EUT Specification

FCC ID: Mag-Air Charger II

Characteristics	Description
Product Name	Mag-Air Charger II
Model number	HC-G26
Power Supply	AC120V/60Hz for adapter
Operating Frequency Range	110-205KHz
Modulation Technique	ASK
Antenna Type	Induction coil
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others ___
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☒ General Population/Uncontrolled exposure (S=1mW/cm2)
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

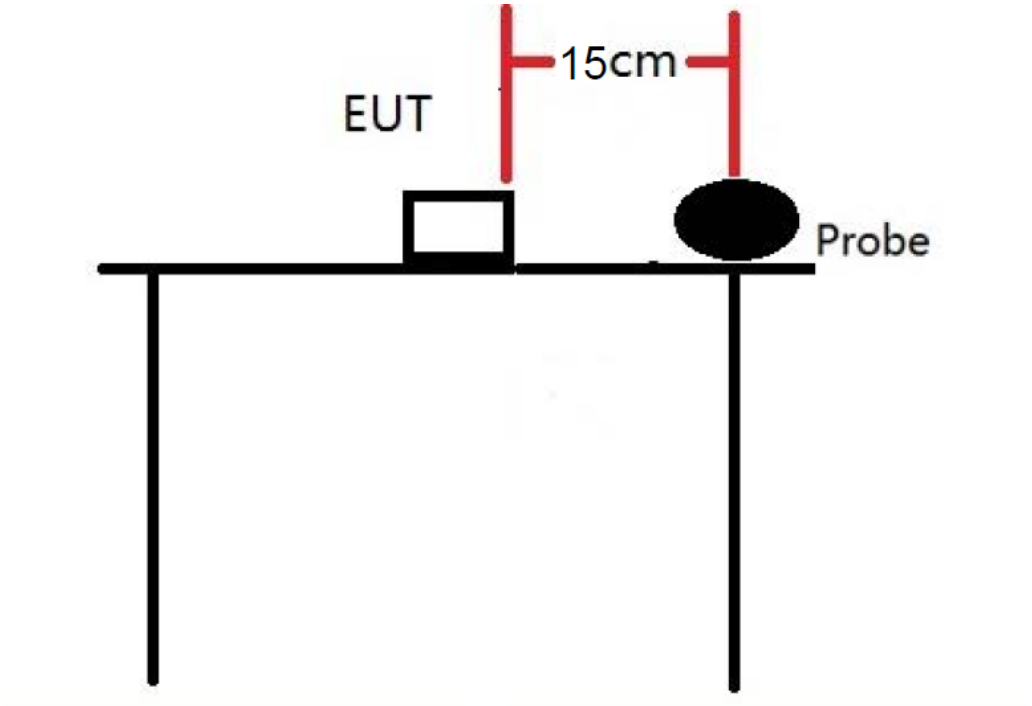
Applicable Requirement:

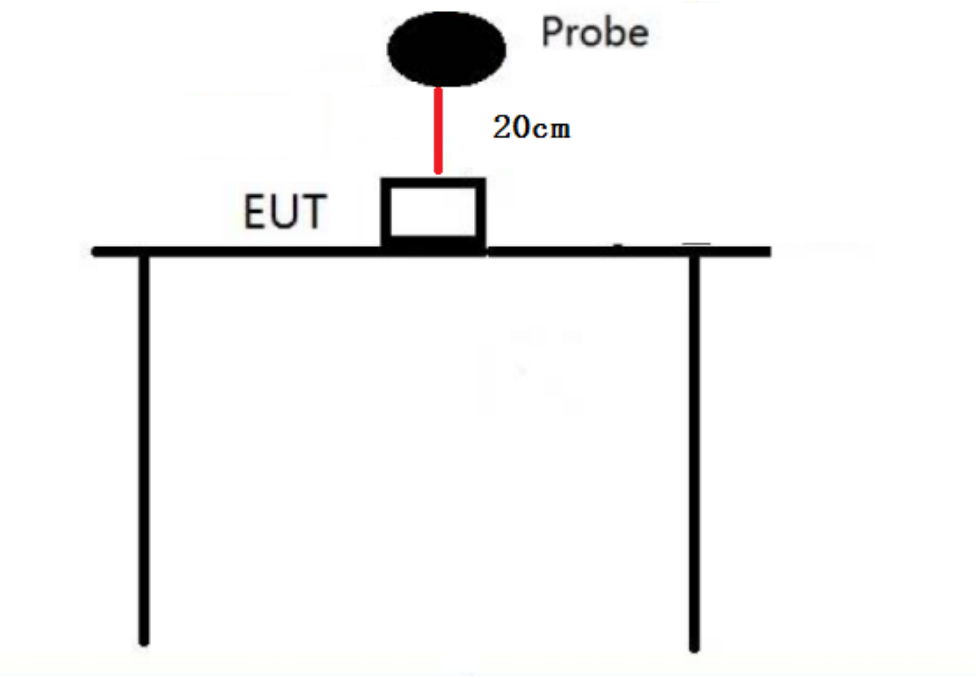
Three different categories of transmitters are defined by the FCC in OET Bulletin 65.
These categories are fixed installation, mobile, and portable and are defined as follows:

