

# TEST REPORT

**Report Number. :** 14357342-E2V1

**Applicant :** BELKIN INTERNATIONAL, INC.  
555 S. AVIATION BLVD., SUITE 180  
EL SEGUNDO, CA 90245, USA

**Model :** BPD005

**FCC ID :** K7SBPD005

**EUT Description :** Apple Watch Charger Power Bank 10K

**Test Standard(s) :** FCC PART 1 SUBPART I  
FCC PART 2 SUBPART J

**Date Of Issue:**  
2023-01-11

**Prepared by:**  
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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2023-01-11	Initial Issue	---

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** BELKIN INTERNATIONAL, INC.  
555 S. AVIATION BLVD., SUITE 180  
EL SEGUNDO, CA 90245, USA

**EUT DESCRIPTION:** Apple Watch Charger Power Bank 10K

**MODEL NUMBER:** BPD005

**BRAND:** belkin

**SERIAL NUMBER:** 57V0035BC00047(unit #5), 57V0035BC00045 (unit#6)

**SAMPLE RECEIPT DATE:** 2022-12-08

**DATE TESTED:** 2022-12-15 TO 2022-12-19

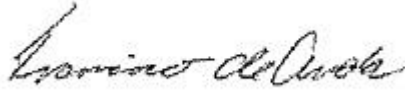
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For  
UL Verification Services Inc. By:



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## 2. TEST METHODOLOGY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

All testing / calculations were made in accordance with FCC KDB 447498 D01 v6, KDB 447498 D03 v01, KDB 680106 D01 v03r01

## 3. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input checked="" type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324A	550739

## 4. DECISION RULES AND MEASUREMENT UNCERTAINTY

### 4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

### 4.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	$U_{Lab}$
Magnetic Field Reading (A/m)	+/-0.04284 (A/m)
Electric Field Reading (V/m)	+/-0.03682 (V/m)

Uncertainty figures are valid to a confidence level of 95.45%.

## 5. KDB 680106 D01 SECTION 5b EQUIPMENT APPROVAL CONSIDERATIONS

Requirement	Device
(1) Power transfer frequency is less than 1 MHz.	No. The maximum operating frequency is 1.778MHz
(2) Output power from each primary coil is less than or equal to 15 watts.	Yes. The maximum power is 5W.
(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	Yes. The system has one individual coil and only allows for capable wireless power transfer between one source and one client at any given time.
(4) Client device is placed directly in contact with the transmitter.	Yes. The client device is placed directly in contact with the transmitter.
(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)	No. It is both a mobile and portable device.
(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.	Yes.  The maximum total aggregate H-field strength is <b>4.55 %</b> of the MPE limit at mobile position.



## 6. EQUIPMENT UNDER TEST

### 6.1. DESCRIPTION OF EUT

The EUT, Apple Watch Charger Power Bank 10K, is a power bank with one USB-C input/output port and one Apple Watch wireless charger. The Maximum input and output power of USB-C is 20W. The USB-C port supports Power Delivery and Battery Charging protocols. The Apple Watch charger can support fast charging of an Apple Watch Series 7 and later models, with maximum power up to 5W. The wireless charging (WPT) coil is used for charging an Apple Watch at either 326.5kHz or 1.778MHz with a maximum power 5W in charging mode.

When the EUT is in mobile (desktop) mode, it can only charge an Apple Watch via WPT.

When the EUT is in portable mode, it can charge both an Apple Watch via WPT and a cellphone via USB-C, when it is connected to a wall charger via a USB-C to USB-C cable.

### 6.2. WORST-CASE CONFIGURATION AND MODE

Testing for coil is based on direct contact with no shifts in position due to the embedded magnet in the charger pad.

This report does not cover portable configurations, please refer to a separate exhibit for portable configurations result.

The EUT was tested in desktop(mobile) mode in the following configurations:

Config	Descriptions	Frequency	EUT orientation	Client and worst-case orientation
1	EUT is charged by AC/DC adapter. EUT internal battery level starting at 0%. WPT on standby.	326.5kHz	X-orientation (Flatbed)	No client used.
2	EUT is powered by AC/DC adapter. Direct contact during charging/operating between the EUT & WPT Client.	326.5kHz	X-orientation (Flatbed)	In portrait position with the digital crown/home button is on the right, 3 clock relative to the type C port.
3		1.778MHz	X-orientation (Flatbed)	Series 8 watch. In portrait position with the digital crown/home button is on right, 9 clock relative to the type C port.

## 7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was used for the tests documented in this report:

Test Equipment List						
Description	Manufacturer	Model	S/N	Label ID	Cal Due	Cal Date
Electric and Magnetic Field Probe	Narda	EHP-200A	170WX90219	87095	2023-02-17	2022-02-17
PXA Signal Analyzer	KEYSIGHT	N9030A	MY55410147	125179	2023-02-01	2022-02-01

## 8. DUTY CYCLE

### LIMITS

None; for reporting purposes only.

