



RF Exposure Evaluation Declaration

FCC ID: FHO-E2122

Applicant: IKEA of Sweden AB

Address: SE-343 81, Almhult, Sweden

Product: SYMFONISK charging shelf

Model No.: E2122

Brand Name: IKEA

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

Test Date: September 01, 2021

Reviewed By:

Vincent Yu

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
2108RSU057-U2	Rev. 01	Initial Report	03-18-2022	Valid

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1. GENERAL INFORMATION

1.1. Applicant

IKEA of Sweden AB
SE-343 81, Almhult, Sweden

1.2. Manufacturer

IKEA of Sweden AB
SE-343 81, Almhult, Sweden

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 CNAS: L10551
	FCC: CN1166 ISED: CN0001
	VCCI: ☐ R-20025 ☐ G-20034 ☐ C-20020 ☐ T-20020
	☐ R-20141 ☐ G-20134 ☐ C-20103 ☐ T-20104
☐	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 CNAS: L10551
	FCC: CN1284 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	SYMFONISK charging shelf
Model No.	E2122
Brand Name	IKEA
Test Device S/N	20210819Sample#02
Working Frequency Range	110kHz ~ 148kHz
Modulation Type	FSK
Working Temperature Range	0 ~ 40°C
Input	AC 100-240V, 0.6A
Output	5W MAX
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

2. TEST EQUIPMENT CALIBRATION DATE

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Exposure Level Tester	narda	ELT-400	MRTSUE06920	3 years	2023/11/29
Broadband EM Field Meter	ar	SM40G	MRTSUE06358	3 years	2024/05/05
E-field sensor head	ar	SHE100K6z5G	MRTSUE06444	3 years	2024/05/05
Probe	narda	B-Field	MRTSUE06919	3 years	2024/02/14
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2022/06/28

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

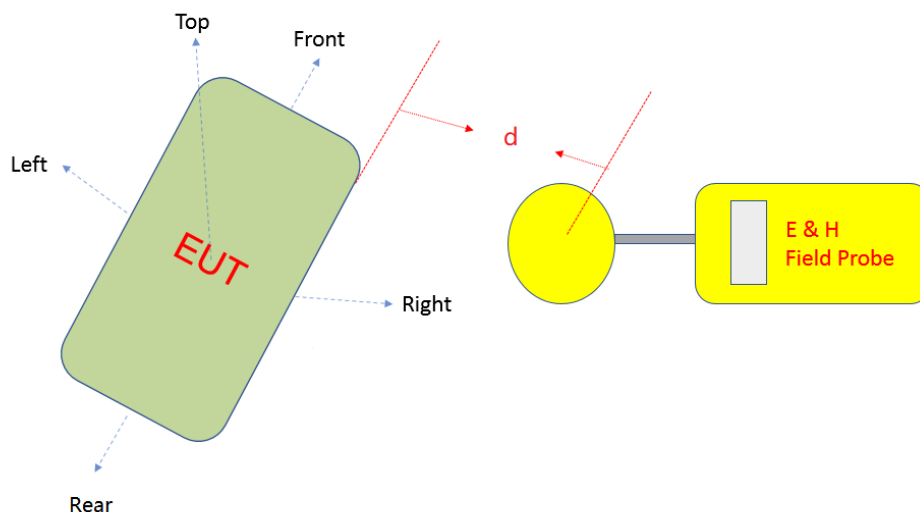
f= Frequency in MHz

* = Plane-wave equivalent power density

3.2. EQUIPMENT APPROVAL CONSIDERATIONS ON KDB 680106 D01v03

EQUIPMENT APPROVAL CONSIDERATIONS	COMPLY
1) Power transfer frequency is less than 1 MHz	Yes. Wireless operating frequency range: 110kHz ~ 148kHz
2) Output power from each primary coil is less than or equal to 15 watts.	Yes. Wireless maximum transmitted power: 5W Max.
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.	Yes. Only single primary.
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 3.7 of this report.

3.4. Test Mode

Test Mode
Mode 1: Communicate with load
Mode 2: Standby Mode

Note: The load is provided by the manufacturer, and it can control the EUT to be at the maximum output power state.

3.5. Test System Details

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model No.
Load	Kwong Ming	IDT_P9221_EV_Board

3.6. Test Environment Condition

Ambient Temperature	15°C ~ 35°C
Relative Humidity	20%RH ~ 75%RH

3.7. Test Result of RF Exposure Evaluation

Product	SYMFONISK charging shelf
Test Item	RF Exposure Evaluation
Test Mode	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	0.16	614	307	Pass
Rear	15	0.12	614	307	Pass
Left	15	0.14	614	307	Pass
Right	15	0.21	614	307	Pass
Top	20	0.46	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	0.248	1.63	0.815	Pass
Rear	15	0.227	1.63	0.815	Pass
Left	15	0.226	1.63	0.815	Pass
Right	15	0.242	1.63	0.815	Pass
Top	20	0.298	1.63	0.815	Pass

Product	SYMFONISK charging shelf
Test Item	RF Exposure Evaluation
Test Mode	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	0.05	614	307	Pass
Rear	15	0.06	614	307	Pass
Left	15	0.04	614	307	Pass
Right	15	0.04	614	307	Pass
Top	20	0.33	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	0.238	1.63	0.815	Pass
Rear	15	0.225	1.63	0.815	Pass
Left	15	0.226	1.63	0.815	Pass
Right	15	0.234	1.63	0.815	Pass
Top	20	0.282	1.63	0.815	Pass

_____ The End _____

Appendix A - EUT Photograph

Refer to “2108RSU057-UE” file.

Appendix B - Test Setup Photograph

Refer to “2108RSU057-UT” file.