

EUT Specification

FCC ID: 2BBEH-PW0043

Characteristics	Description						
Product Name	Wireless Charger						
Model number	PW0043						
Power Supply	AC120V/60Hz for adapter						
Operating Frequency Range	110-205KHz for iphone 325.3KHz for Apple Watch 112.2KHz for Airpods						
Modulation Technique	FSK for iphone charging ASK for Apple Watch charging ASK for Airpods charging						
Antenna Type	Induction coil						
Device category	 Portable (<20cm separation) Mobile (>20cm separation) Others 						
Exposure classification	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$						
Antenna diversity	 □Single antenna ☑Multiple antennas □Tx diversity □Rx diversity □Tx/Rx diversity 						
Evaluation applied	MPE Evaluation □SAR Evaluation						

Applicable Standard:

FCC Part 1(1.1310) , Part 2(2.1091) and KDB 680106 D01 RF Exposure Wireless Charging Apps v03

Applicable Requirement:

Three different categories of transmitters are defined by the FCC in OET



Bulletin 65.

These categories are fixed installation, mobile, and portable and are defined as follows:

Fixed Installations: fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans from the antenna is maintained to at least 2 meters.

Mobile Devices: a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located, such as a wireless modem operating in a laptop computer, are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR §2.1091.

Portable Devices: a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR§2.1093).

The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/ Controlled Exposure and General Population/Uncontrolled Exposure.

These two categories are defined as follows:

Occupational/controlled exposure 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 a person is transient through a location where

occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase fully aware in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception oftransient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. Such training is not required for transient persons, but they must receive written and/or verbal information and notification (for example, using signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase exercise control means that an exposed person is allowed to and knows how to reduce or avoid exposure by administrative or engineering controls and work practices, such as use of personal protective equipment or time averaging of exposure.



General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Licensees and applicants are responsible for compliance with both the occupational/controlled exposure limits and the general population/uncontrolled exposure limits as they apply to transmitters under their jurisdiction. Licensees and applicants should be aware that the occupational/controlled exposure limits apply especially in situations where workers may have access to areas in very close proximity to antennas and access to the general public may be restricted.

In lieu of evaluation with the general population/uncontrolled exposure limits, amateur licensees authorized under part 97 of this chapter and members of his or her immediate household may be evaluated with respect to the occupational/controlled exposure limits in this section, provided appropriate training and information has been provided to the amateur licensee and members of his/her household. Other nearby persons who are not members of the amateur licensee's household must be evaluated with respect to the general population/uncontrolled exposure limits.



Test Setup Block





Test Procedure

1.Connect the EUT and equipment as above diagram of test configuration.

2.EUT was placed on a table, and the measure probe was placed at a measurement distance of 15cm from the EUT to the center of the probe. 3.Power on the measuring probe, the EUT was set at the maximum field strength emission state.

4.The EUT was put in different directions (Left, Right, Front, Rear, Top and Bottom) toward to the measure probe. The distance from the top of the EUT to the probe is 20CM, and the distance from other directions is 15cm.Measure the value of field strength.

5.Record the worst data of the different directions.

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Used	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until	
	Electric and					
\checkmark	magnetic field	Narda	EHP-200A	180ZX11012	2024-03-03	
	analyzer					
V	Test Software	Narda	EHP-200-TS 2.07	N/A	N/A	

Measuring Device And Test Equipment



Description of Support Dev	ic	e
iPhone :	:	Manufacturer: Apple Inc.
		M/N: A2404
		S/N: N/A
Adapter :	:	Model number:CD217
		Input: AC 100-240V, 50/60Hz
		Output: DC 5V/3A,DC 9/3A,DC 12V/2.5A
Airpods :		Manufacturer: Apple Inc.
		M/N:A2190
		S/N: N/A
Apple Watch :		Manufacturer: Apple Inc.
		M/N:A1859
		S/N: N/A

Limits for Maximum Permissible Exposure(MPE)

Frequency	Electric Field	Magnetic Field	Power	Average						
Range(MHz)	Strength(V/m)	Strength(A/m)	Density(mW/cm ²)	Time						
	(A) Limits for Occupational/Control Exposures									
0.3-3.0	614	1.63	(100)*	6						
3.0-30	1842/f	4.89/f	(900/f)*	6						
30-300	61.4	0.163	1.0	6						
300-1500			F/300	6						
1500-100000			5	6						
(B)	Limits for Gene	ral Population/Un	control Exposures							
0.3-1.34	614	1.63	(100)*	30						
1.34-30	824/f	2.19/f	(180/f)*	30						
30-300	27.5	0.073	0.2	30						
300-1500			F/1500	30						
1500-100000			1	30						

Note: f denotes for frequency in MHz.

