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# **FCC TEST REPORT**

Client Name : Sariana LLC

Address 7365 Mission Gorge Road Suite G, San Diego, CA 92120

U.S.A.

Product Name : USB-C Wireless Charging Dock for AirPods

Date : May 07, 2020





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## TEST REPORT

Applicant : Sariana LLC

Manufacturer : Sariana LLC

Product Name : USB-C Wireless Charging Dock for AirPods

Model No. : ST-TCWCDM, ST-TCWCDS

Trade Mark : S \(\Lambda\) T E C H I

Rating(s) : Input: DC 5V, 2A Wireless Output: 5W

Test Standard(s) : FCC Part 1.1310, 1.1307(b)

Test Method(s) : KDB680106 D01 RF Exposure Wireless Charging Apps v03

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 1.1307 & KDB680106 D01 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt	Apr. 20, 2020
Date of Test	Apr. 20~27, 2020
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Prepared By	motek Anboten Anb
Anbotek Anbotek Anbotek Anbotek Ar	(Engineer / Dolly Mo)
	Bib Thong
Reviewer	Ambores AV tok mborek Ar
	(Supervisor / Bibo Zhang)
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Approved & Authorized Signer	Augo Augo
	(Manager / Tom Chen)

**Shenzhen Anbotek Compliance Laboratory Limited** 





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## 1. General Information

### 1.1. Client Information

- 02		r 20, 51, 26, 20, 77, 78, 70,
Applicant	:	Sariana LLC
Address	:	7365 Mission Gorge Road Suite G, San Diego, CA 92120 U.S.A.
Manufacturer	:	Sariana LLC
Address	:	7365 Mission Gorge Road Suite G, San Diego, CA 92120 U.S.A.
Factory	:	Sariana LLC
Address	:	7365 Mission Gorge Road Suite G, San Diego, CA 92120 U.S.A.

## 1.2. Description of Device (EUT)

Product Name	:	USB-C Wireless Charging	Dock for AirPods						
Model No.	:	ST-TCWCDM, ST-TCWC (Note: All samples are the "ST-TCWCDM" for test or	same except the model name, so we prepare						
Trade Mark	:	SATEC	H I Anbotek Anbotek Anbotek						
Test Power Supply	:	AC 120V, 60Hz for AppleN	AC 120V, 60Hz for AppleMacBook						
Test Sample No.	:	1-2-1(Normal Sample), 1-	2-1(Engineering Sample)						
C		Operation Frequency:	110.1-205KHz						
Product		Modulation Type:	FSK Andrew Andrew						
Description	•	Antenna Type:	Inductive loop coil Antenna						
		Antenna Gain(Peak):	0 dBi						

**Remark:** 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



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### 1.3. Auxiliary Equipment Used During Test

		Product: AppleMacBook
		M/N: A1708 CMIIT ID:2016AJ5746
Notebook	:	Input Rating: 20.3V/3A
		Adapter:
		Input: 100-240V, 50-60HZ, 1.5A Output: 20.3V/3A (USB PD) or 9V/3A(USB PD) or 5.2V/2.4A
Airpods	:	Manufacturer: Apple

### 1.4. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1, tek	Magnetic field meter	NARDA	ELT-400	423623	Dec. 24, 2018	3 Year
Anba	E-Field Probe	Narda	EF0391	Q15221	Nov.17, 2017	3 Year
3	H-Field Probe	Narda	HF3061	Q15835	Nov.17, 2017	3 Year

#### 1.5. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)	Anbotek Anbotek	Aupore
		Ur = 3.8 dB (Vertical)	And botek Anbotek	Anbo,
		tek Anbotek Anbote	k hotek Anbot	ele Anbo
Conduction Uncertainty	:	Uc = 3.4 dB	rek abotek An	poter Anbo



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#### 1.6. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, September 27, 2019.

#### ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A, March 07, 2019.

#### Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. 518102



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#### 2. Measurement and Result

#### 2.1. Requirements

According to the item 5.b) of KDB 680106 D01v03:

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

- 1) Power transfer frequency is less that 1 MHz
- 2) Output power from each primary coil is less than or equal to 15 watts.
- 3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils
- 4) Client device is inserted in or placed directly in contact with the transmitter
- 5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)
- 6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Limits For Maximum Permissible Exposure (MPE)

		A. A. D.	DAY							
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)						
	(A) Limits for Occ	cupational/Controlled Ex	posures							
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						
300-1500	1	1	f/300	6						
1500-100,000	/	1	5	6						
	(B) Limits for Genera	l Population/Uncontrolle	d Exposure	+						
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						
300-1500	1	1	f/1500	30						
1500-100,000	/	1	1.0	30						

F=frequency in MHz

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Shenzhen Anbotek Compliance Laboratory Limited

Code:AB-RF-05-a

Hotline

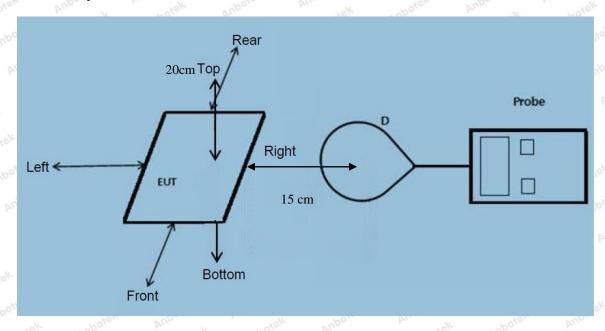
Hotline 400-003-0500 www.anbotek.com

<sup>\*=</sup>Plane-wave equivalent power density



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#### 2.2. Test Setup



Note: Measurements should be made at 15 cm surrounding the EUT and 20cm above the top surface of the EUT.

#### 2.3. Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at required test distance which is between the edge of the charger and the geometric center of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points
- (A, B, C, D, E) were completed. (A is the right, B is the back, C is the left, D is the front, and E is the top.)
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v03.

#### Remark

The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

#### 2.4. Test Result

- 2.4.1. Equipment Approval Considerations item 5.b of KDB 680106 D01 v03.
- 1) Power transfer frequency is less that 1 MHz
  - The device operate in the frequency range 110.1~205KHz
- 2) Output power from each primary coil is less than 15 watts
  - The maximum output power of the primary coil is 5W.

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- 3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils
- The transfer system including a charging system with only single primary coils is to detect and allow only between individual pairs of coils.
- 4) Client device is inserted in or placed directly in contact with the transmitter
- Client device is placed directly in contact with the transmitter.
- 5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)
  - The EUT is a Mobile Power Pack with Wireless Charger
- 6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
- Conducted the measurement with the required distance and the test results please refer to the section 2.4.2



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2.4.2. Environmental evaluation and exposure limit according to FCC CFR 47 part 1 1.1307(b), 1.1310

Temperature:	23.8°C	Relative Humidity:	54%
Pressure:	1012 hPa	Test Voltage:	AC 120V, 60Hz for AppleMacBook

E-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery	Frequency	Test	Test	Test	Test	Test	Reference	Limits
VUL	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	ek A anb	otek B M	C	Dek	ALEO PER	(V/m)	(V/m)
lek Mup,	Pup.	otek p	nbotek	Aupor	principolek	Anbore	Y NO	ek I
1%	110.1~205	0.37	0.32	0.24	0.46	0.91	307	614
nbotek	Anboten	Anbotek	Anbotek	Anbor	rek bi	potek	rupoten Vi	
anbotek.	Anbore	Vur Potel	Anbot	Sk VUP	stek h	anbotek	Aupore	Aug Potel
50%	110.1~205	1.32	1.37	1.20	1.44	1.52	307	614
ek upc	tek Anbot	er And	worek.	Anbotek	Aupor	Ar.	Anborer	
rek ba	ibotek Ani	ole. b	hotek	Anbotek	Vupo.	ek sup	otek Aupor	P
99%	110.1~205	2.48	2.22	2.18	2.40	2.07	307	614
Anboro	An	Anbotek	Anbo	k Aupo	tek Vul	or p	abotek	
Anbor	Anapotek	Anboren	Y VUD	otek A	botek	Aupor	An abotek	Anbore
Stand-by	110.1~205	0.45	0.34	0.71	0.46	0.54	307	614
ik Aupo,	rek Vu	otek Ar	poter	inos cotek	anbotek	Anboro	ek whote	



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## H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

