

RF Exposure Report

Report No.: SA190618C05 R1

FCC ID: K7SF8J200V2

Test Model: F8J200V2

Received Date: Jun. 18, 2019

Test Date: Jun. 22 and Jul. 02, 2019

Issued Date: Jul. 29, 2019

Applicant: Belkin International, Inc.

Address: 12045 East Waterfront Drive, Playa Vista, CA 90094

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

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SA190618C05	Original release	Jul. 11, 2019
SA190618C05 R1	Revised dimension for apple watch inductive coil	Jul. 29, 2019

1 Certificate of Conformity

Product: PowerHouse™ Charge Dock for Apple Watch + iPhone

Brand: belkin

Test Model: F8J200V2

Sample Status: Engineering sample

Applicant: Belkin International, Inc.

Test Date: Jun. 22 and Jul. 02, 2019

Standards: FCC Part 1 (Section 1.1307(b), 1.1310)

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 : Celine Chou , **Date:** Jul. 29, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 29, 2019
Bruce Chen / Project Engineer

2 General Information

2.1 General Description of EUT

Product	PowerHouse™ Charge Dock for Apple Watch + iPhone
Test Model	F8J200V2
Sample Status	Engineering sample
Power Supply Rating	12Vdc (Adapter)
Modulation Type	FSK
Operating Frequency	326.5 kHz
Antenna Type	Coil antenna
Field Strength	48.6dBuV/m
Dimension for Apple watch inductive coil	3.80cm ² (diameter = 22mm)
Accessory Device	Adapter
Data Cable Supplied	NA
Maximum Power Output for Apple watch inductive coil	Less than 5W

Note:

1. The EUT uses following adapter.

Brand	HONOTO/belkin
Model	ADS-25SGP-12 12019E
Input Power	100-240Vac, 50/60Hz, 0.7A Max
Output Power	12Vdc, 1.6A
Power Line	1.5m non-shielded DC cable without core attached on adapter

2. The EUT has a wireless inductive charging coil for charging Apple watch and a USB board to charge iPhone.

3. After the evaluation of the metal and plastic band on Apple Watch, the metal band was found to be the worst case test mode and therefore was been presented in the test report.

3 RF Exposure

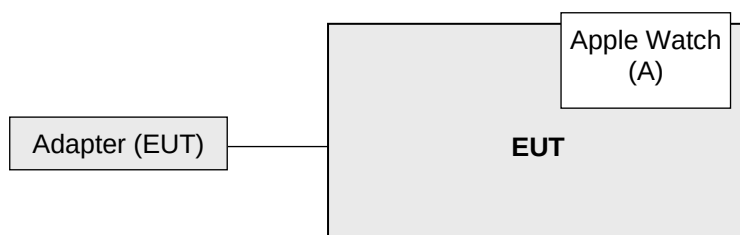
3.1 Description of Support Units

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.

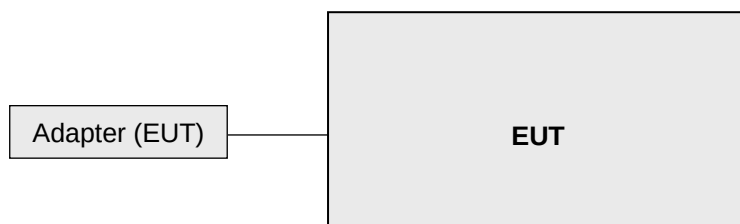
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Apple Watch	APPLE	A1554	NA	NA	-

