RF EXPOSURE TEST REPORT

Applicant	Belkin International, Inc.
Address	12045 East Waterfront Drive, Playa Vista, CA 90094 USA

Manufacturer or Supplier	Belkin International, Inc.
Address	12045 East Waterfront Drive, Playa Vista, CA 90094 USA
Product	BOOST↑CHARGE™ Wireless Charging Pad 10W
Additional Product	Wireless Charging Pad 10W
Brand Name	belkin, playa
Model	WIA001V2
Additional Model & Model Difference	PW0003V2, see items 1.1
Date of tests	Feb. 09, 2021 ~ Mar. 16, 2021

The submitted sample of the above equipment has been tested according to the requirements of the following standard:

☒ **47 CFR PART 1, Subpart I, Section 1.1310**
☒ **KDB 680106 D01**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager/ EMC Department
	 Data: Mar. 26, 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2102WDG0029	Original release	Mar. 26, 2021

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1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF EUT

FCC ID	K7SWIA001V2
PRODUCT	BOOST↑CHARGE™ Wireless Charging Pad 10W
ADDITIONAL PRODUCT	Wireless Charging Pad 10W
MODEL NO.	WIA001V2
ADDITIONAL MODEL	PW0003V2
SAMPLE STATUS	Engineering sample
POWER SUPPLY	Input: 5.0VDC 2.0A, Output:5.0VDC 5.0W; Input: 9.0VDC 2.0A, Output:9VDC 10.0W; Input: 12.0VDC 1.5A, Output:12VDC 10.0W
MODULATION TECHNOLOGY	FSK
OPERATING FREQUENCY RANGE	111KHz ~ 145KHz
ANTENNA TYPE	Coil Antenna
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB- A to Micro USB cable: Shielded, detachable 1.3m

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 2102WDG0029-1) for detailed product photo.
4. Additional model PW0003V2 is identical with test model WIA001V2 except the product name and model no. for trading purpose.
5. The EUT was powered by the following adapter. (only worst case adapter 1 was shown in test report)

ADAPTER 1	
BRAND:	N/A
MODEL:	DSA-18QFB FUS A
INPUT:	AC 100-240V, 50/60HZ, 0.8A
OUTPUT:	DC 3.6-6V 2A, 6-9V 2A, 9-12V 1.5A
DC LINE:	N/A
ADAPTER 2	
BRAND:	belkin
MODEL:	A138A-120150U-US5
INPUT:	AC 100-240V, 50/60HZ, 0.5A
OUTPUT:	DC 5.0V 2.0A, 9V 2A, 12V 1.5A
DC LINE:	N/A

2. RF EXPOSURE MEASUREMENT

2.1 LIMITS

§ 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/cm²)	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/f²)	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/f²)	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.

Reference KDB 680106 D01 RF Exposure Wireless Charging App v03

The aggregate H-field 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.

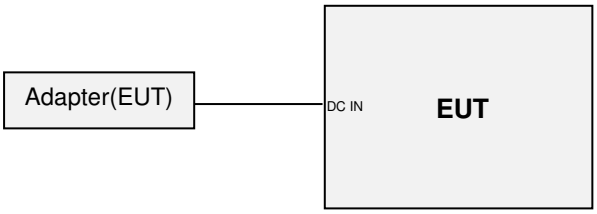
2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below

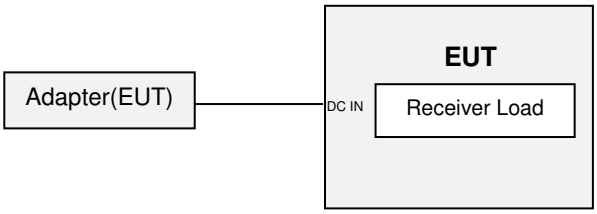
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Receiver load	N/A	N/A	N/A	N/A

