

Test Report

Number: SHAH01446611

Applicant:

Date: 19 May, 2022

ZHEJIANG SUMMERSIDE SANITARY WARE
TECHNOLOGY CO., LTD
49 CHENGAN ROAD, LONGYOU ECONOMIC
DEVELOPMENT ZONE, DONGHUA STREET,
LONGYOU, QUZHOU, ZHEJIANG, CHINA
Attn: JOYCE

Sample Description:

One (1) group of submitted sample said to be :

Item Name : LED MIRROR
Item No. : H-1085F50 L 60XTRSF

Model/Type reference: H-abcdefgh

"H" stands for the abbreviation of client;

"a" could be 01-3999, stand for the shape of mirror (regular and irregular);

"b" could be F11-F50 or blank, stands for the power of Defogger, from 11 W to 50W, blank=no Defogger;

"c" could be L01-L60, stand for the power of LED strip, from 1W to 60 W;

"d" could be X or blank, X= with clock, blank= no clock;

"e" could be T or Blank, T=with touch switch, blank =without touch switch;

"f" could be R or Blank, R=with infrared sensor switch, blank = without infrared sensor switch;

"g" could be S or Blank, S=with mechanical switch, blank = without mechanical switch;

"h" could be cable plug. F=with cable plug, blank =without cable plug;

Packaging Provided By Applicant : Yes
Goods Exported To : Europe
Country Of Origin : China

Tests Conducted:

As requested by the applicant, for details refer to attached page(s).

Conclusion:

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Screened components of Submitted Sample	Restriction of the use of certain hazardous substance in electrical and electronic equipment(RoHS Directive 2011/65/EU and (EU) 2015/863)	Pass

To be continued

Authorized By:
Intertek Testing Services Ltd. Zhejiang



Peter Chen
General Manager



Test Report

Number: SHAH01446611

Tests Conducted

1. Certain Hazardous Substance in Electrical and Electronic Equipment

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0:2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances. And Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs) and Phthalates content were determined by Gas Chromatographic-Mass Spectrometric (GC-MS).

(A) Results:

Part No.	Screened Components	Refer Information	Items	XRF Results	Screened Results (phthalates)	Chemical Confirmation Result (mg/kg)	Conclusion On ROHS
1	SUPPORT (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
2	CONNECTOR (GREY PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
3	HOLDER (WHITE METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	



Test Report

Number: SHAH01446611

Tests Conducted

4	MIRROR (SILVER NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5	CONTROLLER						
5-1	COVER (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-2	HOUSING (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-3	SHROUD (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-4	CABLE CLAMP (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-5	HOUSING (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-6	LABEL (SILVER NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-7	GLUE (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-9	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-10	IC	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-11	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
5-12	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-13	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-14	SOCKET (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-15	CABLE CLAMP (GREEN PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-16	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-17	HOUSING (GREY PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-18	LED	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-19	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-20	TRIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-21	IC	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-22	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
5-23	HOUSING (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-24	GLUE (PURPLE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-25	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-26	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-27	CABLE CLAMP (GREEN PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-28	SHROUD (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-29	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-30	SHEET (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
5-31	DIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-32	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-33	INDUCTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
5-34	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-35	TRIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-36	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-37	TAPE (YELLOW NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-38	IRON CORE (BLACK METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
5-39	SUPPORT (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-40	COIL (COPPER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
5-41	ENAMELLED WIRE (YELLOW METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
5-42	BRIDGE DIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-43	DIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
5-44	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	X		436 ppm	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
5-45	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
			6	SCREEN			
6-1	LABEL (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-2	HOUSING (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-3	CABLE CLAMP (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-4	DISPLAY	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-5	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-6	TRIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-7	PCB	/	Cd	P	NA	/	PASS



Test Report

Number: SHAH01446611

Tests Conducted

			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
6-8	IC	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P	P	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
6-9	CRYSTAL OSCILLATOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P	P	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
6-10	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X	P	PBB=ND PBDE=ND	
			DEHP	NA		/	
			BBP	NA		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DBP	NA	P	/	
			DIBP	NA	P	/	
7	HEATING PAD (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
8	CONNECTING WIRE						
8-1	TAPE (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
8-2	SUPPORT (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
8-6	WIRE (COPPER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
9	SUPPORT						
9-1	SUPPORT (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
9-2	PLUG (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
10	HOLDER						
10-1	HOLDER (GREY PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DBP	NA	P	/	
			DIBP	NA	P	/	
10-2	CABLE CLAMP (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
10-3	RUBBER STRIP (GREY NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
11	LED BAND						
11-1	COVER (WHITE METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
11-2	MAGNET (BLACK METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Cr	P	NA	/	
			Br	NA		/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
			DIBP	NA		/	
11-3	GLUE (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
11-4	GLUE (CLEAR NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
11-5	LED	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

11-6	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	X		592 ppm	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
11-7	SOLDER (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
11-8	LIGHT STRIP	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12	LED POWER SUPPLY						
12-1	COVER (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-2	LABEL (SILVER NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-3	CABLE CLAMP (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-4	CABLE CLAMP (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-5	LABEL (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-6	COVER (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-7	CABLE CLAMP (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-8	LED	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
12-9	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-10	IC	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-11	TRIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-12	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-13	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
			12-14	HOUSING (WHITE PLASTIC)	/	Cd	
Pb	P	/					
Hg	P	/					
Cr	P	/					
Br	P	/					
DEHP	NA	P				/	
BBP	NA	P				/	
DBP	NA	P				/	
DIBP	NA	P				/	
12-15	HOLDER (ORANGE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-16	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-17	INDUCTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-18	CABLE CLAMP (GREEN PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-19	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	P	/	
12-20	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-21	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-22	GLUE (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-23	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-24	CABLE CLAMP (BLUE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-25	DIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-26	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-27	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-28	CAPACITOR	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-29	TAPE (YELLOW NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-30	SHEET COPPER (COPPER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	



Test Report

Number: SHAH01446611

Tests Conducted

			DIBP	NA	NA	/	
12-31	ENAMELLED WIRE (YELLOW METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
12-32	IRON CORE (BLACK METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
12-33	SUPPORT (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-34	COIL (COPPER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
12-35	BRIDGE DIODE	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-37	RESISTOR	/	Cd	P	NA	/	PASS
			Pb	X		571 ppm	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
12-38	PCB	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
13	BUTTON						
13-1	COVER	/	Cd	P	NA	/	PASS



Test Report

Number: SHAH01446611

Tests Conducted

	(CLEAR NONMETAL)		Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
13-2	HOUSING (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P	P	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
13-3	CONTACT DOT (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA	NA	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
13-4	CONTACT PLATE (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA	NA	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	



Test Report

Number: SHAH01446611

Tests Conducted

			DBP	NA	NA	/	
			DIBP	NA	NA	/	
13-5	SOLDER (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
14	LED						
14-1	HOUSING (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
14-2	NUT (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
14-3	MAT (ORANGE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
14-4	GLUE (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X	P	PBB=ND PBDE=ND	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
			DIBP	NA		/	
14-5	LED	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P	P	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
			DIBP	NA		/	
14-6	LED	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P	P	/	
			DEHP	NA		/	
			BBP	NA		/	
			DBP	NA		/	
			DIBP	NA		/	



Test Report

Number: SHAH01446611

Tests Conducted

14-7	LAMPSHADE (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
15	CABLE CLAMP						
15-1	CABLE CLAMP (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
15-2	TAPE (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16	POWER CORD						
16-1	PLUG SHELL (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Br	P		/	
			DEHP	NA	X	436 ppm	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16-2	INNER STENT (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	X		PBB=ND PBDE=ND	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16-4	WIRE JACKET (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16-5	THERMAL SHRINKAGE TUBE (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16-6	COVER	/	Cd	P	NA	/	PASS



Test Report

Number: SHAH01446611

Tests Conducted

	(BLUE PLASTIC)		Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
16-7	COVER (RED PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17	CONNECTING WIRE						
17-1	PLUG (WHITE PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-2	WIRE JACKET (YELLOW NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-3	WIRE JACKET (WHITE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-4	WIRE JACKET (RED NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-5	WIRE JACKET (BLACK NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-6	WIRE JACKET (BLUE NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	



Test Report

Number: SHAH01446611

Tests Conducted

			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	X	156 ppm	
			DIBP	NA	P	/	
17-7	PLUG (BLACK PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	
17-9	WIRE (SILVER METAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	NA		/	
			DEHP	NA	NA	/	
			BBP	NA	NA	/	
			DBP	NA	NA	/	
			DIBP	NA	NA	/	
17-10	WIRE JACKET (GREY NONMETAL)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	



Test Report

Number: SHAH01446611

Tests Conducted

17-11	PLUG (RED PLASTIC)	/	Cd	P	NA	/	PASS
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP	NA	P	/	
			DBP	NA	P	/	
			DIBP	NA	P	/	

P = Pass (Below the lower screening limits of table (B1 or B2))

X = Inconclusive result (Further chemical test was suggested (see table (B1 or B2).))

F = Fail (Exceeded the upper screening limits of table (B1))

NA = Not applicable

ND = Not detected

$\mu\text{g}/\text{cm}^2$ = Microgram per square centimeter

NT = Not tested

Negative = The Cr (VI) concentration is less than $0.10 \mu\text{g}/\text{cm}^2$. The sample is negative for Cr (VI).

Inconclusive = The Cr (VI) concentration is between $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$. The result is considered to be inconclusive. Unavoidable coating variations may influence the determination.

Positive = The sample is positive for Cr (VI) is based on visual comparison only. Sample solution is significantly more intense than the $0.13 \mu\text{g}/\text{cm}^2$ equivalent comparison standard. No colorimetric measurement was performed.

Remark:

As requested by the applicant, only selected components listed in this report were tested.

(B) Screening Limits

(B1) XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices (mg/kg):

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

(B2) Preliminary screening test will be used for phthalates, if the results exceed the warning area in the following table, further chemical methods will be conducted to confirm the exact content by GC/MS. (mg/kg)

Phthalates	Polymer
Bis(2-ethylhexyl)phthalate(DEHP)	$P \leq 600 < X$
Butyl benzyl phthalate(BBP)	$P \leq 600 < X$
Dibutyl phthalate(DBP)	$P \leq 600 < X$



Test Report

Number: SHAH01446611

Tests Conducted

Diisobutyl phthalate(DIBP)	P ≤600<X
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(C) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices (mg/kg):

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

Disclaimers:

This XRF Screening and Chemical Confirmation Test Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis is required to obtain quantitative data.

(D) Chemical Test Methods:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4 Edition 1.1: 2017, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content	With reference to IEC 62321-7-1 Edition 1.0:2015, by boiling water extraction and determined by UV-VIS spectrophotometer	Positive(>0.13 µg/cm ²) / Negative(<0.10 µg/cm ²) / Inconclusive(0.10µg/cm ² --0.13 µg/cm ²)
Chromium (VI)(Cr ⁶⁺) Content	With reference to IEC 62321-7-2 Edition 1.0:2017, by alkaline digestion and determined by UV-VIS Spectrophotometer	10 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs) Content	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg
Phthalates (DEHP, BBP, DBP, DIBP) Content	With reference to IEC 62321-8 Edition 1.0:2017,by solvent extraction and determined by GC/MS	100mg/kg



Test Report

Number: SHAH01446611

Tests Conducted
(E) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Phthalates(DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.

Remark:

Tested Model: H-1085F50 L 60XTRS

Reference Model: Model/Type reference: H-abcdefgh

"H" stand for the abbreviation of client;

"a" could be 01-3999, stand for the shape of mirror (regular and irregular);

"b" could be F11-F50 or blank, stands for the power of Defogger, from 11 W to 50W, blank=no Defogger;

"c" could be L01-L60, stand for the power of LED strip, from 1W to 60W;

"d" could be X or blank, X= with clock, blank= no clock;

"e" could be T or Blank, T=with touch switch, blank =without touch switch;

"f" could be R or Blank, R=with infrared sensor switch, blank = without infrared sensor switch;

"g" could be S or Blank, S=with mechanical switch, blank = without mechanical switch;

"h" could be cable plug. F=with cable plug, blank =without cable plug;

H-1087L15(1162261-60), H-1088L15(1162261-80), H-1089L15(1162261-90), H-1090L15 (1162261-100), H-1091L15(1162261-120), H-1093L9(1162275-120), H-1094L9(1162275-100), H-1095L9(1162275-90), H-1096L9(1162275-80), H-1097L9(1162275-60), H-1280L8S(BR 8045 8704 S), H-1281L15S, H-1281F40L15S, H-1282L15S(BR 7080 8700 S), H-1282F50L15S, H-1283L15S, H-1284L15S(BR 70100 8701 S), H-1284F50L15S, H-1285L20S(BR 70120 8702 S), H-1285F50L20S, H-1286L20S(BR 70140 8703 S), H-1286F50L20S, H-1287L20S(BR 7090 8711 S), H-1287F50L20S, H-1288L15S, H-1288F40L15S (BR 7075 8710 S), H-2289F25L25S(BT 0075 8712 S), H-2290L20S(BT 0060 8714 S), H-2290L20R, H-1293L8T(980.835020), H-1294L8T(980.837020), H-1295L8T(980.839020), H-1296L8T (980.831120), H-1297L15T(980.835021), H-1298L15T(980.837021), H-1299L20T(980.839021), H-1300L20T(980.831121), H-1301L20T(980.831421), H-1302L15T(S17-FSP06-700x600EK), H-1303L15T(S17-FSP08-700x700EK), H-1304L20T, H-1304L15T(S17-FSP10-700x800EK), H-1305L20T(S17-FSP12-700x900EK), H-1306L20T(S17-FSP14-700x1000EK), H-1307L20T(S17-FSP20-700x1200EK), H-2291L20T(FEENS2170EK), H-2291L15T, H-2292L15T(980.836024), H-3061L20, H-1308L15R(980.836023), H-1309L15R(980.837023), H-1310L15XT(980.835022), H-1311L15XT, H-1312L20XT, H-1313L20XT, H-1319L8T, H-1320L8T, H-1321L8T, H-1322L8T

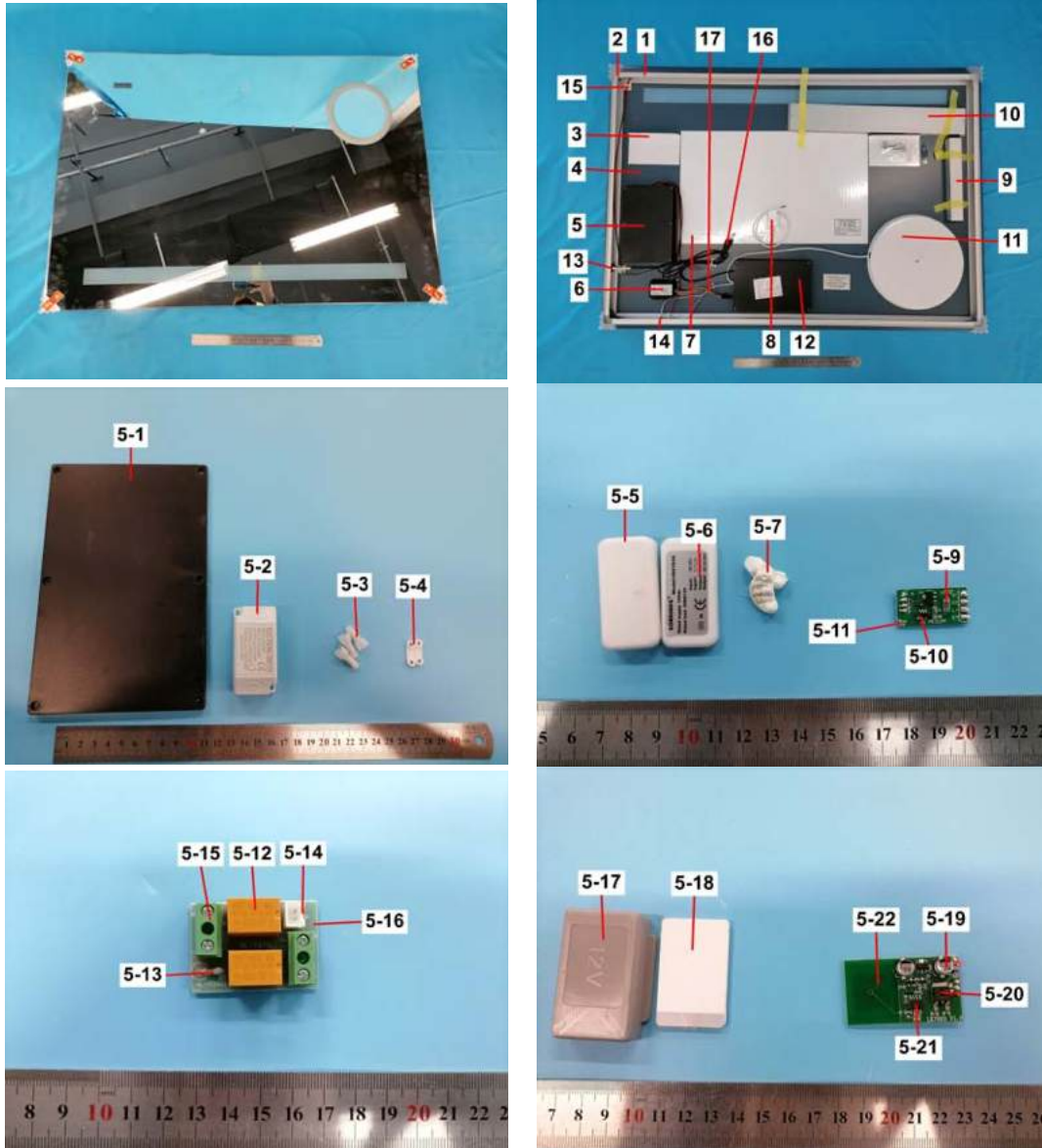


Test Report

Number: SHAH01446611

Tests Conducted

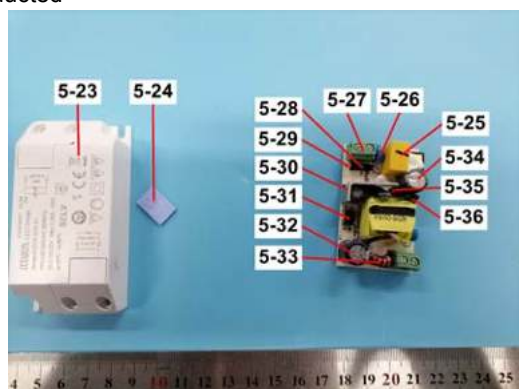
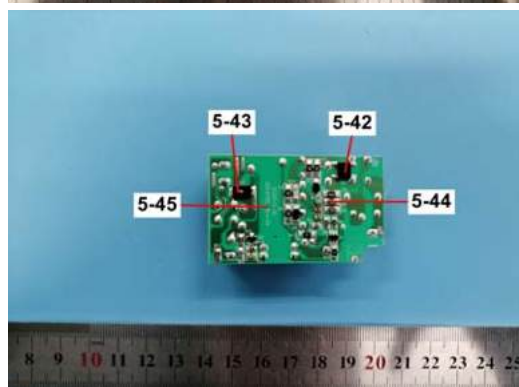
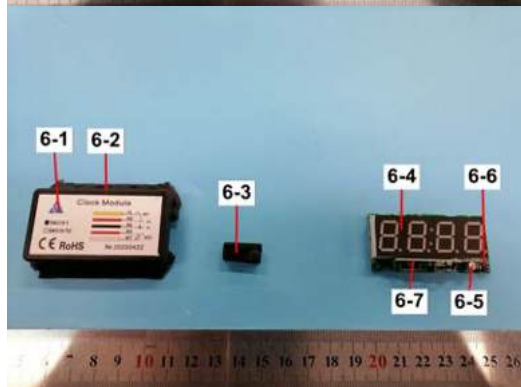
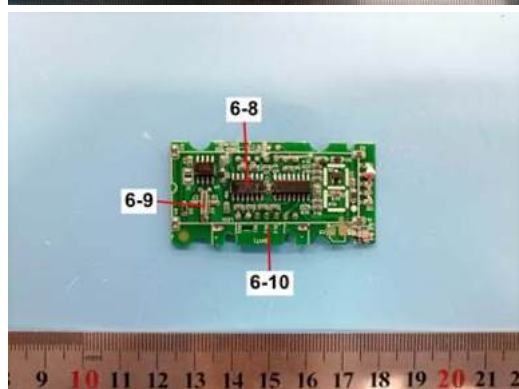
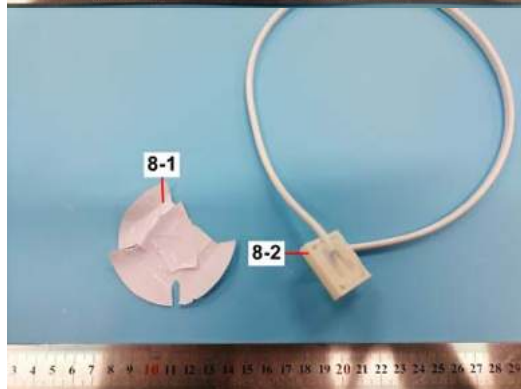
Remark: Test Item is subcontracted to the organization accredited by CNAS with code of CNAS L3439.