* denotes for plane-wave equivalent power density.

Measurement Result

We pretested four modes (max load, mid load, Standby) for EUT. The worst mode (max load) and worst test frequency(frequency: 112.2KHz for iphone, 325.3KHz for iwatch, 112.2KHz for Airpods)test data see the following.

Magnetic Field (H-Field) strength at 15cm from the boundaries of EUT, and 20cm from the top.



Test mode: Wireless Charging for iphone:

Test Mode: Wireless Charging 15w for 1% battery								
		Measuring Distance(cm)	H- Field(A /m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0390	0.0195				
Measurement Point 2	Back	15	0.0374	0.0186				
Measurement Point 3	Left	15	0.0366	0.0188	1.00	0.045		
Measurement Point 4	Right	15	0.0365	0.0191	1.03	0.815		
Measurement Point 5	Bottom	15	0.0347	0.0167	1			
Measurement Point 6	Тор	20	0.0395	0.0195				

Test Mode: Wireless Charging 15w for 1% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3427	0.1732				
Measurement Point 2	Back	15	0.3449	0.1723				
Measurement Point 3	Left	15	0.3532	0.1767	614	207		
Measurement Point 4	Right	15	0.3378	0.1685	014	307		
Measurement Point 5	Bottom	15	0.3205	0.1559				
Measurement Point 6	Тор	20	0.3637	0.1761				

Test Mode: Wireless Charging 15w for 50% battery								
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0392	0.0195				
Measurement Point 2	Back	15	0.0377	0.0191				
Measurement Point 3	Left	15	0.0371	0.0192	1.00	0.045		
Measurement Point 4	Right	15	0.0369	0.0194	1.03	0.815		
Measurement Point 5	Bottom	15	0.0351	0.0171				
Measurement Point 6	Тор	20	0.0398	0.0199				



Test Mode: Wireless Charging 15w for 50% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3429	0.1737				
Measurement Point 2	Back	15	0.3452	0.1726				
Measurement Point 3	Left	15	0.3536	0.1771	614	207		
Measurement Point 4	Right	15	0.3391	0.1692	014	307		
Measurement Point 5	Bottom	15	0.3212	0.1563				
Measurement Point 6	Тор	20	0.3642	0.1765				

Test Mode: Wireless Charging 15w for 100% battery								
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0395	0.0197				
Measurement Point 2	Back	15	0.0379	0.0195				
Measurement Point 3	Left	15	0.0374	0.0196	4.00	0.045		
Measurement Point 4	Right	15	0.0372	0.0197	1.03	0.815		
Measurement Point 5	Bottom	15	0.0356	0.0173				
Measurement Point 6	Тор	20	0.0391	0.0201				

Test Mode: Wireless Charging 15w for 100% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3426	0.1714				
Measurement Point 2	Back	15	0.3325	0.1665				
Measurement Point 3	Left	15	0.3238	0.1621	614	207		
Measurement Point 4	Right	15	0.3371	0.1688	014	307		
Measurement Point 5	Bottom	15	0.3208	0.1606				
Measurement Point 6	Тор	20	0.3416	0.1711				



Test mode: Wireless Charging for Apple Watch :

Test Mode: Wireless Charging 2.5w for 1% battery								
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0341	0.0171				
Measurement Point 2	Back	15	0.0343	0.0172				
Measurement Point 3	Left	15	0.0335	0.0168	1.00	0.045		
Measurement Point 4	Right	15	0.0359	0.0180	1.63	0.815		
Measurement Point 5	Bottom	15	0.0328	0.0164	1			
Measurement Point 6	Тор	20	0.0356	0.0178	1			

