

## RF Exposure Report

**Report No.:** SA170614C24

**FCC ID:** K7SF8J183

**Test Model:** F8J183

**Received Date:** Jun. 14, 2017

**Test Date:** Aug. 12 ~ Sep. 13, 2017

**Issued Date:** Sep. 26, 2017

**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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

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



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### Release Control Record

Issue No.	Description	Date Issued
SA170614C24	Original release	Sep. 26, 2017

## 1 Certificate of Conformity

**Product:** Charge Dock for Apple Watch + iPhone

**Brand:** belkin

**Test Model:** F8J183

**Sample Status:** Engineering sample

**Applicant:** Belkin International., Inc

**Test Date:** Aug. 12 ~ Sep. 13, 2017

**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 EMC characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Sep. 26, 2017  
Pettie Chen / Senior Specialist

**Approved by :**  , **Date:** Sep. 26, 2017  
Ken Liu / Senior Manager

## 2 RF Exposure

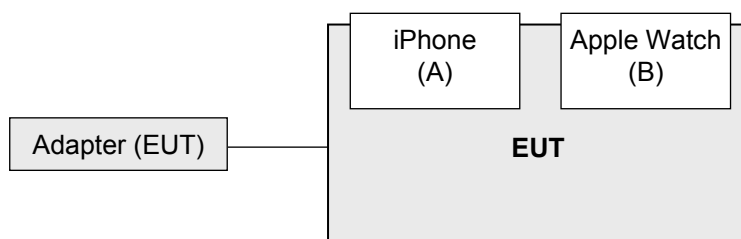
### 2.1 Description of Support Units

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.

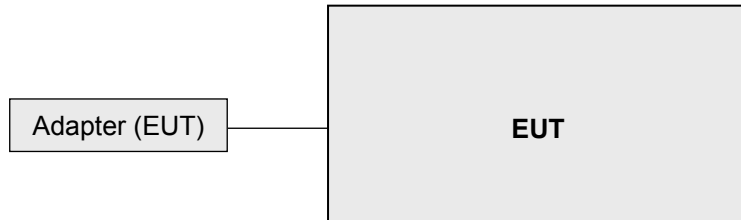
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	iPhone	APPLE	A1778	NA	NA	-
B.	Apple Watch	APPLE	A1554	NA	NA	-

#### 2.1.1 Configuration of System under Test

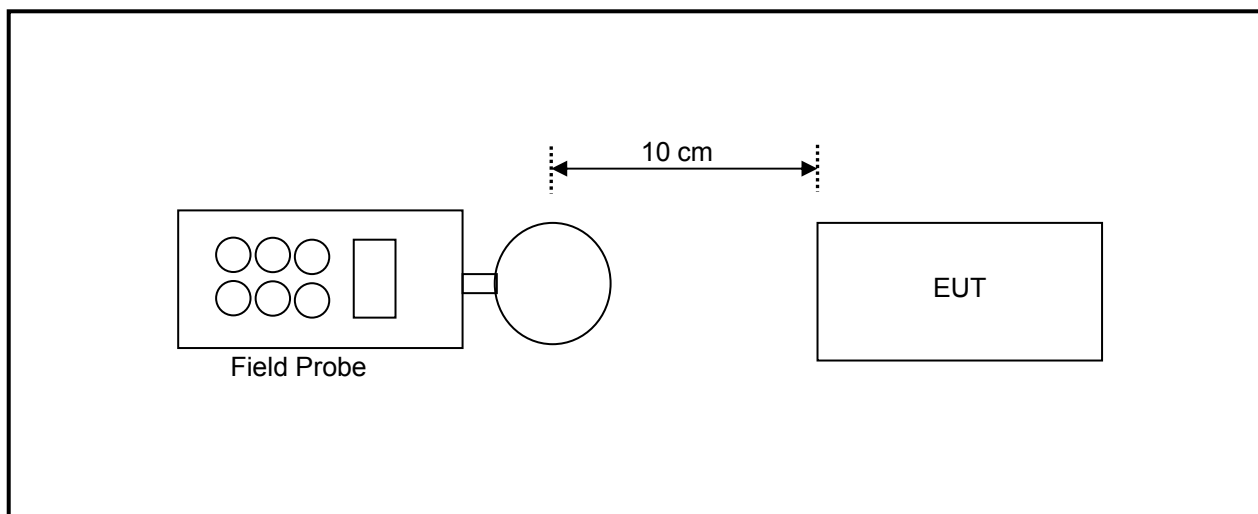
Test Mode A



Standby Mode



### 2.2 Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device.

### 2.3 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Feb. 9, 2016	Feb. 8, 2018
Magnetic Field Meter	NARDA	ELT-400	1 – 400kHz	Feb. 11, 2016	Feb. 10, 2018
Magnetic Probe	NARDA	HF-3061	300kHz – 30MHz	Feb. 9, 2016	Feb. 8, 2018
Magnetic Probe	NARDA	HF-0191	27 – 1000MHz	Feb. 9, 2016	Feb. 8, 2018
Broadband Field Meter	NARDA	NBM-550	-	Feb. 9, 2016	Feb. 8, 2018
Electric Field Meter	COMBINOVA	EFM 200	5Hz – 400kHz	Oct. 16, 2016	Oct. 15, 2017
E-Field Probe	NARDA	EF-0391	100kHz – 3GHz	Feb. 9, 2016	Feb. 8, 2018
E-Field Probe	NARDA	EF-6091	100MHz – 60GHz	Feb. 9, 2016	Feb. 8, 2018

