

EUT Specification

FCC ID: 2AQI5-CD342

Characteristics	Description
Product Name	Nexode 100W 2-in GaN Desktop Charger
Model number	CD342
Power Supply	AC120V/60Hz
Operating Frequency Range	110-205KHz
Modulation Technique	FSK
Antenna Type	Induction coil
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> 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:

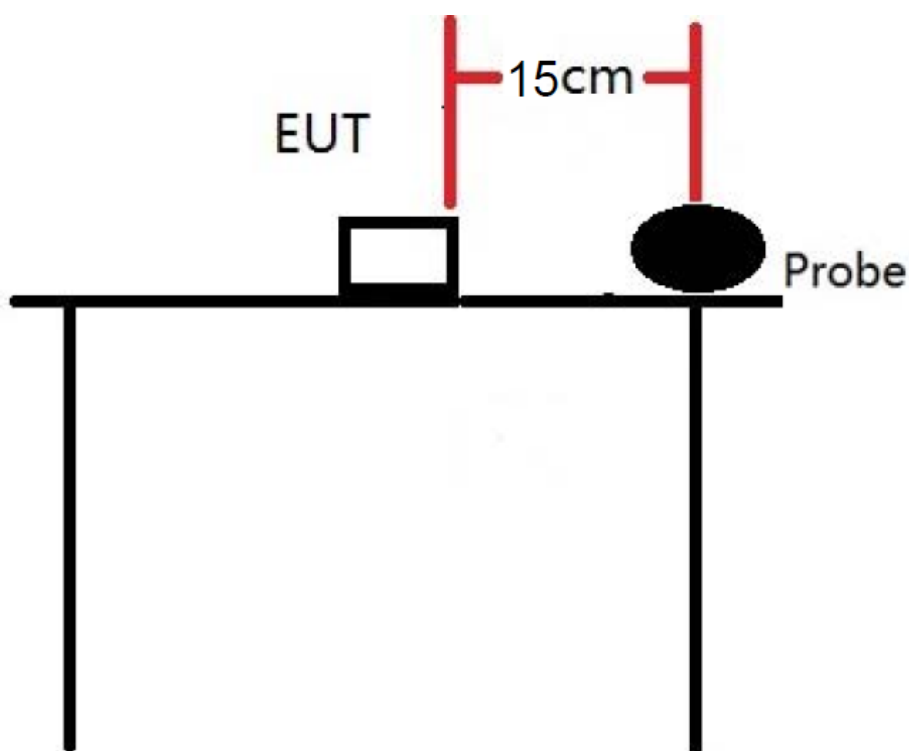
Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations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

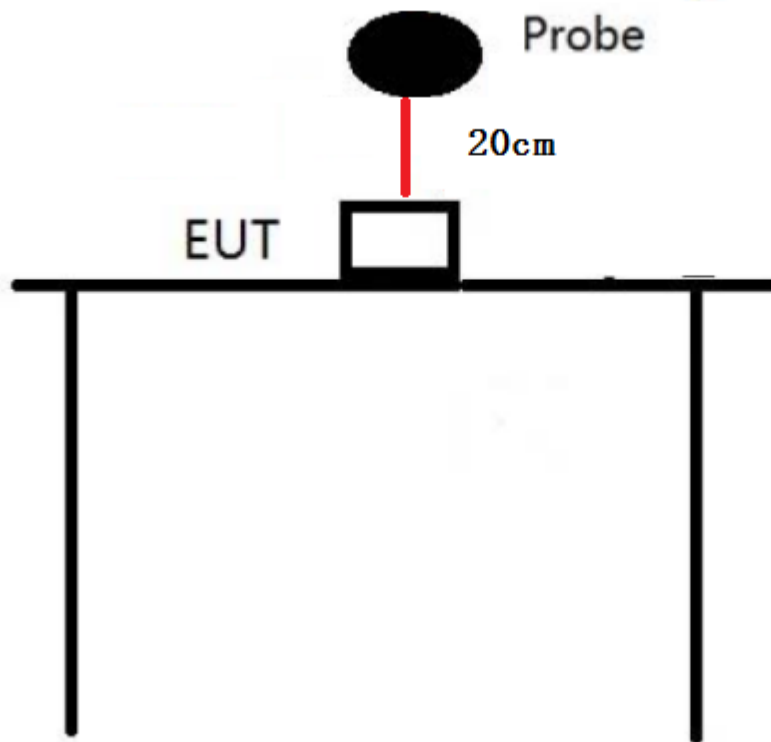
General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are

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.

