

RF Exposure Test Report

Report No.: SABGMK-WTW-P21030811

FCC ID: K7SAUF001V2

Test Model: AUF001 V2

Received Date: Mar. 23, 2021

Test Date: Apr. 26, 2021

Issued Date: May 25, 2021

Applicant: Belkin International., Inc

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

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

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**FCC Registration /
Designation Number:** 198487 / TW2021



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Report Issue History Record

Issue No.	Description	Date Issued
SABGMK-WTW-P21030811	Original release.	May 25, 2021

Release Control Record

Issue No.	Description	Date Issued
SABGMK-WTW-P21030811	Original release	May 25, 2021

1 Certificate of Conformity

Product: SOUNDFORM™ Charge Bluetooth Speaker + Wireless Charger

Brand: belkin

Test Model: AUF001 V2

Sample Status: Engineering sample

Applicant: Belkin International., Inc

Test Date: Apr. 26, 2021

Standards: FCC Part 2 (Section 2.1091)

References Test Guidance: KDB 680106 D01 RF Exposure Wireless Charging v03r01

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 :

Annie Chang

Date: May 25, 2021

Annie Chang / Senior Specialist

Approved by :

Rex Lai

Date: May 25, 2021

Rex Lai / Associate Technical Manager

2 General Information

2.1 General Description of EUT

Product	SOUNDFORM™ Charge Bluetooth Speaker + Wireless Charger
Brand	belkin
Test Model	AUF001 V2
Sample Status	Engineering sample
Power Supply Rating	I/P rating: 12Vdc, 1.5A O/P rating: 10W
Modulation Type	FSK
Operating Frequency	127.8 kHz
Antenna Type	Coil antenna
Field Strength	9.76dBuV/m
Dimensions	18.76cm ² (Length = 47.5mm, Width = 39.5mm)
Accessory Device	N/A
Data Cable Supplied	N/A
Maximum Power Output from the Charging Coil	10W

Note:

1. The EUT is a SOUNDFORM™ Charge Bluetooth Speaker + Wireless Charger with Qi charging function.
2. The EUT uses following Wall charger.

Wall charger	1	2
Brand	belkin	belkin
Model	DSA-18PFR-12 FEU	DSA-18PFR-12 FUS
Plug Type	EU	US
Input Power	100-240Vac, 50/60Hz, 0.6A	100-240Vac, 50/60Hz, 0.6A
Output Power	+12.0Vdc, 1.5A, 18W	+12.0Vdc, 1.5A, 18W
Power Line	AC 2 Pin, Non-shielded DC (1.5m) attached on Wall charger	AC 2 Pin, Non-shielded DC (1.5m) attached on Wall charger
The two wall chargers are identical with each other except for their plug type difference.		

During the test, **Wall charger 2** was selected as the representative one for the test.

3. The emission of the simultaneous operation (BT and Qi) has been evaluated and no non-compliance was found.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

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.

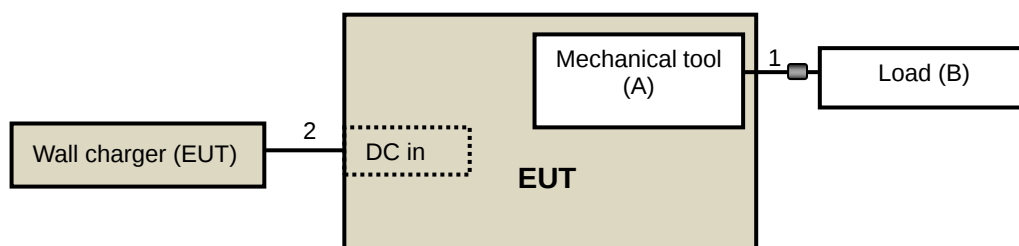
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Mechanical tool	N/A	N/A	N/A	N/A	Supplied by client
B.	Load	N/A	N/A	N/A	N/A	Supplied by client (10W max load)

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC cable	1	0.2	N	1	Supplied by client
2.	DC cable	1	1.5	N	0	Supplied by client

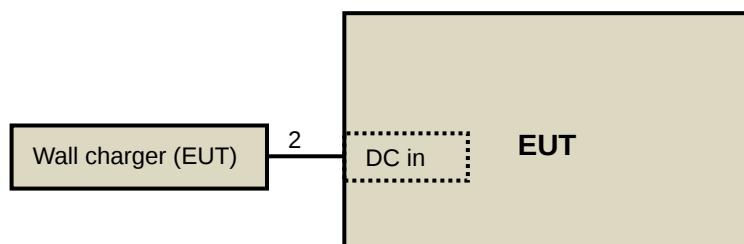
Note: The core(s) is(are) originally attached to the cable(s).

