



RF Exposure Evaluation

FCC ID: 2A9E7-OBCS01-BL

1. Client Information

Applicant	:	Shenzhen Ou Le Bai Technology Co., Ltd
Address	:	302, Fen Long Liu Xiang Jiu Dong, Ju Zi Keng Dafen Cun, Bu Ji Jie Dao, Longgang District, Shenzhen Guangdong, 518112, China
Manufacturer	:	Shenzhen Ou Le Bai Technology Co., Ltd
Address	:	302, Fen Long Liu Xiang Jiu Dong, Ju Zi Keng Dafen Cun, Bu Ji Jie Dao, Longgang District, Shenzhen Guangdong, 518112, China

2. General Description of EUT

EUT Name	:	Portable 3 in 1 Charging Station	
Models No.	:	OBCS01-BL, CS01, OBCS01-WH, OBCS01-RG, OBCS01-GY, OBCS01-SL, OBCS01-BU, OBCS01-GR, OBCS01-PK, OBCS01-RE, OBCS01-PP	
Sample ID	:	202211-0049-1-2#	
Model Different	:	All these models are the same in the same PCB, layout and circuit, the only difference is the appearance color.	
Product Description	:	Operation Frequency:	300-350KHz
		Modulation Type:	ASK
		Antenna:	0 dBi Coil Antenna
Power Rating	:	USB Input: DC 5V3A Output:Phone: 10W(Max); Watch: 2.5W(Max); Earphone: 2W(Max)	
Software Version	:	V1.3	
Hardware Version	:	V3.1	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

RF Exposure Considerations

1. Measuring Standard

KDB 680106 D01 RF Exposure Wireless Charging App v03.

2. Requirements

According to the item 5.2 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 than 1 MHz.
- (2) Output power from each primary coil is less than or equal to 15 watts.
- (3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
- (4) Client device is 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 anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Limits For Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

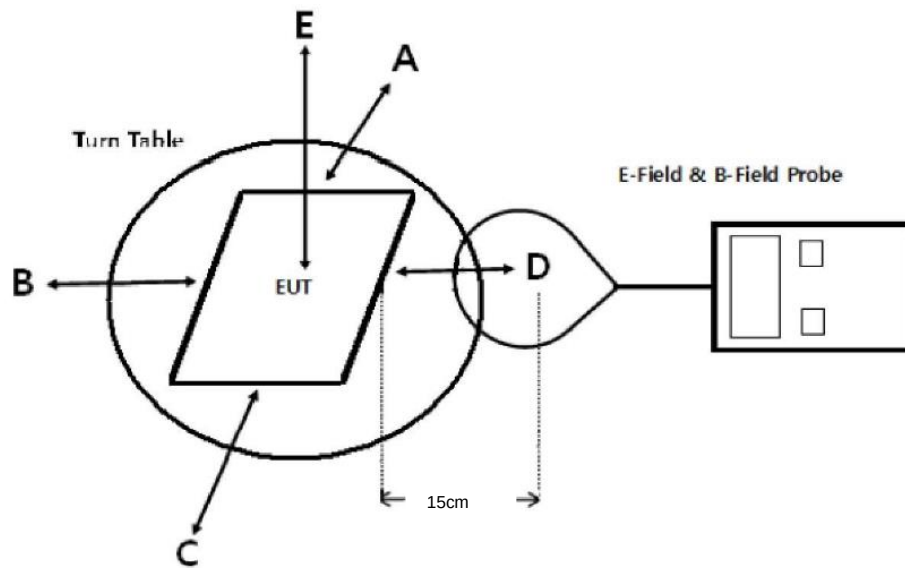
F=frequency in MHz

*=Plane-wave equivalent power density

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).



3. Test Setup



Note: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.

4. Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.
- 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.
- 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.