Test Report

Number: SHAH01446611

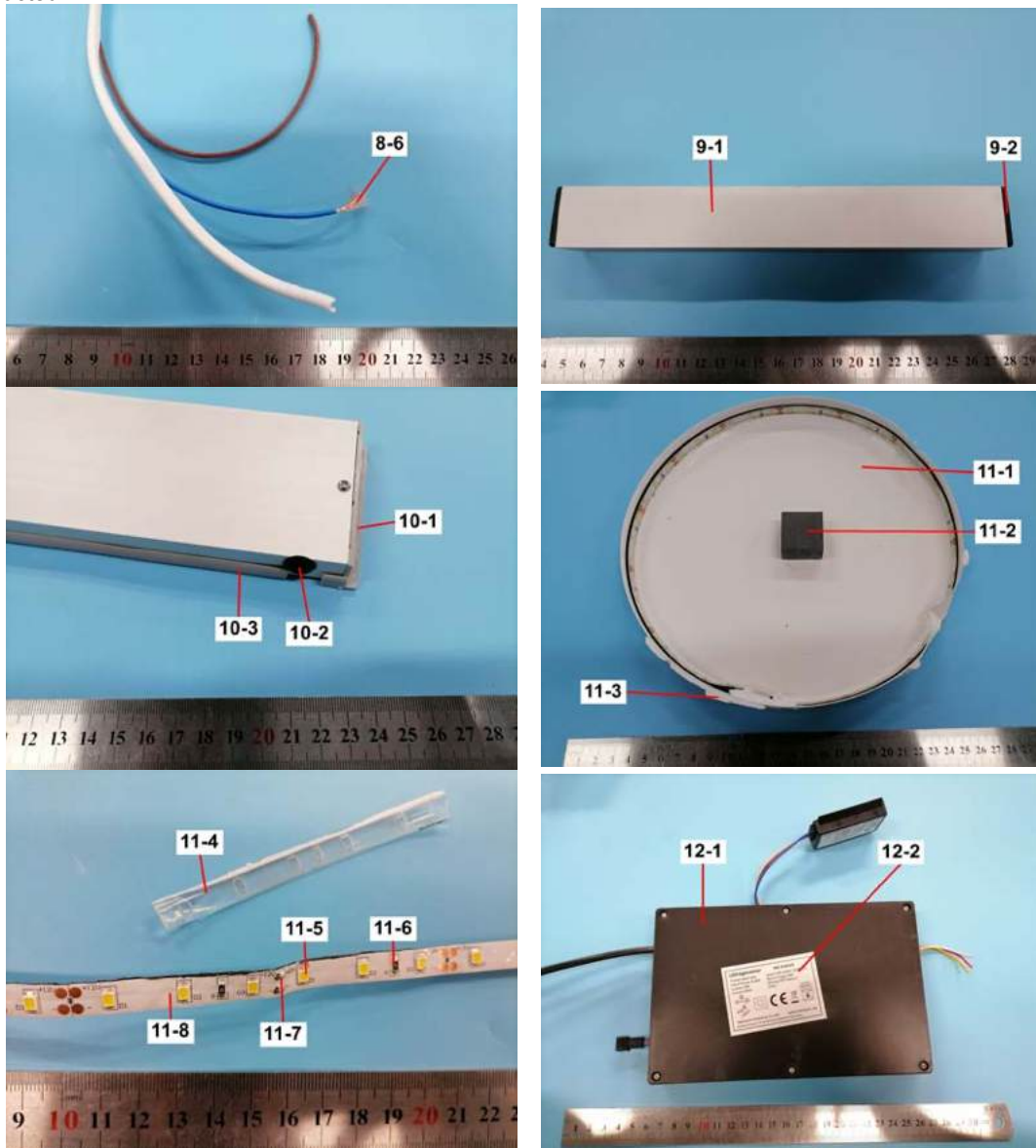
Tests Conducted



Test Report

Number: SHAH01446611

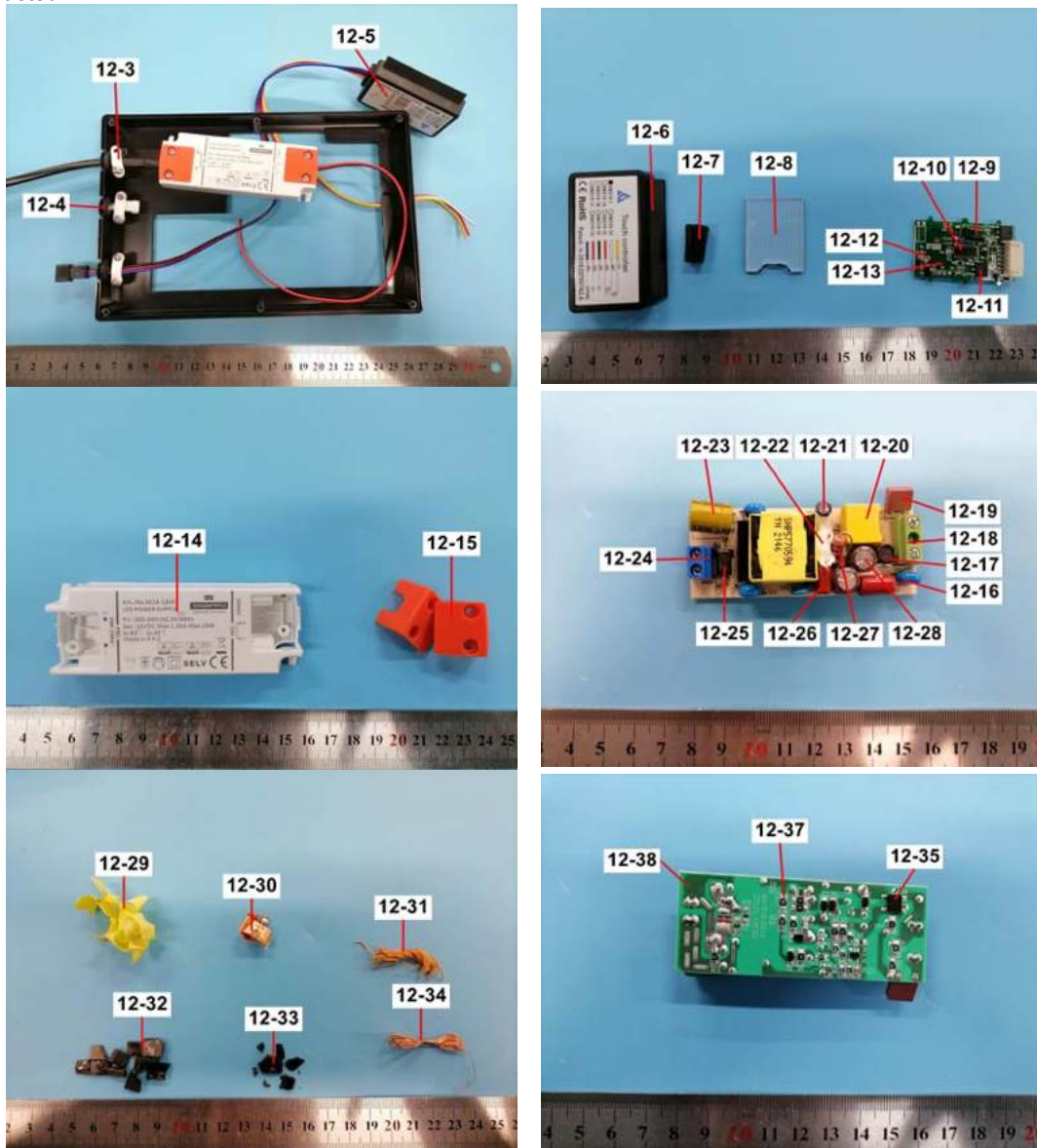
Tests Conducted



Test Report

Number: SHAH01446611

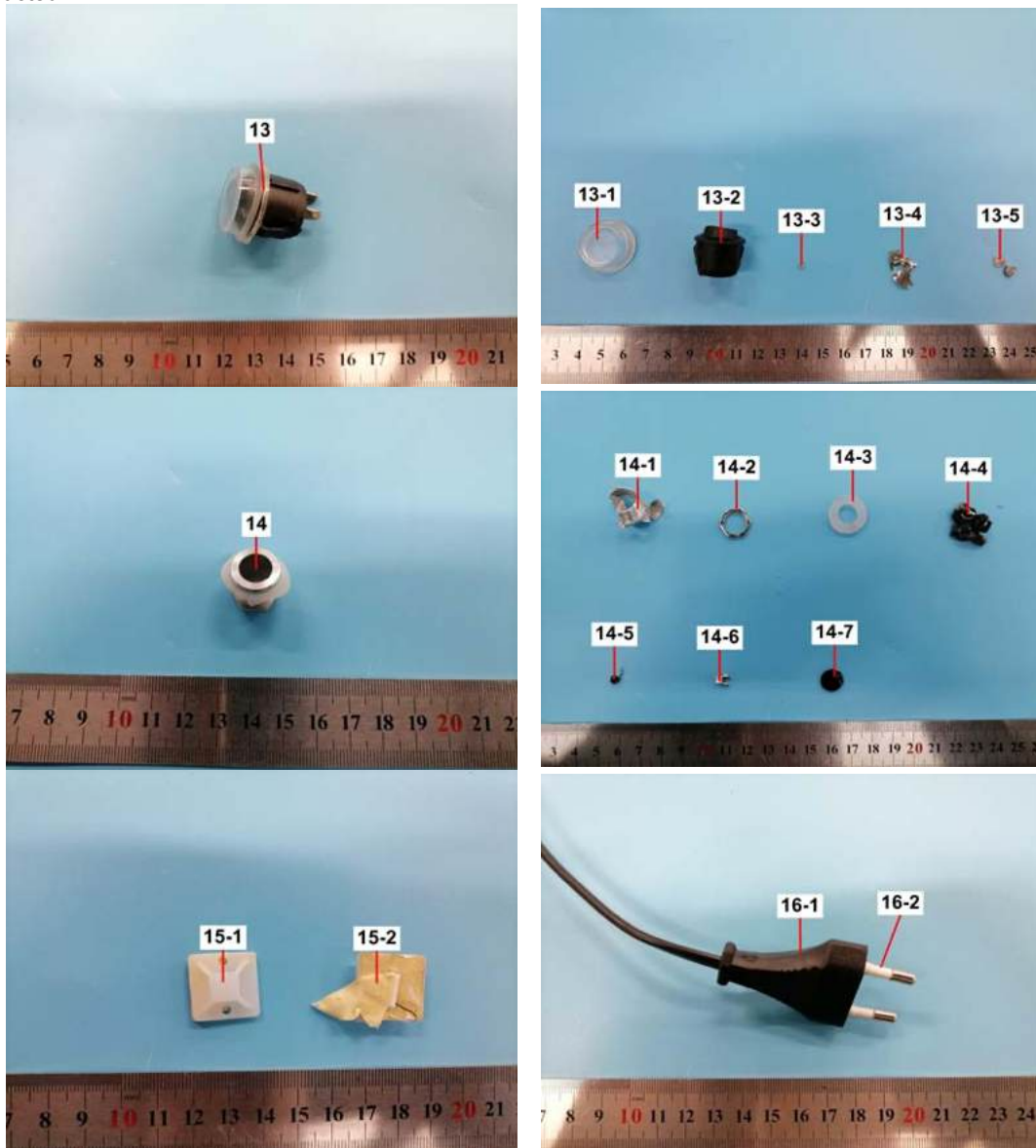
Tests Conducted



Test Report

Number: SHAH01446611

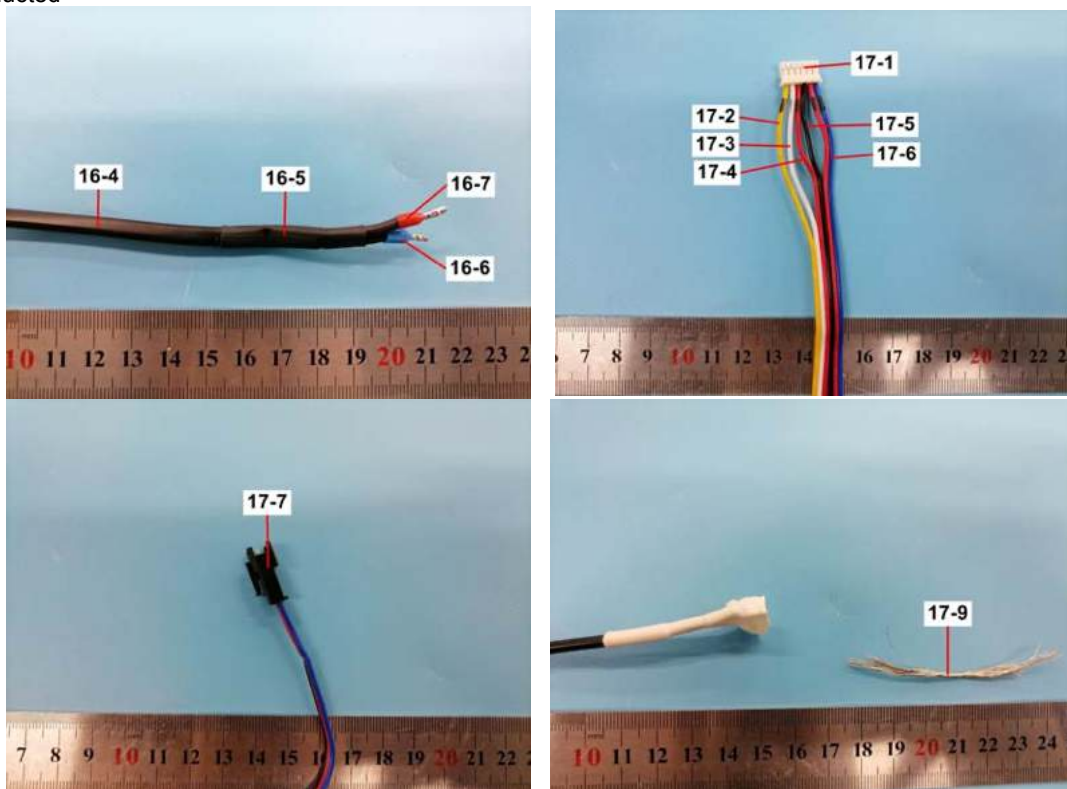
Tests Conducted



Test Report

Number: SHAH01446611

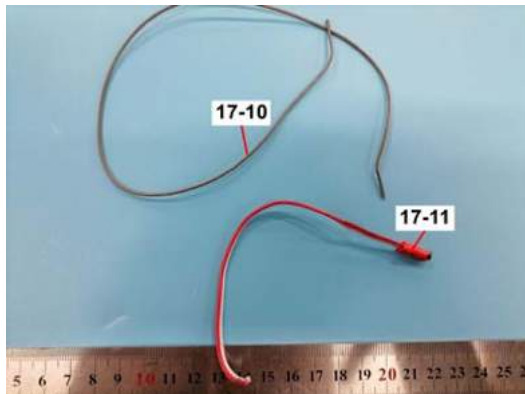
Tests Conducted



Test Report

Number: SHAH01446611

Tests Conducted



Date sample received: Mar 26, 2022

Testing period: Mar 26, 2022 to May 17, 2022

End of report

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VERIFICATION OF COMPLIANCE

Verification No.: SHEM200400262501LMC

Applicant: ZHEJIANG SUMMERSIDE SANITARY WARE TECHNOLOGY CO., LTD

Address of Applicant: LONGYOU ECONOMIC DEVELOPMENT ZONE, DONGHUA STREET, LONGYOU, QUZHOU, ZHEJIANG 325400

Product Description: LED MIRROR

Model No.: H-1085F50L60XTRSF, H-1298L15T (980.837021),
H-2291L20T (FEENS2170EK), H-1298L8T (980.835020),
H-A-B-C-D-E-F
(“H” stand for the abbreviation of client;
“A” could be 01-3999, stand for the shape of mirror (regular and irregular);
“B” could be F11-F50 or blank, stands for the power of Defogger, from 11W to 50W, blank=no Defogger;
“C” could be L01-L60, stand for the power of LED strip, from 1W to 60W;
“D” could be X or blank, X= with clock, blank= no clock;
“E” could be T, R, S or Blank, T=with touch switch; R=with infrared sensor switch, S=with mechanical switch;
“F” could be cable plug. F=with cable plug, blank =without cable plug.)

Sufficient samples of the product have been tested and found to be in conformity with

Test Standards: EN IEC 55015:2019+A11:2020
EN IEC 61000-3-2:2019+A1:2020
EN 61000-3-3:2013+A1:2019
EN 61547:2009

As shown in the

Test Report Number(s): SHEM200400262501

This verification of EMC Compliance has been granted to the applicant based on the results of the tests, performed by laboratory of SGS-CSTC Standards Technical Services Co., Ltd. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards under Directive 2014/30/EU. The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Parlan Zhan

Parlan Zhan
Laboratory Manager



Date: 2021-12-06

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VERIFICATION OF COMPLIANCE

No.: LVD NBES2112006384LM

Applicant: Zhejiang Summerside Sanitary Ware Technology Co., Ltd
49 Chengnan Road, Longyou Economic Development Zone,
Donghua Street, Longyou, Quzhou, Zhejiang, China

Manufacturer: Same as applicant

Product Name: LED Luminaire

Product Description: Fixed Luminaire

Model No.: See Page 2

Trade Mark: SUMMERSIDE / KODA

Rating: 220 V - 240 V; 50 Hz / 60 Hz; Max.110 W; Ta: 30 °C

Protection against Electric Shock: Class II

Degree of Protection: IP44

Additional Information: None

Sufficient samples of the product have been tested and found to be in conformity with

Test Standard: EN IEC 60598-1:2021
EN IEC 60598-2-1:2021

as shown in the

Test Report Number(s): NBES211200638401

This Verification of Compliance has been granted to the applicant based on the results of tests, performed by Laboratory of SGS-CSTC Standards Technical Services Co., Ltd. on sample of the above-mentioned product in accordance with the provisions of the relevant harmonized standards under the Low Voltage Directive 2014/35/EU. The CE marking as shown below can be affixed, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The affixing of the CE marking presumes in addition that the conditions in annexes III and IV of the Directive are fulfilled.



Leo Du

Lab Manager

SGS-CSTC



2022-03-31

This verification is issued by the company under its General Conditions of Services accessible at <https://www.sgs.com/en/terms-and-conditions>. Attention is drawn to the limitations of liability defined therein and in the Test Report here above mentioned which findings are reflected in this verification. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Member of SGS Group (Société Générale de Surveillance)

No.:

LVD NBES2112006384LM

Other information added:

Model/Type reference: H-abcdefgh

“H” stands for the abbreviation of client;

“a” could be 01-3999, stand for the shape of mirror (regular and irregular);

“b” could be F11-F50 or blank, stands for the power of Defogger, from 11 W to 50W, blank=no Defogger;

“c” could be L01-L60, stand for the power of LED strip, from 1W to 60 W;

“d” could be X or blank, X= with clock, blank= no clock;

“e” could be T or Blank, T=with touch switch, blank =without touch switch;

“f” could be R or Blank, R=with infrared sensor switch, blank = without infrared sensor switch;

“g” could be S or Blank, S=with mechanical switch, blank = without mechanical switch;

“h” could be cable plug. F=with cable plug, blank =without cable plug;

Additional model:

Additional model	Maximum rated power (W)	Corresponding to the above model
BR 8045 8704 S	8	H-1280L8S
BR 7080 8700 S	15	H-1282L15S
BR 70100 8701 S	15	H-1284L15S
BR 70120 8702 S	20	H-1285L20S
BR 70140 8703 S	20	H-1286L20S
BR 7090 8711 S	70	H-1287F50L20S
BR 7075 8710 S	55	H-1288F40L15S
BT 0075 8712 S	50	H-2289F30L20S
980.835020	8	H-1293L8T
980.837020	8	H-1294L8T
980.839020	8	H-1295L8T
980.831120	8	H-1296L8T
980.835021	15	H-1297L15T
980.837021	15	H-1298L15T
980.839021	20	H-1299L20T

Leo Du

Lab Manager

SGS-CSTC

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980.831121	20	H-1300L20T
980.831421	20	H-1301L20T
S17-FSP06-700X600EK	15	H-1302L15T
S17-FSP08-700X700EK	15	H-1303L15T
S17-FSP10-700X800EK	15	H-1304L15T
S17-FSP12-700X900EK	20	H-1305L20T
S17-FSP14-700X1000EK	20	H-1306L20T
S17-FSP20-700X1200EK	20	H-1307L20T
FEENS2170EK	20	H-2291L20T
980.836024	15	H-2292L15T
980.836023	15	H-1308L15R
980.837023	15	H-1309L15R
980.835022	15	H-1310L15XT
980.837022	15	H-1311L15XT
980.839022	20	H-1312L20XT
980.831122	20	H-1313L20XT
1162275-120	9	H-1093L9
1162275-100	9	H-1094L9
1162275-90	9	H-1095L9
1162275-80	9	H-1096L9
1162275-60	9	H-1097L9
1162258	15	H-1086L15
1162261-60	15	H-1087L15
1162261-80	15	H-1088L15
1162261-90	15	H-1089L15
1162261-100	15	H-1090L15
1162261-120	15	H-1091L15

Leo Du

Lab Manager

SGS-CSTC

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2022-03-31



TEST REPORT

Application No.: SHEM2004002625LM
Applicant: ZHEJIANG SUMMERSIDE SANITARY WARE TECHNOLOGY CO., LTD
Address of Applicant: LONGYOU ECONOMIC DEVELOPMENT ZONE,DONGHUA STREET, LONGYOU, QUZHOU, ZHEJIANG 325400
Manufacturer: ZHEJIANG SUMMERSIDE SANITARY WARE TECHNOLOGY CO., LTD
Address of Manufacturer: LONGYOU ECONOMIC DEVELOPMENT ZONE,DONGHUA STREET, LONGYOU, QUZHOU, ZHEJIANG 325400
Factory: ZHEJIANG SUMMERSIDE SANITARY WARE TECHNOLOGY CO., LTD
Address of Factory: LONGYOU ECONOMIC DEVELOPMENT ZONE,DONGHUA STREET, LONGYOU, QUZHOU, ZHEJIANG 325400
Equipment Under Test (EUT):
EUT Name: LED MIRROR
Model No.: Refer to page 2
☐ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: KODA
Standard(s) : EN IEC 55015:2019+A11:2020
EN IEC 61000-3-2:2019+A1:2020
EN 61000-3-3:2013+A1:2019
EN 61547:2009
Date of Receipt: 2020-04-09
Date of Test: 2020-04-27 & 2021-11-27
Date of Issue: 2021-12-06

Test Result:	Pass*
---------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.

Parlan Zhan

Parlan Zhan
Laboratory Manager



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Model No.:

H-1085F50L60XTRSF, H-1298L15T (980.837021), H-2291L20T (FEENS2170EK), H-1298L8T (980.835020), H-A-B-C-D-E-F

(“H”stand for the abbreviation of client;

“A”could be 01-3999, stand for the shape of mirror (regular and irregular);

“B”could be F11-F50 or blank, stands for the powerof Defogger, from 11W to 50W, blank=no Defogger;

“C”could be L01-L60, stand for the power of LED strip, from 1W to 60W;

“D”could be X or blank, X= with clock, blank= no clock;

“E”could be T, R, S or Blank, T=with touch switch; R=with infrared sensor switch, S=with mechanical switch;

“F”could be cable plug. F=with cable plug, blank =withoutcable plug.)



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-12-06	/

Authorized for issue by:			
			
		Andy Yang /Project Engineer	
			
		Bruce Tang /Reviewer	



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2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (9kHz-30MHz)	EN IEC 55015:2019+A11:2020	EN IEC 55015:2019+A11:2020	N/A	Pass
Radiated Emissions (30MHz-1000MHz)	EN IEC 55015:2019+A11:2020	CISPR 32:2015	N/A	Pass
Radiated Emissions (Magnetic field Induced Current) (9kHz-30MHz)	EN IEC 55015:2019+A11:2020	EN IEC 55015:2019+A11:2020	N/A	Pass
Harmonic Current Emission	EN IEC 61000-3-2:2019+A1:2020	EN IEC 61000-3-2:2019+A1:2020	Class C	Pass
Voltage Fluctuations and Flicker	EN 61000-3-3:2013+A1:2019	EN 61000-3-3:2013+A1:2019	Clause 5 of EN 61000-3-3	Pass

N/A: Not applicable

Immunity Part				
Item	Standard	Method	Requirement	Result
Electrostatic Discharge	EN 61547:2009	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass
Radiated Immunity (80MHz-1GHz)	EN 61547:2009	EN 61000-4-3:2006 +A1:2008+A2:2010	3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical Fast Transients/Burst at Power Port	EN 61547:2009	EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Surge at Power Port	EN 61547:2009	EN 61000-4-5:2014 +A1:2017	1.2/50µs Tr/Td ≤25W 0.5kV Line to Line 1kV Line to Ground >25W 1kV Line to Line 2kV Line to Ground	Pass
Conducted Immunity at Power Port (150kHz-80MHz)	EN 61547:2009	EN 61000-4-6:2014	3Vrms (emf), 80%, 1kHz Amp. Mod.	Pass
Voltage Dips and Interruptions	EN 61547:2009	EN 61000-4-11:2004 +A1:2017	0 % UT for 0.5per 70 % UT for 10per UT is Supply Voltage	Pass

N/A: Not applicable



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Note: Declaration of EUT Family Grouping:

There are series models mentioned in this report and they are the similar in electrical and electronic characters. Only the model H-1085F50L60XTRSF, H-1298L15T (980.837021), H-2291L20T (FEENS2170EK), H-1298L8T (980.835020) was tested since their differences are appearance and model number.



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3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	4
3 CONTENTS	6
4 GENERAL INFORMATION	7
4.1 DETAILS OF E.U.T.	7
4.2 DESCRIPTION OF SUPPORT UNITS	7
4.3 MEASUREMENT UNCERTAINTY	7
4.4 TEST LOCATION	8
4.5 TEST FACILITY	8
4.6 DEVIATION FROM STANDARDS	8
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	8
4.8 MONITORING OF EUT FOR ALL IMMUNITY TEST	8
5 EQUIPMENT LIST	9
6 EMISSION TEST RESULTS	12
6.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (9kHz-30MHz)	12
6.2 RADIATED EMISSIONS (30MHz-1000MHz)	21
6.3 RADIATED EMISSIONS (MAGNETIC FIELD INDUCED CURRENT)(9kHz-30MHz)	30
6.4 HARMONIC CURRENT EMISSION	43
6.5 VOLTAGE FLUCTUATIONS AND FLICKER	56
7 IMMUNITY TEST RESULTS	58
7.1 PERFORMANCE CRITERIA DESCRIPTION IN EN 61547:2009	58
7.2 ELECTROSTATIC DISCHARGE	59
7.3 RADIATED IMMUNITY (80MHz-1GHz)	60
7.4 ELECTRICAL FAST TRANSIENTS/BURST AT POWER PORT	61
7.5 SURGE AT POWER PORT	62
7.6 CONDUCTED IMMUNITY AT POWER PORT (150kHz-80MHz)	63
7.7 VOLTAGE DIPS AND INTERRUPTIONS	64
8 PHOTOGRAPHS	65
8.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (9kHz-30MHz) TEST SETUP	65
8.2 RADIATED EMISSIONS (30MHz-1000MHz) TEST SETUP	67
8.3 RADIATED EMISSIONS (MAGNETIC FIELD INDUCED CURRENT)(9kHz-30MHz) TEST SETUP	69
8.4 HARMONIC CURRENT EMISSION & VOLTAGE FLUCTUATIONS AND FLICKER TEST SETUP	71
8.5 ELECTROSTATIC DISCHARGE TEST SETUP	73
8.6 RADIATED IMMUNITY (80MHz-1GHz) TEST SETUP	75
8.7 ELECTRICAL FAST TRANSIENTS/BURST AT POWER PORT TEST SETUP	77
8.8 SURGE AT POWER PORT TEST SETUP	79
8.9 CONDUCTED IMMUNITY AT POWER PORT (150kHz-80MHz) TEST SETUP	81
8.10 VOLTAGE DIPS AND INTERRUPTIONS TEST SETUP	83
8.11 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	85



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4 General Information

4.1 Details of E.U.T.

Power supply: AC 220-240V, 50/60 Hz, 60W for model H-1085F50L60XTRSF,
AC 220-240V, 50/60 Hz, 15W for model H-1298L15T (980.837021),
AC 220-240V, 50/60 Hz, 20W for model H-2291L20T (FEENS2170EK),
AC 220-240V, 50/60 Hz, 8W for model H-1298L8T (980.835020).

Test voltage: AC 230V 50Hz

Cable: AC cable 1.4m

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission at mains port using AMN	2.6dB (9kHz to 150kHz)
		2.4dB (150kHz to 30MHz)
2	Conducted Emission at mains port using VP	1.8 dB (9kHz to 30MHz)
3	Conducted Emission at telecommunication port using AAN	4.2 dB (150kHz to 30MHz)
4	Radiated Power	3.2dB
5	Radiated Emission	4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
6	Radiated Disturbance (disturbance current in a LLAS)	2.4dB (9kHz to 30MHz)

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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4.4 Test Location

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

All tests were sub-contracted.

Ningbo Joysun Product Testing Service Co., Ltd.

No. 66, Qingyi Road, Hi-Tech Distric, Ningbo, Zhejiang, China

4.5 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 6332.01)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- **FCC (Designation Number: CN1301)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 8617A

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: Monitor the lamp lighting.



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5 Equipment List

CE

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
EMI receiver	ESCI	100708	R&S	2022/3/8
Artificial mains network	ENV216	101022	R&S	2022/3/8
Artificial mains network	ESH2-Z5	100198	R&S	2022/3/8
Pulse Limiter	ESH3-Z2	100847	R&S	2022/3/8
Control Room2	(11.2*5.2*3.3)	N/A	Albatross	2022/3/2

RE Loop

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
EMI receiver	ESCI	101213	R&S	2022/3/8
Three ring antenna	SWB-HXYZ9170	175	SCHWARZBECK	2022/3/8
Shielding Room1	(10*6.1*3.3)	N/A	Albatross	2022/3/2

RE

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
EMI receiver	ESU26	100224	R&S	2022/3/8
Combined antenna	VULB 9163	9163-563	SCHWARZBECK	2024/1/25
Horn antenna	HF907	100147	R&S	2022/3/27
Preamplifier	SCU18	10042	R&S	2022/3/8
Semi -Anechoic Chamber	3M (9.1*5.8*5.7)	N/A	Albatross	2023/1/2
EMI receiver	ESR 7	101203	R&S	2022/3/8
Combined antenna	VULB 9163	9163-560	SCHWARZBECK	2022/3/27
Semi -Anechoic Chamber	5M (12.1*7.3*6)	N/A	Albatross	2023/1/2

Harmonic & Voltage Fluctuations and Flicker

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Harmonic and flicker test system	DPA500	V0746103124	EM TEST	2022/3/8
AC Power Source	500lix-400-413	58311	CI	2022/3/8
Shielding Room1	(10*6.1*3.3)	N/A	Albatross	2022/3/2
Harmonic and flicker test system(3phase)	DPA503	V0828104013	EM TEST	2022/3/8
AC Power Source	61705	617050000124	Chroma	2022/3/8
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2022/3/2

ESD

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
ESD gun	dito	DITO B07040	EM TEST	2022/3/8



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EFT

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Burst test system	NX8-3-690-32	P2111250014	EM TEST	2022/3/8
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2022/3/8
booster	MV2616	V0746103126	EM TEST	2022/3/8
Coupling clamp	HFK	0108-27	EM TEST	2022/3/8
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2022/3/2

Surge

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Surge test system	VCS 500N8.5	P2051246299	EM TEST	2022/3/8
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2022/3/8
booster	MV2616	V0746103126	EM TEST	2022/3/8
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2022/3/2

Dips

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Dip test system	PFS 503N32	P2051246036	EM TEST	2022/3/8
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2022/3/8
booster	MV2616	V0746103126	EM TEST	2022/3/8
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2022/3/2

CI

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Attenuator	75-A-FFN-06	1606	BIRD	2022/3/8
CDN for Two/There Supply Main Line	CDN-M2+3	A2210412/2016	Frankonia	2022/3/8
Decoupling network	F-203I-23MM-DCN	8225	FISCHER	2022/3/8
EM injection clamp	F-203I-23MM	8562	FISCHER	2022/3/8
Conduct Immunity Test System	CIT-10-75	126B1413/2016	Frankonia	2022/3/8
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2022/3/2

RI

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Semi -Anechoic Chamber	3M (9.1*5.8*5.7)	N/A	Albatross	2023/1/2
LOGPERIODIC ANTENNA	AT1080	325189	AR	2022/3/8
Horn antenna	AT4002A	328236	AR	2022/3/8
Coupling/Decoupling Network	DC6180M1	328058	AR	2022/3/8
Coupling/Decoupling Network	DC7144M1	327100	AR	2022/3/8
POWER AMPLIFIER	250W1000A	327579	AR	2022/3/8
POWER AMPLIFIER	80S1G3	327495	AR	2022/3/8
Integrated measurement system	IMS	100012	R&S	2022/3/8



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Smart sensor technology	NRP-Z91	100520	R&S	2022/3/8
POWER AMPLIFIER	BBA150	103010	R&S	2022/3/8
Signal source	SMB100A	114943	R&S	2022/3/8



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6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (9kHz-30MHz)

Test Requirement:	EN IEC 55015:2019+A11:2020
Test Method:	EN IEC 55015:2019+A11:2020
Frequency Range:	9kHz to 30MHz
Limit:	
0.009MHz – 0.05MHz	110dB(μV) quasi-peak
0.05MHz – 0.15MHz	90dB(μV)-80dB(μV) quasi-peak
0.15MHz – 0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5MHz – 5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5MHz – 30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (200Hz resolution bandwidth) 0.009M to 0.15MHz Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

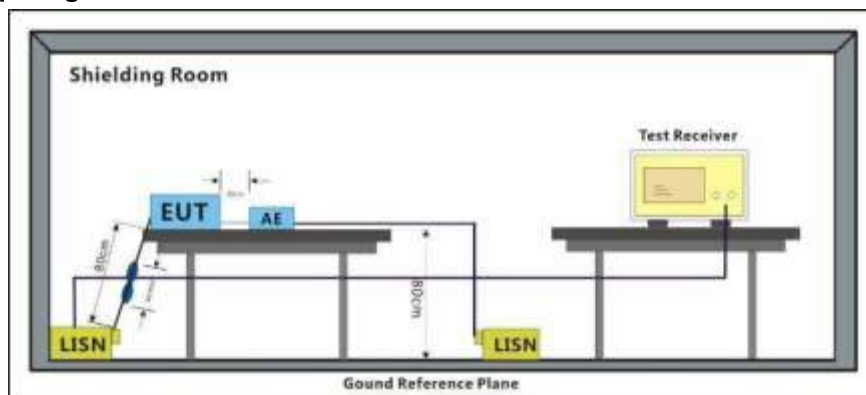
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode a: Lighting mode: Keep EUT lighting continuously.