3.1.1 Configuration of System under Test

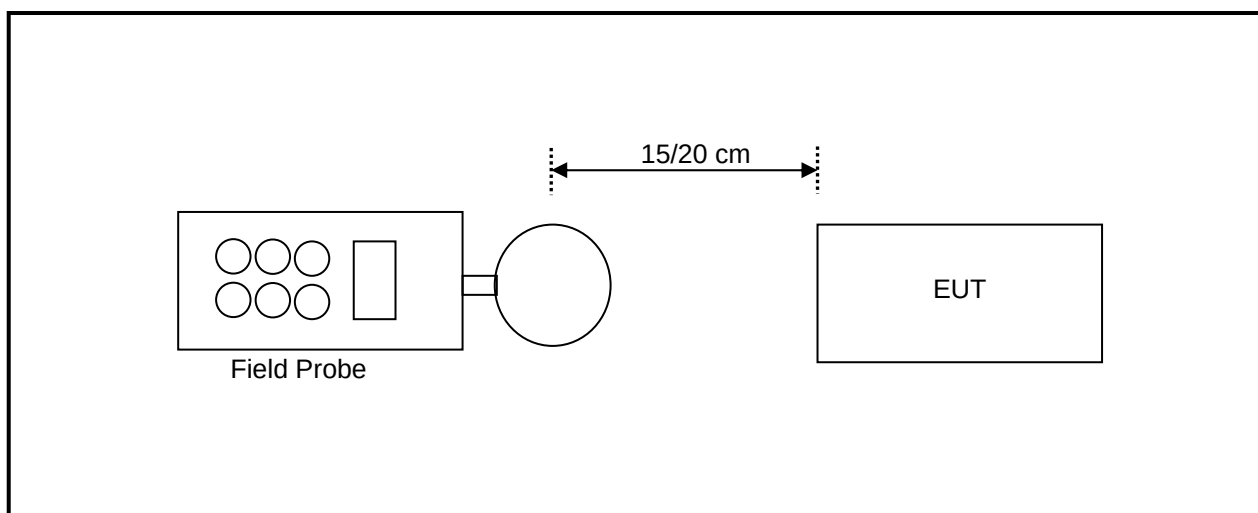
Charging Mode



Standby Mode



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. The highest emission level was recorded.

3.3 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Magnetic Field Meter	NARDA	ELT-400	1 – 400kHz	Apr. 12, 2018	Apr. 11, 2020
Magnetic Probe	NARDA	HF 3061	300kHz – 30MHz	Apr. 16, 2018	Apr. 15, 2020
Magnetic Probe	NARDA	HF-0191	27 – 1000MHz	Apr. 17, 2018	Apr. 16, 2020
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Magnetic Field Probe	NARDA	2300/90.10	1Hz – 400kHz	Apr. 12, 2018	Apr. 11, 2020
E-Field Probe	NARDA	EF 0391	100kHz – 3GHz	Apr. 16, 2018	Apr. 15, 2020
E-Field Probe	NARDA	EF6091	100MHz – 60GHz	Apr. 17, 2018	Apr. 16, 2020

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)

Frequency range (MHz)	RMS electric field strength (E) ^a (V/m)	RMS magnetic field strength (H) ^a (A/m)	RMS power density (S) E-field, H-field (W/m ²) ^b	Averaging time E ² , H ² or S (min)
0.1–1.0	1842	$16.3/f_M$	$(9000, 100\,000/f_M^2)^b$	6
1.0–30	$1842/f_M$	$16.3/f_M$	$(9000/f_M^2, 100\,000/f_M^2)$	6
30–100	61.4	$16.3/f_M$	$(10, 100\,000/f_M^2)$	6
100–300	61.4	0.163	10	6
300–3000	–	–	$f_M/30$	6
3000–30 000	–	–	100	$19.63/f_G^{1.079}$
30 000–300 000	–	–	100	$2.524/f_G^{0.476}$

NOTE— f_M is the frequency in MHz, f_G is the frequency in GHz.

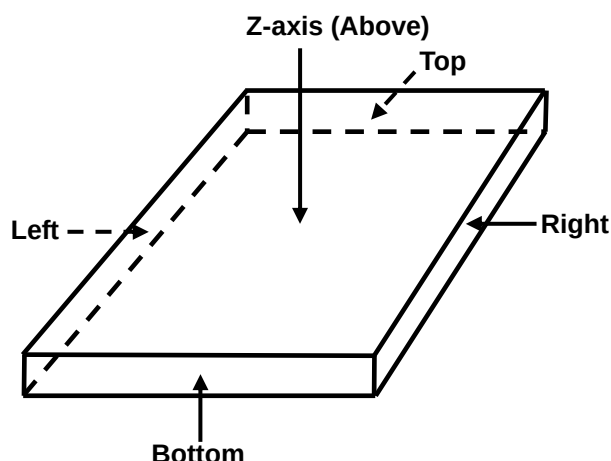
^aFor exposures that are uniform over the dimensions of the body, such as certain far-field plane-wave exposures, the exposure field strengths and power densities are compared with the MPEs in the Table. For non-uniform exposures, the mean values of the exposure fields, as obtained by spatially averaging the squares of the field strengths or averaging the power densities over an area equivalent to the vertical cross section of the human body (projected area), or a smaller area depending on the frequency (see NOTES to Table 8 and Table 9 below), are compared with the MPEs in the Table.

^bThese plane-wave equivalent power density values are commonly used as a convenient comparison with MPEs at higher frequencies and are displayed on some instruments in use.

