



RF Exposure Evaluation Declaration

FCC ID: 2A2TF-LWF-BNF-UC210

Applicant: Hexcal Indoor Systems (Shanghai) Co., Ltd.

Product: Hexcal Advanced Working Deck

Model No.: SLT-LWF-BNF-DG-UC210

Serial Model No.: ABC-DWF-GNI-J-KLM series

Brand Name: HEXCAL

FCC Classification: Part 15 Low Power Transmitter Below 1705 kHz (DCD)

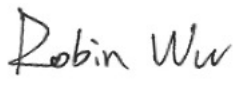
FCC Rule Part(s): KDB 680106 D01v03r01

Test Date: August 28, 2021

Reviewed By:


Kevin Guo

Approved By:


Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date	Note
2106RSU078-U3	Rev. 01	Initial Report	09-08-2021	Valid

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1. GENERAL INFORMATION

1.1. Applicant

Hexcal Indoor Systems (Shanghai) Co., Ltd.
19-3, Building 8, No.498 Guoshoujing Rd. Shanghai, China

1.2. Manufacturer

Hexcal Indoor Systems (Shanghai) Co., Ltd.
19-3, Building 8, No.498 Guoshoujing Rd. Shanghai, China

1.3. Testing Facility

☒	Test Site – MRT Suzhou Laboratory
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	Laboratory Accreditations
	A2LA: 3628.01 FCC: CN1166 VCCI: R-20025, G-20034, C-20020, T-20020
	CNAS: L10551 ISED: CN0001
☐	Test Site – MRT Shenzhen Laboratory
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 FCC: CN1284
	CNAS: L10551 ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725 FCC: 291082, TW3261
	ISED: TW3261

