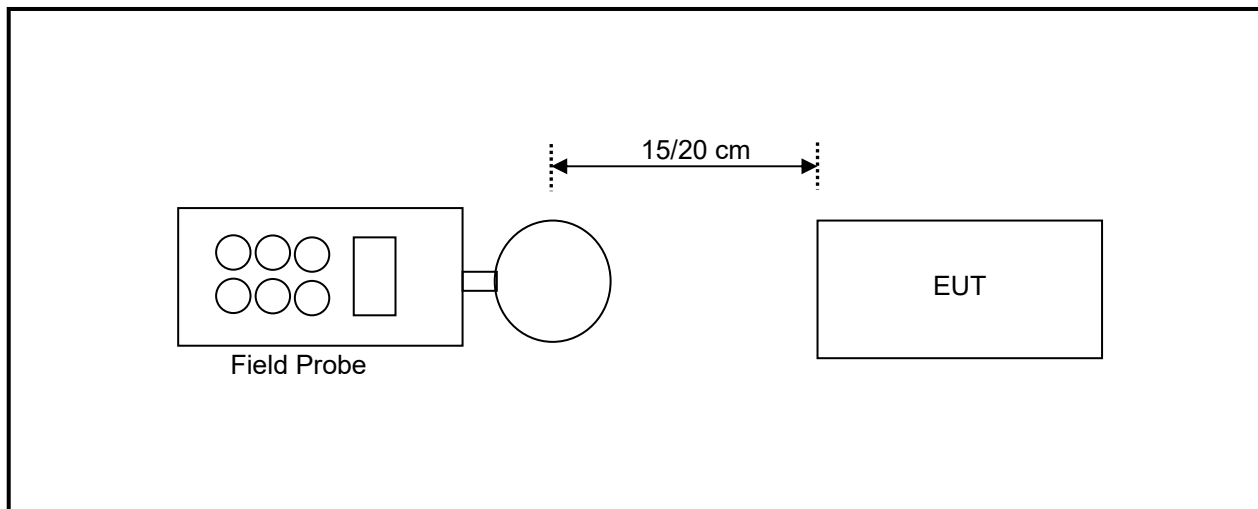
ID	Product	Manufacturer	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	JiangSu ChenYang Electron Co., Ltd	CK18W02U	N/A	N/A	Supplied by applicant

ID	Descriptions	Qty.	Length (mm)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	900±20	N	0	USB cable attached on WPC Accessory of EUT

3.1.1 Configuration of System under Test



3.2 Test Setup



Note: Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device.

3.3 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Mar. 18, 2022	Mar. 17, 2024
Magnetic Field Meter	NARDA	ELT-400	1Hz – 400MHz	Feb. 09, 2022	Feb. 08, 2024
Magnetic Probe	NARDA	HF-3061	300kHz – 30MHz	Apr. 15, 2022	Apr. 14, 2024
Magnetic Probe	NARDA	HF-0191	27 – 1000MHz	Apr. 20, 2022	Apr. 19, 2024
Broadband Field Meter	NARDA	NBM-550	-	Mar. 18, 2022	Mar. 17, 2024
Electric Field Meter	COMBINOVA	EFM 200	5Hz – 400kHz	Dec. 16, 2021	Dec. 15, 2023
E-Field Probe	NARDA	EF-0391	100kHz – 3GHz	Mar. 24, 2022	Mar. 23, 2024
E-Field Probe	NARDA	EF-6091	100MHz – 60GHz	Mar. 24, 2022	Mar. 23, 2024

Note: 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa RF Chamber

3.4 Limits for Maximum Permissible Exposure (MPE)

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 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)
(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

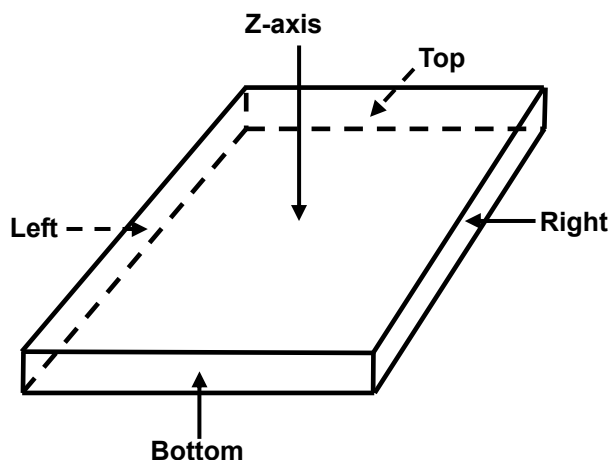
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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The aggregate H-fields strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

