


EUT Specification

FCC ID: 2ATCA-A31FWC

Characteristics	Description
Product Name	Yoga 3 in 1 Wireless Charging Stand
Model number	A31FWCWH
Series Model	A31FWCBK, A31FWCWHAU, A31FWCBKAU, A31FWCXX, A31FWCXXAU (XX represents color.)
Trademark	
Power Supply	DC 5V/DC 9V
Operating Frequency Range	110-205KHz for phone charging 300-350KHz for Watch charging 110-205KHz for Earphone charging
Modulation Technique	FSK for phone charging ASK for Watch charging ASK for Earphone charging
Antenna Type	Coil Antenna
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
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

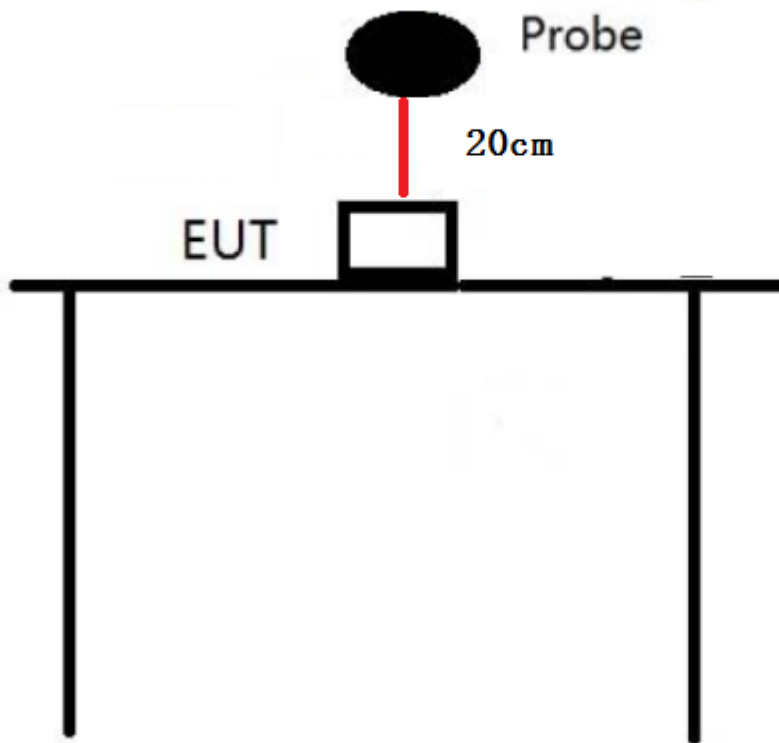
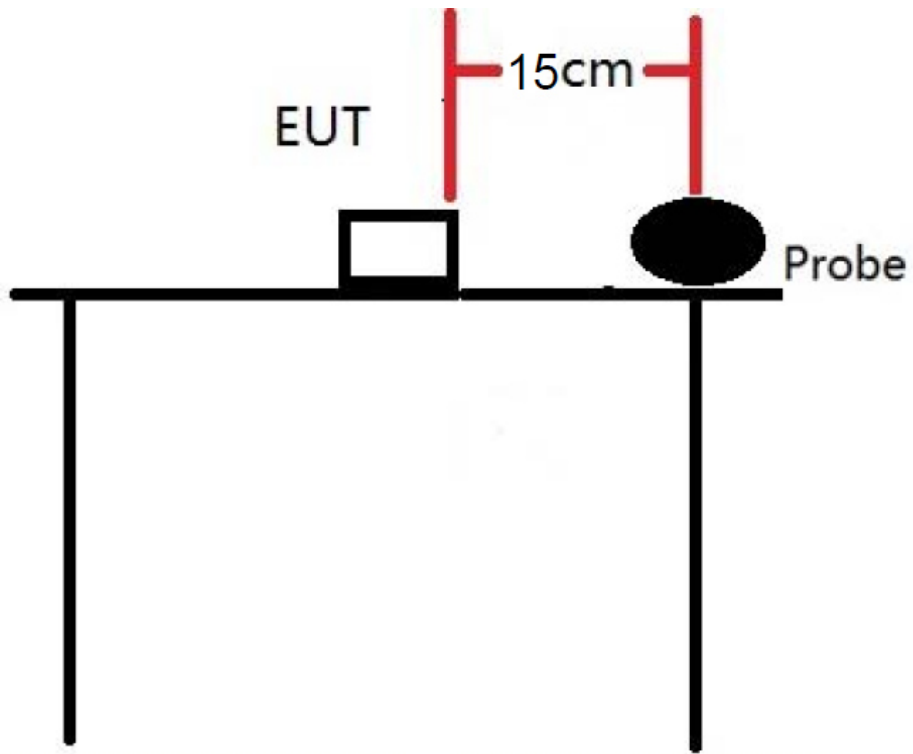
person is allowed to and knows how to reduce or avoid exposure by administrative or engineering controls and work practices, such as use of personal protective equipment or time averaging of exposure.