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.

Measuring Device And Test Equipment

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	E-Field Probe(9kHz-30MHz)	Narda	EHP-200A	180ZX11012	2022.01.19	1 Year

Description of Support Device

adapter		Model number: PD23U-1TNA
	:	Input: AC 100-240V, 50/60Hz, 0.8A Max
		Output: DC 5V/3A, DC 9V/2.5A
iPhone		Manufacturer: Apple Inc.
	:	M/N: A1524
		S/N: N/A
Wireless Charger Receiver		Manufacturer: Universal
Module	:	M/N: N/A
		S/N: N/A
		Manufacturer: SAMSUNG
SAMSUNG S9	:	M/N:Samsung Galaxy S9
		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：147.5KHz)test data see the following.

Calculated Electric Field (E-Field) strength at 15cm from the boundaries of the 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	0.185	0.0925	1.63	0.815
Measurement Point 2	Back	15	0.182	0.091		
Measurement Point 3	Left	15	0.186	0.093		
Measurement Point 4	Right	15	0.179	0.0895		
Measurement Point 5	Bottom	15	0.150	0.075		
Measurement Point 6	Top	20	0.251	0.1255		

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	119.215	59.6075	614	307
Measurement Point 2	Back	15	120.369	60.1845		
Measurement Point 3	Left	15	121.471	60.7355		
Measurement Point 4	Right	15	121.321	60.6605		
Measurement Point 5	Bottom	15	113.527	56.7635		
Measurement Point 6	Top	20	129.635	64.8175		

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	0.173	0.0865	1.63	0.815
Measurement Point 2	Back	15	0.174	0.087		
Measurement Point 3	Left	15	0.176	0.088		
Measurement Point 4	Right	15	0.168	0.084		
Measurement Point 5	Bottom	15	0.145	0.0725		
Measurement Point 6	Top	20	0.239	0.1195		

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	118.474	59.237	614	307
Measurement Point 2	Back	15	118.251	59.1255		
Measurement Point 3	Left	15	118.696	59.348		
Measurement Point 4	Right	15	117.458	58.729		
Measurement Point 5	Bottom	15	112.693	56.3465		
Measurement Point 6	Top	20	128.254	64.127		

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	0.160	0.08	1.63	0.815
Measurement Point 2	Back	15	0.161	0.0805		
Measurement Point 3	Left	15	0.162	0.081		
Measurement Point 4	Right	15	0.145	0.0725		
Measurement Point 5	Bottom	15	0.123	0.0615		
Measurement Point 6	Top	20	0.214	0.107		

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	106.415	53.2075	614	307
Measurement Point 2	Back	15	106.816	53.408		
Measurement Point 3	Left	15	109.632	54.816		
Measurement Point 4	Right	15	109.784	54.892		
Measurement Point 5	Bottom	15	93.574	46.787		
Measurement Point 6	Top	20	111.685	55.8425		