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes: Emission Level=Read Level + LISN Factor + Cable Loss



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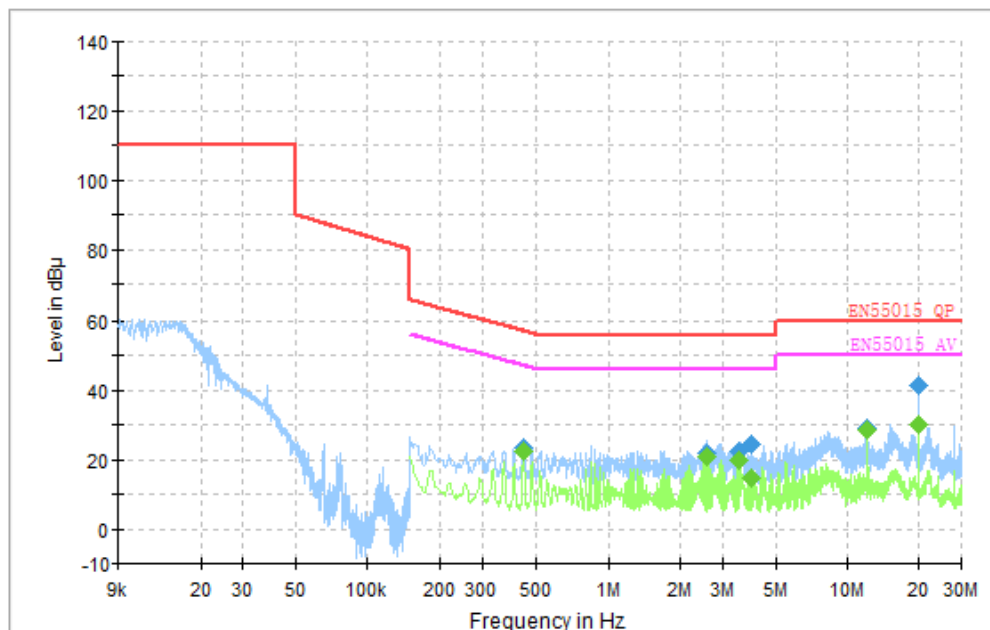
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For model H-1085F50L60XTRSF

Mode:a; Line:Live Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.440000	23.5	1000.0	9.000	Off	L1	10.8	33.6	57.1	
2.603000	22.1	1000.0	9.000	Off	L1	10.8	33.9	56.0	
3.521000	22.3	1000.0	9.000	Off	L1	10.8	33.7	56.0	
3.990000	24.4	1000.0	9.000	Off	L1	10.8	31.6	56.0	
12.000000	28.9	1000.0	9.000	Off	L1	10.9	31.1	60.0	
19.944000	41.3	1000.0	9.000	Off	L1	10.9	18.7	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.440000	22.3	1000.0	9.000	Off	L1	10.8	24.8	47.1	
2.603000	20.8	1000.0	9.000	Off	L1	10.8	25.2	46.0	
3.521000	19.9	1000.0	9.000	Off	L1	10.8	26.1	46.0	
3.990000	14.9	1000.0	9.000	Off	L1	10.8	31.1	46.0	
12.000000	28.5	1000.0	9.000	Off	L1	10.9	21.5	50.0	
19.944000	29.9	1000.0	9.000	Off	L1	10.9	20.1	50.0	



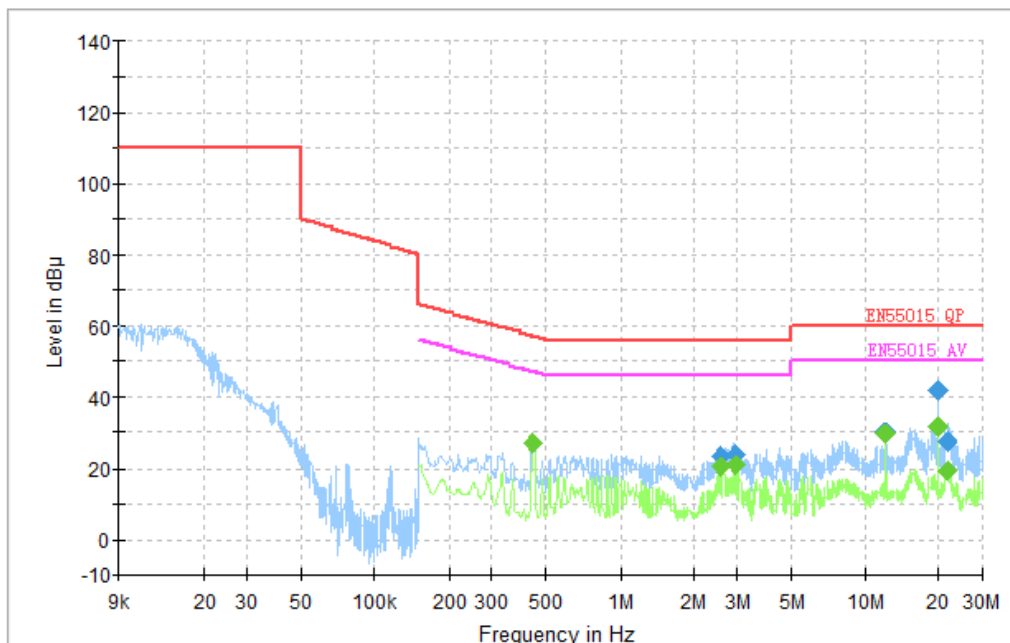
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Mode:a; Line:Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.441000	27.1	1000.0	9.000	Off	N	10.8	29.9	57.0	
2.572000	23.4	1000.0	9.000	Off	N	10.8	32.6	56.0	
2.976000	24.1	1000.0	9.000	Off	N	10.8	31.9	56.0	
12.000000	30.2	1000.0	9.000	Off	N	11.0	29.8	60.0	
19.940000	42.0	1000.0	9.000	Off	N	11.1	18.0	60.0	
21.685000	27.5	1000.0	9.000	Off	N	11.1	32.5	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.441000	27.0	1000.0	9.000	Off	N	10.8	20.0	47.0	
2.572000	20.3	1000.0	9.000	Off	N	10.8	25.7	46.0	
2.976000	20.9	1000.0	9.000	Off	N	10.8	25.1	46.0	
12.000000	29.4	1000.0	9.000	Off	N	11.0	20.6	50.0	
19.940000	31.5	1000.0	9.000	Off	N	11.1	18.5	50.0	
21.685000	19.1	1000.0	9.000	Off	N	11.1	30.9	50.0	



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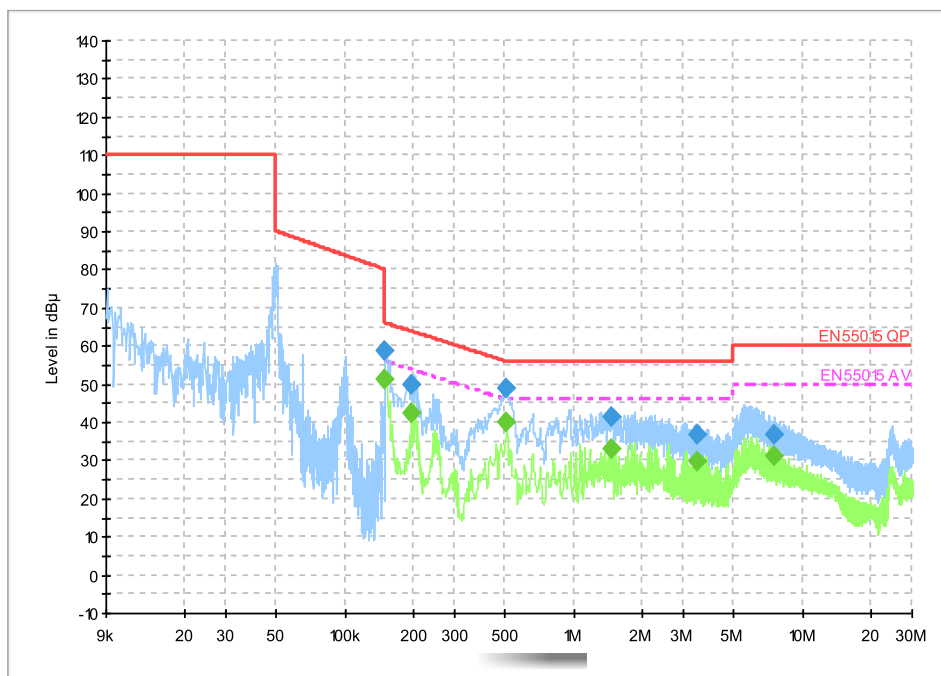
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For model H-1298L15T (980.837021)

Mode:a; Line:Live Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	58.5	1000.0	0.200	Off	L1	10.8	21.5	80.0	
0.194000	49.9	1000.0	9.000	Off	L1	10.8	14.1	64.0	
0.506000	48.7	1000.0	9.000	Off	L1	10.8	7.3	56.0	
1.470000	41.5	1000.0	9.000	Off	L1	10.7	14.5	56.0	
3.496000	36.7	1000.0	9.000	Off	L1	10.8	19.3	56.0	
7.486000	36.5	1000.0	9.000	Off	L1	10.9	23.5	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	51.1	1000.0	9.000	Off	L1	10.8	4.9	56.0	
0.194000	42.2	1000.0	9.000	Off	L1	10.7	11.5	53.7	
0.506000	40.0	1000.0	9.000	Off	L1	10.8	6.0	46.0	
1.470000	33.1	1000.0	9.000	Off	L1	10.7	12.9	46.0	
3.496000	29.5	1000.0	9.000	Off	L1	10.8	16.5	46.0	
7.486000	31.0	1000.0	9.000	Off	L1	10.9	19.0	50.0	



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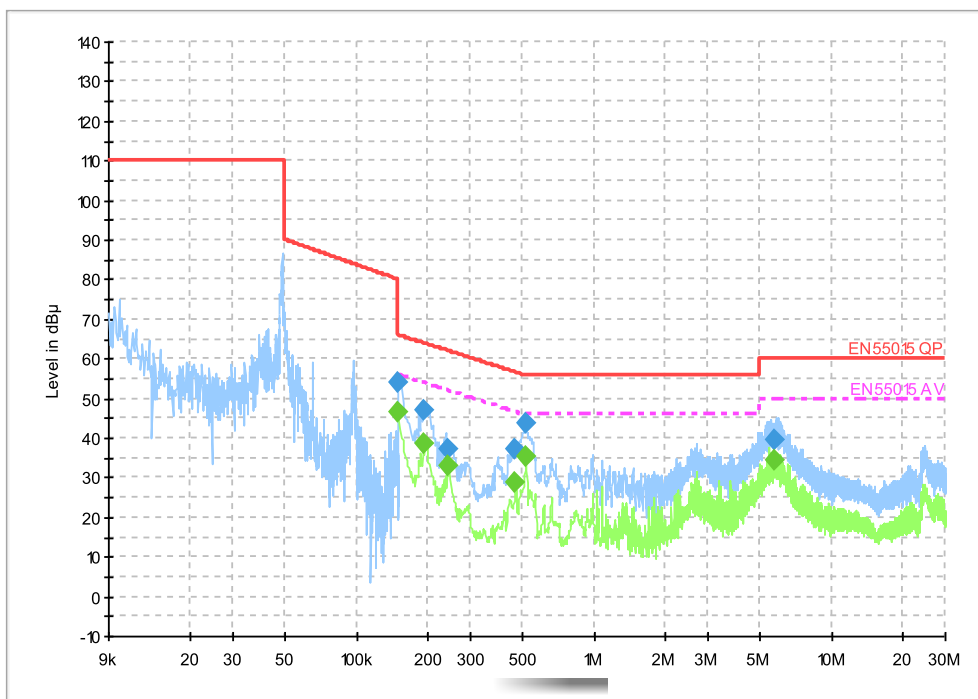
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Mode:a; Line:Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	54.1	1000.0	0.900	Off	N	10.8	25.9	80.0	
0.190000	47.0	10000.0	0.900	Off	N	10.8	17.2	64.2	
0.244000	37.2	1000.0	9.000	Off	N	10.8	24.8	62.0	
0.460000	37.0	1000.0	9.000	Off	N	10.8	19.7	56.7	
0.512000	43.6	1000.0	9.000	Off	N	10.8	12.4	56.0	
5.777000	39.5	1000.0	9.000	Off	N	10.8	20.5	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	46.7	1000.0	9.000	Off	N	10.8	9.3	56.0	
0.190000	38.6	1000.0	9.000	Off	N	10.8	15.6	54.2	
0.244000	32.8	1000.0	9.000	Off	N	10.8	19.2	52.0	
0.460000	28.7	1000.0	9.000	Off	N	10.8	18.0	46.7	
0.512000	35.4	1000.0	9.000	Off	N	10.8	10.6	46.0	
5.777000	34.6	1000.0	9.000	Off	N	10.8	15.4	50.0	



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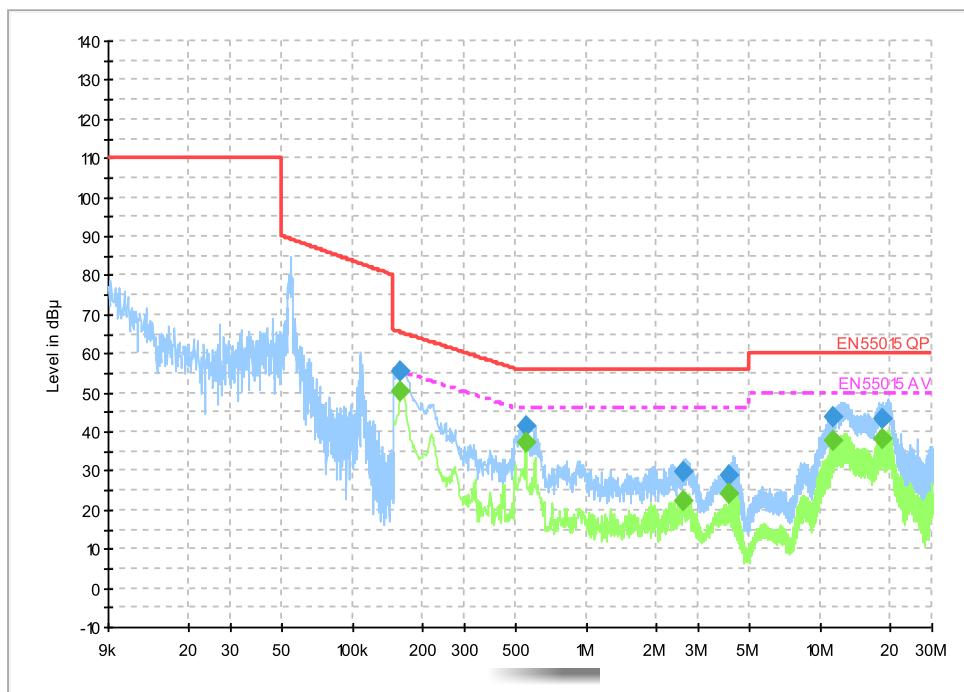
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For model H-2291L20T (FEENS2170EK)

Mode:a; Line:Live Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.160000	55.2	1000.0	9.000	Off	L1	10.8	10.3	65.5	
0.551000	41.6	1000.0	9.000	Off	L1	10.7	14.4	56.0	
2.620000	29.6	1000.0	9.000	Off	L1	10.8	26.4	56.0	
4.071000	28.8	1000.0	9.000	Off	L1	10.8	27.2	56.0	
11.382000	43.8	1000.0	9.000	Off	L1	10.9	16.2	60.0	
18.307000	43.1	1000.0	9.000	Off	L1	10.9	16.9	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.160000	50.5	1000.0	9.000	Off	L1	10.8	4.8	55.3	
0.551000	37.4	1000.0	9.000	Off	L1	10.7	8.6	46.0	
2.620000	22.1	1000.0	9.000	Off	L1	10.8	23.9	46.0	
4.071000	24.0	1000.0	9.000	Off	L1	10.8	22.0	46.0	
11.382000	37.5	1000.0	9.000	Off	L1	10.9	12.5	50.0	
18.307000	38.0	1000.0	9.000	Off	L1	10.9	12.0	50.0	



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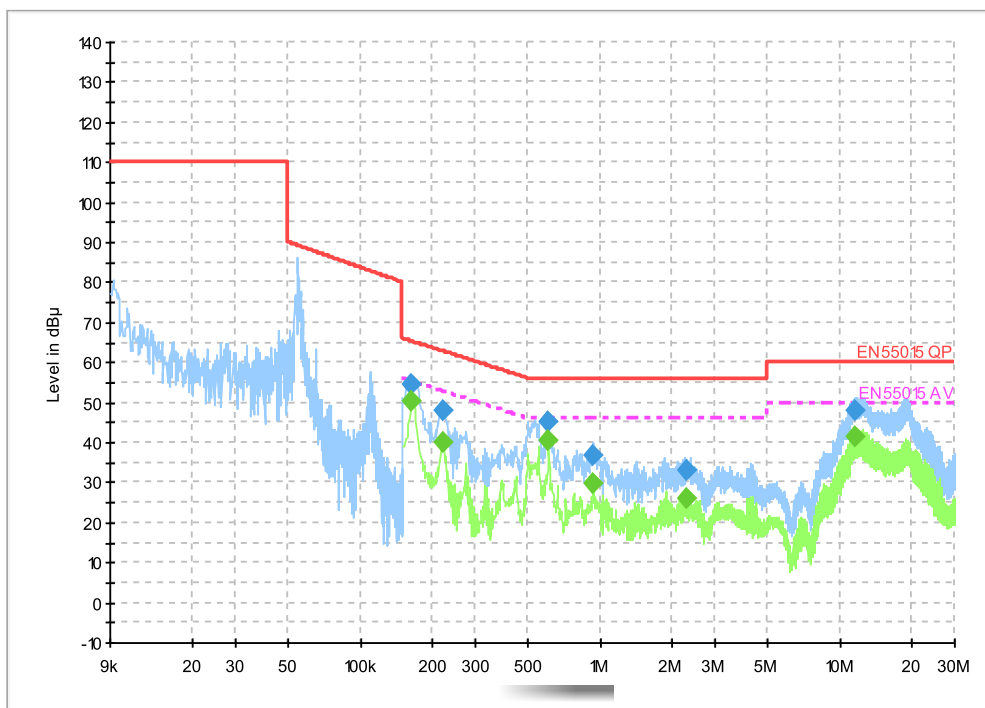
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Mode:a; Line:Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.164000	54.3	1000.0	9.000	Off	N	10.8	11.2	65.5	
0.222000	48.1	1000.0	9.000	Off	N	10.8	16.1	64.2	
0.609000	45.0	1000.0	9.000	Off	N	10.7	11.0	56.0	
0.938000	36.6	1000.0	9.000	Off	N	10.8	19.4	56.0	
2.291000	33.0	1000.0	9.000	Off	N	10.8	23.0	56.0	
11.578000	48.1	1000.0	9.000	Off	N	10.9	11.9	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.164000	50.2	1000.0	9.000	Off	N	10.7	5.1	55.3	
0.222000	40.2	1000.0	9.000	Off	N	10.7	13.4	53.6	
0.609000	40.3	1000.0	9.000	Off	N	10.7	5.7	46.0	
0.938000	29.6	1000.0	9.000	Off	N	10.8	16.4	46.0	
2.291000	25.9	1000.0	9.000	Off	N	10.8	20.1	46.0	
11.578000	41.6	1000.0	9.000	Off	N	11.0	8.4	50.0	



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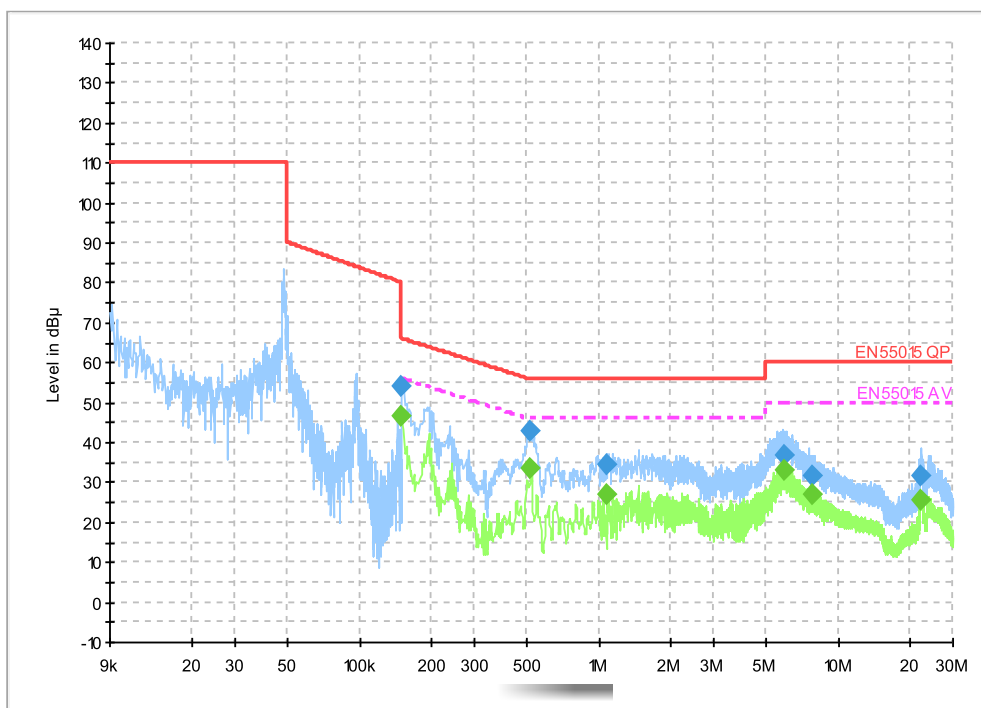
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For model H-1298L8T (980.835020)

Mode:a; Line:Live Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	54.0	1000.0	0.200	Off	L1	10.8	26.0	80.0	
0.516000	42.9	1000.0	9.000	Off	L1	10.8	13.1	56.0	
1.086000	34.5	1000.0	9.000	Off	L1	10.8	21.5	56.0	
5.940000	36.8	1000.0	9.000	Off	L1	10.9	23.2	60.0	
7.814000	31.8	1000.0	9.000	Off	L1	10.9	28.2	60.0	
22.162000	31.4	1000.0	9.000	Off	L1	10.9	28.6	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	46.6	1000.0	9.000	Off	L1	10.8	9.4	56.0	
0.516000	33.6	1000.0	9.000	Off	L1	10.8	12.4	46.0	
1.086000	27.1	1000.0	9.000	Off	L1	10.8	18.9	46.0	
5.940000	33.0	1000.0	9.000	Off	L1	10.8	17.0	50.0	
7.814000	27.0	1000.0	9.000	Off	L1	10.9	23.0	50.0	
22.162000	25.4	1000.0	9.000	Off	L1	10.9	24.6	50.0	



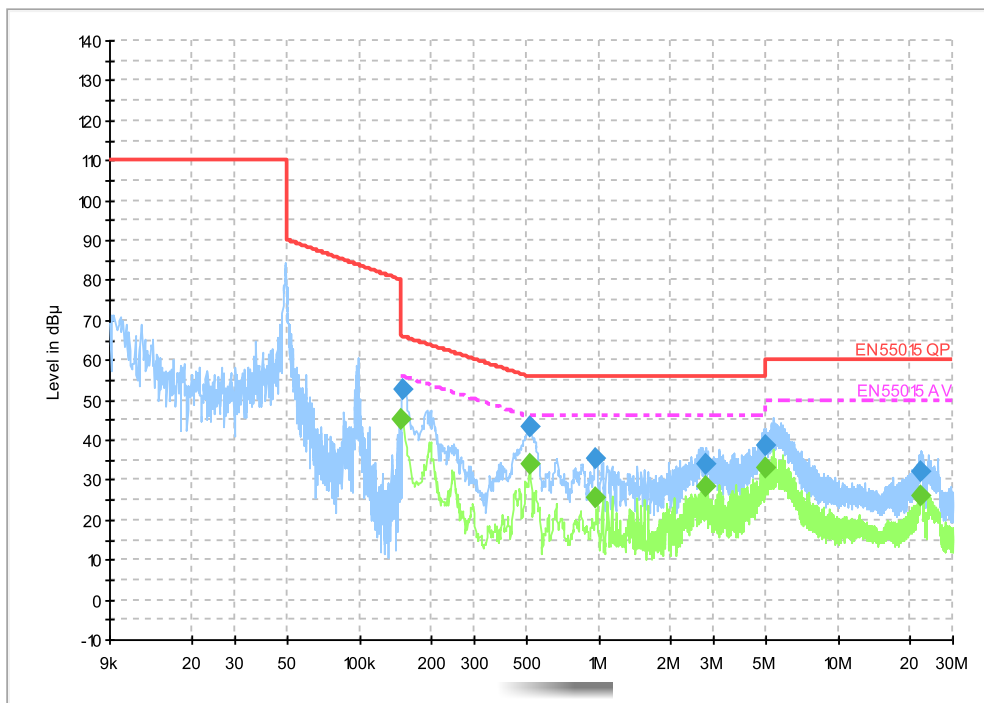
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Mode:a; Line:Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.151000	52.6	1000.0	9.000	Off	N	10.8	13.3	65.9	
0.514000	43.1	1000.0	9.000	Off	N	10.8	12.9	56.0	
0.968000	35.2	1000.0	9.000	Off	N	10.8	20.8	56.0	
2.768000	34.1	1000.0	9.000	Off	N	10.8	21.9	56.0	
4.948000	38.6	1000.0	9.000	Off	N	10.8	17.4	56.0	
22.190000	31.9	1000.0	9.000	Off	N	11.1	28.1	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	45.2	1000.0	0.200	Off	N	10.8	10.8	56.0	
0.514000	33.9	1000.0	9.000	Off	N	10.8	12.1	46.0	
0.968000	25.7	1000.0	9.000	Off	N	10.8	20.3	46.0	
2.768000	28.1	1000.0	9.000	Off	N	10.8	17.9	46.0	
4.948000	32.8	1000.0	9.000	Off	N	10.8	13.2	46.0	
22.190000	26.2	1000.0	9.000	Off	N	11.1	23.8	50.0	



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6.2 Radiated Emissions (30MHz-1000MHz)

Test Requirement: EN IEC 55015:2019+A11:2020

Test Method: CISPR 32:2015

Frequency Range: 30MHz to 1000MHz

Measurement Distance: 3m

Limit:

30MHz-230MHz 40dB(μV/m) quasi-peak

230MHz-1000MHz 47dB(μV/m) quasi-peak

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

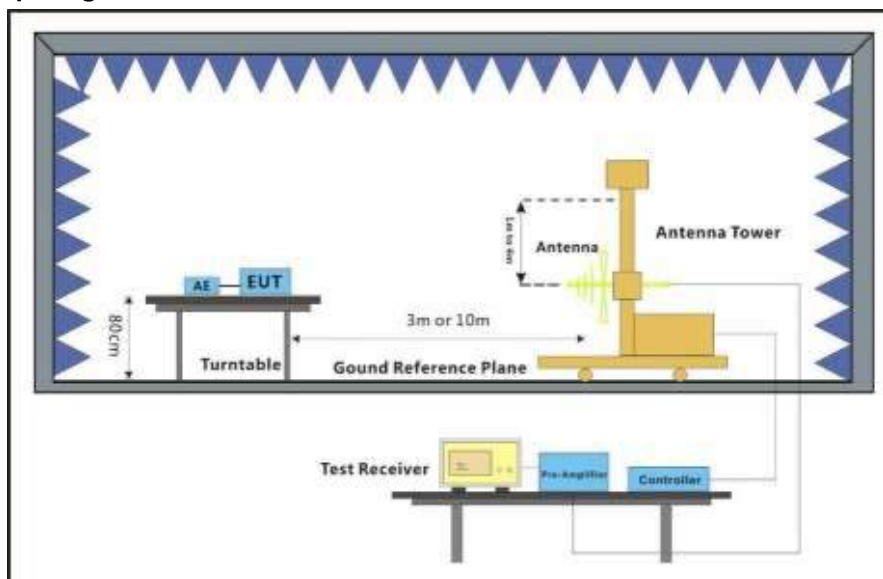
6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode a: Lighting mode: Keep EUT lighting continuously.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Notes: Emission Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor



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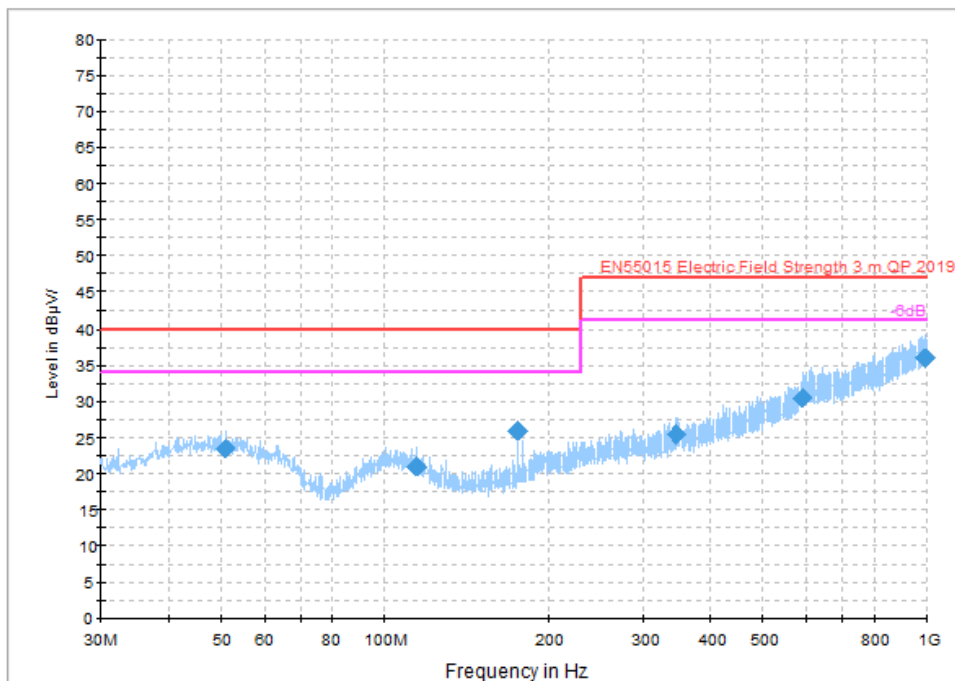
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For model H-1085F50L60XTRSF

Mode:a; Polarization:Horizontal



Final Result 1

Frequency (MHz)	QuasiPeak (dB µV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB µV/m)
50.955000	23.5	1000.0	120.000	195.0	H	51.0	15.4	16.5	40.0
114.153000	21.0	1000.0	120.000	100.1	H	205.0	12.9	19.0	40.0
175.483000	26.0	1000.0	120.000	150.0	H	81.0	11.1	14.0	40.0
345.441000	25.3	1000.0	120.000	144.0	H	135.0	16.8	21.7	47.0
591.305000	30.5	1000.0	120.000	149.9	H	232.0	21.2	16.5	47.0
991.016000	36.0	1000.0	120.000	150.0	H	111.0	25.9	11.0	47.0