Test Mode: Wireless Charging 2.5w for 1% battery							
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)	
Measurement Point 1	Front	15	0.3456	0.1728			
Measurement Point 2	Back	15	0.3433	0.1717			
Measurement Point 3	Left	15	0.3363	0.1682	614	207	
Measurement Point 4	Right	15	0.3369	0.1685	014	307	
Measurement Point 5	Bottom	15	0.3231	0.1616			
Measurement Point 6	Тор	20	0.3396	0.1698			

Test Mode: Wireless Charging 2.5w for 50% battery								
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0346	0.0173				
Measurement Point 2	Back	15	0.0347	0.0174				
Measurement Point 3	Left	15	0.0339	0.0170	1.00	0.045		
Measurement Point 4	Right	15	0.0363	0.0183	1.63	0.815		
Measurement Point 5	Bottom	15	0.0337	0.0167				
Measurement Point 6	Тор	20	0.0362	0.0179				



Test Mode: Wireless Charging 2.5w for 50% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3461	0.1730				
Measurement Point 2	Back	15	0.3435	0.1718				
Measurement Point 3	Left	15	0.3367	0.1684	614	207		
Measurement Point 4	Right	15	0.3371	0.1686	014	307		
Measurement Point 5	Bottom	15	0.3234	0.1618				
Measurement Point 6	Тор	20	0.3398	0.1699				

Test Mode: Wireless Charging 2.5w for 100% battery								
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0347	0.0175				
Measurement Point 2	Back	15	0.0349	0.0176				
Measurement Point 3	Left	15	0.0342	0.0172	4.00	0.045		
Measurement Point 4	Right	15	0.0365	0.0184	1.63	0.815		
Measurement Point 5	Bottom	15	0.0340	0.0169				
Measurement Point 6	Тор	20	0.0364	0.0182				

Test Mode: Wireless Charging 2.5w for 100% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3464	0.1732				
Measurement Point 2	Back	15	0.3437	0.1720				
Measurement Point 3	Left	15	0.3369	0.1685	614	207		
Measurement Point 4	Right	15	0.3373	0.1687	014	307		
Measurement Point 5	Bottom	15	0.3236	0.1622				
Measurement Point 6	Тор	20	0.3402	0.1702				



Test mode: Wireless Charging for Airpods

Test Mode: Wireless Charging 5w for 1% battery							
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)	
Measurement Point 1	Front	15	0.0337	0.0168			
Measurement Point 2	Back	15	0.0331	0.0167			
Measurement Point 3	Left	15	0.0342	0.0174	1.62	0.915	
Measurement Point 4	Right	15	0.0329	0.0167	1.03	0.615	
Measurement Point 5	Bottom	15	0.0317	0.0159			
Measurement Point 6	Тор	20	0.0341	0.0174			

Test Mode: Wireless Charging 5w for 1% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3461	0.1731				
Measurement Point 2	Back	15	0.3465	0.1739				
Measurement Point 3	Left	15	0.3329	0.1672	614	207		
Measurement Point 4	Right	15	0.3253	0.1657	014	307		
Measurement Point 5	Bottom	15	0.3144	0.1582				
Measurement Point 6	Тор	20	0.3437	0.1726				

Test Mode: Wireless Charging 5w for 50% battery								
		Measuring Distance(cm)	H- Field(A /m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0341	0.0174				
Measurement Point 2	Back	15	0.0336	0.0172				
Measurement Point 3	Left	15	0.0345	0.0181	1.00	0.015		
Measurement Point 4	Right	15	0.0332	0.0169	1.03	0.015		
Measurement Point 5	Bottom	15	0.0322	0.0164				
Measurement Point 6	Тор	20	0.0346	0.0178				



Test Mode: Wireless Charging 5w for 50% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3465	0.1736				
Measurement Point 2	Back	15	0.3469	0.1742				
Measurement Point 3	Left	15	0.3334	0.1675	614	207		
Measurement Point 4	Right	15	0.3259	0.1661	014	307		
Measurement Point 5	Bottom	15	0.3147	0.1584				
Measurement Point 6	Тор	20	0.3442	0.1728				

Test Mode: Wireless Charging 5w for 100% battery								
		Measuring Distance(cm)	H- Field(A /m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)		
Measurement Point 1	Front	15	0.0344	0.0177				
Measurement Point 2	Back	15	0.0341	0.0173				
Measurement Point 3	Left	15	0.0348	0.0183	1.00	0.045		
Measurement Point 4	Right	15	0.0337	0.0171	1.63	0.815		
Measurement Point 5	Bottom	15	0.0325	0.0166				
Measurement Point 6	Тор	20	0.0349	0.0179				