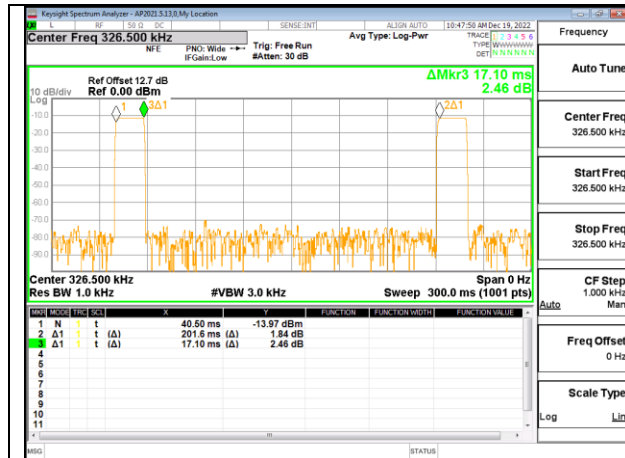
### PROCEDURE

Zero-Span Spectrum Analyzer Method.

### ON TIME AND DUTY CYCLE RESULTS

Test Engineer: 29435 TC

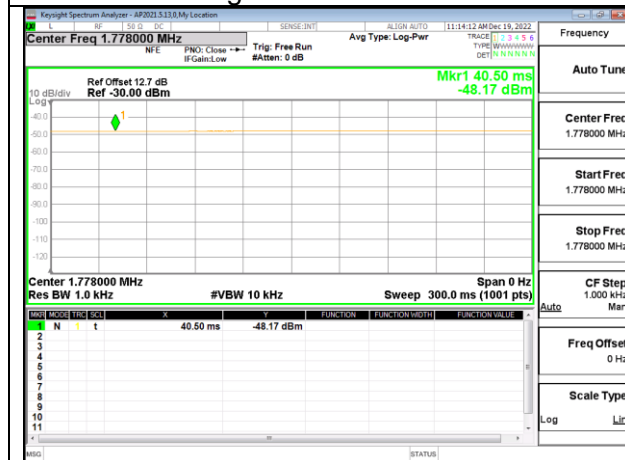
Configuration	Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
1	Standby @ 326.5kHz	17.10	201.60	0.08	8.48	10.71
2	Operating Frequency @ 326.5kHz	1.00	1.00	1.00	100.00	0.00
3	Operating Frequency @ 1.778MHz	1.00	1.00	1.00	100.00	0.00



Configuration 1: 326.5kHz



Config 2 Operating @ 326.5 kHz



Config 3 Operating @ 1.778MHz

## 9. MAXIMUM PERMISSIBLE RF EXPOSURE

### 9.1. FCC LIMITS AND SUMMARY

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (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 to § 1.1310(e)(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>(i) Limits for Occupational/Controlled Exposure</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
300-1,500			f/300	<6
1,500-100,000			5	<6
<b>(ii) 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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. \* = Plane-wave equivalent power density.

According to KDB 680106 D01 RF Exposure Wireless Charging App v03r01, section 3 (c) Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

### RESULT

Test Engineer:	29435 TC	Test Date:	2022-12-12 To 2022-12-16
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### 9.1.1. MAXIMUM RESULT SUMMARY

#### **CONFIGURATION 1: DESKTOP, WPT ON STANDBY, CHARGED BY AC/DC ADAPTER (326.5kHz)**

Electric Field Limit			Magnetic Field Limit		
FCC RF Exposure Limit	Maximum Average (V/m)	Percentage (%)	FCC RF Exposure	Maximum Average (A/m)	Percentage (%)
614	0.113	0.02%	1.63	0.014	0.87%

#### **CONFIGURATION 2: DESKTOP, OPERATING MODE WITH Apple Watch (326.5kHz)**

Electric Field Limit			Magnetic Field Limit		
FCC RF Exposure Limit	Maximum Average (V/m)	Percentage (%)	FCC RF Exposure	Maximum Average (A/m)	Percentage (%)
614	0.383	0.06%	1.63	0.051	3.12%

#### **CONFIGURATION 3: DESKTOP, OPERATING MODE WITH Apple Watch (1.778MHz)**

Electric Field Limit			Magnetic Field Limit		
FCC RF Exposure Limit	Maximum Average (V/m)	Percentage (%)	FCC RF Exposure	Maximum Average (A/m)	Percentage (%)
463.44	0.416	0.09%	1.23	0.056	4.55%

### 9.1.2. E- FIELD AND H- FIELD MEASUREMENTS

Note: Peak measurements were performed. RMS values were calculated from the peak measurement. Please refer to the formula for calculating the RMS values: [Field Strength x  $\sqrt{\text{Duty Cycle}}$ ].