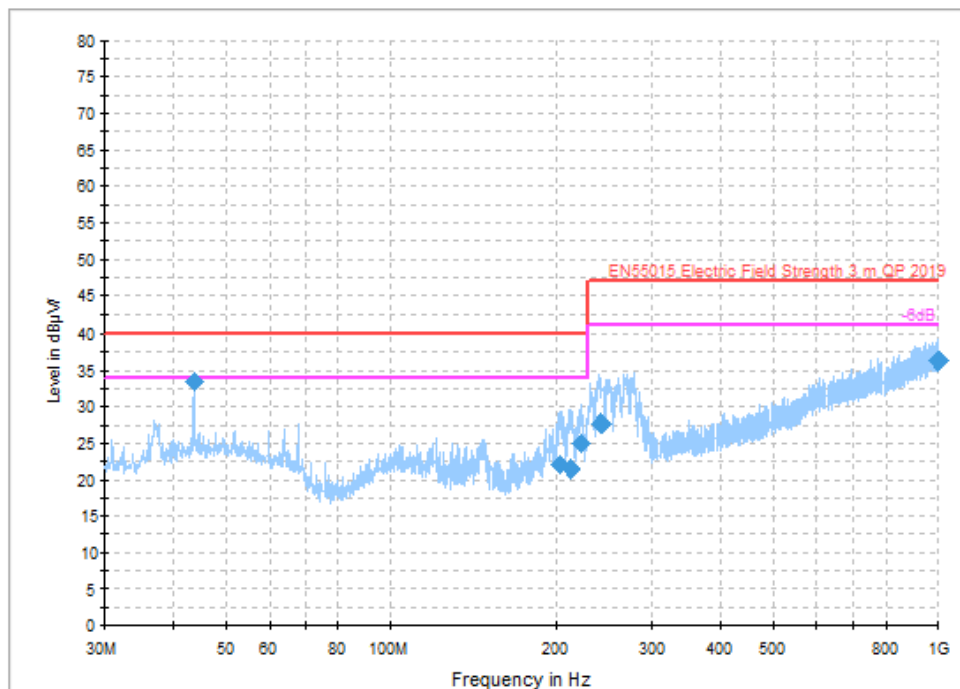
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Mode:a; Polarization:Vertical



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
43.931000	33.3	1000.0	120.000	169.0	V	84.0	15.3	6.7	40.0
202.737000	21.9	1000.0	120.000	100.0	V	192.0	13.1	18.1	40.0
212.434000	21.4	1000.0	120.000	100.0	V	-10.0	12.9	18.6	40.0
223.358000	24.8	1000.0	120.000	100.0	V	30.0	13.4	15.2	40.0
242.784000	27.6	1000.0	120.000	100.0	V	94.0	14.2	19.4	47.0
996.930000	36.1	1000.0	120.000	177.0	V	275.0	25.9	10.9	47.0



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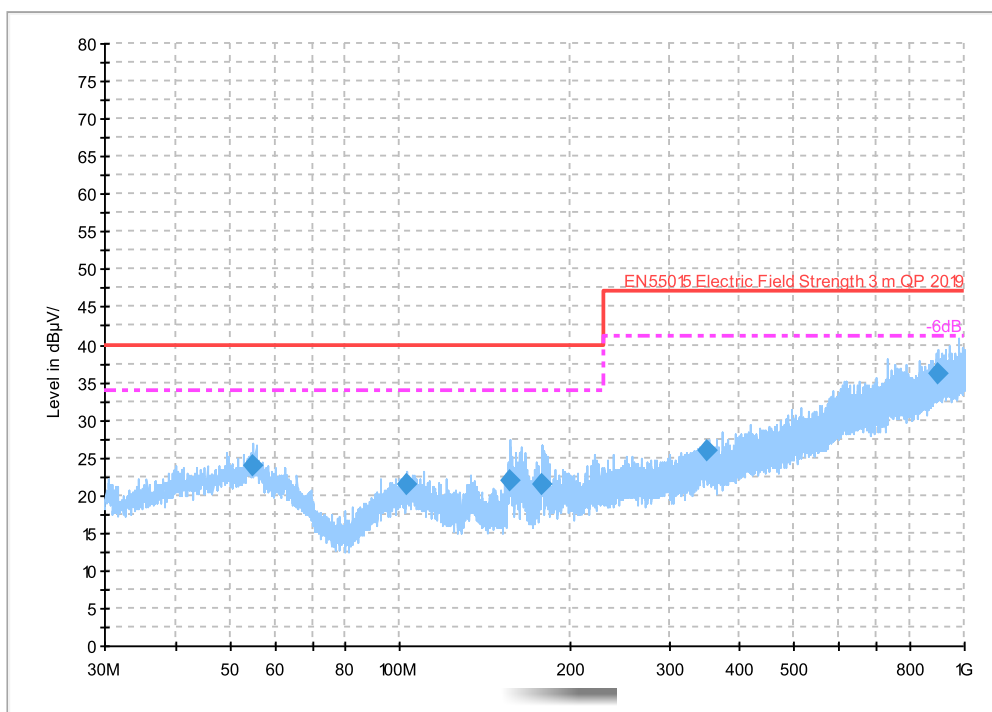
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For model H-1298L15T (980.837021)

Mode:a; Polarization:Horizontal



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
54.799667	23.9	1000.0	120.000	162.0	H	284.0	14.4	16.1	40.0
102.685333	21.5	1000.0	120.000	148.0	H	170.0	13.4	18.5	40.0
156.908333	22.0	1000.0	120.000	170.0	H	284.0	9.8	18.0	40.0
179.089000	21.6	1000.0	120.000	112.0	H	149.0	10.9	18.4	40.0
350.164667	25.9	1000.0	120.000	194.0	H	0.0	17.4	21.1	47.0
896.339333	36.1	1000.0	120.000	167.0	H	347.0	26.3	10.9	47.0

(continuation of the "Final Result 1" table from column 9 ...)



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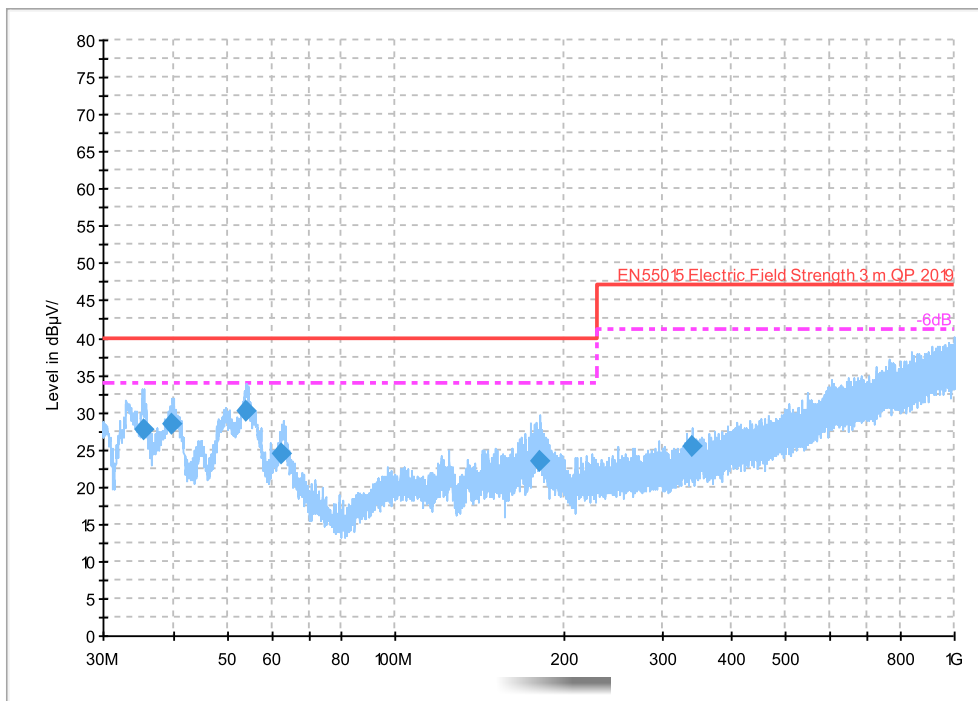
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Mode:a; Polarization:Vertical



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
35.464333	27.5	1000.0	120.000	175.0	V	197.0	11.8	12.5	40.0
39.926333	28.5	1000.0	120.000	162.0	V	154.0	13.4	11.5	40.0
54.185333	30.0	1000.0	120.000	185.0	V	239.0	14.4	10.0	40.0
62.398000	24.4	1000.0	120.000	144.0	V	78.0	13.0	15.6	40.0
181.481667	23.4	1000.0	120.000	157.0	V	219.0	11.2	16.6	40.0
340.432333	25.5	1000.0	120.000	178.0	V	219.0	17.0	21.5	47.0

(continuation of the "Final Result 1" table from column 9 ...)



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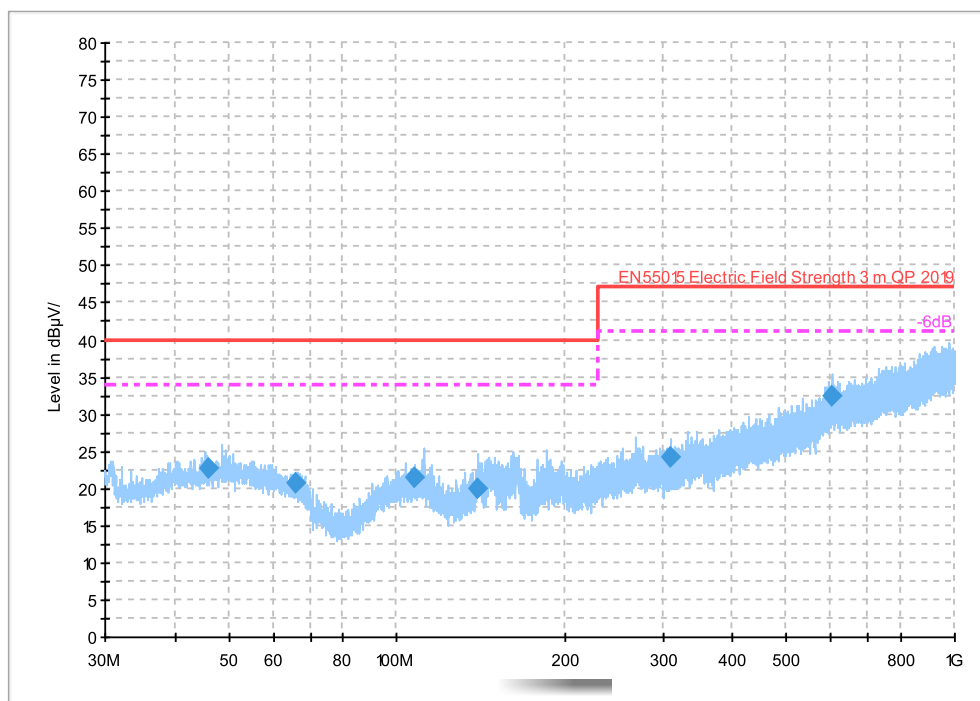
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For model H-2291L20T (FEENS2170EK)

Mode:a; Polarization:Horizontal



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)
46.231333	22.6	1000.0	120.000	175.0	H	102.0	14.3	17.4	40.0
66.084000	20.7	1000.0	120.000	196.0	H	271.0	11.9	19.3	40.0
108.020333	21.4	1000.0	120.000	142.0	H	45.0	13.1	18.6	40.0
139.707000	19.9	1000.0	120.000	127.0	H	271.0	9.4	20.1	40.0
309.101333	24.1	1000.0	120.000	52.0	H	292.0	15.6	22.9	47.0
602.882000	32.3	1000.0	120.000	171.0	H	358.0	22.6	14.7	47.0

(continuation of the "Final Result 1" table from column 9 ...)



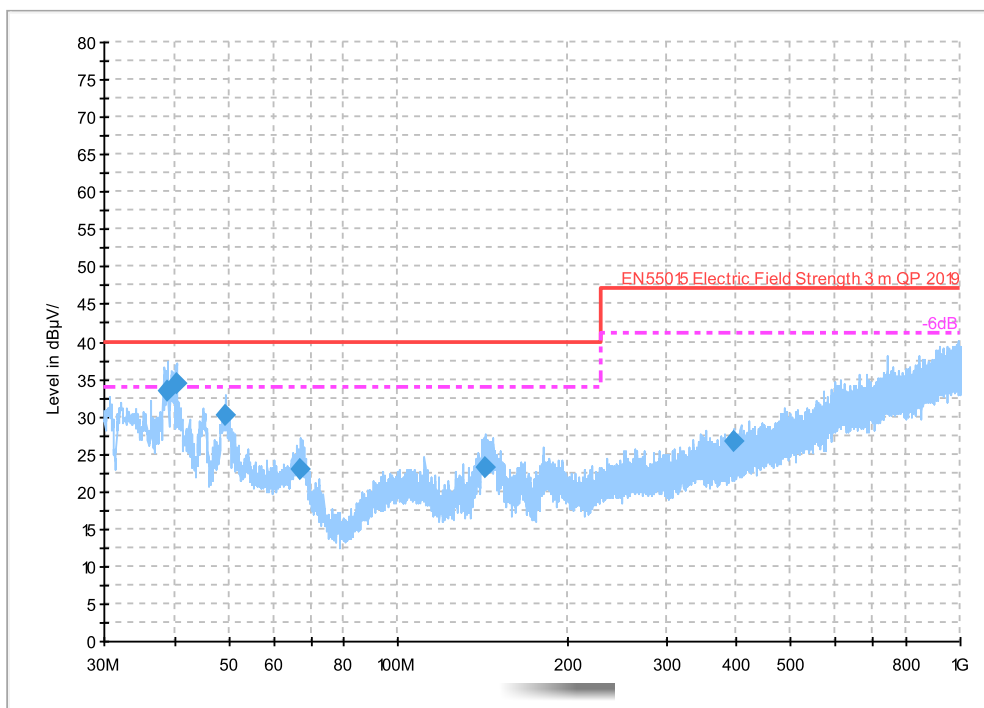
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Mode:a; Polarization:Vertical



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
38.859333	33.4	1000.0	120.000	133.0	V	17.0	12.9	6.6	40.0
40.346667	34.3	1000.0	120.000	125.0	V	44.0	13.5	5.7	40.0
49.367667	30.2	1000.0	120.000	196.0	V	30.0	14.7	9.8	40.0
66.860000	22.8	1000.0	120.000	173.0	V	197.0	11.6	17.2	40.0
142.875667	23.3	1000.0	120.000	154.0	V	17.0	9.4	16.7	40.0
395.625333	26.6	1000.0	120.000	121.0	V	176.0	18.1	20.4	47.0

(continuation of the "Final Result 1" table from column 9 ...)



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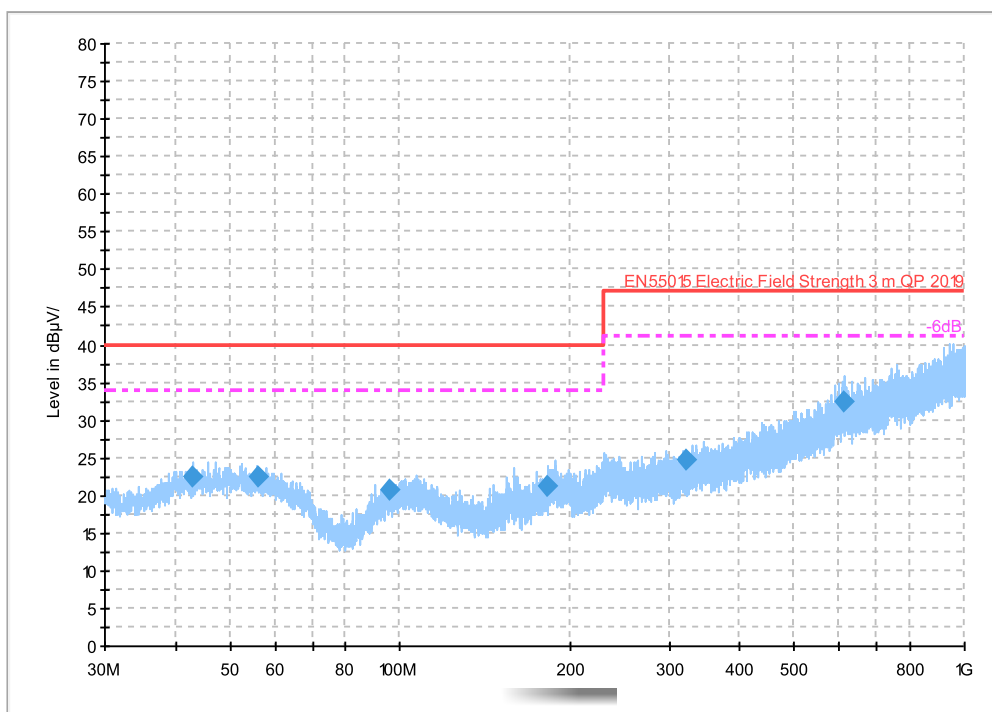
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For model H-1298L8T (980.835020)

Mode:a; Polarization:Horizontal



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
43.030333	22.4	1000.0	120.000	125.0	H	166.0	14.1	17.6	40.0
56.416333	22.3	1000.0	120.000	186.0	H	89.0	14.1	17.7	40.0
96.024667	20.7	1000.0	120.000	154.0	H	238.0	12.6	19.3	40.0
183.066000	21.2	1000.0	120.000	196.0	H	208.0	11.3	18.8	40.0
322.778333	24.6	1000.0	120.000	172.0	H	330.0	16.1	22.4	47.0
613.519667	32.3	1000.0	120.000	134.0	H	166.0	22.7	14.7	47.0

(continuation of the "Final Result 1" table from column 9 ...)



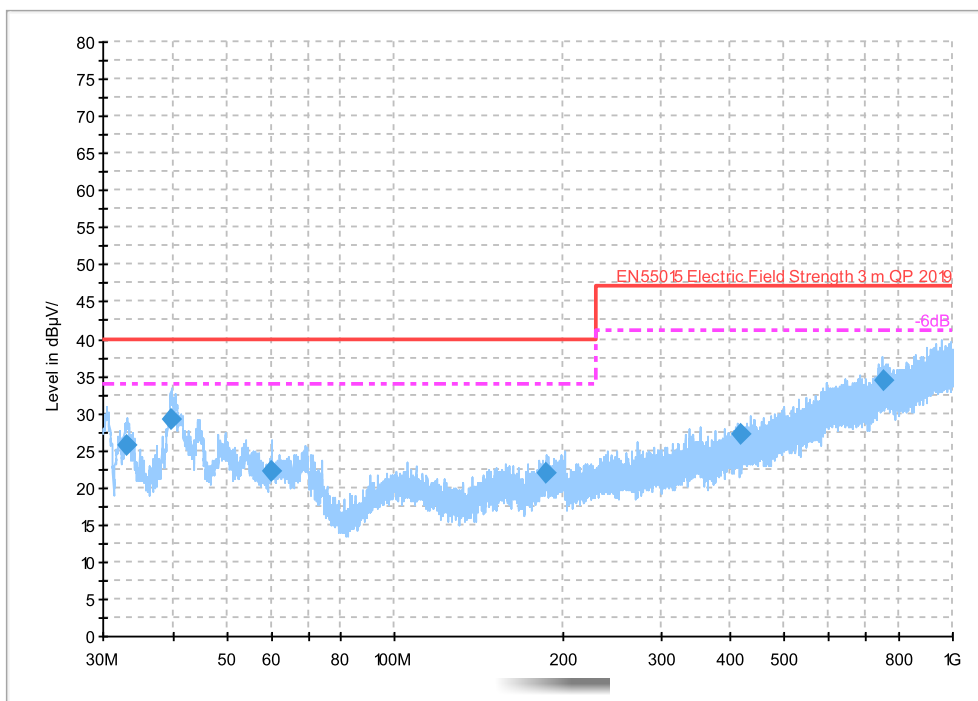
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Mode:a; Polarization:Vertical



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
33.136333	25.8	1000.0	120.000	146.0	V	175.0	10.9	14.2	40.0
39.797000	29.1	1000.0	120.000	123.0	V	280.0	13.3	10.9	40.0
60.328667	22.2	1000.0	120.000	147.0	V	123.0	13.5	17.8	40.0
187.010667	22.0	1000.0	120.000	156.0	V	280.0	11.8	18.0	40.0
418.776000	27.3	1000.0	120.000	139.0	V	196.0	18.7	19.7	47.0
756.174333	34.4	1000.0	120.000	179.0	V	32.0	24.8	12.6	47.0

(continuation of the "Final Result 1" table from column 9 ...)



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6.3 Radiated Emissions (Magnetic field Induced Current)(9kHz-30MHz)

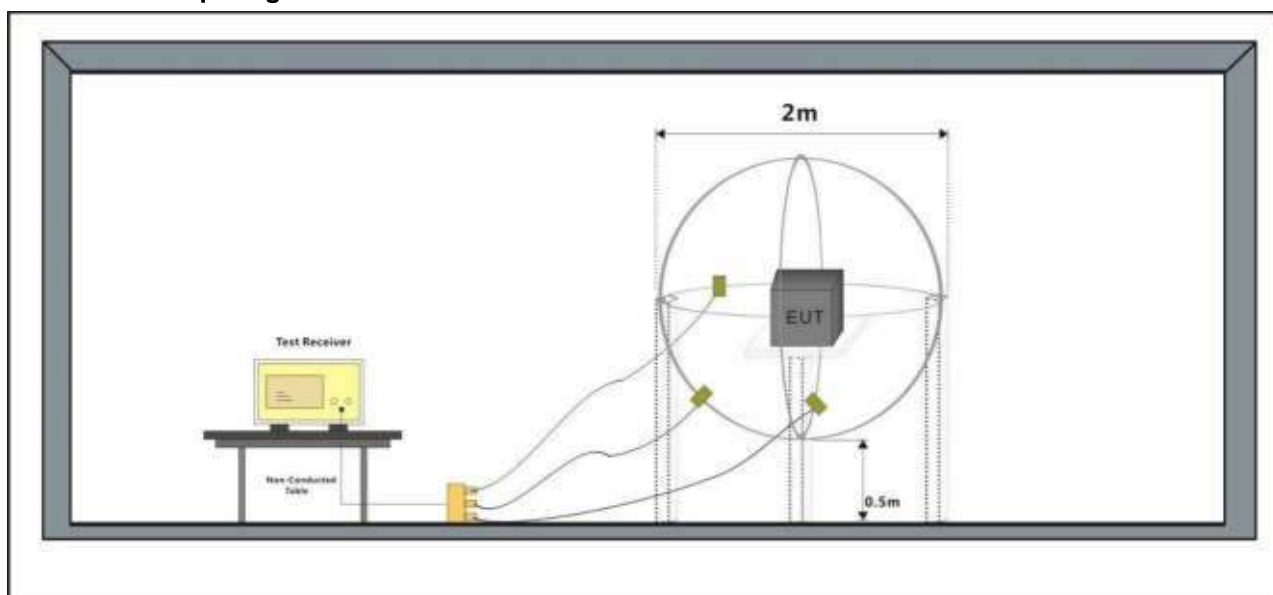
Test Requirement:	EN IEC 55015:2019+A11:2020
Test Method:	EN IEC 55015:2019+A11:2020
Frequency Range:	9kHz to 30MHz
Limit:	
0.009MHz-0.07MHz	88dB(μA) quasi-peak
0.07MHz-0.15MHz	88dB(μA)-58dB(μA) quasi-peak
0.15MHz-3MHz	58dB(μA)-22dB(μA) quasi-peak
3MHz-30MHz	22dB(μA) quasi-peak
Detector:	Peak for pre-scan (200Hz resolution bandwidth) 0.009M to 0.15MHz
	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar
Test mode a: Lighting mode: Keep EUT lighting continuously.

6.3.2 Test Setup Diagram



6.3.3 Measurement Data

An initial pre-scan was performed in the 2m loop antenna using the spectrum analyser in peak detection mode. The EUT was measured for X(A), Y(B), Z(C) polarities.

Notes: Emission Level=Read Level + Cable Loss



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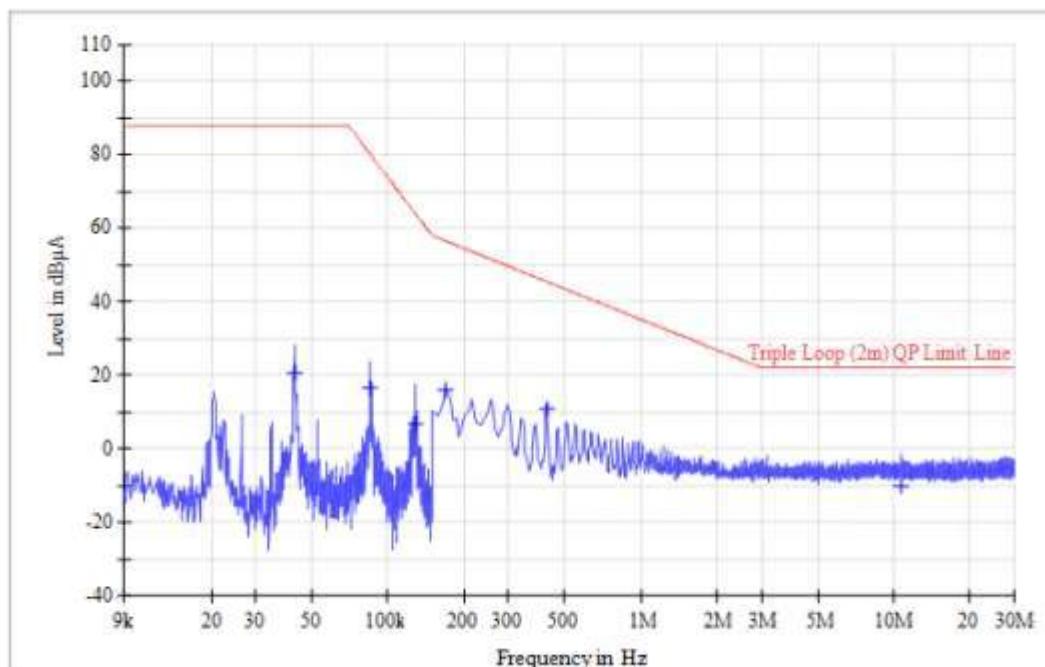
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For model H-1085F50L60XTRSF

Mode:a; Axial:X



42

Limit and Margin-X

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.042600	20.4	1000.0	0.200	X	0.0	67.6	88.0	
0.085300	16.6	1000.0	0.200	X	0.0	63.6	80.2	
0.128300	6.6	1000.0	0.200	X	0.0	57.6	64.2	
0.170000	16.2	1000.0	9.000	X	0.0	40.3	56.5	
0.426000	11.1	1000.0	9.000	X	0.0	34.4	45.5	
10.726000	-10.1	1000.0	9.000	X	0.2	32.1	22.0	

13



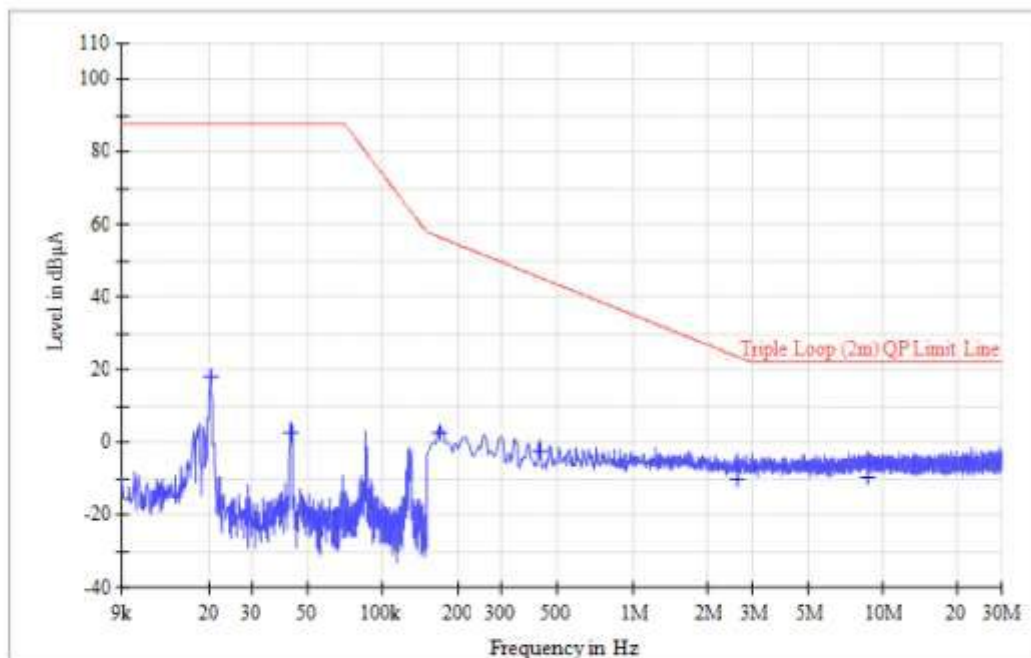
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Mode:a; Axial:Y



Limit and Margin-Y

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.020500	18.3	1000.0	0.200	Y	0.0	69.7	88.0	
0.042600	2.8	1000.0	0.200	Y	0.0	85.2	88.0	
0.170000	2.8	1000.0	9.000	Y	0.0	53.7	56.5	
0.426000	-2.7	1000.0	9.000	Y	0.0	48.2	45.5	
2.630000	-10.2	1000.0	9.000	Y	0.1	33.8	23.6	
8.682000	-9.8	1000.0	9.000	Y	0.2	31.8	22.0	