3.1.1 Configuration of System Under Test

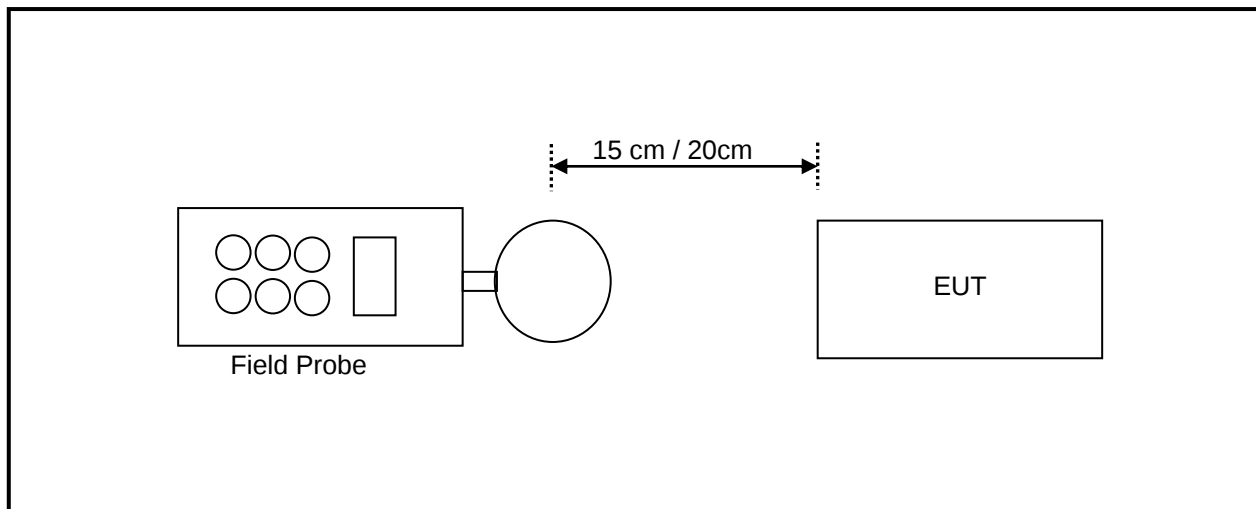
Charging Mode with Load:



Standby Mode:



3.2 Test Setup



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.

3.3 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Mar. 25, 2020	Mar. 24, 2022
Magnetic Field Meter	NARDA	ELT-400	1Hz – 400MHz	Apr. 17, 2020	Apr. 16, 2022
Magnetic Probe	NARDA	HF-3061	300kHz – 30MHz	Apr. 16, 2020	Apr. 15, 2022
Magnetic Probe	NARDA	HF-0191	27 – 1000MHz	Apr. 21, 2020	Apr. 20, 2022
Broadband Field Meter	NARDA	NBM-550	-	Mar. 25, 2020	Mar. 24, 2022
Electric Field Meter	COMBINOVA	EFM 200	5Hz – 400kHz	Dec. 6, 2019	Dec. 5, 2021
E-Field Probe	NARDA	EF-0391	100kHz – 3GHz	Mar. 25, 2020	Mar. 24, 2022
E-Field Probe	NARDA	EF-6091	100MHz – 60GHz	Mar. 25, 2020	Mar. 24, 2022

NOTE: 1. The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in Chia Pau RF Chamber
 3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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

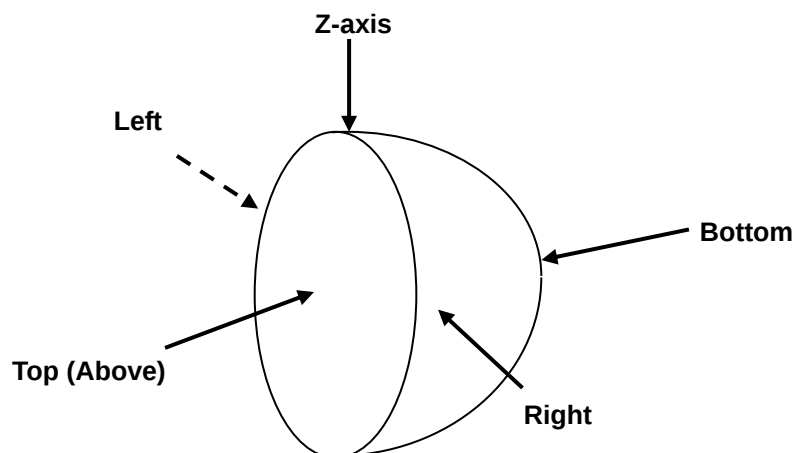
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply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