#### **CONFIGURATION 1: DESKTOP, WPT ON STANDBY, CHARGED BY AC/DC ADAPTER (326.5kHz)**

Configuration	Test Mode	Measuring Distance (cm)	Electric Field Limit (V/m)	Electric Field Reading (V/m)				Magnetic Field Limit (A/m)	Magnetic Field Reading (A/m)					
				FCC Limit	Location	Peak	Duty Cycle %		FCC Average	FCC Limit	Location	Peak	Duty Cycle %	FCC Average
1	Standby	15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the coil	614	S1	0.335	8.5	0.097	1.63	S1	0.045	8.5	0.013		
				S2	0.337				S2	0.043			0.013	
				S3	0.335				S3	0.045			0.013	
				S4	0.307				S4	0.042			0.012	
				Top	0.389				Top	0.049			0.014	
				Bottom	0.380				Bottom	0.047			0.014	
				Max	0.389				Max	0.049			0.014	

**CONFIGURATION 2: DESKTOP, OPERATING MODE WITH Apple Watch (326.5kHz)**

Configuration	Test Mode	Measuring Distance (cm)	Electric Field Limit (V/m)	Electric Field Reading (V/m)				Magnetic Field Limit (A/m)	Magnetic Field Reading (A/m)				
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average	
2	Operating Real Product (Power ~10% Charging)	15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the coil	614	S1	0.336		100	0.336	1.63	S1	0.044	100	0.044
				S2	0.344	0.344		S2		0.044	0.044		
				S3	0.336	0.336		S3		0.044	0.044		
				S4	0.330	0.330		S4		0.044	0.044		
				Top	0.364	0.364		Top		0.045	0.045		
				Bottom	0.362	0.362		Bottom		0.047	0.047		
				Max	0.364	0.364		Max		0.047	0.047		
				S1	0.345	0.345		S1		0.045	0.045		
	S2			0.345	0.345	S2	0.044	0.044					
	S3			0.326	0.326	S3	0.036	0.036					
	S4			0.383	0.383	S4	0.047	0.047					
	Top			0.334	0.334	Top	0.043	0.043					
	Bottom			0.362	0.362	Bottom	0.051	0.051					
	Max			0.383	0.383	Max	0.051	0.051					
	S1			0.383	0.383	S1	0.049	0.049					
	S2			0.345	0.345	S2	0.042	0.042					
	S3			0.373	0.373	S3	0.043	0.043					
	S4			0.353	0.353	S4	0.047	0.047					
	Top			0.373	0.373	Top	0.049	0.049					
	Bottom			0.364	0.364	Bottom	0.042	0.042					
	Max			0.383	0.383	Max	0.049	0.049					

**CONFIGURATION 3: DESKTOP, OPERATING MODE WITH Apple Watch (1.778MHz)**

Configuration	Test Mode	Measuring Distance (cm)	Electric Field Limit (V/m)	Electric Field Reading (V/m)				Magnetic Field Limit (A/m)	Magnetic Field Reading (A/m)				
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average	
3	Operating Real Product (Power ~10% Charging)	15 cm surrounding the device (S1 - S4, bottom) and 20 cm above the top surface of the coil	463.44	S1	0.380		100	0.380	1.23	S1	0.051	100	0.051
				S2	0.352	0.352		S2		0.052	0.052		
				S3	0.309	0.309		S3		0.051	0.051		
				S4	0.335	0.335		S4		0.047	0.047		
				Top	0.380	0.380		Top		0.052	0.052		
				Bottom	0.335	0.335		Bottom		0.047	0.047		
				Max	0.380	0.380		Max		0.052	0.052		
				S1	0.371	0.371		S1		0.051	0.051		
	S2			0.398	0.398	S2	0.052	0.052					
	S3			0.380	0.380	S3	0.047	0.047					
	S4			0.380	0.380	S4	0.054	0.054					
	Top			0.335	0.335	Top	0.052	0.052					
	Bottom			0.371	0.371	Bottom	0.051	0.051					
	Max			0.398	0.398	Max	0.054	0.054					
	S1			0.408	0.408	S1	0.052	0.052					
	S2			0.416	0.416	S2	0.052	0.052					
	S3			0.380	0.380	S3	0.052	0.052					
	S4			0.398	0.398	S4	0.056	0.056					
	Top			0.388	0.388	Top	0.052	0.052					
	Bottom			0.364	0.364	Bottom	0.052	0.052					
	Max			0.416	0.416	Max	0.056	0.056					

## 10. RF EXPOSURE TEST SETUP AND SETUP PHOTO

Please see description of RF exposure test up and setup photo report 14357342-EP1

**END OF TEST REPORT**