Test Mode: Wireless Charging 10w 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	0.173	0.0865	1.63	0.815
Measurement Point 2	Back	15	0.170	0.0850		
Measurement Point 3	Left	15	0.180	0.0900		
Measurement Point 4	Right	15	0.154	0.0770		
Measurement Point 5	Bottom	15	0.142	0.0710		
Measurement Point 6	Top	20	0.230	0.1150		

Test Mode: Wireless Charging 10w 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	117.125	58.5625	614	307
Measurement Point 2	Back	15	116.986	58.4930		
Measurement Point 3	Left	15	117.023	58.5115		
Measurement Point 4	Right	15	114.025	57.0125		
Measurement Point 5	Bottom	15	111.114	55.5570		
Measurement Point 6	Top	20	124.269	62.1345		

Test Mode: Wireless Charging 10w 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	0.169	0.0845	1.63	0.815
Measurement Point 2	Back	15	0.168	0.084		
Measurement Point 3	Left	15	0.178	0.089		
Measurement Point 4	Right	15	0.151	0.0755		
Measurement Point 5	Bottom	15	0.140	0.07		
Measurement Point 6	Top	20	0.228	0.114		

Test Mode: Wireless Charging 10w 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	116.854	58.427	614	307
Measurement Point 2	Back	15	115.369	57.6845		
Measurement Point 3	Left	15	116.941	58.4705		
Measurement Point 4	Right	15	113.568	56.784		
Measurement Point 5	Bottom	15	110.694	55.347		
Measurement Point 6	Top	20	124.125	62.0625		

Test Mode: Wireless Charging 10w 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	0.156	0.078	1.63	0.815
Measurement Point 2	Back	15	0.158	0.079		
Measurement Point 3	Left	15	0.165	0.0825		
Measurement Point 4	Right	15	0.135	0.0675		
Measurement Point 5	Bottom	15	0.120	0.06		
Measurement Point 6	Top	20	0.204	0.102		

Test Mode: Wireless Charging 10w 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	105.324	52.662	614	307
Measurement Point 2	Back	15	107.365	53.6825		
Measurement Point 3	Left	15	108.547	54.2735		
Measurement Point 4	Right	15	109.654	54.827		
Measurement Point 5	Bottom	15	92.587	46.2935		
Measurement Point 6	Top	20	110.650	55.325		

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	0.165	0.0825	1.63	0.815
Measurement Point 2	Back	15	0.162	0.081		
Measurement Point 3	Left	15	0.163	0.0815		
Measurement Point 4	Right	15	0.156	0.078		
Measurement Point 5	Bottom	15	0.135	0.0675		
Measurement Point 6	Top	20	0.210	0.105		

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	109.325	54.6625	614	307
Measurement Point 2	Back	15	108.962	54.481		
Measurement Point 3	Left	15	108.758	54.379		
Measurement Point 4	Right	15	109.362	54.681		
Measurement Point 5	Bottom	15	98.365	49.1825		
Measurement Point 6	Top	20	115.417	57.7085		

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	0.161	0.0805	1.63	0.815
Measurement Point 2	Back	15	0.163	0.0815		
Measurement Point 3	Left	15	0.159	0.0795		
Measurement Point 4	Right	15	0.148	0.074		
Measurement Point 5	Bottom	15	0.131	0.0655		
Measurement Point 6	Top	20	0.201	0.1005		

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	108.321	54.1605	614	307
Measurement Point 2	Back	15	107.471	53.7355		
Measurement Point 3	Left	15	108.321	54.1605		
Measurement Point 4	Right	15	107.628	53.814		
Measurement Point 5	Bottom	15	96.851	48.4255		
Measurement Point 6	Top	20	116.543	58.2715		

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	0.132	0.066	1.63	0.815
Measurement Point 2	Back	15	0.128	0.064		
Measurement Point 3	Left	15	0.126	0.063		
Measurement Point 4	Right	15	0.121	0.0605		
Measurement Point 5	Bottom	15	0.105	0.0525		
Measurement Point 6	Top	20	0.186	0.093		