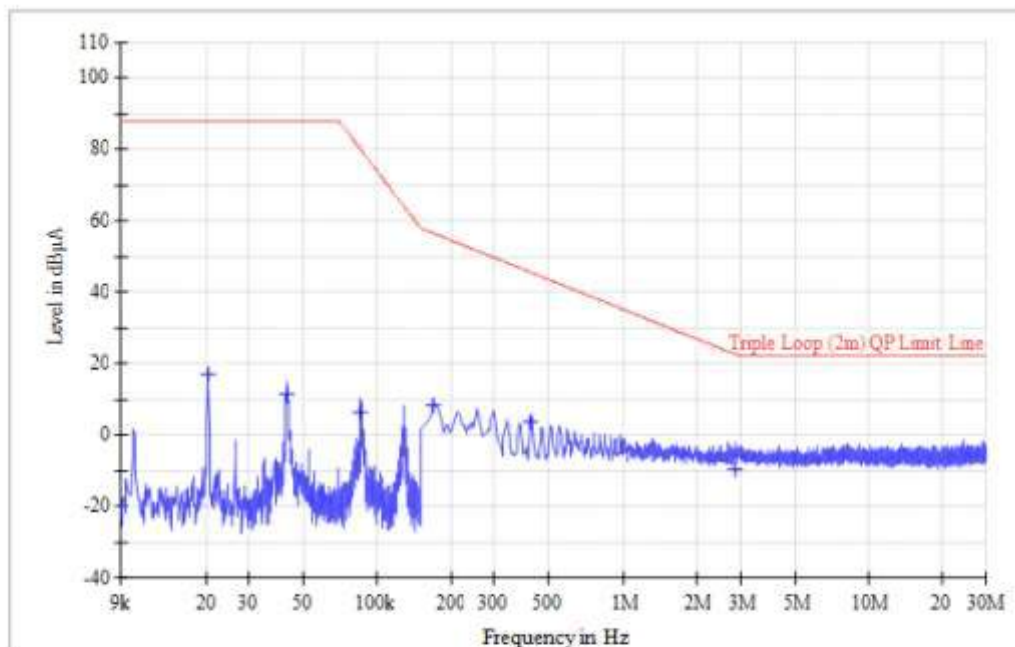
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Mode:a; Axial:Z



Limit and Margin-Z

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.020500	16.9	1000.0	0.200	Z	0.0	71.1	88.0	
0.042800	11.3	1000.0	0.200	Z	0.0	76.7	88.0	
0.084900	6.0	1000.0	0.200	Z	0.0	74.4	80.4	
0.170000	8.2	1000.0	9.000	Z	0.0	48.3	56.5	
0.422000	3.4	1000.0	9.000	Z	0.0	42.2	45.6	
2.858000	-9.9	1000.0	9.000	Z	0.1	32.5	22.6	



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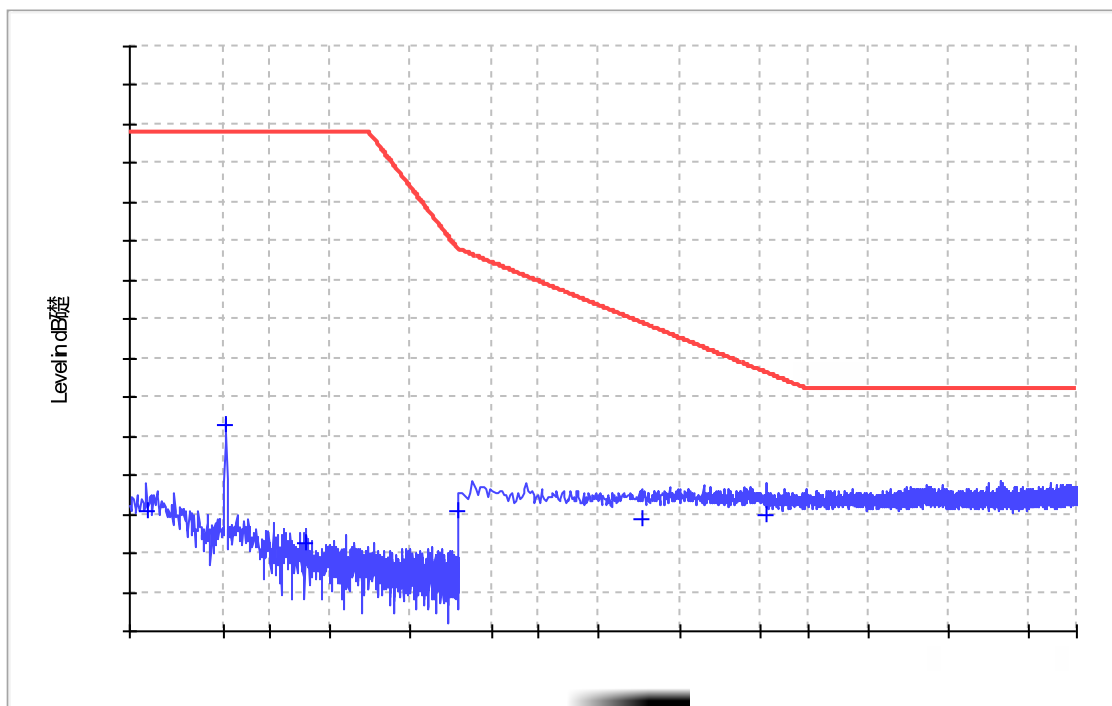
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For model H-1298L15T (980.837021)

Mode:a; Axial:X



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.010440	-9.3	1000.0	0.200	X	0.0	97.3	88.0	
0.020520	12.9	1000.0	0.200	X	0.0	75.1	88.0	
0.040840	-17.4	1000.0	0.200	X	0.0	105.4	88.0	
0.150000	-9.1	1000.0	9.000	X	0.0	67.1	58.0	
0.722000	-11.3	1000.0	9.000	X	0.1	50.4	39.1	
2.090000	-10.4	1000.0	9.000	X	0.1	36.7	26.3	



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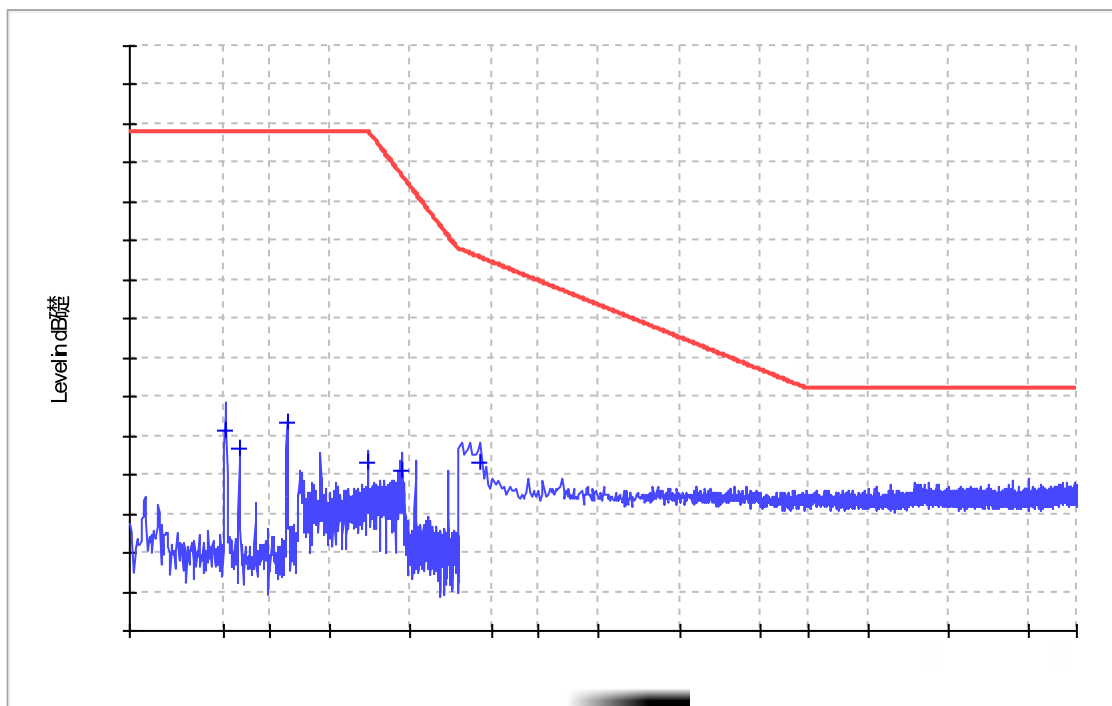
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Mode:a; Axial:Y



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Correction (dB)	Marginal - QPK (dB)	Limit - QPK (dBμA)	Comment
0.020520	11.5	1000.0	0.200	Y	0.0	76.5	88.0	
0.023080	6.8	1000.0	0.200	Y	0.0	81.2	88.0	
0.034600	13.3	1000.0	0.200	Y	0.0	74.7	88.0	
0.069320	3.1	1000.0	0.200	Y	0.0	84.9	88.0	
0.092280	1.3	1000.0	0.200	Y	0.0	75.8	77.1	
0.182000	3.0	1000.0	9.000	Y	0.0	52.7	55.7	



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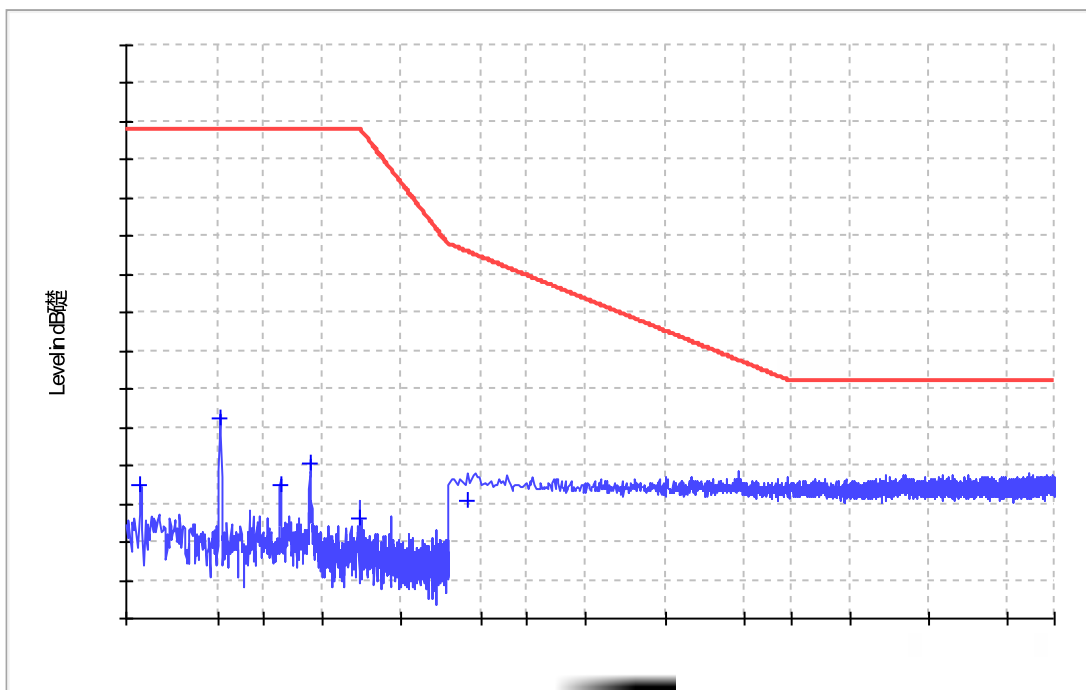
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Mode:a; Axial:Z



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop fram	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.010200	-5.0	1000.0	0.200	Z	0.0	93.0	88.0	
0.020520	12.5	1000.0	0.200	Z	0.0	75.5	88.0	
0.034600	-5.0	1000.0	0.200	Z	0.0	93.0	88.0	
0.045000	0.3	1000.0	0.200	Z	0.0	87.7	88.0	
0.069080	-13.8	1000.0	0.200	Z	0.0	101.8	88.0	
0.178000	-8.9	1000.0	9.000	Z	0.0	64.8	55.9	



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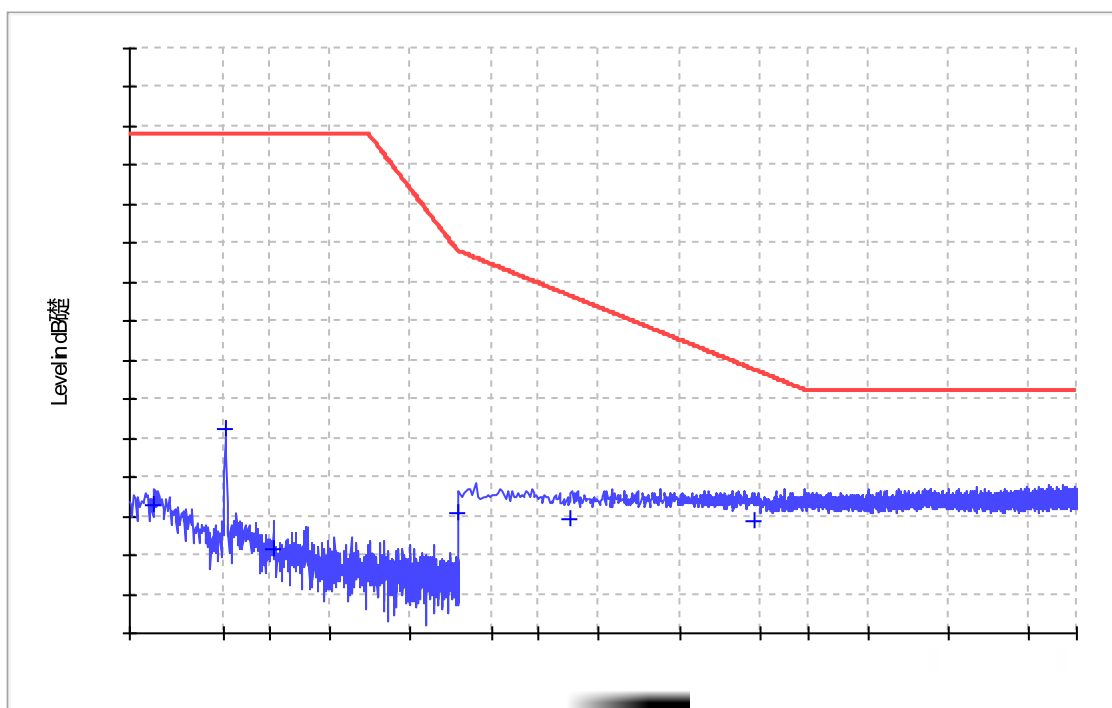
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For model H-2291L20T (FEENS2170EK)

Mode:a; Axial:X



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.011080	-7.0	1000.0	0.200	X	0.0	95.0	88.0	
0.020520	12.6	1000.0	0.200	X	0.0	75.4	88.0	
0.030840	-18.4	1000.0	0.200	X	0.0	106.4	88.0	
0.150000	-9.0	1000.0	9.000	X	0.0	67.0	58.0	
0.394000	-11.0	1000.0	9.000	X	0.0	57.4	46.4	
1.882000	-11.2	1000.0	9.000	X	0.1	38.8	27.6	



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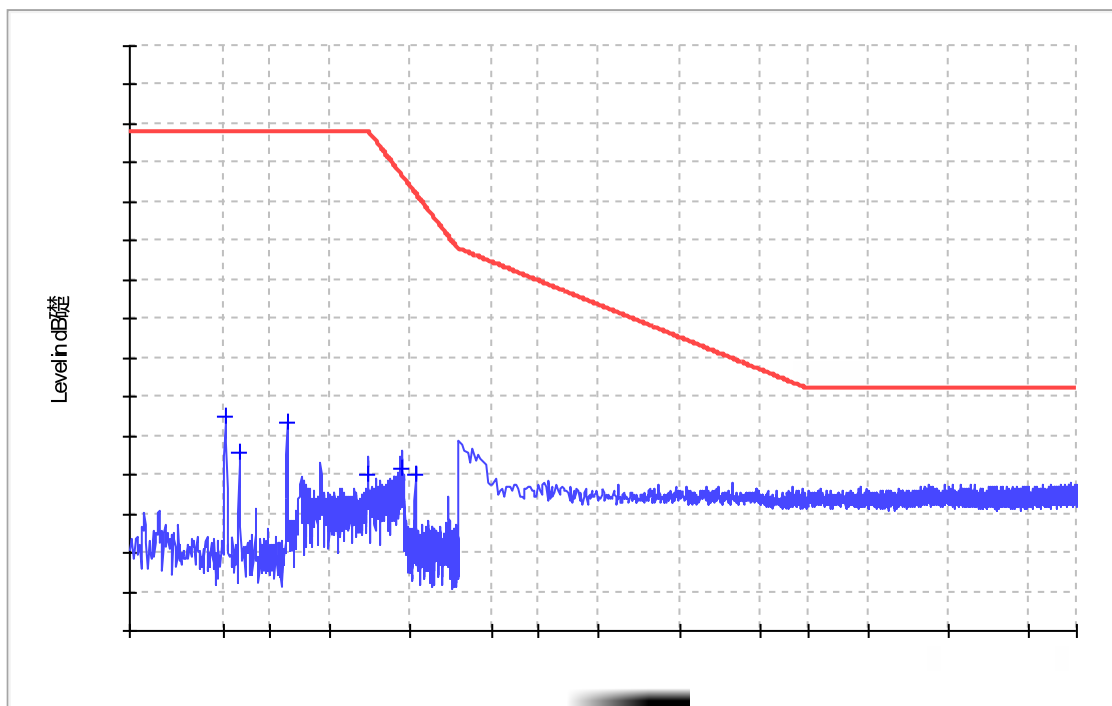
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Mode:a; Axial:Y



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Correction (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.020440	14.7	1000.0	0.200	Y	0.0	73.3	88.0	
0.023080	5.9	1000.0	0.200	Y	0.0	82.1	88.0	
0.034600	13.4	1000.0	0.200	Y	0.0	74.6	88.0	
0.069400	-0.1	1000.0	0.200	Y	0.0	88.1	88.0	
0.092280	1.5	1000.0	0.200	Y	0.0	75.6	77.1	
0.103880	0.2	1000.0	0.200	Y	0.0	72.3	72.5	



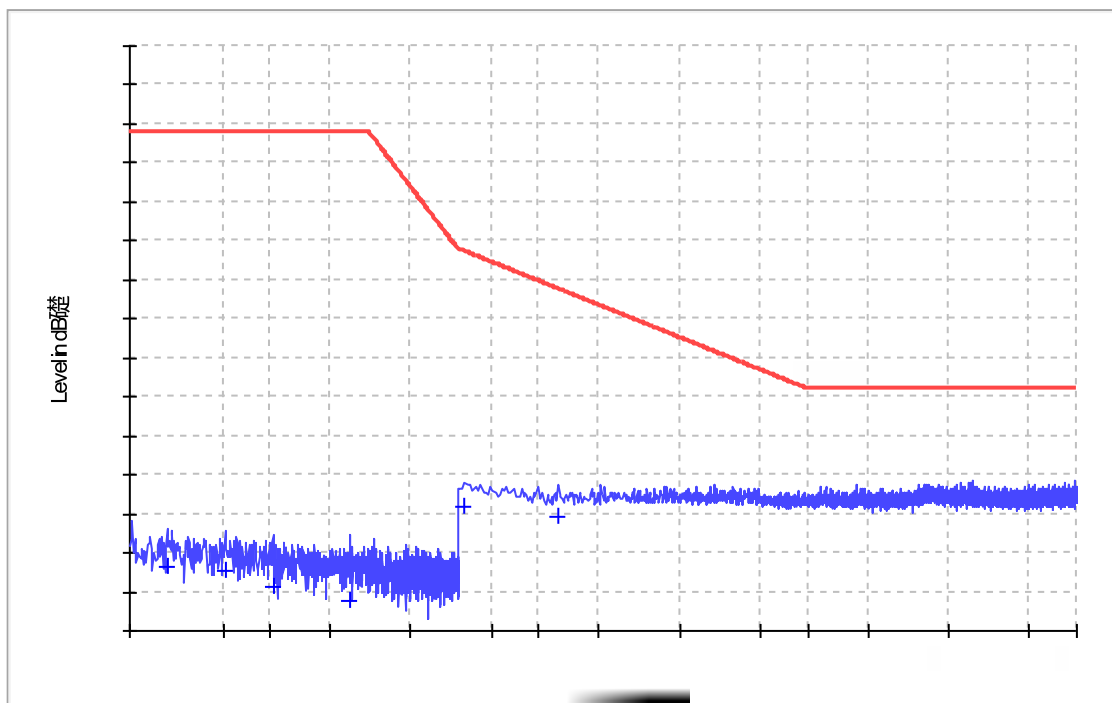
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Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Correction (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.012440	-23.5	1000.0	0.200	Z	0.0	111.5	88.0	
0.020440	-24.6	1000.0	0.200	Z	0.0	112.6	88.0	
0.030680	-28.5	1000.0	0.200	Z	0.0	116.5	88.0	
0.059640	-32.3	1000.0	0.200	Z	0.0	120.3	88.0	
0.158000	-8.1	1000.0	9.000	Z	0.0	65.5	57.4	
0.354000	-10.8	1000.0	9.000	Z	0.0	58.5	47.7	



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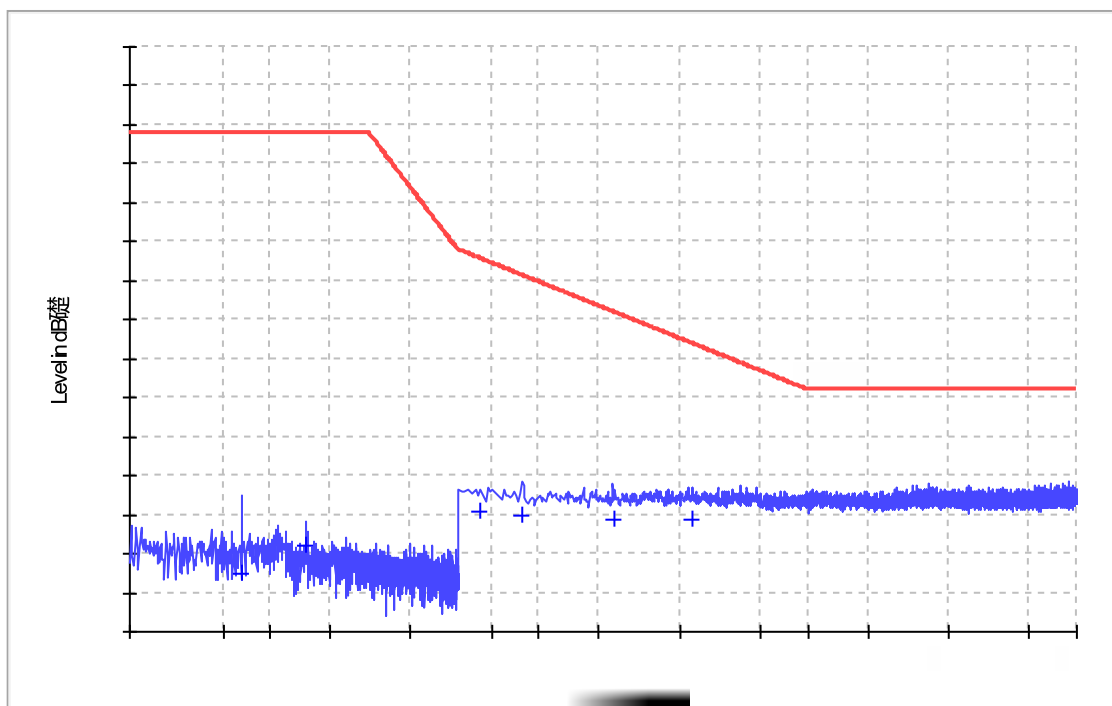
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For model H-1298L8T (980.835020)

Mode:a; Axial:X



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop fram	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.023640	-25.0	1000.0	0.200	X	0.0	113.0	88.0	
0.040840	-17.8	1000.0	0.200	X	0.0	105.8	88.0	
0.182000	-9.1	1000.0	9.000	X	0.0	64.8	55.7	
0.258000	-10.3	1000.0	9.000	X	0.0	61.8	51.5	
0.574000	-11.1	1000.0	9.000	X	0.0	53.0	41.9	
1.114000	-11.5	1000.0	9.000	X	0.1	45.4	33.9	



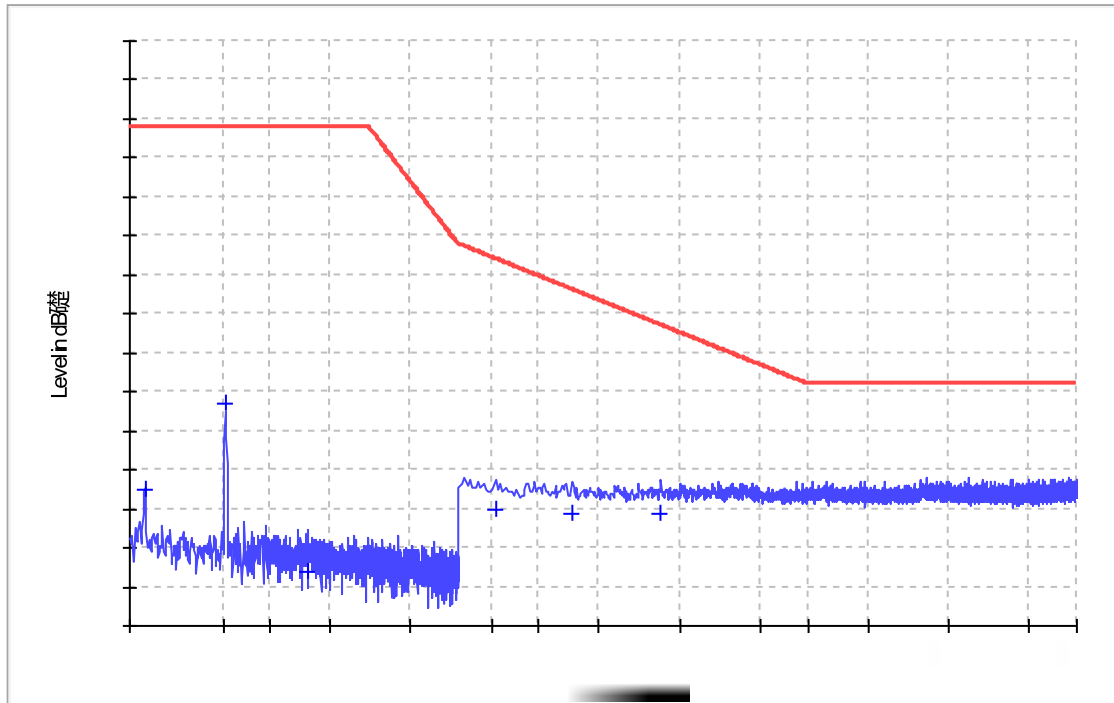
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Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop frame	Correction (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.010280	-5.2	1000.0	0.200	Y	0.0	93.2	88.0	
0.020520	16.9	1000.0	0.200	Y	0.0	71.1	88.0	
0.041240	-26.3	1000.0	0.200	Y	0.0	114.3	88.0	
0.206000	-10.0	1000.0	9.000	Y	0.0	64.2	54.2	
0.398000	-11.1	1000.0	9.000	Y	0.0	57.4	46.3	
0.854000	-11.2	1000.0	9.000	Y	0.1	48.3	37.1	



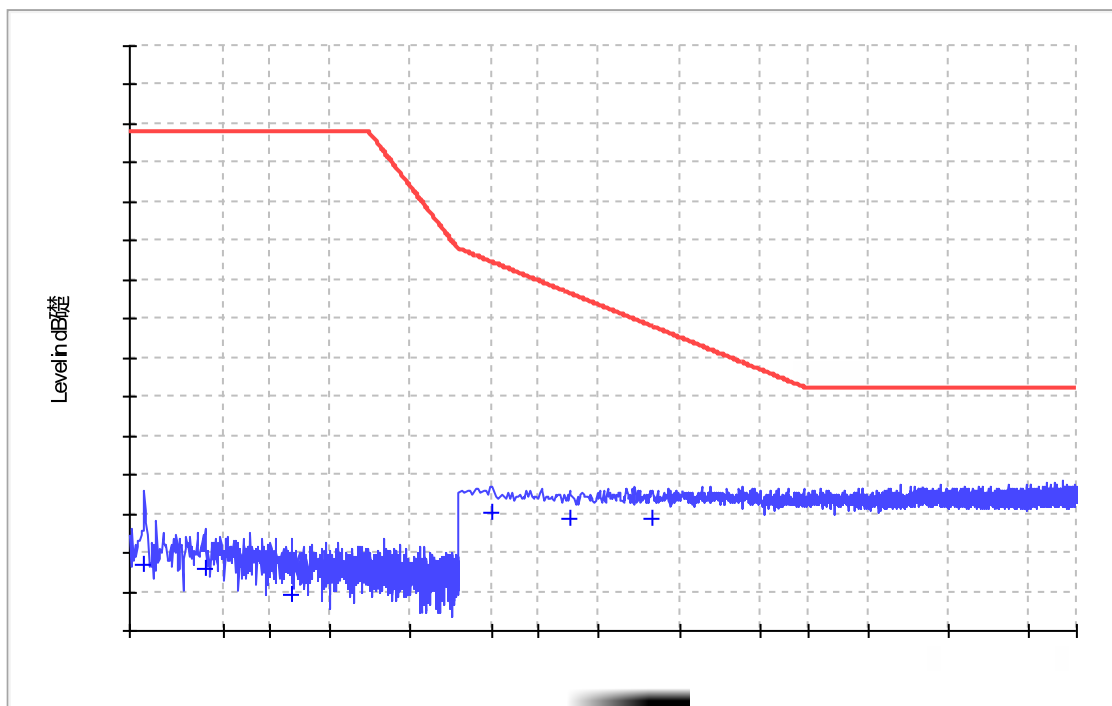
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Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBμA)	Meas. Time (ms)	Bandwidth (kHz)	Triple Loop fram	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμA)	Comment
0.010200	-22.8	1000.0	0.200	Z	0.0	110.8	88.0	
0.017240	-24.2	1000.0	0.200	Z	0.0	112.2	88.0	
0.036120	-30.6	1000.0	0.200	Z	0.0	118.6	88.0	
0.202000	-9.9	1000.0	9.000	Z	0.0	64.3	54.4	
0.390000	-11.1	1000.0	9.000	Z	0.0	57.6	46.5	
0.794000	-11.5	1000.0	9.000	Z	0.1	49.5	38.0	



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6.4 Harmonic Current Emission

Test Requirement: EN IEC 61000-3-2:2019+A1:2020

Test Method: EN IEC 61000-3-2:2019+A1:2020

Frequency Range: 100Hz to 2kHz

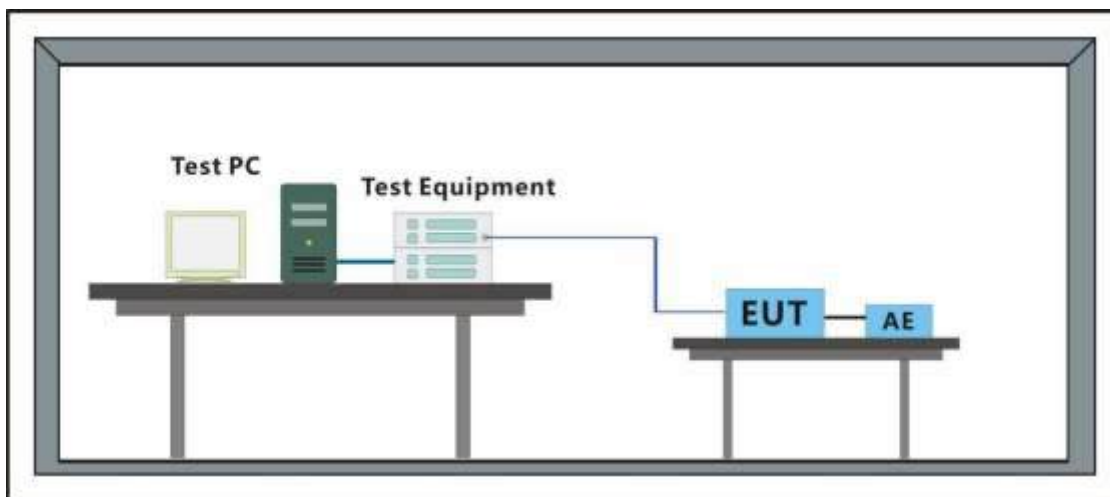
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode: a: Lighting mode: Keep EUT lighting continuously.