5. Test Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Magnetic field meter	NARDA	ELT-400	O-0449	Aug. 26, 2022	Aug. 25, 2023
Magnetic field probe	NARDA	ELT- probe 100cm ²	M-1850	Aug. 26, 2022	Aug. 25, 2023
Field intensity probe	NARDA	EP-601	811ZX01000	Mar. 02, 2022	Mar. 01, 2023

6. Deviation From Test Standard

No deviation



7. Equipment Approval Considerations

The EUT does comply with item 5.2 of KDB 680106 D01v02 as follows table;

Requirements of KDB 680106 D01	Yes / No	Description
Power transfer frequency is less than 1 MHz	Yes	The device operate in the frequency range 300KHz -350KHz
Output power from each primary coil is less than 15 watts	Yes	The maximum output power of the primary coil is 2.5W.
The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	Yes	The transfer system includes only single primary and secondary coils. Charging systems have two primary coils and clients that are able to detect and allow coupling only between individual pairs of coils and the coil pairs powered on at the same time.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Yes	Mobile exposure conditions
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.	Yes	The EUT 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.

In all other cases, unless excluded above, an RF exposure evaluation report must be reviewed and accepted through a KDB or PBA inquiry to enable authorization of the equipment. When evaluation is required to show compliance; for example, using field strength, power density, SAR measurements or computational modeling etc., the specific authorization requirements will be determined based on the results of the RF exposure evaluation



8. Mode of operation during the test / Test peripherals used

Test Modes:		
TM1	AC/DC Adapter + EUT + full load (Battery Status: <1%)	Pre-tested
TM2	AC/DC Adapter + EUT + half load (Battery Status: <50%)	Pre-tested
TM3	AC/DC Adapter + EUT + empty load (Battery Status: <99%)	Pre-tested
Note: All test modes were pre-tested, but we only recorded the worst case (TM1, TM2, TM3) in this report.		

9. Test Result

E-Filed Strength at 15 cm from the edges surrounding the EUT and 15 cm above the top surface

Charging Battery Level	Frequency Range (MHz)	Measured E-Field Strength Values (V/m)					E-Field Strength 50% Limits (V/m)	E-Field Strength Limits (V/m)
		Test Position						
		A	B	C	D	E		
1%	0.326	32.224	31.565	32.123	31.233	32.274	307.0	614.0
50%	0.326	30.148	32.621	33.275	32.742	32.735	307.0	614.0
99%	0.326	31.327	32.256	33.944	31.556	32.584	307.0	614.0

H-Filed Strength at 15 cm from the edges surrounding the EUT and 15 cm above the top surface

Charging Battery Level	unit	Frequency Range (MHz)	Measured H-Field Strength Values (A/m)					H-Field Strength 50% Limits (A/m)	H-Field Strength Limits (A/m)
			Test Position						
			A	B	C	D	E		
1%	uT	0.326	0.186	0.184	0.230	0.245	0.235	--	--
1%	A/m	0.326	0.149	0.147	0.184	0.196	0.188	0.815	1.63
50%	uT	0.326	0.162	0.261	0.231	0.231	0.215	--	--
50%	A/m	0.326	0.130	0.209	0.184	0.185	0.172	0.815	1.63
99%	uT	0.326	0.252	0.246	0.231	0.235	0.235	--	--
99%	A/m	0.326	0.202	0.197	0.185	0.188	0.188	0.815	1.63

H-Field Strength at 20cm from the top surface of the EUT

Charging Battery Level	Unit	Frequency Range (MHz)	Measured H-Field Strength Values (A/m)	FCC H-Field Strength 50% Limits (A/m)	FCC H-Field Strength Limits (A/m)
			Test Position E		
1%	uT	0.326	0.165	--	--
1%	A/m	0.326	0.132	0.815	1.63
50%	uT	0.326	0.156	--	--
50%	A/m	0.326	0.125	0.815	1.63
99%	uT	0.326	0.155	--	--
99%	A/m	0.326	0.124	0.815	1.63

Note: A/m=uT/1.25



10. Test Set-up Photos

Test Set-up Photo

Test Position E - Exposure photo from top surface



-----END OF REPORT-----