Test Mode: Wireless Charging 5w for 100% battery								
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)		
Measurement Point 1	Front	15	0.3469	0.1738				
Measurement Point 2	Back	15	0.3471	0.1745				
Measurement Point 3	Left	15	0.3337	0.1677	614	207		
Measurement Point 4	Right	15	0.3261	0.1664	014	307		
Measurement Point 5	Bottom	15	0.3149	0.1583				
Measurement Point 6	Тор	20	0.3445	0.1732				



Test mode : Wireless Charging for iphone+Apple Watch+Airpods

Test Mode: iphone 15W+ Apple Watch 2.5W+Airpods 5W for 1% battery							
		Measuring Distance(cm)	H- Field(A /m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)	
Measurement Point 1	Front	15	0.0387	0.0191			
Measurement Point 2	Back	15	0.0383	0.0194			
Measurement Point 3	Left	15	0.0379	0.0188	1.00	0.045	
Measurement Point 4	Right	15	0.0382	0.0196	1.03	0.815	
Measurement Point 5	Bottom	15	0.0352	0.0179	1		
Measurement Point 6	Тор	20	0.0393	0.0196			

Test Mode: iphone 15W+ Apple Watch 2.5W+Airpods 5W for 1% battery							
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)	
Measurement Point 1	Front	15	0.3541	0.1781			
Measurement Point 2	Back	15	0.3546	0.1783			
Measurement Point 3	Left	15	0.3545	0.1769	614	207	
Measurement Point 4	Right	15	0.3542	0.1772	014	307	
Measurement Point 5	Bottom	15	0.3251	0.1623			
Measurement Point 6	Тор	20	0.3649	0.1831			

Test Mode: iphone 15W+ Apple Watch 2.5W+Airpods 5W					for 50% battery	
		Measuring Distance(cm)	H- Field(A/ m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.0389	0.0194		
Measurement Point 2	Back	15	0.0385	0.0197	4.00	0.045
Measurement Point 3	Left	15	0.0380	0.0184		
Measurement Point 4	Right	15	0.0384	0.0197	1.63	0.815
Measurement Point 5	Bottom	15	0.0355	0.0183		
Measurement Point 6	Тор	20	0.0394	0.0201		



Test Mode: iphone iphone 15W+ Apple Watch 2.5W+Airpods 5W for 50% battery						
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)
Measurement Point 1	Front	15	0.3544	0.1784		
Measurement Point 2	Back	15	0.3549	0.1785		
Measurement Point 3	Left	15	0.3547	0.1771	614	207
Measurement Point 4	Right	15	0.3546	0.1774	014	307
Measurement Point 5	Bottom	15	0.3254	0.1625		
Measurement Point 6	Тор	20	0.3651	0.1834		

Test Mode: iphone 15W+ Apple Watch 2.5W+Airpods 5W					for 100% battery	
		Measuring Distance(cm)	H- Field(A /m)	50% H- Field(A/ m)	Limit(A /m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.0391	0.0196		
Measurement Point 2	Back	15	0.0387	0.0199	1.63	0.815
Measurement Point 3	Left	15	0.0382	0.0187		
Measurement Point 4	Right	15	0.0387	0.0198		
Measurement Point 5	Bottom	15	0.0358	0.0186		
Measurement Point 6	Тор	20	0.0395	0.0204		

Test Mode: iphone 15W+ Apple Watch 2.5W+Airpods 5W for 100% battery						
		Measuring Distance(cm)	E- Field(V/ m)	50% E- Field(V/ m)	Limit(V/ m)	50% Limit(V/m)
Measurement Point 1	Front	15	0.3547	0.1787		
Measurement Point 2	Back	15	0.3551	0.1788		
Measurement Point 3	Left	15	0.3549	0.1773	614	207
Measurement Point 4	Right	15	0.3548	0.1775	014	307
Measurement Point 5	Bottom	15	0.3256	0.1631		
Measurement Point 6	Тор	20	0.3654	0.1837		



PHOTOGRAPHS OFTEST SETUP



Signature

T.y.m

Tiger Xu EMC Director Date: 2023-05-26