6.4.2 Test Setup



6.4.3 Measurement Data



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For model H-1085F50L60XTRSF

Mode a:

Average harmonic current results

Hn	I _{eff} [A]	I _{eff} [%]	Limit [A]	Result
1	304.782E-3	100.000		
2	4.061E-3	1.332	1.08	PASS
3	60.677E-3	19.908	2.30	PASS
4	4.413E-3	1.448	430.00E-3	PASS
5	58.146E-3	19.078	1.14	PASS
6	4.144E-3	1.360	300.00E-3	PASS
7	54.504E-3	17.883	770.00E-3	PASS
8	4.204E-3	1.379	230.00E-3	PASS
9	49.722E-3	16.314	400.00E-3	PASS
10	3.977E-3	1.305	184.00E-3	PASS
11	44.793E-3	14.697	330.00E-3	PASS
12	4.006E-3	1.315	153.33E-3	PASS
13	38.722E-3	12.705	210.00E-3	PASS
14	3.724E-3	1.222	131.43E-3	PASS
15	32.897E-3	10.794	150.00E-3	PASS
16	3.383E-3	1.110	115.00E-3	PASS
17	26.815E-3	8.798	132.35E-3	PASS
18	3.204E-3	1.051	102.22E-3	PASS
19	21.087E-3	6.919	118.42E-3	PASS
20	2.424E-3	0.795	92.00E-3	PASS
21	15.734E-3	5.162	160.71E-3	PASS
22	2.103E-3	0.690	83.64E-3	PASS
23	11.103E-3	3.643	146.74E-3	PASS
24	1.566E-3	0.514	76.66E-3	PASS
25	7.031E-3	2.307	135.00E-3	PASS
26	1.112E-3	0.365	70.77E-3	PASS
27	3.586E-3	1.176	124.99E-3	PASS
28	1.413E-3	0.464	65.71E-3	PASS
29	1.594E-3	0.523	116.39E-3	PASS
30	739.894E-6	0.243	61.33E-3	PASS
31	1.320E-3	0.433	108.87E-3	PASS
32	1.255E-3	0.412	57.50E-3	PASS
33	2.399E-3	0.787	102.27E-3	PASS
34	828.866E-6	0.272	54.12E-3	PASS
35	2.845E-3	0.934	96.44E-3	PASS
36	954.790E-6	0.313	51.11E-3	PASS
37	2.951E-3	0.968	91.21E-3	PASS
38	927.164E-6	0.304	48.42E-3	PASS
39	2.830E-3	0.928	86.53E-3	PASS
40	915.723E-6	0.300	46.00E-3	PASS



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Maximum harmonic current results

Hn	I _{eff} [A]	I _{eff} [%]	Limit [A]	Result
1	305.171E-3	100.000		
2	4.874E-3	1.597	1.62	PASS
3	60.871E-3	19.947	3.45	PASS
4	5.218E-3	1.710	645.00E-3	PASS
5	58.321E-3	19.111	1.71	PASS
6	5.044E-3	1.653	450.00E-3	PASS
7	54.663E-3	17.912	1.15	PASS
8	4.950E-3	1.622	345.00E-3	PASS
9	49.874E-3	16.343	600.00E-3	PASS
10	4.813E-3	1.577	276.00E-3	PASS
11	44.928E-3	14.722	495.00E-3	PASS
12	4.835E-3	1.584	229.99E-3	PASS
13	38.938E-3	12.759	315.00E-3	PASS
14	4.480E-3	1.468	197.15E-3	PASS
15	33.130E-3	10.856	225.00E-3	PASS
16	4.080E-3	1.337	172.50E-3	PASS
17	26.932E-3	8.825	198.52E-3	PASS
18	3.758E-3	1.231	153.33E-3	PASS
19	21.215E-3	6.952	177.63E-3	PASS
20	2.972E-3	0.974	138.00E-3	PASS
21	15.857E-3	5.196	160.71E-3	PASS
22	2.569E-3	0.842	125.46E-3	PASS
23	11.335E-3	3.714	146.74E-3	PASS
24	1.874E-3	0.614	114.99E-3	PASS
25	7.167E-3	2.349	135.00E-3	PASS
26	1.319E-3	0.432	106.16E-3	PASS
27	3.723E-3	1.220	124.99E-3	PASS
28	1.504E-3	0.493	98.57E-3	PASS
29	1.746E-3	0.572	116.39E-3	PASS
30	811.198E-6	0.266	92.00E-3	PASS
31	1.391E-3	0.456	108.87E-3	PASS
32	1.353E-3	0.443	86.25E-3	PASS
33	2.518E-3	0.825	102.27E-3	PASS
34	926.238E-6	0.304	81.18E-3	PASS
35	2.968E-3	0.972	96.44E-3	PASS
36	1.039E-3	0.340	76.66E-3	PASS
37	3.243E-3	1.063	91.21E-3	PASS
38	1.040E-3	0.341	72.63E-3	PASS
39	2.915E-3	0.955	86.53E-3	PASS
40	1.046E-3	0.343	69.00E-3	PASS



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Maximum harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.64	100.279		
2	85.17E-3	0.037	0.2	PASS
3	491.00E-3	0.213	0.9	PASS
4	54.91E-3	0.024	0.2	PASS
5	33.61E-3	0.015	0.4	PASS
6	48.66E-3	0.021	0.2	PASS
7	36.47E-3	0.016	0.3	PASS
8	20.35E-3	0.009	0.2	PASS
9	28.39E-3	0.012	0.2	PASS
10	14.67E-3	0.006	0.2	PASS
11	28.38E-3	0.012	0.1	PASS
12	11.42E-3	0.005	0.1	PASS
13	31.21E-3	0.014	0.1	PASS
14	9.53E-3	0.004	0.1	PASS
15	24.20E-3	0.011	0.1	PASS
16	7.23E-3	0.003	0.1	PASS
17	25.65E-3	0.011	0.1	PASS
18	15.87E-3	0.007	0.1	PASS
19	25.25E-3	0.011	0.1	PASS
20	9.11E-3	0.004	0.1	PASS
21	24.68E-3	0.011	0.1	PASS
22	8.69E-3	0.004	0.1	PASS
23	16.08E-3	0.007	0.1	PASS
24	7.36E-3	0.003	0.1	PASS
25	15.18E-3	0.007	0.1	PASS
26	8.84E-3	0.004	0.1	PASS
27	8.76E-3	0.004	0.1	PASS
28	7.15E-3	0.003	0.1	PASS
29	11.03E-3	0.005	0.1	PASS
30	6.06E-3	0.003	0.1	PASS
31	8.84E-3	0.004	0.1	PASS
32	8.16E-3	0.004	0.1	PASS
33	6.90E-3	0.003	0.1	PASS
34	8.09E-3	0.004	0.1	PASS
35	8.71E-3	0.004	0.1	PASS
36	7.79E-3	0.003	0.1	PASS
37	10.76E-3	0.005	0.1	PASS
38	6.99E-3	0.003	0.1	PASS
39	11.21E-3	0.005	0.1	PASS
40	9.42E-3	0.004	0.1	PASS

Power and THD results - DS: 1

True power P:	69.81W	Apparent power S:	77.16VA
Reactive power Q:	32.85var	Power factor:	0.905
THD (U):	0.002	THD (I):	0.451
Crest Factor (U):	1.414	Crest Factor (I):	3.017



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For model H-1298L15T (980.837021)

Mode a:

Harmonic current results

Hn	I _{eff} [A]	I _{eff} [%]	Limit [%]	Result
1	67.956E-3	100.000		
2	754.773E-6	1.111		PASS
3	21.866E-3	32.176	86.00	PASS
4	415.682E-6	0.612		PASS
5	4.898E-3	7.208	61.00	PASS
6	679.418E-6	1.000		PASS
7	18.098E-3	26.632		PASS
8	301.785E-6	0.444		PASS
9	10.311E-3	15.173		PASS
10	495.207E-6	0.729		PASS
11	2.814E-3	4.141		PASS
12	655.618E-6	0.965		PASS
13	4.972E-3	7.317		PASS
14	212.112E-6	0.312		PASS
15	4.308E-3	6.340		PASS
16	462.223E-6	0.680		PASS
17	4.525E-3	6.659		PASS
18	1.060E-3	1.560		PASS
19	3.454E-3	5.083		PASS
20	212.295E-6	0.312		PASS
21	2.709E-3	3.987		PASS
22	154.594E-6	0.227		PASS
23	1.830E-3	2.692		PASS
24	271.092E-6	0.399		PASS
25	2.934E-3	4.317		PASS
26	184.488E-6	0.271		PASS
27	3.372E-3	4.963		PASS
28	245.984E-6	0.362		PASS
29	1.324E-3	1.948		PASS
30	466.254E-6	0.686		PASS
31	1.612E-3	2.372		PASS
32	115.133E-6	0.169		PASS
33	2.301E-3	3.385		PASS
34	406.770E-6	0.599		PASS
35	1.583E-3	2.330		PASS
36	287.494E-6	0.423		PASS
37	1.813E-3	2.668		PASS
38	198.731E-6	0.292		PASS
39	2.044E-3	3.007		PASS
40	106.880E-6	0.157		PASS

Power and THD results

True power P:	13.27W	Apparent power S:	17.41VA
Reactiv power Q:	11.26var	Power factor:	0.762
THD (U):	0.002	THD (I):	0.485
Crest Factor (U):	1.413	Crest Factor (I):	1.333



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Harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.48	100.207		
2	69.93E-3	0.030	0.2	PASS
3	462.66E-3	0.201	0.9	PASS
4	42.07E-3	0.018	0.2	PASS
5	39.32E-3	0.017	0.4	PASS
6	27.45E-3	0.012	0.2	PASS
7	21.23E-3	0.009	0.3	PASS
8	9.94E-3	0.004	0.2	PASS
9	26.11E-3	0.011	0.2	PASS
10	2.97E-3	0.001	0.2	PASS
11	4.33E-3	0.002	0.1	PASS
12	5.47E-3	0.002	0.1	PASS
13	4.05E-3	0.002	0.1	PASS
14	3.05E-3	0.001	0.1	PASS
15	6.04E-3	0.003	0.1	PASS
16	4.24E-3	0.002	0.1	PASS
17	4.33E-3	0.002	0.1	PASS
18	12.88E-3	0.006	0.1	PASS
19	3.71E-3	0.002	0.1	PASS
20	4.30E-3	0.002	0.1	PASS
21	2.24E-3	0.001	0.1	PASS
22	2.04E-3	0.001	0.1	PASS
23	424.09E-6	0.000	0.1	PASS
24	5.72E-3	0.002	0.1	PASS
25	5.51E-3	0.002	0.1	PASS
26	761.27E-6	0.000	0.1	PASS
27	3.40E-3	0.001	0.1	PASS
28	3.80E-3	0.002	0.1	PASS
29	5.83E-3	0.003	0.1	PASS
30	2.25E-3	0.001	0.1	PASS
31	6.07E-3	0.003	0.1	PASS
32	2.88E-3	0.001	0.1	PASS
33	3.20E-3	0.001	0.1	PASS
34	3.42E-3	0.001	0.1	PASS
35	3.72E-3	0.002	0.1	PASS
36	399.84E-6	0.000	0.1	PASS
37	2.49E-3	0.001	0.1	PASS
38	6.45E-3	0.003	0.1	PASS
39	3.00E-3	0.001	0.1	PASS
40	2.77E-3	0.001	0.1	PASS



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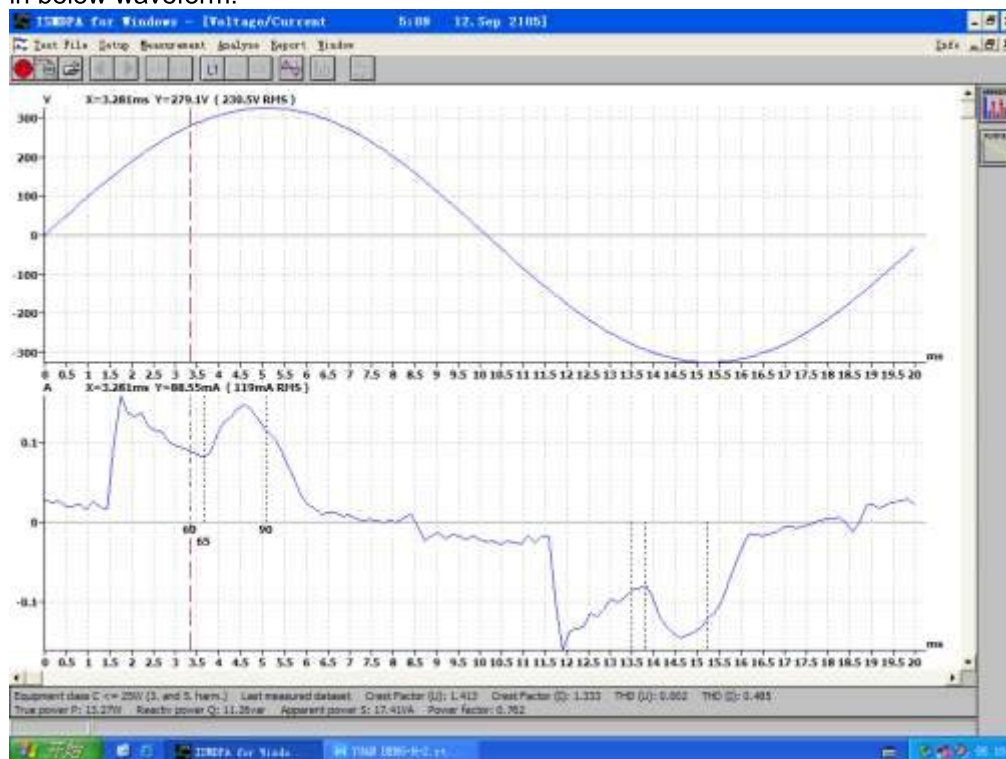
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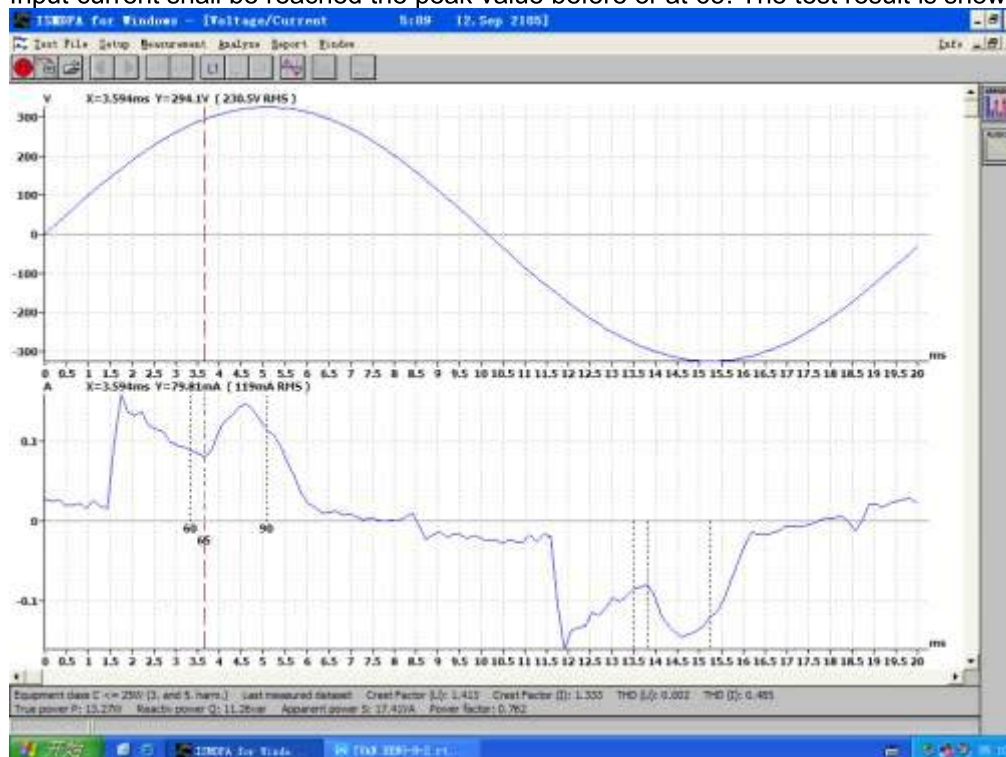
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Input current shall be such that it reaches the 5 % current threshold before or at 60°. The test result is shown in below waveform.



Input current shall be reached the peak value before or at 65°. The test result is shown in below waveform.



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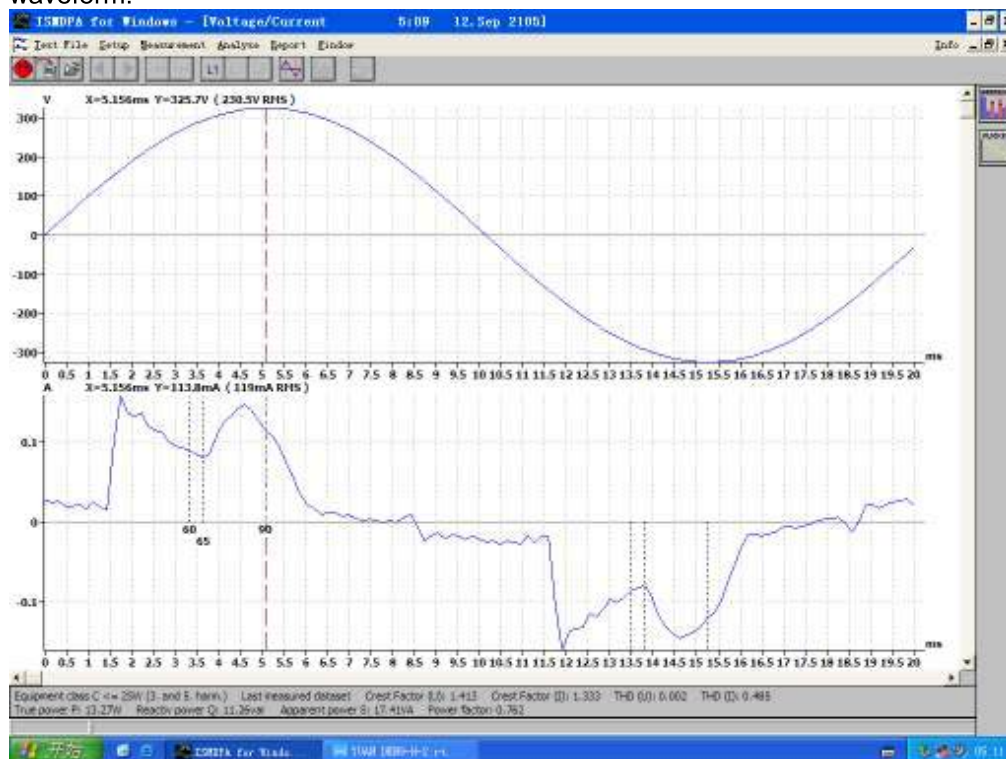
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Input current does not fall below the 5 % current threshold before 90°. The test result is shown in below waveform.



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For model H-2291L20T (FEENS2170EK)

Mode a:

I_Fund (Amps):0.048			
Harm	Harms(avg)	Limit	Status
2	0.000	0.005	Pass
3	0.027	0.035	Pass
5	0.005	0.025	Pass
7	0.024	0.030	Pass
9	0.011	0.020	Pass
11	0.006	0.020	Pass
Limit for I-THD(%):	Measuring value (%)	Status	
70	42.4	Pass	



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For model H-1298L8T (980.835020)

Mode a:

Harmonic current results

Hn	I _{eff} [A]	I _{eff} [%]	Limit [%]	Result
1	38.601E-3	100.000		
2	703.771E-6	1.823		PASS
3	23.036E-3	59.678	86.00	PASS
4	152.051E-6	0.394		PASS
5	8.348E-3	21.627	61.00	PASS
6	505.801E-6	1.310		PASS
7	9.008E-3	23.336		PASS
8	638.017E-6	1.653		PASS
9	8.309E-3	21.526		PASS
10	344.099E-6	0.891		PASS
11	2.942E-3	7.622		PASS
12	279.030E-6	0.723		PASS
13	4.486E-3	11.620		PASS
14	248.586E-6	0.644		PASS
15	5.268E-3	13.649		PASS
16	68.967E-6	0.179		PASS
17	2.964E-3	7.678		PASS
18	374.847E-6	0.971		PASS
19	2.093E-3	5.422		PASS
20	467.965E-6	1.212		PASS
21	3.679E-3	9.530		PASS
22	162.343E-6	0.421		PASS
23	3.143E-3	8.143		PASS
24	158.085E-6	0.410		PASS
25	1.304E-3	3.379		PASS
26	181.183E-6	0.469		PASS
27	2.643E-3	6.846		PASS
28	366.697E-6	0.950		PASS
29	2.554E-3	6.617		PASS
30	203.289E-6	0.527		PASS
31	1.505E-3	3.900		PASS
32	1.291E-3	3.345		PASS
33	1.755E-3	4.546		PASS
34	132.749E-6	0.344		PASS
35	2.250E-3	5.829		PASS
36	94.489E-6	0.245		PASS
37	2.127E-3	5.509		PASS
38	19.745E-6	0.051		PASS
39	1.529E-3	3.961		PASS
40	313.507E-6	0.812		PASS

Power and THD results

True power P:	7.206W	Apparent power S:	11.25VA
Reactiv power Q:	8.645var	Power factor:	0.640
THD (U):	0.002	THD (I):	0.774
Crest Factor (U):	1.413	Crest Factor (I):	2.719



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Harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.61	100.267		
2	68.18E-3	0.030	0.2	PASS
3	461.14E-3	0.200	0.9	PASS
4	26.72E-3	0.012	0.2	PASS
5	47.65E-3	0.021	0.4	PASS
6	41.34E-3	0.018	0.2	PASS
7	15.70E-3	0.007	0.3	PASS
8	3.62E-3	0.002	0.2	PASS
9	27.13E-3	0.012	0.2	PASS
10	2.19E-3	0.001	0.2	PASS
11	3.41E-3	0.001	0.1	PASS
12	5.69E-3	0.002	0.1	PASS
13	5.85E-3	0.003	0.1	PASS
14	1.08E-3	0.000	0.1	PASS
15	6.64E-3	0.003	0.1	PASS
16	2.30E-3	0.001	0.1	PASS
17	1.28E-3	0.001	0.1	PASS
18	7.13E-3	0.003	0.1	PASS
19	3.10E-3	0.001	0.1	PASS
20	5.12E-3	0.002	0.1	PASS
21	7.81E-3	0.003	0.1	PASS
22	2.66E-3	0.001	0.1	PASS
23	7.28E-3	0.003	0.1	PASS
24	3.93E-3	0.002	0.1	PASS
25	3.12E-3	0.001	0.1	PASS
26	933.44E-6	0.000	0.1	PASS
27	3.77E-3	0.002	0.1	PASS
28	2.07E-3	0.001	0.1	PASS
29	1.56E-3	0.001	0.1	PASS
30	1.93E-3	0.001	0.1	PASS
31	3.95E-3	0.002	0.1	PASS
32	1.47E-3	0.001	0.1	PASS
33	1.99E-3	0.001	0.1	PASS
34	3.04E-3	0.001	0.1	PASS
35	2.78E-3	0.001	0.1	PASS
36	3.01E-3	0.001	0.1	PASS
37	4.52E-3	0.002	0.1	PASS
38	1.36E-3	0.001	0.1	PASS
39	2.80E-3	0.001	0.1	PASS
40	4.31E-3	0.002	0.1	PASS



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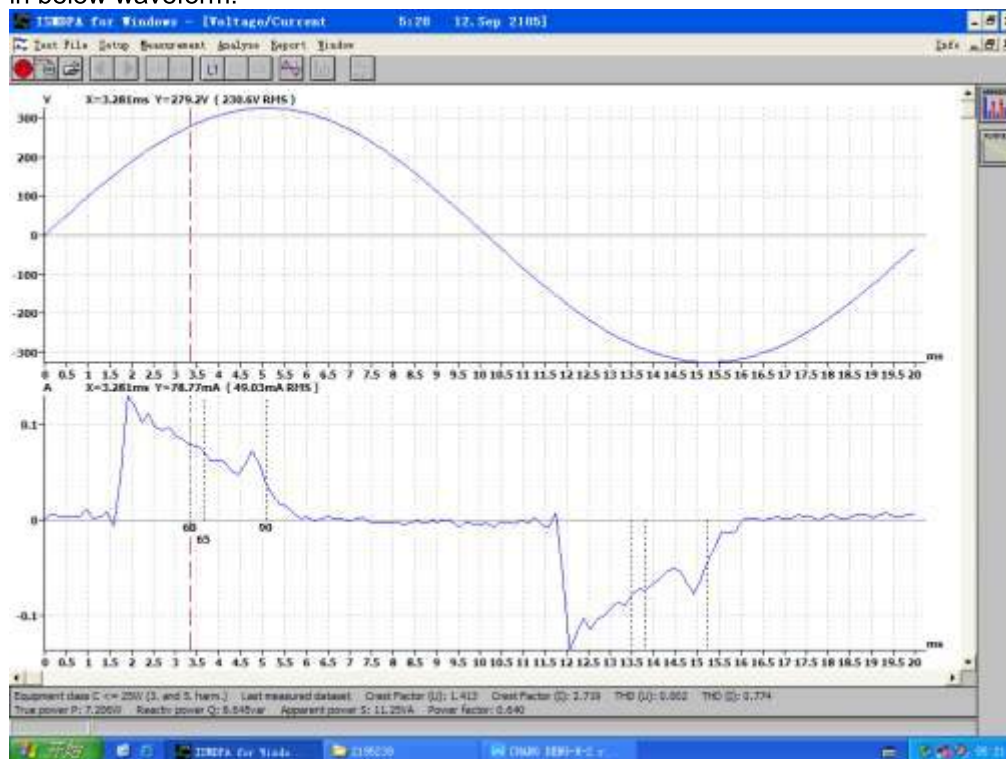
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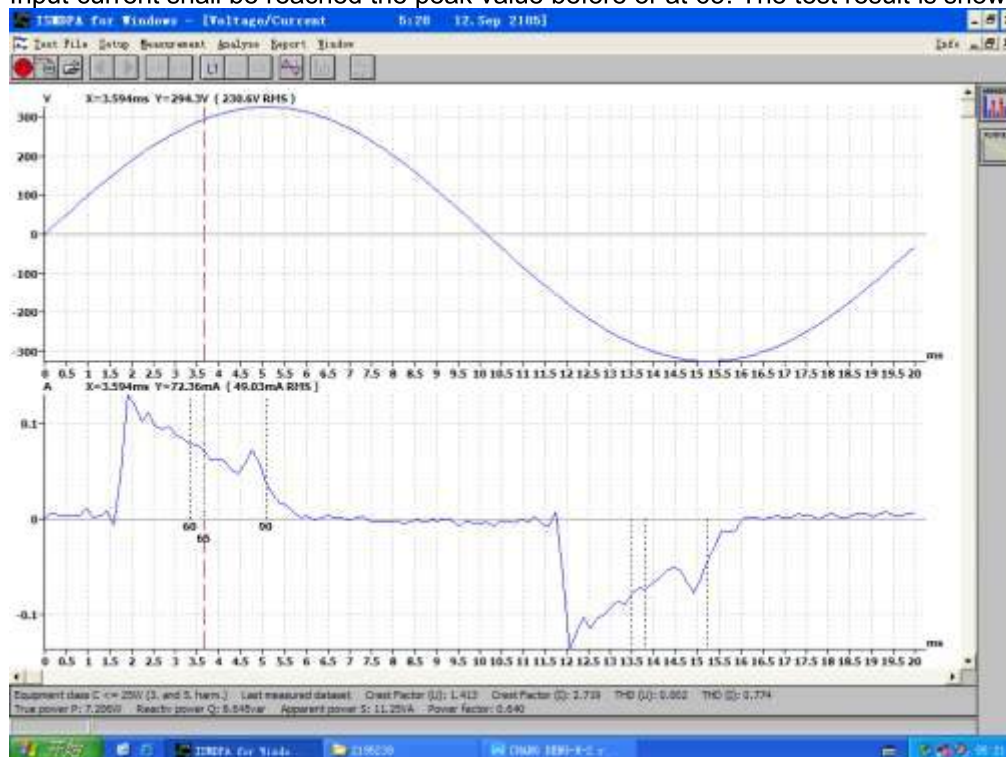
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Input current shall be such that it reaches the 5 % current threshold before or at 60°. The test result is shown in below waveform.