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

## 2.4 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	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

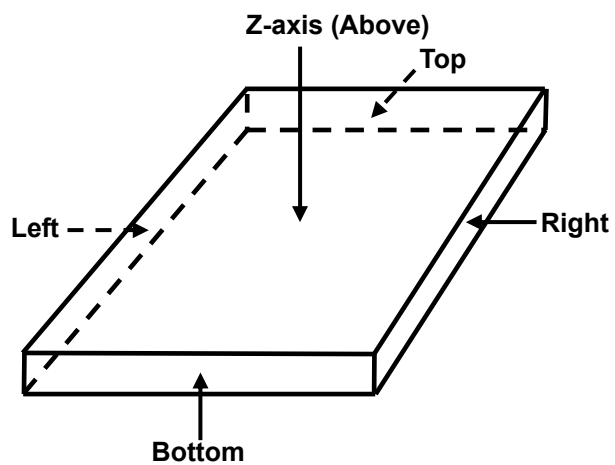
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply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

### KDB 680106 D01 RF Exposure Wireless Charging Apps v02

- Power transfer frequency is less than 1 MHz
- Output power from each primary coil is less than 5 watts
- The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils
- Client device is inserted in or placed directly in contact with the transmitter
- The maximum coupling surface area of the transmit (charging) device is between 60 cm<sup>2</sup> and 400 cm<sup>2</sup>.
- Aggregate leakage fields at 10 cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 30% of the MPE limit.

## 2.5 Test Point Description





### 3 Calculation Result of Maximum Conducted Power

Charging Mode with watch 10%

E-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.78	0.74	0.69	0.92	0.75
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.22	-613.26	-613.31	-613.08	-613.25
70 % Limit (V/m)	429.8	429.8	429.8	429.8	429.8
70 % Margin (V/m)	-429.254	-429.282	-429.317	-429.156	-429.275

H-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.243	0.244	0.244	0.243	0.244
Max H-field (A/m)	0.1944	0.1952	0.1952	0.1944	0.1952
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4356	-1.4348	-1.4348	-1.4356	-1.4348
70 % Limit (A/m)	1.141	1.141	1.141	1.141	1.141
70 % Margin (A/m)	-1.00492	-1.00436	-1.00436	-1.00492	-1.00436

Measurements were made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode with watch 50%

E-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.78	0.77	0.66	0.92	0.78
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.22	-613.23	-613.34	-613.08	-613.22
70 % Limit (V/m)	429.8	429.8	429.8	429.8	429.8
70 % Margin (V/m)	-429.254	-429.261	-429.338	-429.156	-429.254

H-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.244	0.24	0.246	0.245	0.24
Max H-field (A/m)	0.1952	0.192	0.1968	0.196	0.192
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4348	-1.438	-1.4332	-1.434	-1.438
70 % Limit (A/m)	1.141	1.141	1.141	1.141	1.141
70 % Margin (A/m)	-1.00436	-1.0066	-1.00324	-1.0038	-1.0066

Measurements were made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Charging Mode with watch 90%

E-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.77	0.75	0.67	0.95	0.79
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.23	-613.25	-613.33	-613.05	-613.21
70 % Limit (V/m)	429.8	429.8	429.8	429.8	429.8
70 % Margin (V/m)	-429.261	-429.275	-429.331	-429.135	-429.247

H-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.248	0.242	0.245	0.241	0.242
Max H-field (A/m)	0.1984	0.1936	0.196	0.1928	0.1936
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4316	-1.4364	-1.434	-1.4372	-1.4364
70 % Limit (A/m)	1.141	1.141	1.141	1.141	1.141
70 % Margin (A/m)	-1.00212	-1.00548	-1.0038	-1.00604	-1.00548

Measurements were made from all sides and the top of the primary/client pair, with the 10 cm 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 (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.61	0.36	0.5	0.62	0.52
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.39	-613.64	-613.5	-613.38	-613.48
70 % Limit (V/m)	429.8	429.8	429.8	429.8	429.8
70 % Margin (V/m)	-429.373	-429.548	-429.45	-429.366	-429.436

H-Field Measurement (10cm)					
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.242	0.243	0.245	0.242	0.245
Max H-field (A/m)	0.1936	0.1944	0.196	0.1936	0.196
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4364	-1.4356	-1.434	-1.4364	-1.434
70 % Limit (A/m)	1.141	1.141	1.141	1.141	1.141
70 % Margin (A/m)	-1.00548	-1.00492	-1.0038	-1.00548	-1.0038

Measurements were made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

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