3.5 Test Point Description



4 Measurement Result

Charging Mode

Charging Mode with 10 % Load

E-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.8100	0.7600	0.9800	0.9900	0.6900
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.1900	-613.2400	-613.0200	-613.0100	-613.3100
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.1900	-306.2400	-306.0200	-306.0100	-306.3100

E-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.4500	0.4000	0.6000	0.6200	0.2800
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.5500	-613.6000	-613.4000	-613.3800	-613.7200
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.5500	-306.6000	-306.4000	-306.3800	-306.7200

H-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.2300	0.2110	0.8660	0.2260	0.2870
Max H-field (A/m)	0.1840	0.1688	0.6928	0.1808	0.2296
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4460	-1.4612	-0.9372	-1.4492	-1.4004
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.6310	-0.6462	-0.1222	-0.6342	-0.5854

H-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.1530	0.1320	0.4300	0.1490	0.1720
Max H-field (A/m)	0.1224	0.1056	0.3440	0.1192	0.1376
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5076	-1.5244	-1.2860	-1.5108	-1.4924
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.6926	-0.7094	-0.4710	-0.6958	-0.6774

Measurements were 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 with 50 % Load

E-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.9600	0.8200	1.1000	1.1300	0.7800
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.0400	-613.1800	-612.9000	-612.8700	-613.2200
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.0400	-306.1800	-305.9000	-305.8700	-306.2200

E-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.6500	0.4900	0.7800	0.7800	0.4600
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.3500	-613.5100	-613.2200	-613.2200	-613.5400
50 % Limit (V/m)	307	307	307	307	307.0000
50 % Margin (V/m)	-306.3500	-306.5100	-306.2200	-306.2200	-306.5400

H-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.1920	0.1890	0.7640	0.2040	0.2510
Max H-field (A/m)	0.1536	0.1512	0.6112	0.1632	0.2008
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4764	-1.4788	-1.0188	-1.4668	-1.4292
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.6614	-0.6638	-0.2038	-0.6518	-0.6142

H-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.1320	0.1230	0.3740	0.1100	0.1620
Max H-field (A/m)	0.1056	0.0984	0.2992	0.0880	0.1296
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5244	-1.5316	-1.3308	-1.5420	-1.5004
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7094	-0.7166	-0.5158	-0.7270	-0.6854

Measurements were 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 with Max Load

E-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.0700	0.8600	1.3400	1.3800	0.9500
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.9300	-613.1400	-612.6600	-612.6200	-613.0500
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-305.9300	-306.1400	-305.6600	-305.6200	-306.0500

E-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.7300	0.5200	0.9900	1.0200	0.5800
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.2700	-613.4800	-613.0100	-612.9800	-613.4200
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.2700	-306.4800	-306.0100	-305.9800	-306.4200

H-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.1740	0.1620	0.6210	0.1970	0.2100
Max H-field (A/m)	0.1392	0.1296	0.4968	0.1576	0.1680
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4908	-1.5004	-1.1332	-1.4724	-1.4620
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.6758	-0.6854	-0.3182	-0.6574	-0.6470

H-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.0910	0.0820	0.2380	0.1210	0.1510
Max H-field (A/m)	0.0728	0.0656	0.1904	0.0968	0.1208
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5572	-1.5644	-1.4396	-1.5332	-1.5092
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7422	-0.7494	-0.6246	-0.7182	-0.6942

Measurements were 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.

Standby Mode

E-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.6100	0.7000	0.7900	1.1000	0.8200
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.3900	-613.3000	-613.2100	-612.9000	-613.1800
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.3900	-306.3000	-306.2100	-305.9000	-306.1800

E-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.1800	0.2700	0.3500	0.6400	0.3600
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.8200	-613.7300	-613.6500	-613.3600	-613.6400
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.8200	-306.7300	-306.6500	-306.3600	-306.6400

H-Field Measurement					
Distance	15cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.0840	0.0810	0.1050	0.0830	0.0890
Max H-field (A/m)	0.0672	0.0648	0.0840	0.0664	0.0712
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5628	-1.5652	-1.5460	-1.5636	-1.5588
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7478	-0.7502	-0.7310	-0.7486	-0.7438

H-Field Measurement					
Distance	20cm				
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.0660	0.0600	0.0860	0.0620	0.0680
Max H-field (A/m)	0.0528	0.0480	0.0688	0.0496	0.0544
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5772	-1.5820	-1.5612	-1.5804	-1.5756
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7622	-0.7670	-0.7462	-0.7654	-0.7606

Measurements were 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.

5 Photographs of the Test Configuration

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

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