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The aggregate H-fields strengths at 15 cm surrounding the device and 20cm 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 with watch, battery 10% Charge

E-Field Measurement (15cm)						E-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max E-field (V/m)	0.4200	0.4300	0.4100	0.4300	0.5100
326.5	Limit (V/m)	1842	1842	1842	1842	1842
326.5	Margin (V/m)	-1841.5800	-1841.5700	-1841.5900	-1841.5700	-1841.4900
326.5	50 % Limit (V/m)	921	921	921	921	921
326.5	50 % Margin (V/m)	-920.5800	-920.5700	-920.5900	-920.5700	-920.4900

H-Field Measurement (15cm)						H-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max H-field (uT)	0.0510	0.0460	0.0510	0.0480	0.0520
326.5	Max H-field (A/m)	0.0408	0.0368	0.0408	0.0384	0.0416
326.5	Limit (A/m)	49.92	49.92	49.92	49.92	49.92
326.5	Margin (A/m)	-49.8792	-49.8832	-49.8792	-49.8816	-49.8784
326.5	50 % Limit (A/m)	24.96	24.96	24.96	24.96	24.96
326.5	50 % Margin (A/m)	-24.9192	-24.9232	-24.9192	-24.9216	-24.9184

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 with watch, battery 50% Charge

E-Field Measurement (15cm)						E-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max E-field (V/m)	0.3900	0.4200	0.4300	0.4100	0.4800
326.5	Limit (V/m)	1842	1842	1842	1842	1842
326.5	Margin (V/m)	-1841.6100	-1841.5800	-1841.5700	-1841.5900	-1841.5200
326.5	50 % Limit (V/m)	921	921	921	921	921
326.5	50 % Margin (V/m)	-920.6100	-920.5800	-920.5700	-920.5900	-920.5200

H-Field Measurement (15cm)						H-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max H-field (uT)	0.0520	0.0470	0.0300	0.0490	0.0540
326.5	Max H-field (A/m)	0.0416	0.0376	0.0240	0.0392	0.0432
326.5	Limit (A/m)	49.92	49.92	49.92	49.92	49.92
326.5	Margin (A/m)	-49.8784	-49.8824	-49.8960	-49.8808	-49.8768
326.5	50 % Limit (A/m)	24.96	24.96	24.96	24.96	24.96
326.5	50 % Margin (A/m)	-24.9184	-24.9224	-24.9360	-24.9208	-24.9168

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 with watch, battery 90% Charge

E-Field Measurement (15cm)						E-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max E-field (V/m)	0.3800	0.4100	0.4200	0.3800	0.4900
326.5	Limit (V/m)	1842	1842	1842	1842	1842
326.5	Margin (V/m)	-1841.6200	-1841.5900	-1841.5800	-1841.6200	-1841.5100
326.5	50 % Limit (V/m)	921	921	921	921	921
326.5	50 % Margin (V/m)	-920.6200	-920.5900	-920.5800	-920.6200	-920.5100

H-Field Measurement (15cm)						H-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max H-field (uT)	0.0530	0.0480	0.0290	0.0470	0.0530
326.5	Max H-field (A/m)	0.0424	0.0384	0.0232	0.0376	0.0424
326.5	Limit (A/m)	49.92	49.92	49.92	49.92	49.92
326.5	Margin (A/m)	-49.8776	-49.8816	-49.8968	-49.8824	-49.8776
326.5	50 % Limit (A/m)	24.96	24.96	24.96	24.96	24.96
326.5	50 % Margin (A/m)	-24.9176	-24.9216	-24.9368	-24.9224	-24.9176

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.

Standby Mode

E-Field Measurement (15cm)						E-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max E-field (V/m)	0.3200	0.3400	0.3500	0.3100	0.4000
326.5	Limit (V/m)	1842	1842	1842	1842	1842
326.5	Margin (V/m)	-1841.6800	-1841.6600	-1841.6500	-1841.6900	-1841.6000
326.5	50 % Limit (V/m)	921	921	921	921	921
326.5	50 % Margin (V/m)	-920.6800	-920.6600	-920.6500	-920.6900	-920.6000

H-Field Measurement (15cm)						H-Field Measurement (20cm)
Frequency (kHz)	EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
326.5	Max H-field (uT)	0.0470	0.0520	0.0480	0.0500	0.0500
326.5	Max H-field (A/m)	0.0376	0.0416	0.0384	0.0400	0.0400
326.5	Limit (A/m)	49.92	49.92	49.92	49.92	49.92
326.5	Margin (A/m)	-49.8824	-49.8784	-49.8816	-49.8800	-49.8800
326.5	50 % Limit (A/m)	24.96	24.96	24.96	24.96	24.96
326.5	50 % Margin (A/m)	-24.9224	-24.9184	-24.9216	-24.9200	-24.9200

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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