3.5 Test Point Description



4. Calculation Result of Maximum Conducted Power

Charging Mode, battery 10% Charge

E-Field (15cm)								E-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max E-field (V/m)	5.6600	5.6400	4.2500	4.3300	2.4800	1.6400	0.6500
340	Limit (V/m)	614	614	614	614	614	614	614
340	Margin (V/m)	-608.3400	-608.3600	-609.7500	-609.6700	-611.5200	-612.3600	-613.3500
340	50 % Limit (V/m)	307	307	307	307	307	307	307
340	50 % Margin (V/m)	-301.3400	-301.3600	-302.7500	-302.6700	-304.5200	-305.3600	-306.3500

H-Field (15cm)								H-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max H-field (uT)	0.1000	0.1000	0.0900	0.1000	0.0800	0.0600	0.0600
340	Max H-field (A/m)	0.0800	0.0800	0.0720	0.0800	0.0640	0.0480	0.0480
340	Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63	1.63
340	Margin (A/m)	-1.5500	-1.5500	-1.5580	-1.5500	-1.5660	-1.5820	-1.5820
340	50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815	0.815
340	50 % Margin (A/m)	-0.7350	-0.7350	-0.7430	-0.7350	-0.7510	-0.7670	-0.7670

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode, battery 50% Charge

E-Field (15cm)								E-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max E-field (V/m)	5.6700	5.6600	4.2600	4.3500	2.5000	1.6500	0.6500
340	Limit (V/m)	614	614	614	614	614	614	614
340	Margin (V/m)	-608.3300	-608.3400	-609.7400	-609.6500	-611.5000	-612.3500	-613.3500
340	50 % Limit (V/m)	307	307	307	307	307	307.0000	307
340	50 % Margin (V/m)	-301.3300	-301.3400	-302.7400	-302.6500	-304.5000	-305.3500	-306.3500

H-Field (15cm)								H-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max H-field (uT)	0.1100	0.1000	0.1000	0.1000	0.0800	0.0600	0.0600
340	Max H-field (A/m)	0.0880	0.0800	0.0800	0.0800	0.0640	0.0480	0.0480
340	Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63	1.63
340	Margin (A/m)	-1.5420	-1.5500	-1.5500	-1.5500	-1.5660	-1.5820	-1.5820
340	50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815	0.815
340	50 % Margin (A/m)	-0.7270	-0.7350	-0.7350	-0.7350	-0.7510	-0.7670	-0.7670

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode, battery Max Charge

E-Field (15cm)								E-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max E-field (V/m)	5.6700	5.6600	4.2700	4.3500	2.5000	1.6800	0.6700
340	Limit (V/m)	614	614	614	614	614	614	614
340	Margin (V/m)	-608.3300	-608.3400	-609.7300	-609.6500	-611.5000	-612.3200	-613.3300
340	50 % Limit (V/m)	307	307	307	307	307	307	307
340	50 % Margin (V/m)	-301.3300	-301.3400	-302.7300	-302.6500	-304.5000	-305.3200	-306.3300

H-Field (15cm)								H-Field (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)	Z-axis (Below)	Z-axis (Above)
340	Max H-field (uT)	0.1100	0.1000	0.1100	0.1000	0.0800	0.0700	0.0600
340	Max H-field (A/m)	0.0880	0.0800	0.0880	0.0800	0.0640	0.0560	0.0480
340	Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63	1.63
340	Margin (A/m)	-1.5420	-1.5500	-1.5420	-1.5500	-1.5660	-1.5740	-1.5820
340	50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815	0.815
340	50 % Margin (A/m)	-0.7270	-0.7350	-0.7270	-0.7350	-0.7510	-0.7590	-0.7670

Measurements were made from all sides and the top of the primary/client pair, with the 15/20cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

5. Photographs of the Test Configuration

Please refer to the attached file (Test Setup Photo).

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