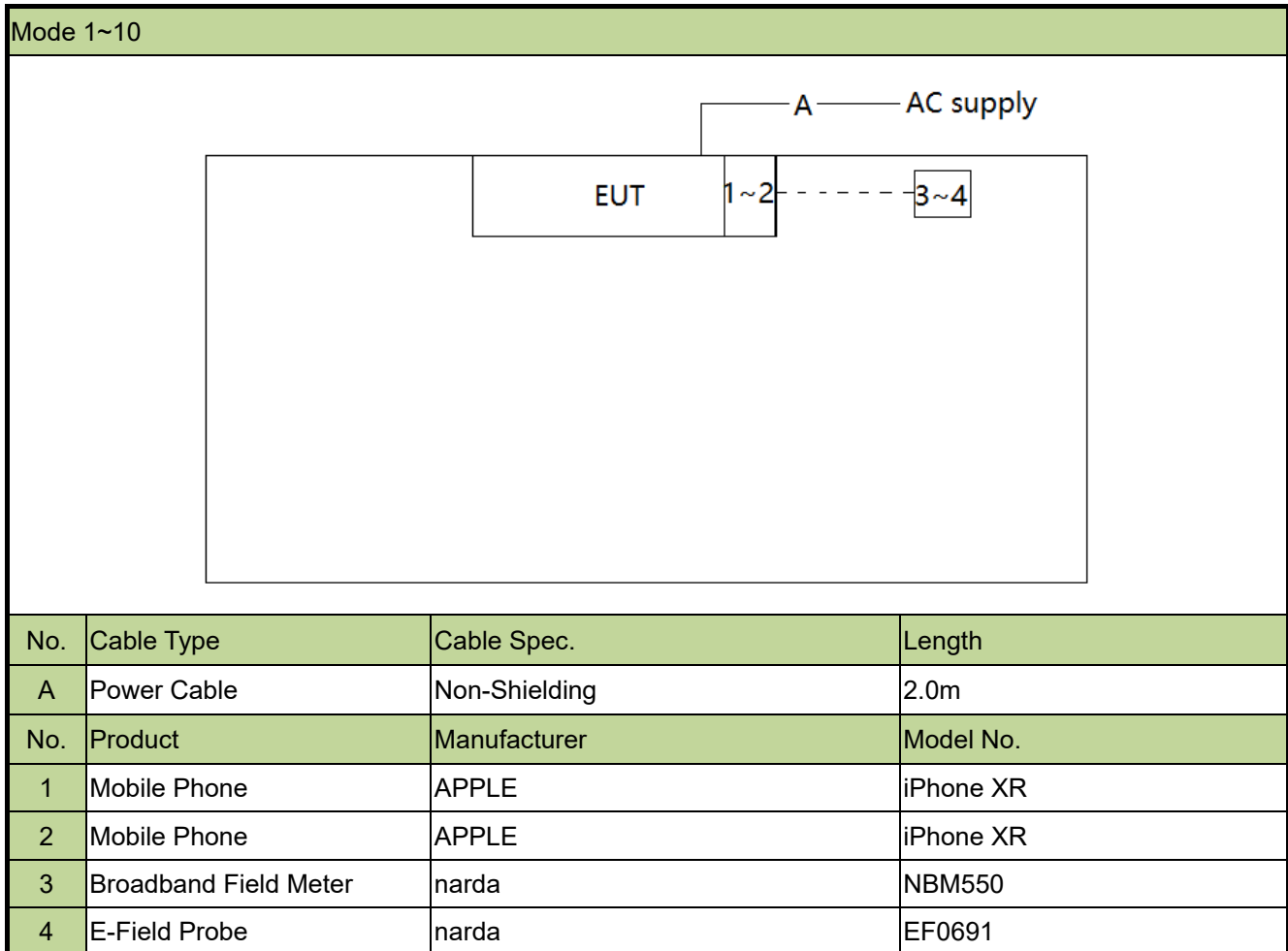
1.4. Product Information

Product Name	Hexcal Advanced Working Deck
Model No.	SLT-LWF-BNF-DG-UC210
Serial Model No.	ABC-DWF-GNI-J-KLM series (A=S or D, B=L or M or S, C=T or D or S, D=L or N, F=F or N, G=B or N, I=F or N, J=DG or LG or SR or BK or SL or MR or CY or NV or GR or AZ or WH, K=UC or US or CA, L=20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30, M=0 or 1 or 2 or 3)
Brand Name	HEXCAL
Working Frequency Range	110 ~ 205 kHz
Modulation Type	FSK
Working Temperature Range	0 ~ 40°C
Power Supply	INPUT: 120V ac 12A / 60Hz OUTPUT: Receptacle: 120VAC /11A 4*USB: 5VDC 1A 2* Fast charging port: 5VDC 3A 8* Sockets in total: 120VAC/11A Each coil of wireless charger: Max 10W
Remark: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. 2. Please refer to the statement of model difference provided by the manufacturer.	

1.5. Test Mode

Test Mode
Mode 1: L3
Mode 2: L4
Mode 3: L5
Mode 4: L6
Mode 5: L7
Mode 6: L3+L5
Mode 7: L3+L6
Mode 8: L3+L7
Mode 9: L4+L6
Mode 10: L4+L7
Note: The product has five coils. Five coils cannot work at the same time. The product has two lines for wireless charging. One is L3 or L4, the other is L5, L6 or L7 (Reference the following picture). Only one coil works in each line at any time. Each coil has the average opportunity to work. L4 and L5 cannot work at the same time.


1.6. Test System Connection Diagram



1.7. Test Procedure

1	Setup the EUT and simulators as shown on above.
2	Configure all test modes as shown in section 1.5.
3	Begin to test.

2. List of Measuring Instrument

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Broadband Field Meter	narda	NBM550	MRTSUE06897	3 year	2023/07/26
E-Field Probe	narda	EF0691	MRTSUE06898	1 year	2022/08/13

3. RF EXPOSURE EVALUATION

3.1. Limits

§1.1310 Radiofrequency radiation exposure limits.

Below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

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/ Control 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
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
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
300-1,500	--	--	f/1500	30
1,500-100,000	--	--	1.0	30

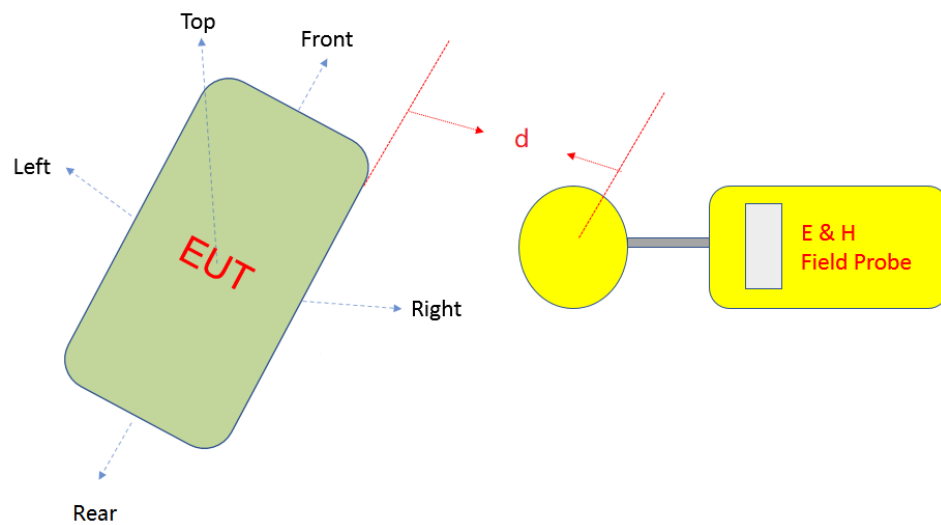
f= Frequency in MHz

* = Plane-wave equivalent power density

3.2. EQUIPMENT APPROVAL CONSIDERATIONS ON KDB 680106 D01v03r01

EQUIPMENT APPROVAL CONSIDERATIONS	COMPLY
1) Power transfer frequency is less than 1 MHz	Yes. Wireless operating frequency range: 110kHz ~ 205 kHz
2) Output power from each primary coil is less than or equal to 15 watts.	No. Each coil of wireless charger maximum transmitted power: 10W Max.
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.	Yes. Five coils are employed in the device. But only two coils can work at the same time, referring to "1.5 NOTE" for the detailed information.
4) Client device is placed directly in contact with the transmitter.	Yes. Placed directly.
5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Yes. Mobile exposure conditions only.
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.	Yes.