Input current shall be reached the peak value before or at 65°. The test result is shown in below waveform.



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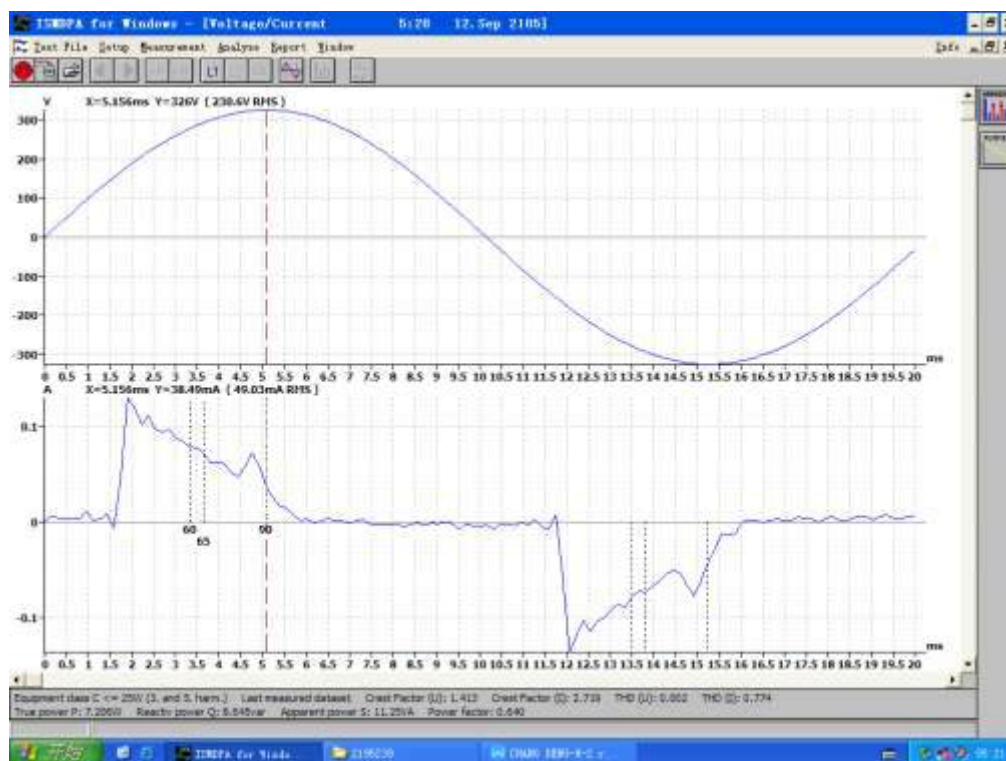
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Input current does not fall below the 5 % current threshold before 90°. The test result is shown in below waveform.



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6.5 Voltage Fluctuations and Flicker

Test Requirement: EN 61000-3-3:2013+A1:2019

Test Method: EN 61000-3-3:2013+A1:2019

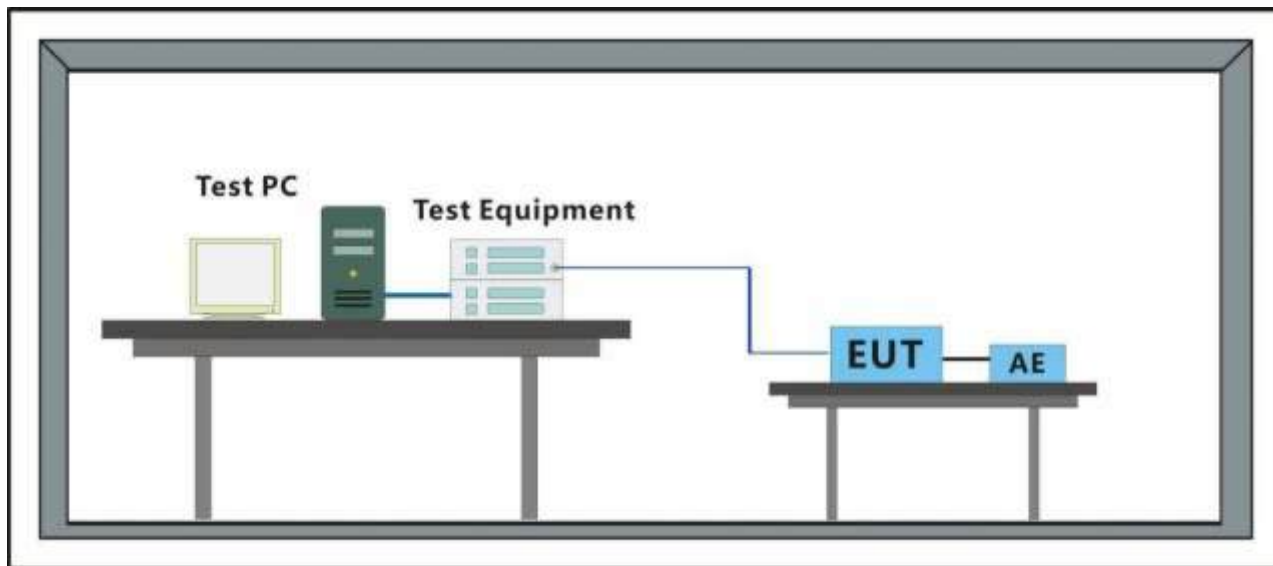
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode a: Lighting mode: Keep EUT lighting continuously.

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

For model H-1085F50L60XTRSF

Mode a:

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.033	1.00	PASS
dc [%]	0.052	3.30	PASS
dmax [%]	0.313	6.00	PASS
Tmax [s]	0.000	0.50	PASS



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For model H-1298L15T (980.837021)

Mode a:

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.037	1.00	PASS
Plt	0.037	0.65	PASS
dc [%]	0.004	3.30	PASS
dmax [%]	0.342	4.00	PASS
Tmax [s]	0.000	0.50	PASS

For model H-2291L20T (FEENS2170EK)

Mode a:

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.028	1.00	PASS
Plt	0.028	0.65	PASS
dc [%]	0.004	3.30	PASS
dmax [%]	0.169	4.00	PASS
T max [s]	0.000	0.50	PASS

For model H-1298L8T (980.835020)

Mode a:

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.043	1.00	PASS
Plt	0.043	0.65	PASS
dc [%]	0.005	3.30	PASS
dmax [%]	0.314	4.00	PASS
Tmax [s]	0.001	0.50	PASS



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7 Immunity Test Results

7.1 Performance Criteria Description in EN 61547:2009

- Criterion A** During the test no change of the luminous intensity shall be observed and the regulating control, if any, shall operate during the test as intended.
- Criterion B** During the test the luminous intensity may change to any value. After the test the luminous intensity shall be restored to its initial value within 1 min.
- Regulating controls need not function during the test, but after the test the mode of the control shall be the same as before the test provided that during the test no mode changing commands were given.
- Criterion C** During and after the test any change of the luminous intensity is allowed and the lamp(s) may be extinguished. After the test, within 30 min, all functions shall return to normal if necessary by temporary interruption of the mains supply and/or operating the regulating control.



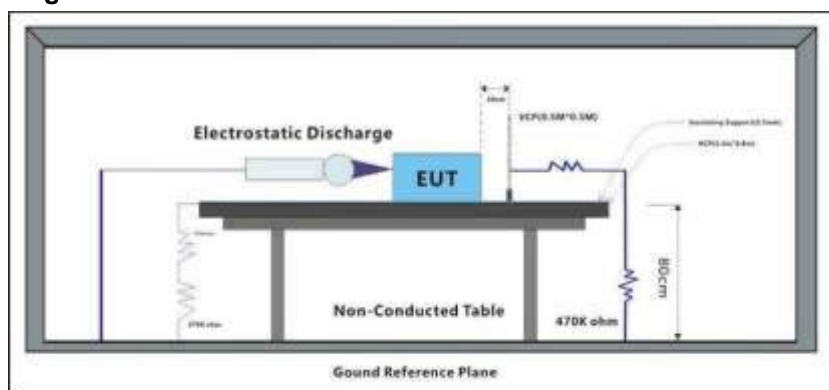
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7.2 Electrostatic Discharge

Test Requirement:	EN 61547:2009
Test Method:	EN 61000-4-2:2009
Performance Criterion:	B
Discharge Impedance:	330Ω/150pF
Number of Discharge:	Minimum 10 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.2.3 Test Results:

Observations: Test Point:

1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side

Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	A
Air Discharge	2,4,8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Results:

A: No degradation in the performance of the EUT was observed.



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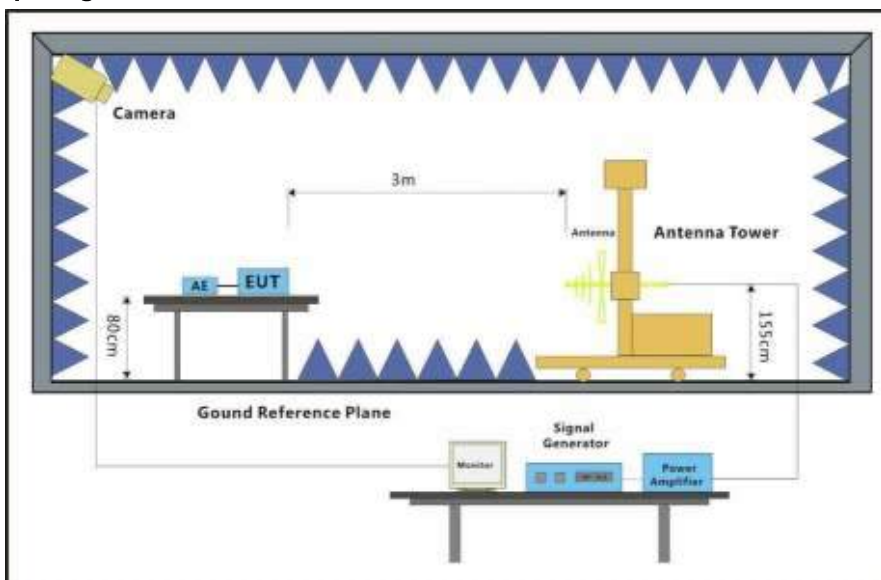
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7.3 Radiated Immunity (80MHz-1GHz)

Test Requirement: EN 61547:2009
 Test Method: EN 61000-4-3:2006 +A1:2008+A2:2010
 Performance Criterion: A
 Frequency Range: 80MHz to 1GHz
 Antenna Polarisation: Vertical and Horizontal
 Modulation: 1kHz,80% Amp. Mod,1% increment

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
 Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.3.3 Test Results:

Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-1GHz	3	Front	3s	A
80MHz-1GHz	3	Back	3s	A
80MHz-1GHz	3	Left	3s	A
80MHz-1GHz	3	Right	3s	A
80MHz-1GHz	3	Top	3s	A
80MHz-1GHz	3	Underside	3s	A

Results:

A: No degradation in the performance of the EUT was observed.



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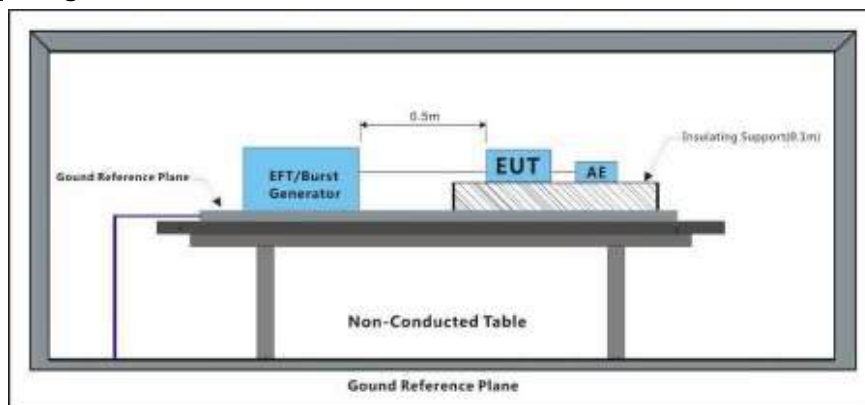
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7.4 Electrical Fast Transients/Burst at Power Port

Test Requirement: EN 61547:2009
 Test Method: EN 61000-4-4:2012
 Performance Criterion: B
 Repetition Frequency: 5kHz
 Burst Period: 300ms
 Test Duration: 2 minute per level & polarity

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.4.3 Test Results:

Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

Results:

A: No degradation in the performance of the EUT was observed.



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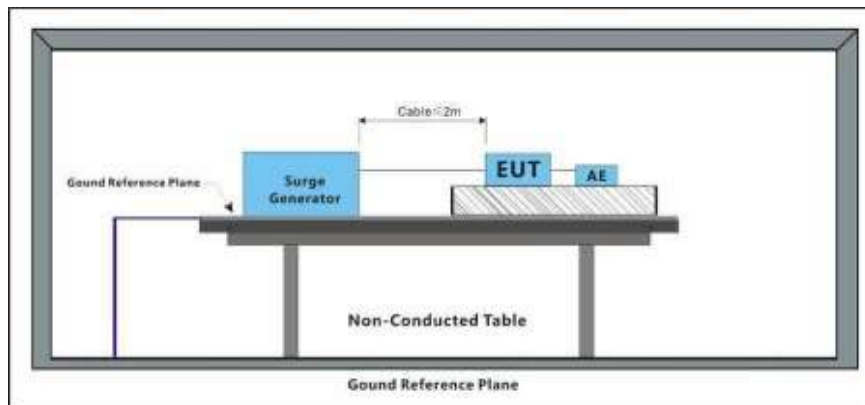
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7.5 Surge at Power Port

Test Requirement: EN 61547:2009
Test Method: EN 61000-4-5:2014 +A1:2017
Performance Criterion: C
No. of surges: 5 positive at 90°, 5 negative at 270°

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.5.3 Test Results:

For model H-1298L15T (980.837021), H-2291L20T (FEENS2170EK), H-1298L8T (980.835020)

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	0.5	+	90°	A
L-N	0.5	-	270°	A

Results:

A: No degradation in the performance of the EUT was observed.

For model H-1085F50L60XTRSF

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	1	+	90°	A
L-N	1	-	270°	A

Results:

A: No degradation in the performance of the EUT was observed.



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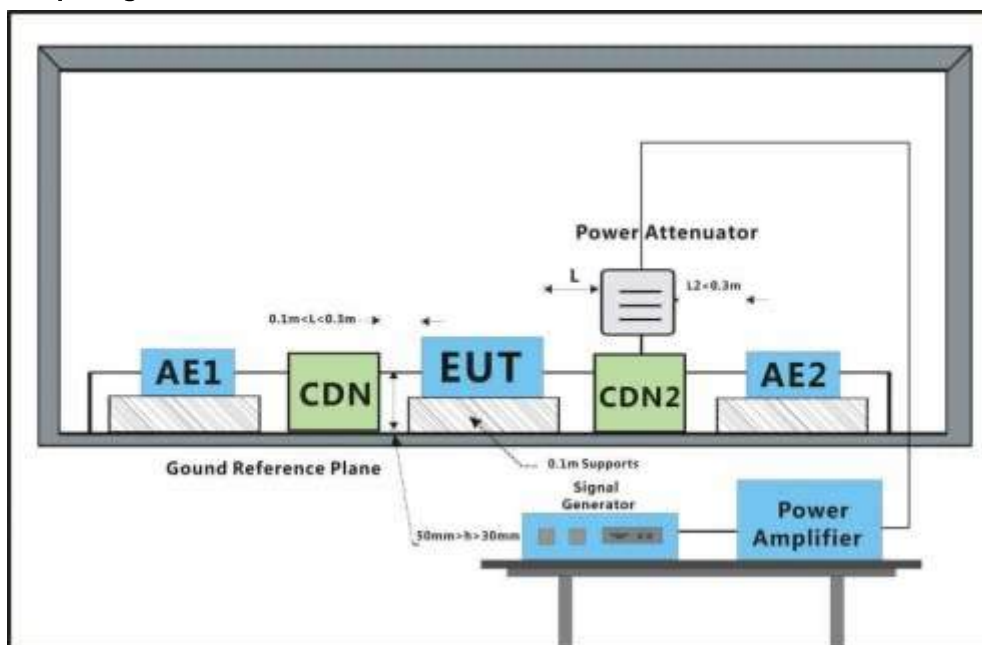
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7.6 Conducted Immunity at Power Port (150kHz-80MHz)

Test Requirement: EN 61547:2009
 Test Method: EN 61000-4-6:2014
 Performance Criterion: A
 Frequency Range: 0.15MHz to 80MHz
 Modulation: 80%, 1kHz Amplitude Modulation
 Step Size: 1%

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar
 Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.6.3 Test Results:

Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	3	CDN	3s	A

Results:

A: No degradation in the performance of the EUT was observed.



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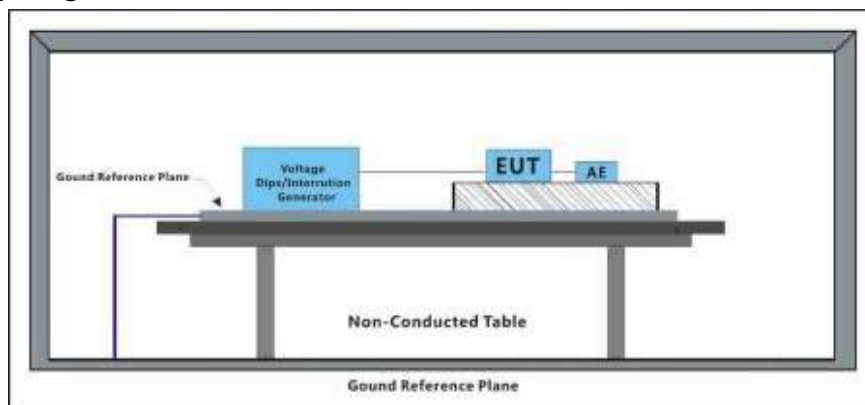
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7.7 Voltage Dips and Interruptions

Test Requirement: EN 61547:2009
Test Method: EN 61000-4-11:2004 +A1:2017
Performance Criterion: 0% of UT (Supply Voltage) for 0.5 Periods:B;
70 % of UT for 10 Periods:C
No. of Dips / Interruptions: 3 per Level
Time between dropout 10s

7.7.1 Test Setup Diagram



7.7.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Lighting mode: Keep EUT lighting continuously.

7.7.3 Test Results:

Level % UT	Phase (deg)	Duration	No. of Dips / Interruptions	Result / Observations
0	0°	0.5 Cycles	3	A
0	180°	0.5 Cycles	3	A
70	0°	10 Cycles	3	A
70	180°	10 Cycles	3	A

Results:

A: No degradation in the performance of the EUT was observed.



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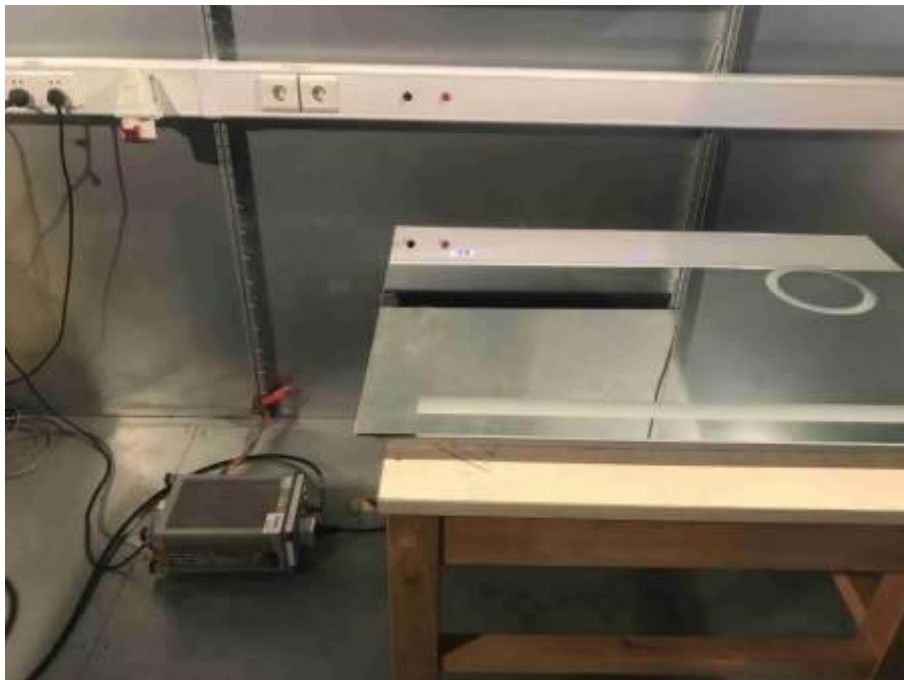
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8 Photographs

8.1 Conducted Emissions at Mains Terminals (9kHz-30MHz) Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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8.2 Radiated Emissions (30MHz-1000MHz) Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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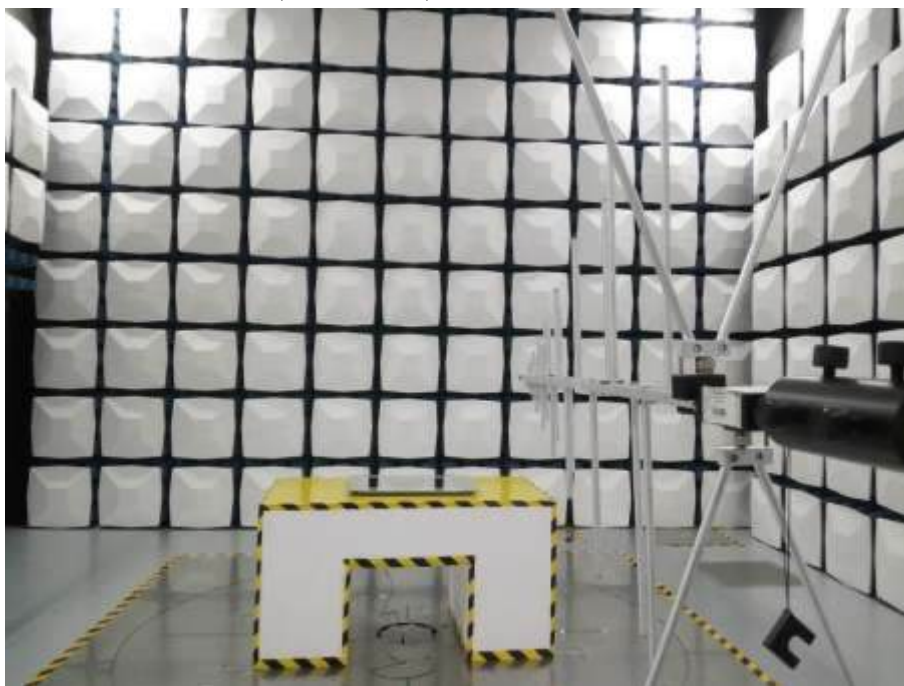
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For model H-1298L8T (980.835020)



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8.3 Radiated Emissions (Magnetic field Induced Current)(9kHz-30MHz) Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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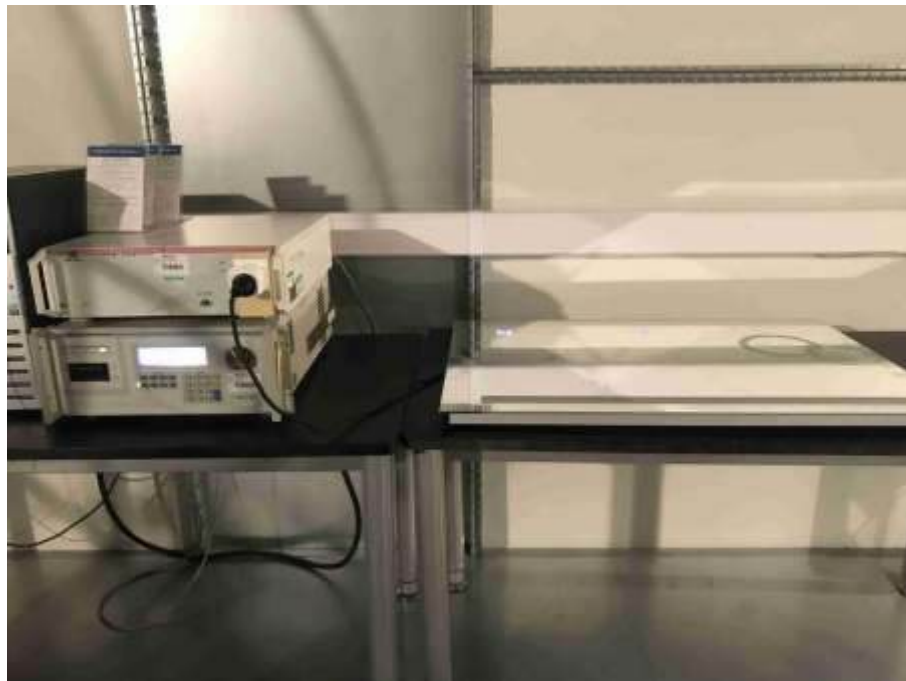
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8.4 Harmonic Current Emission & Voltage Fluctuations and Flicker Test Setup

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For model H-1298L15T (980.837021)



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8.5 Electrostatic Discharge Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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8.6 Radiated Immunity (80MHz-1GHz) Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-1298L8T (980.835020)



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8.7 Electrical Fast Transients/Burst at Power Port Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-1298L8T (980.835020)



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8.8 Surge at Power Port Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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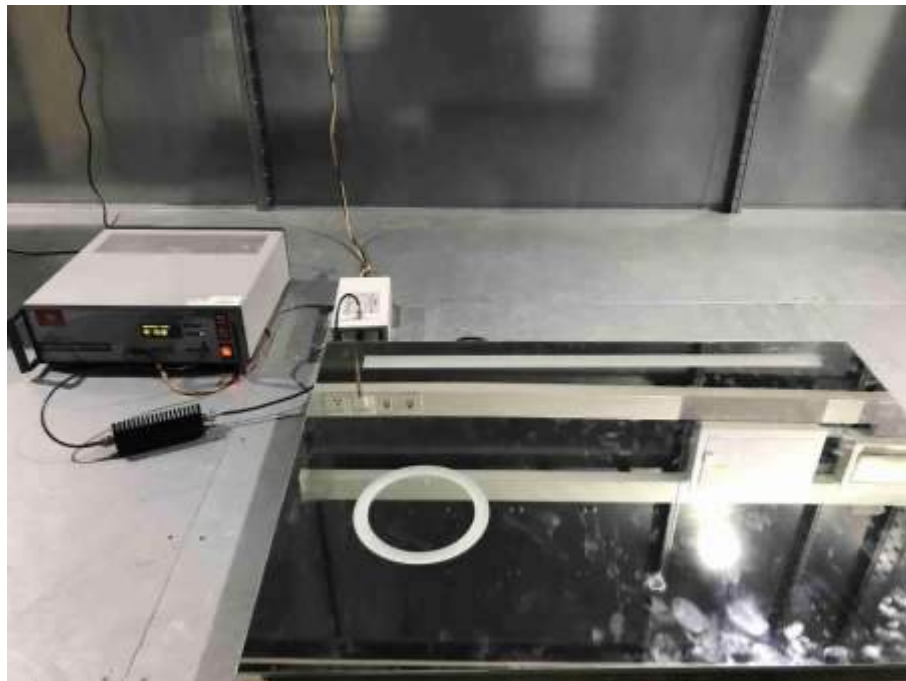
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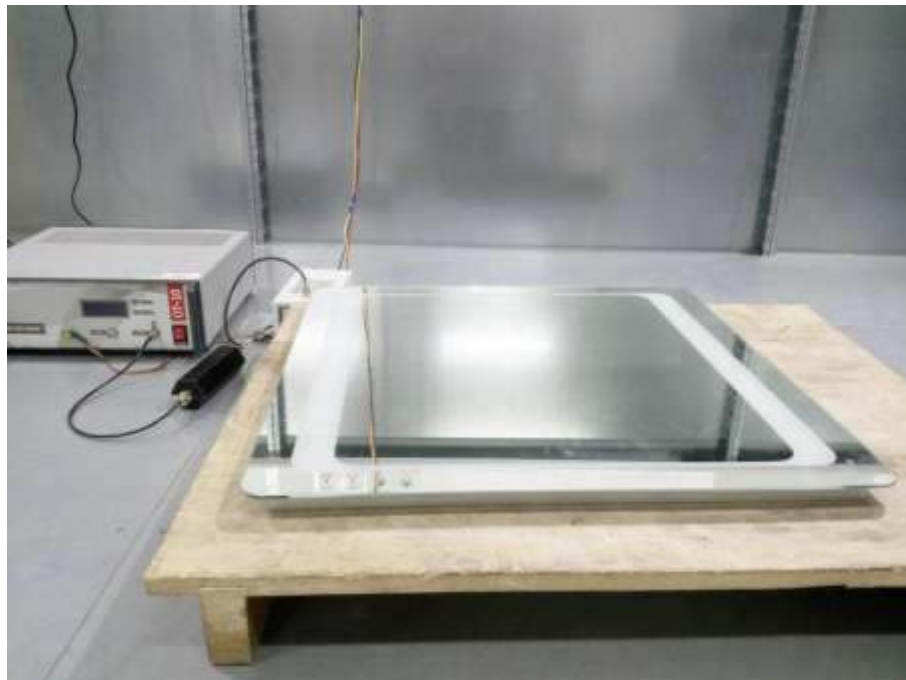
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8.9 Conducted Immunity at Power Port (150kHz-80MHz) Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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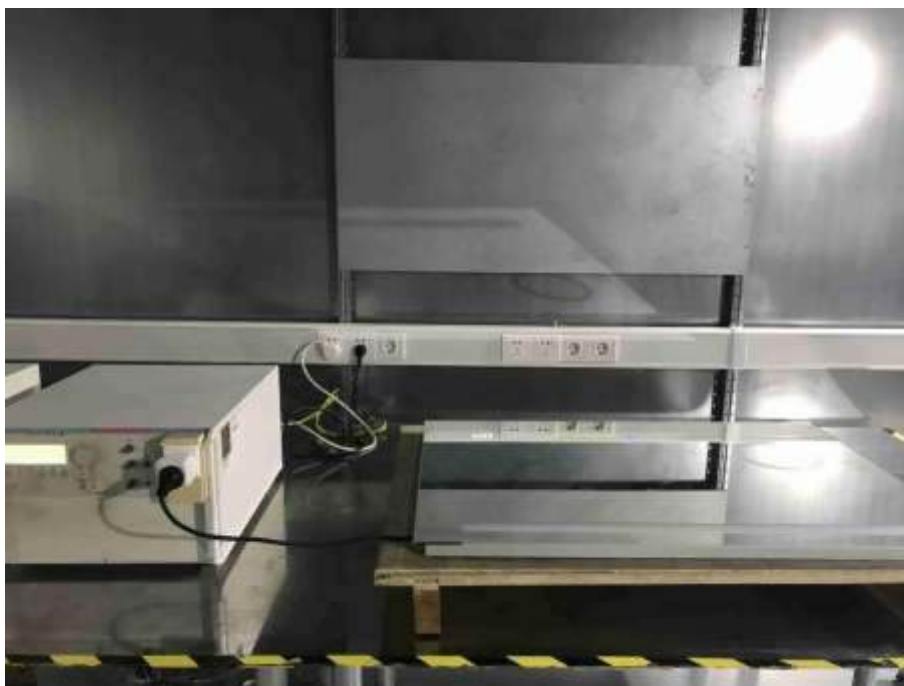
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8.10 Voltage Dips and Interruptions Test Setup