Measuring Device And Test Equipment

Used	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
<input checked="" type="checkbox"/>	Electric and magnetic field analyzer	Narda	EHP-200A	180ZX11012	2024-03-03
<input checked="" type="checkbox"/>	Test Software	Narda	EHP-200-TS 2.07	N/A	N/A

Description of Support Device

iPhone : Manufacturer: Apple Inc.
M/N: A2404
S/N: N/A

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average 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 General Population/Uncontrol 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, min load, Standby) for EUT. The worst mode (max load) and worst test frequency(frequency: 127.77KHz)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 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	0.175	0.0879	1.63	0.815
Measurement Point 2	Back	15	0.172	0.0872		
Measurement Point 3	Left	15	0.184	0.0921		
Measurement Point 4	Right	15	0.157	0.0793		
Measurement Point 5	Bottom	15	0.146	0.0735		
Measurement Point 6	Top	20	0.225	0.1176		

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	117.139	58.5648	614	307
Measurement Point 2	Back	15	116.996	58.4954		
Measurement Point 3	Left	15	117.036	58.5138		
Measurement Point 4	Right	15	114.037	57.0146		
Measurement Point 5	Bottom	15	111.129	55.5594		
Measurement Point 6	Top	20	124.281	62.1367		

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	0.184	0.0856	1.63	0.815
Measurement Point 2	Back	15	0.154	0.0851		
Measurement Point 3	Left	15	0.175	0.0902		
Measurement Point 4	Right	15	0.164	0.0767		
Measurement Point 5	Bottom	15	0.155	0.0718		
Measurement Point 6	Top	20	0.239	0.1148		

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	116.865	58.4411	614	307
Measurement Point 2	Back	15	115.383	57.6861		
Measurement Point 3	Left	15	116.952	58.4717		
Measurement Point 4	Right	15	113.581	56.8052		
Measurement Point 5	Bottom	15	110.698	55.3552		
Measurement Point 6	Top	20	124.132	62.0633		

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	0.161	0.0792	1.63	0.815
Measurement Point 2	Back	15	0.164	0.0805		
Measurement Point 3	Left	15	0.163	0.0835		
Measurement Point 4	Right	15	0.141	0.0684		
Measurement Point 5	Bottom	15	0.126	0.0611		
Measurement Point 6	Top	20	0.209	0.1031		

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	105.332	52.6712	614	307
Measurement Point 2	Back	15	107.371	53.6836		
Measurement Point 3	Left	15	108.551	54.2743		
Measurement Point 4	Right	15	109.654	54.8281		
Measurement Point 5	Bottom	15	92.589	46.2944		
Measurement Point 6	Top	20	110.656	55.3261		

Test Mode: Wireless Charging 7.5w 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	0.155	0.0771	1.63	0.815
Measurement Point 2	Back	15	0.157	0.0792		
Measurement Point 3	Left	15	0.154	0.0773		
Measurement Point 4	Right	15	0.146	0.0751		
Measurement Point 5	Bottom	15	0.125	0.0644		
Measurement Point 6	Top	20	0.201	0.1012		

Test Mode: Wireless Charging 7.5w 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	104.254	52.1272	614	307
Measurement Point 2	Back	15	106.582	53.2885		
Measurement Point 3	Left	15	107.141	53.5714		
Measurement Point 4	Right	15	108.255	54.1262		
Measurement Point 5	Bottom	15	93.764	46.8713		
Measurement Point 6	Top	20	112.364	56.1837		