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	100.341	50.1705	614	307
Measurement Point 2	Back	15	100.471	50.2355		
Measurement Point 3	Left	15	101.365	50.6825		
Measurement Point 4	Right	15	99.631	49.8155		
Measurement Point 5	Bottom	15	89.325	44.6625		
Measurement Point 6	Top	20	105.325	52.6625		

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	0.0765	1.63	0.815
Measurement Point 2	Back	15	0.156	0.078		
Measurement Point 3	Left	15	0.154	0.077		
Measurement Point 4	Right	15	0.148	0.074		
Measurement Point 5	Bottom	15	0.126	0.063		
Measurement Point 6	Top	20	0.201	0.1005		

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	104.254	52.127	614	307
Measurement Point 2	Back	15	106.582	53.291		
Measurement Point 3	Left	15	107.140	53.57		
Measurement Point 4	Right	15	108.256	54.128		
Measurement Point 5	Bottom	15	93.741	46.8705		
Measurement Point 6	Top	20	112.364	56.182		

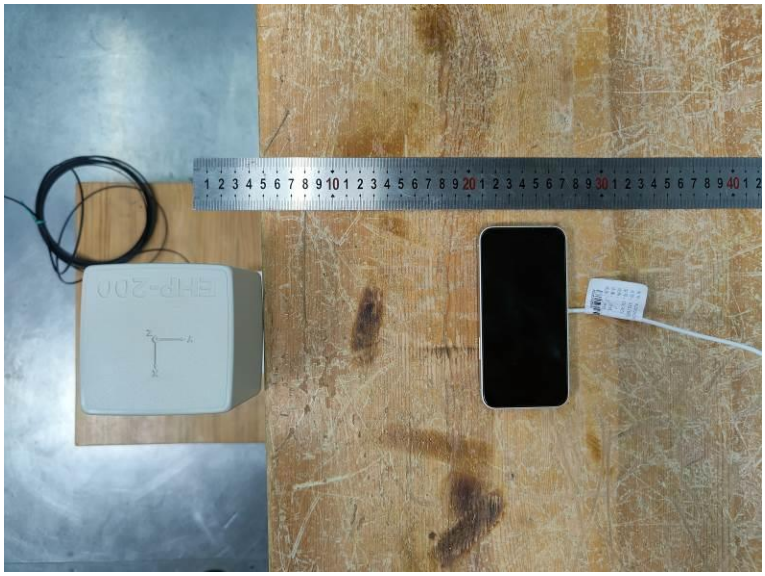
Test Mode: Wireless Charging 5w for 50% battery						
		Measuring Distance(cm)	H-Field(A/m)	50% H-Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.148	0.074	1.63	0.815
Measurement Point 2	Back	15	0.144	0.072		
Measurement Point 3	Left	15	0.146	0.073		
Measurement Point 4	Right	15	0.149	0.0745		
Measurement Point 5	Bottom	15	0.120	0.06		
Measurement Point 6	Top	20	0.191	0.0955		

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	103.540	51.77	614	307
Measurement Point 2	Back	15	105.148	52.574		
Measurement Point 3	Left	15	105.690	52.845		
Measurement Point 4	Right	15	106.203	53.1015		
Measurement Point 5	Bottom	15	93.034	46.517		
Measurement Point 6	Top	20	109.634	54.817		

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	0.148	0.074	1.63	0.815
Measurement Point 2	Back	15	0.144	0.072		
Measurement Point 3	Left	15	0.142	0.071		
Measurement Point 4	Right	15	0.131	0.0655		
Measurement Point 5	Bottom	15	0.115	0.0575		
Measurement Point 6	Top	20	0.196	0.098		

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	103.204	51.602	614	307
Measurement Point 2	Back	15	102.145	51.0725		
Measurement Point 3	Left	15	102.527	51.2635		
Measurement Point 4	Right	15	104.126	52.063		
Measurement Point 5	Bottom	15	91.050	45.525		
Measurement Point 6	Top	20	108.442	54.221		

PHOTOGRAPHS OFTEST SETUP



Signature

Alan He
Manager
Date: 2022-03-01