	3	0.17		4				CAV
Battery	Frequency	Test	Test	Test	Test	Test	Reference	Limits
200	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	A	otek B	hote C	Yupa D	Entek	(A/m)	(A/m)
iek Ant	otek Anbe	rek	nbotek	Anbore	Vun Potek	Anbote	Aupo	ick bu
1%	110.1~205	0.042	0.056	0.041	0.048	0.064	0.815	1.63
potek		Anbore	Arrabotek	Anbore	r Andr	work p	obotek Ar	bore
And	Anbotek	Aupo	r nbo	lek but	ole V	botek	Anborek	Anbo. otel
50%	110.1~205	0.25	0.51	0.34	0.43	0.47	0.815	1.63
K Anto		ek Anb	o. A	abotek	Anboter	Andhorek	Anbotek	Anb
Arriv	hotek Ar	potek F	upo,	Anbotek .	Anbore	or No	rek Anbot	Sp. b
99%	110.1~205	0.42	0.58	0.57	0.36	0.51	0.815	1.63
Aupotek		Anbotek	Anboro	ek ab	otek An	poter A	lo otek	anbotek
Anbores	Anb	Anbotel	Aupo	TON DO	obotek	Anbotes	Ans	Anborek
Stand-by	110.1~205	0.25	0.33	0.18	0.30	0.35	0.815	1.63
K Anbo		stek h	obotek	Anbore	An hotek	Anbotek	Anbe	J.K.

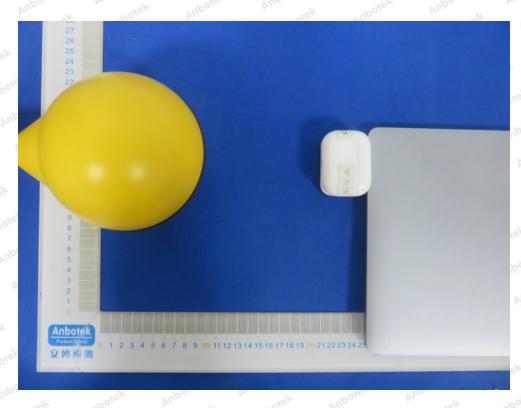


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## **APPENDIX I -- TEST SETUP PHOTOGRAPH**

Photo of MPE Measurement

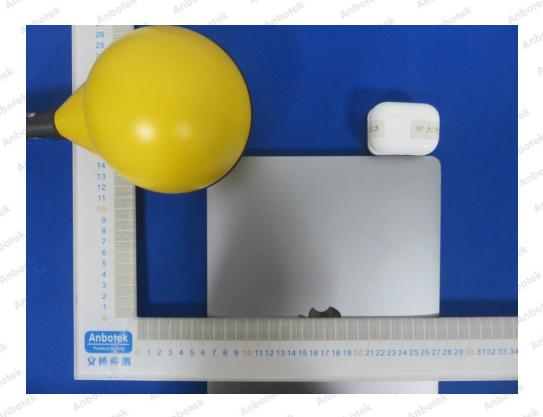


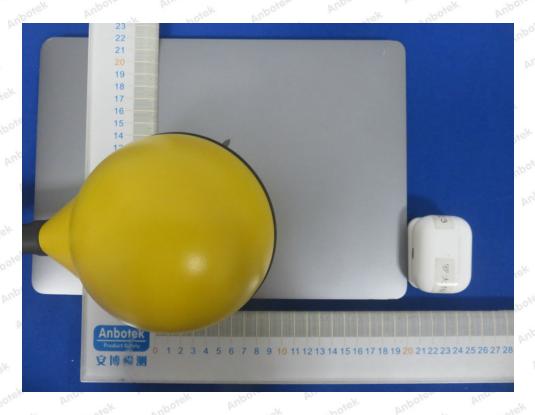


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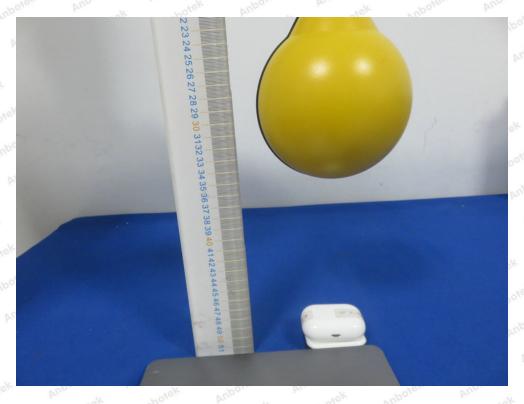




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