Test Mode: Wireless Charging 7.5w 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	0.147	0.0743	1.63	0.815
Measurement Point 2	Back	15	0.144	0.0722		
Measurement Point 3	Left	15	0.146	0.0731		
Measurement Point 4	Right	15	0.148	0.0751		
Measurement Point 5	Bottom	15	0.121	0.0612		
Measurement Point 6	Top	20	0.189	0.0963		

Test Mode: Wireless Charging 7.5w 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	103.540	51.771	614	307
Measurement Point 2	Back	15	105.148	52.574		
Measurement Point 3	Left	15	105.688	52.845		
Measurement Point 4	Right	15	106.203	53.102		
Measurement Point 5	Bottom	15	93.035	46.517		
Measurement Point 6	Top	20	109.634	54.817		

Test Mode: Wireless Charging 7.5w 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	0.148	0.0742	1.63	0.815
Measurement Point 2	Back	15	0.144	0.0722		
Measurement Point 3	Left	15	0.142	0.0712		
Measurement Point 4	Right	15	0.132	0.0655		
Measurement Point 5	Bottom	15	0.115	0.0575		
Measurement Point 6	Top	20	0.195	0.0982		

Test Mode: Wireless Charging 7.5w 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	103.205	51.6025	614	307
Measurement Point 2	Back	15	102.144	51.0725		
Measurement Point 3	Left	15	102.527	51.2635		
Measurement Point 4	Right	15	104.126	52.0632		
Measurement Point 5	Bottom	15	91.051	45.5251		
Measurement Point 6	Top	20	108.443	54.2212		

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	0.153	0.0772	1.63	0.815
Measurement Point 2	Back	15	0.156	0.0793		
Measurement Point 3	Left	15	0.155	0.0781		
Measurement Point 4	Right	15	0.150	0.0756		
Measurement Point 5	Bottom	15	0.128	0.0641		
Measurement Point 6	Top	20	0.204	0.1025		

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	104.252	52.1262	614	307
Measurement Point 2	Back	15	106.564	53.2821		
Measurement Point 3	Left	15	107.138	53.5691		
Measurement Point 4	Right	15	108.252	54.1264		
Measurement Point 5	Bottom	15	93.738	46.8696		
Measurement Point 6	Top	20	112.357	56.1792		

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	0.146	0.0731	1.63	0.815
Measurement Point 2	Back	15	0.142	0.0717		
Measurement Point 3	Left	15	0.144	0.0724		
Measurement Point 4	Right	15	0.147	0.0742		
Measurement Point 5	Bottom	15	0.122	0.0615		
Measurement Point 6	Top	20	0.187	0.0941		

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	103.538	51.7691	614	307
Measurement Point 2	Back	15	105.146	52.5735		
Measurement Point 3	Left	15	105.677	52.8391		
Measurement Point 4	Right	15	106.204	53.1024		
Measurement Point 5	Bottom	15	93.031	46.5162		
Measurement Point 6	Top	20	109.632	54.8165		

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	0.146	0.0732	1.63	0.815
Measurement Point 2	Back	15	0.143	0.0721		
Measurement Point 3	Left	15	0.140	0.0702		
Measurement Point 4	Right	15	0.132	0.0665		
Measurement Point 5	Bottom	15	0.112	0.0563		
Measurement Point 6	Top	20	0.197	0.0991		

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	103.201	51.6011	614	307
Measurement Point 2	Back	15	102.142	51.0715		
Measurement Point 3	Left	15	102.525	51.2632		
Measurement Point 4	Right	15	104.125	52.0634		
Measurement Point 5	Bottom	15	91.048	45.5244		
Measurement Point 6	Top	20	108.443	54.2226		

PHOTOGRAPHS OF TEST SETUP



Signature

A handwritten signature in black ink, appearing to read 'Tiger Xu'.

Tiger Xu
EMC Director
Date: 2023-06-26