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.	Last Cal.	Cal. Interval
<input checked="" type="checkbox"/>	E&H-Field Probe(9kHz-30M Hz)	Narda	EHP-200A	180ZX11012	Oct. 28, 2023	1 Year

Description of Support Device

- Phone : Manufacturer: Apple Inc.
M/N: A2176
S/N: N/A
- Adapter : Model number:580245A087
Input: AC 100-240V, 50/60Hz
Manufacturer: SAMSUNG
- SAMSUNG S9 : M/N:Samsung Galaxy S9
S/N: N/A
- Xiaomi 9 : Manufacturer: Xiaomi
M/N:Xiaomi 9
S/N: N/A
- Earphone : Manufacturer: momax
M/N:X5
S/N: N/A
- Watch : Manufacturer: Apple Inc.
M/N: A1859
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 tested three modes (15W load+5W load+1.5W load, 7.5W load+5W load+1.5W load, 5W load+5W load+1.5W load) for EUT. 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+5W+1.5W						
		Measuring Distance(cm)	H-Field(A/m)	50% H-Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.0294	0.0147	1.63	0.815
Measurement Point 2	Back	15	0.0279	0.0140		
Measurement Point 3	Left	15	0.0258	0.0129		
Measurement Point 4	Right	15	0.0284	0.0142		
Measurement Point 5	Bottom	15	0.0266	0.0133		
Measurement Point 6	Top	20	0.0391	0.0196		

Test Mode: Wireless Charging 15W+5W+1.5W						
		Measuring Distance(cm)	E-Field(V/m)	50% E-Field(V/m)	Limit(V/m)	50% Limit(V/m)
Measurement Point 1	Front	15	11.3546	5.6773	614	307
Measurement Point 2	Back	15	10.7632	5.3816		
Measurement Point 3	Left	15	10.8874	5.4437		
Measurement Point 4	Right	15	11.1246	5.5623		
Measurement Point 5	Bottom	15	10.6842	5.3421		
Measurement Point 6	Top	20	12.2462	6.1231		

Test Mode: Wireless Charging 7.5W+5W+1.5W						
		Measuring Distance(cm)	H-Field(A/m)	50% H-Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.0182	0.0091	1.63	0.815
Measurement Point 2	Back	15	0.0172	0.0086		
Measurement Point 3	Left	15	0.0176	0.0088		
Measurement Point 4	Right	15	0.0164	0.0082		
Measurement Point 5	Bottom	15	0.0186	0.0093		
Measurement Point 6	Top	20	0.0243	0.0122		

Test Mode: Wireless Charging 7.5W+5W+1.5W						
		Measuring Distance(cm)	E-Field(V/m)	50% E-Field(V/m)	Limit(V/m)	50% Limit(V/m)
Measurement Point 1	Front	15	9.9982	4.9991	614	307
Measurement Point 2	Back	15	10.3428	5.1714		
Measurement Point 3	Left	15	9.4682	4.7341		
Measurement Point 4	Right	15	9.8846	4.9423		
Measurement Point 5	Bottom	15	10.2432	5.1216		
Measurement Point 6	Top	20	11.4628	5.7314		

Test Mode: Wireless Charging 5W+5W+1.5W						
		Measuring Distance(cm)	H-Field(A/m)	50% H-Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.0182	0.0091	1.63	0.815
Measurement Point 2	Back	15	0.0166	0.0083		
Measurement Point 3	Left	15	0.0154	0.0077		
Measurement Point 4	Right	15	0.0168	0.0084		
Measurement Point 5	Bottom	15	0.0176	0.0088		
Measurement Point 6	Top	20	0.0216	0.0108		

Test Mode: Wireless Charging 5W+5W+1.5W						
		Measuring Distance(cm)	E-Field(V/m)	50% E-Field(V/m)	Limit(V/m)	50% Limit(V/m)
Measurement Point 1	Front	15	8.8756	4.4378	614	307
Measurement Point 2	Back	15	9.0128	4.5064		
Measurement Point 3	Left	15	7.9954	3.9977		
Measurement Point 4	Right	15	8.4263	4.2132		
Measurement Point 5	Bottom	15	8.6624	4.3312		
Measurement Point 6	Top	20	10.4326	5.2163		

PHOTOGRAPHS OF TEST SETUP



Signature

Shawn Wen

Shawn Wen
Laboratory Manager
Date: 2023-09-17