3.3. Test Setup



Note:

1. This shall be measured as the distance from the edge of the device to the center of the measurement probe.
2. d is the test distance at cm. Detailed information please refer to clause 2.2 of this report.

3.4. Test Result of RF Exposure Evaluation

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 1	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	0.88	614	307	Pass
Rear	15	0.75	614	307	Pass
Right	15	1.17	614	307	Pass
Left	15	1.65	614	307	Pass
Top	20	1.03	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0021	1.63	0.815	Pass
Rear	15	0.0023	1.63	0.815	Pass
Right	15	0.0011	1.63	0.815	Pass
Left	15	0.0028	1.63	0.815	Pass
Top	20	0.0021	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 2	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	0.76	614	307	Pass
Rear	15	0.68	614	307	Pass
Right	15	1.08	614	307	Pass
Left	15	1.57	614	307	Pass
Top	20	1.11	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0026	1.63	0.815	Pass
Rear	15	0.0027	1.63	0.815	Pass
Right	15	0.0016	1.63	0.815	Pass
Left	15	0.0023	1.63	0.815	Pass
Top	20	0.0019	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 3	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	0.96	614	307	Pass
Rear	15	0.75	614	307	Pass
Right	15	0.68	614	307	Pass
Left	15	0.77	614	307	Pass
Top	20	0.82	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0023	1.63	0.815	Pass
Rear	15	0.0012	1.63	0.815	Pass
Right	15	0.0045	1.63	0.815	Pass
Left	15	0.0038	1.63	0.815	Pass
Top	20	0.0026	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 4	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	1.02	614	307	Pass
Rear	15	0.68	614	307	Pass
Right	15	0.59	614	307	Pass
Left	15	0.86	614	307	Pass
Top	20	0.71	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0064	1.63	0.815	Pass
Rear	15	0.0037	1.63	0.815	Pass
Right	15	0.0026	1.63	0.815	Pass
Left	15	0.0049	1.63	0.815	Pass
Top	20	0.0067	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 5	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	0.98	614	307	Pass
Rear	15	0.67	614	307	Pass
Right	15	0.76	614	307	Pass
Left	15	0.82	614	307	Pass
Top	20	0.91	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0029	1.63	0.815	Pass
Rear	15	0.0037	1.63	0.815	Pass
Right	15	0.0024	1.63	0.815	Pass
Left	15	0.0045	1.63	0.815	Pass
Top	20	0.0054	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 6	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	6.23	614	307	Pass
Rear	15	1.89	614	307	Pass
Right	15	2.51	614	307	Pass
Left	15	2.59	614	307	Pass
Top	20	3.38	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0088	1.63	0.815	Pass
Rear	15	0.0147	1.63	0.815	Pass
Right	15	0.0025	1.63	0.815	Pass
Left	15	0.0073	1.63	0.815	Pass
Top	20	0.0054	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 7	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	4.98	614	307	Pass
Rear	15	2.36	614	307	Pass
Right	15	1.69	614	307	Pass
Left	15	2.34	614	307	Pass
Top	20	3.68	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0068	1.63	0.815	Pass
Rear	15	0.0085	1.63	0.815	Pass
Right	15	0.0074	1.63	0.815	Pass
Left	15	0.0096	1.63	0.815	Pass
Top	20	0.0059	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 8	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	5.97	614	307	Pass
Rear	15	2.35	614	307	Pass
Right	15	2.10	614	307	Pass
Left	15	2.49	614	307	Pass
Top	20	3.48	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0075	1.63	0.815	Pass
Rear	15	0.0068	1.63	0.815	Pass
Right	15	0.0058	1.63	0.815	Pass
Left	15	0.0085	1.63	0.815	Pass
Top	20	0.0073	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 9	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	5.11	614	307	Pass
Rear	15	1.84	614	307	Pass
Right	15	2.11	614	307	Pass
Left	15	2.68	614	307	Pass
Top	20	3.47	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0068	1.63	0.815	Pass
Rear	15	0.1060	1.63	0.815	Pass
Right	15	0.0074	1.63	0.815	Pass
Left	15	0.0095	1.63	0.815	Pass
Top	20	0.0068	1.63	0.815	Pass

Product	Hexcal Advanced Working Deck
Test Item	RF Exposure Evaluation
Mode 10	

Electric Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Front	15	4.63	614	307	Pass
Rear	15	3.72	614	307	Pass
Right	15	1.31	614	307	Pass
Left	15	3.98	614	307	Pass
Top	20	3.12	614	307	Pass
Magnetic Field Emissions					
Test Position	Test Distance (d) (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Front	15	0.0048	1.63	0.815	Pass
Rear	15	0.0079	1.63	0.815	Pass
Right	15	0.1180	1.63	0.815	Pass
Left	15	0.0069	1.63	0.815	Pass
Top	20	0.0067	1.63	0.815	Pass

The End

Appendix A - EUT Photograph

Refer to “2106RSU078-UE” file.

Appendix B - Test Setup Photograph

Refer to “2106RSU078-UT” file