2.3 CONFIGURATION OF SYSTEM UNDER TEST

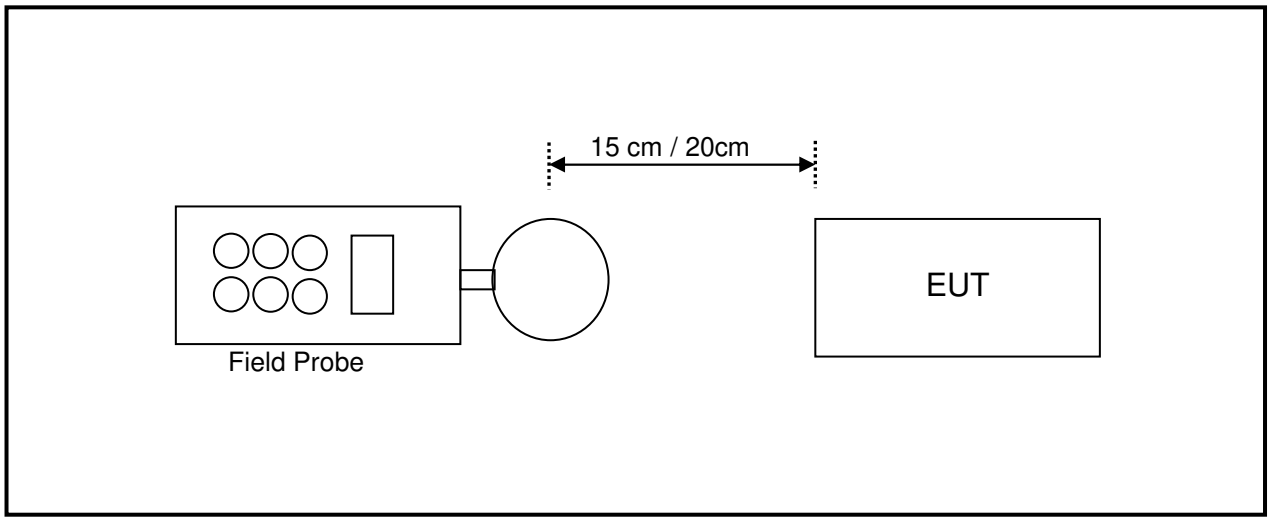
Standby Mode



Charging Mode with Receiver load



2.4 TEST SETUP FOR WPC



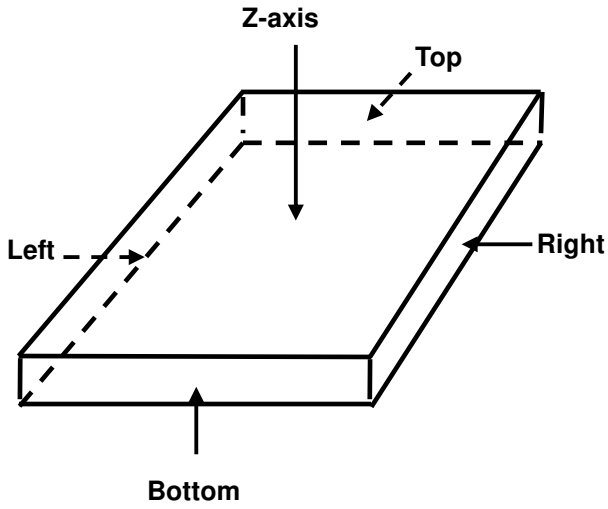
Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device.

2.5 EQUIPMENTS USED DURING TEST

Item	Test Equipment	Manufacturer	Model No.	Frequency Range	Next Cal.
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	7m*4m*3m	NSEMC003	2021-03-19
2	Narda Broadband Field Meter	Narda	NBM-520	100KHz-90GHz	2021-12-23
3	E-Field probe	Narda	EF0691	100KHz-6GHz	2021-12-23
4	Exposure Level Tester	Narda	ELT-400	1Hz-400KHz	2021-12-23

NOTE: 1. The test was performed in RS chamber.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2.6 TEST POINT DESCRIPTION



2.7 TEST RESULTS

Mode 1 USB-C port input + Standby

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.25	0.29	0.25	0.23	0.31
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.75	-613.71	-613.75	-613.77	-613.69
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.75	-306.71	-306.75	-306.77	-306.69

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.223	0.224	0.226	0.225	0.271
Max H-field (A/m)	0.178	0.178	0.180	0.179	0.216
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.452	-1.452	-1.450	-1.451	-1.414
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.637	-0.637	-0.635	-0.636	-0.599

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

Charging Mode2 USB-C port input + Receiver load operating at center (100% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.29	2.32	1.26	4.22	2.5
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.71	-611.68	-612.74	-609.78	-611.5
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.71	-304.68	-305.74	-302.78	-304.5

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.251	0.273	0.301	0.283	0.364
Max H-field (A/m)	0.200	0.217	0.240	0.225	0.290
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.430	-1.413	-1.390	-1.405	-1.340
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.615	-0.598	-0.575	-0.590	-0.525

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

Charging Mode3 USB-C port input + Receiver load operating at center (50% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.35	2.16	1.64	2.85	2.64
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.65	-611.84	-612.36	-611.15	-611.36
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.65	-304.84	-305.36	-304.15	-304.36

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.242	0.269	0.295	0.271	0.355
Max H-field (A/m)	0.193	0.214	0.235	0.216	0.283
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.437	-1.416	-1.395	-1.414	-1.347
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.622	-0.601	-0.580	-0.599	-0.532

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

Charging Mode4 USB-C port input + Receiver load operating at center (10% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.26	2.09	1.63	2.46	2.36
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.74	-611.91	-612.37	-611.54	-611.64
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.74	-304.91	-305.37	-304.54	-304.64

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.216	0.251	0.288	0.259	0.329
Max H-field (A/m)	0.172	0.200	0.229	0.206	0.262
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.458	-1.430	-1.401	-1.424	-1.368
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.643	-0.615	-0.586	-0.609	-0.553

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

Charging Mode5 USB-C port input + Receiver load operating with 3 mm airgap at center (100% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.81	1.86	3.3	1.17	1.8
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.19	-612.14	-610.7	-612.83	-612.2
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.19	-305.14	-303.7	-305.83	-305.2

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.283	0.311	0.34	0.398	0.446
Max H-field (A/m)	0.225	0.248	0.271	0.317	0.355
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.405	-1.382	-1.359	-1.313	-1.275
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.590	-0.567	-0.544	-0.498	-0.460

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

Charging Mode6 USB-C port input + Receiver load operating with 3 mm airgap at center (50% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.76	1.64	2.89	1.06	1.92
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.24	-612.36	-611.11	-612.94	-612.08
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.24	-305.36	-304.11	-305.94	-305.08

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.273	0.301	0.332	0.367	0.438
Max H-field (A/m)	0.217	0.240	0.264	0.292	0.349
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.413	-1.390	-1.366	-1.338	-1.281
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.598	-0.575	-0.551	-0.523	-0.466

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

Charging Mode 7 USB-C port input + Receiver load operating with 3 mm airgap at center (10% Load)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.76	1.68	2.88	1.12	2.06
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.24	-612.32	-611.12	-612.88	-611.94
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.24	-305.32	-304.12	-305.88	-304.94

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.263	0.306	0.329	0.362	0.435
Max H-field (A/m)	0.209	0.244	0.262	0.288	0.346
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.421	-1.386	-1.368	-1.342	-1.284
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.606	-0.571	-0.553	-0.527	-0.469

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

3. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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