For model H-1085F50L60XTRSF



For model H-1298L15T (980.837021)



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For model H-2291L20T (FEENS2170EK)



For model H-1298L8T (980.835020)



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8.11 EUT Constructional Details (EUT Photos)

For model H-1085F50L60XTRSF



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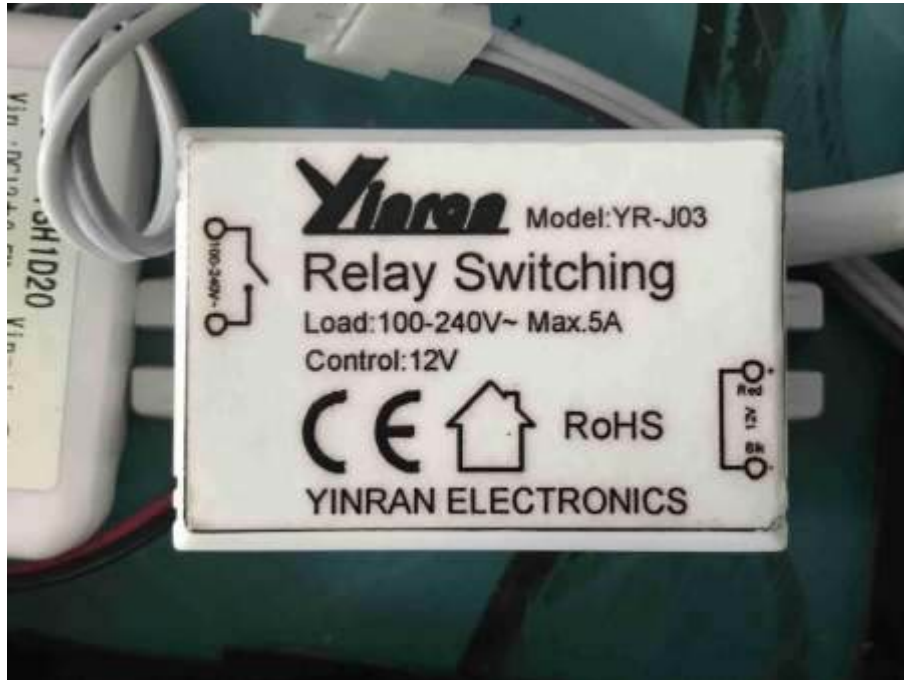


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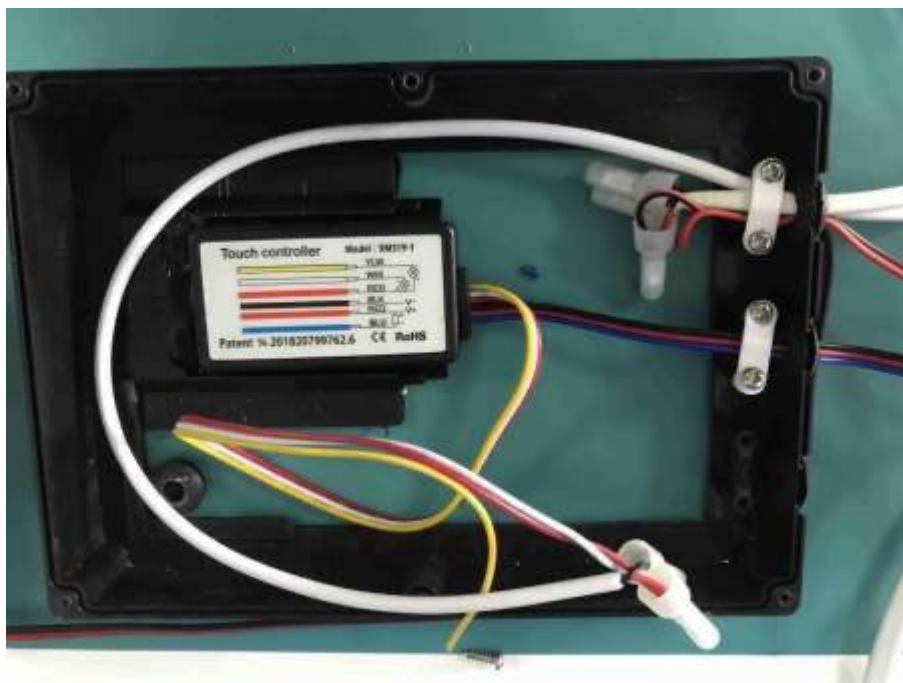
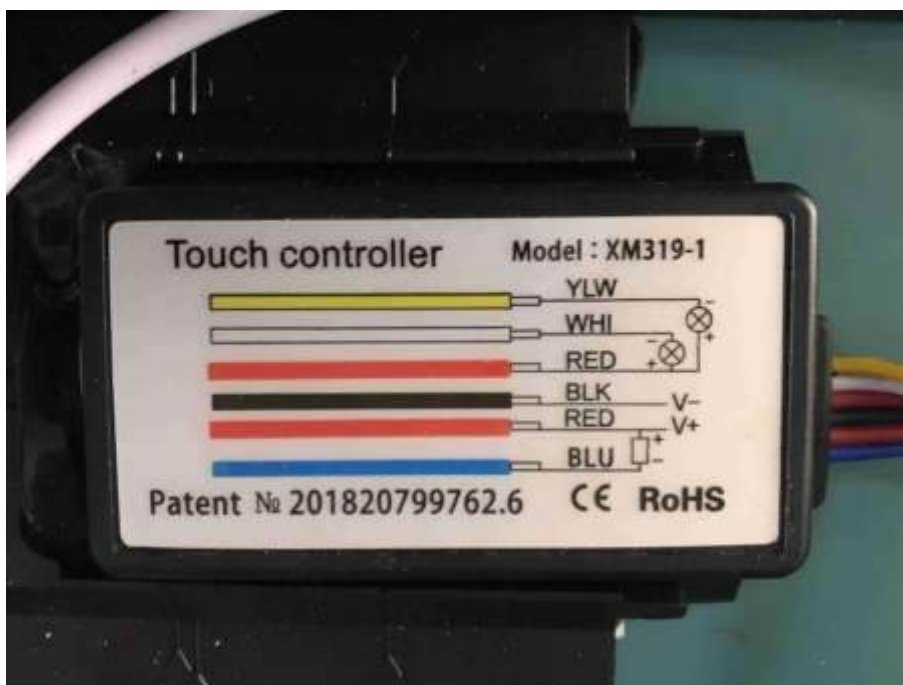
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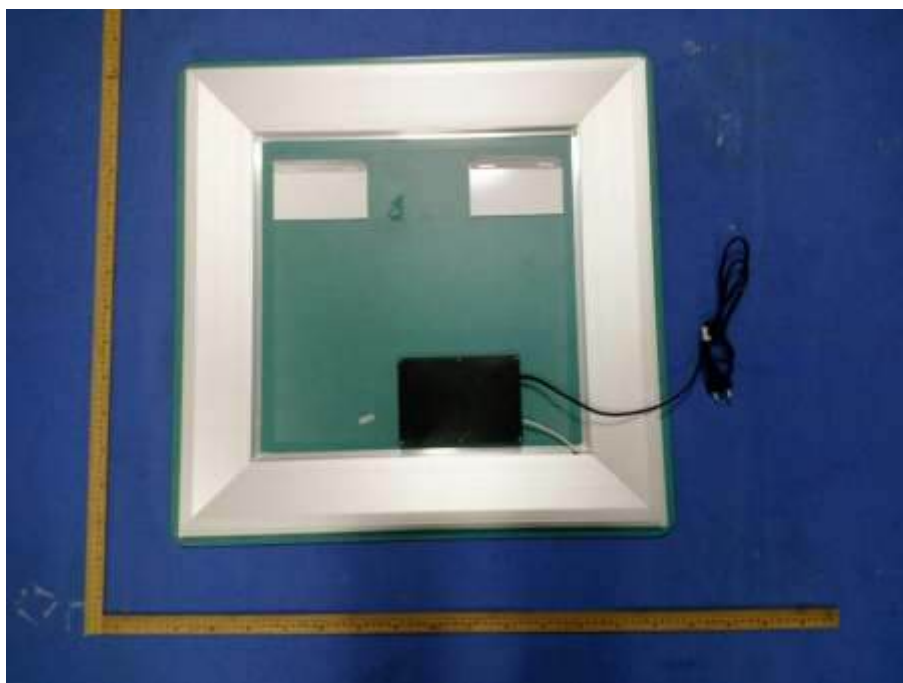
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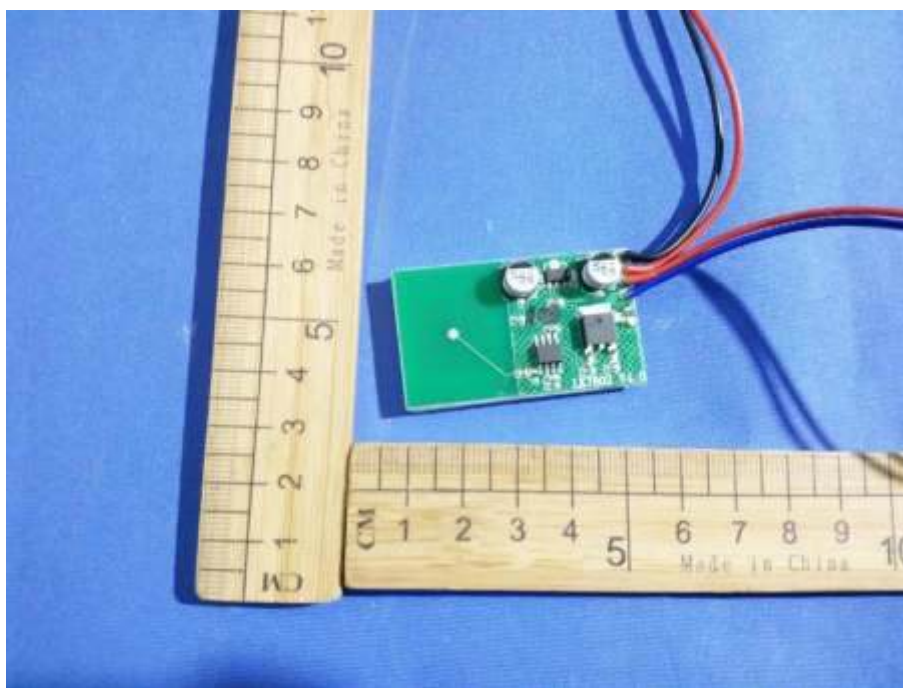


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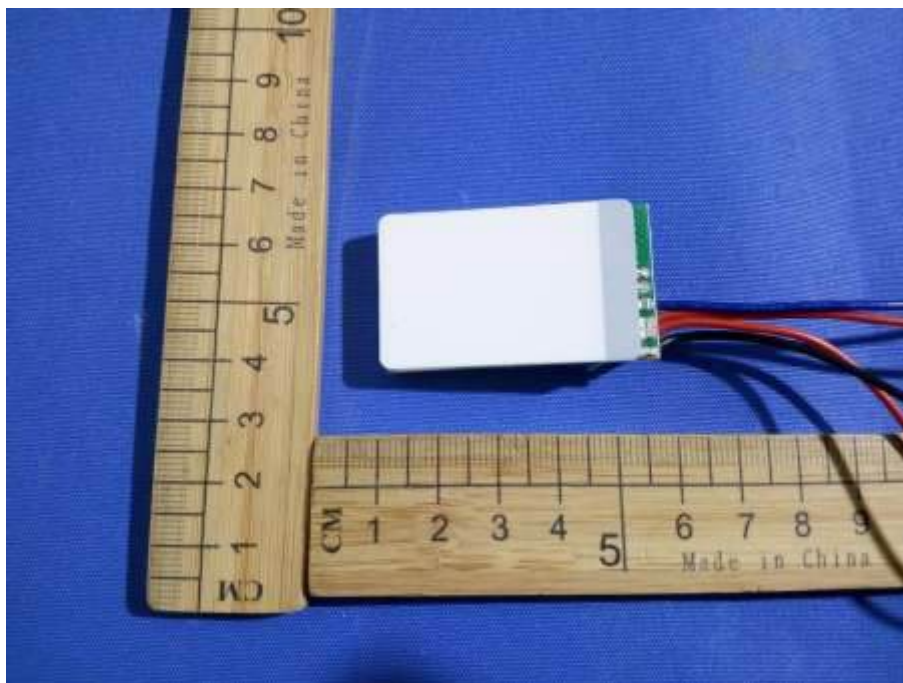
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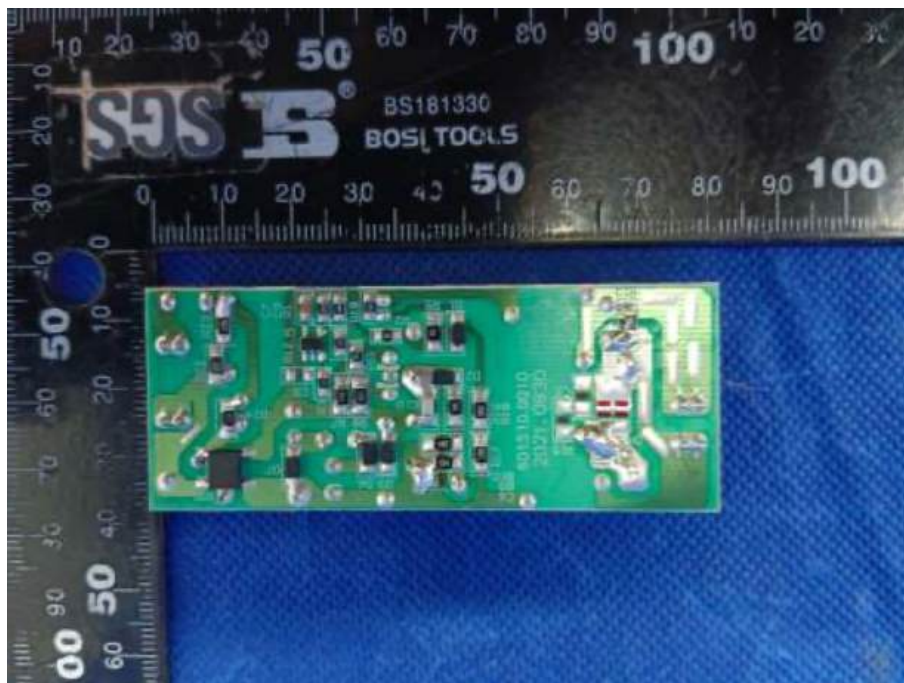


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For model H-2291L20T (FEENS2170EK)

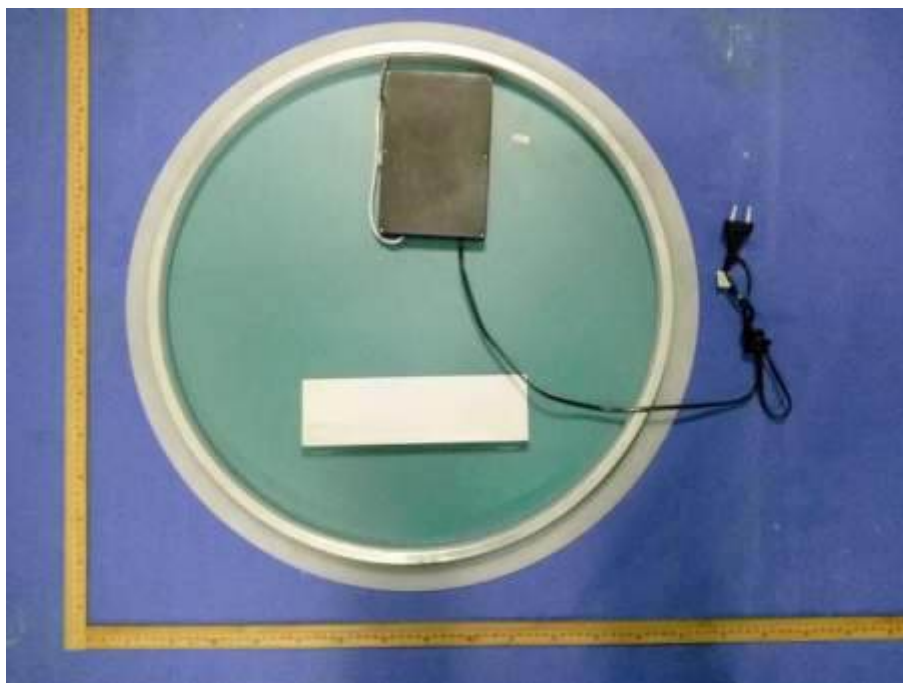


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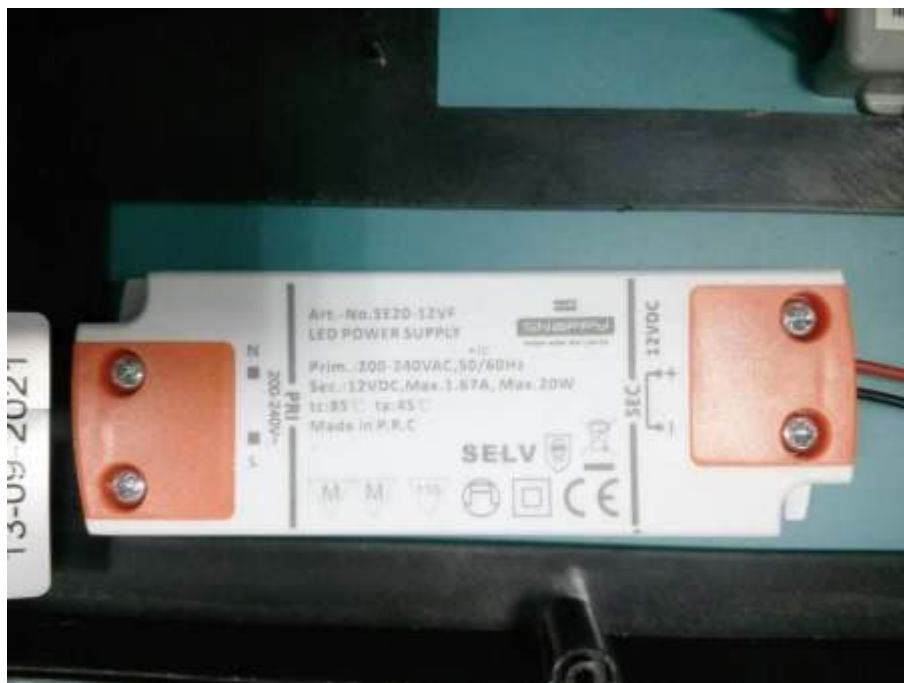
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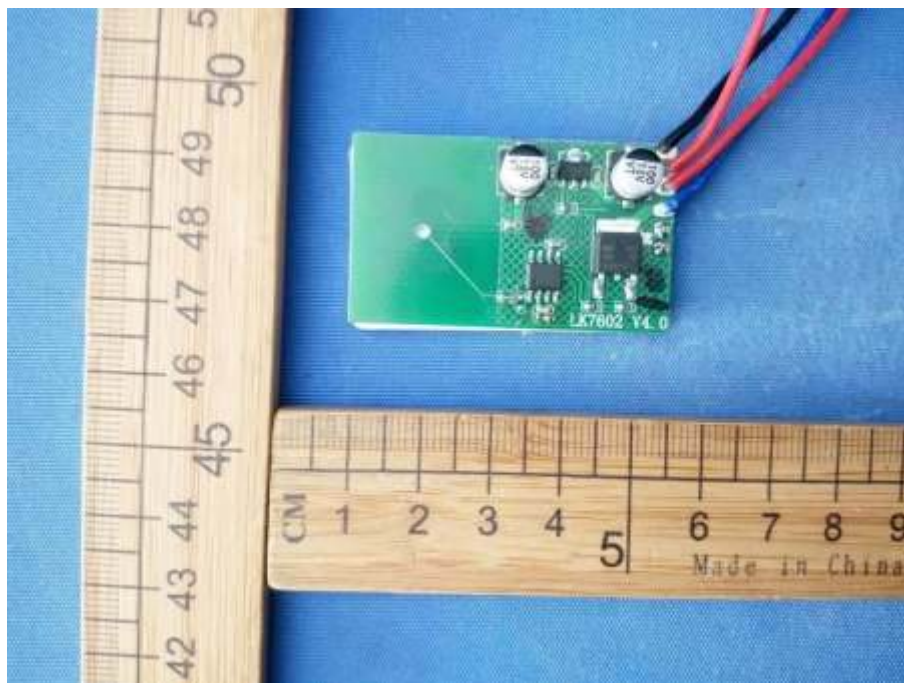
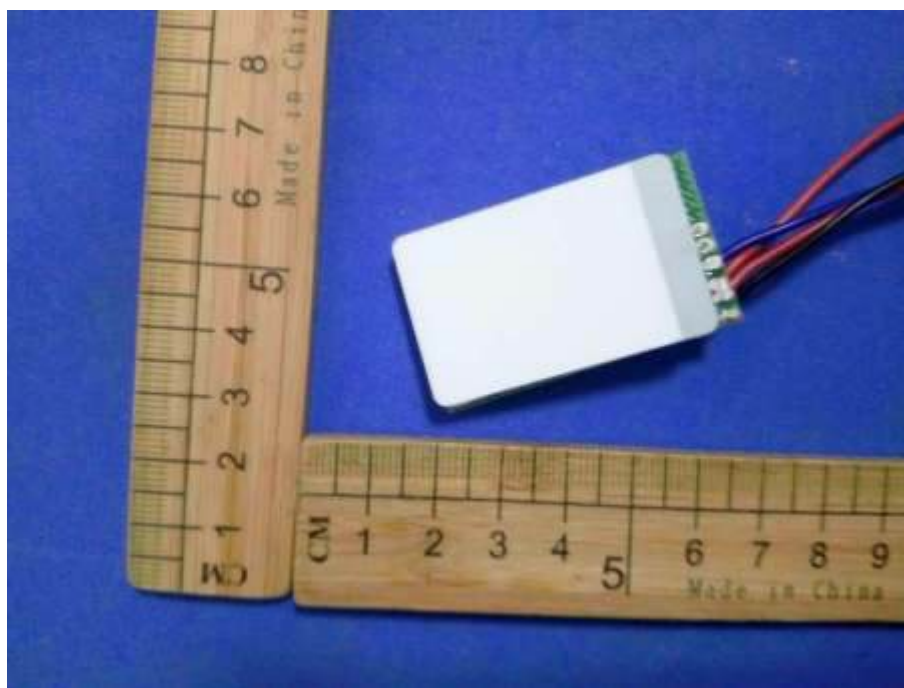
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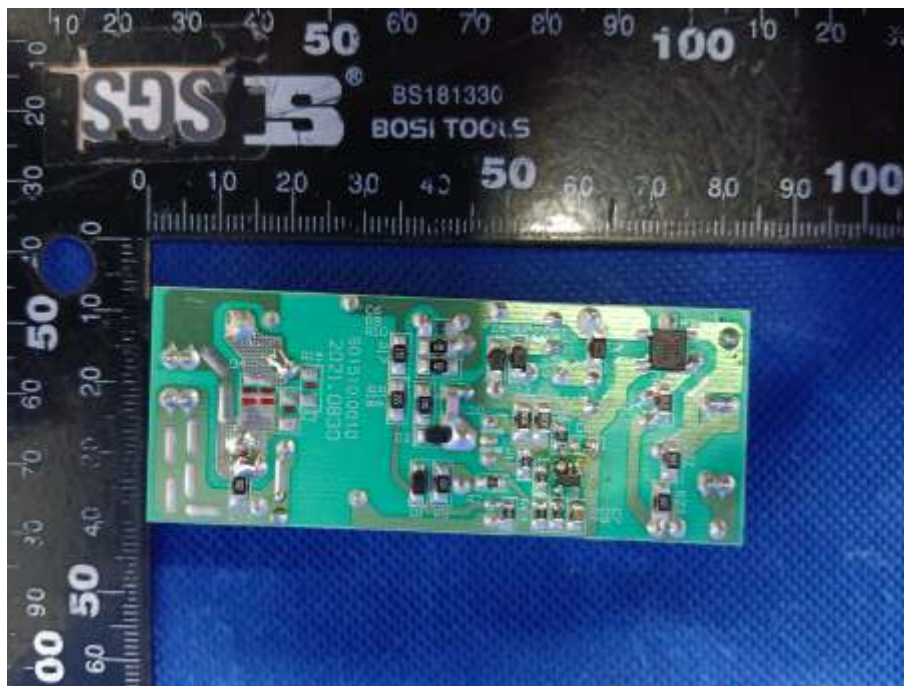
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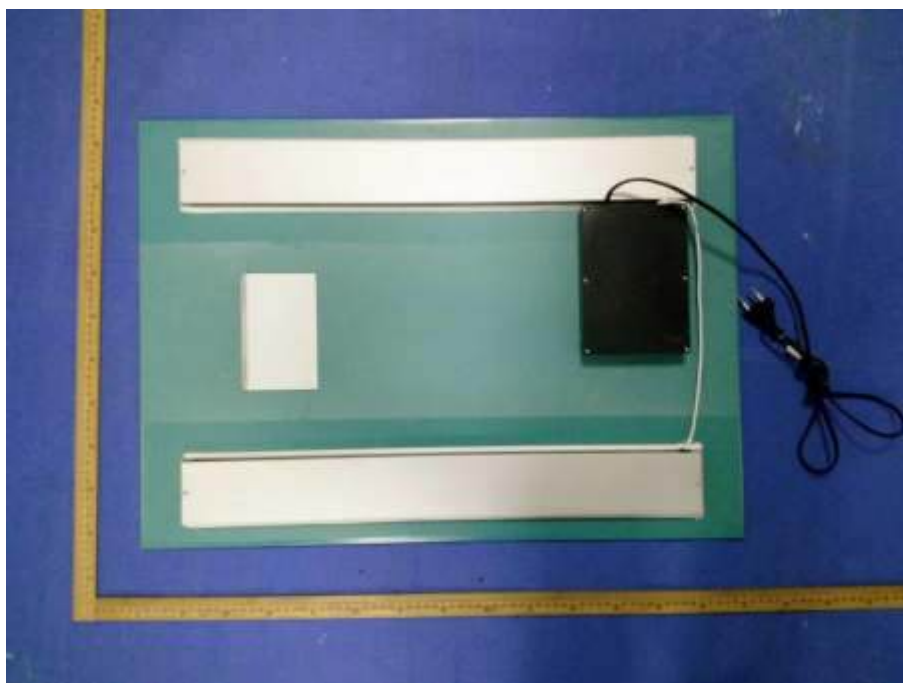
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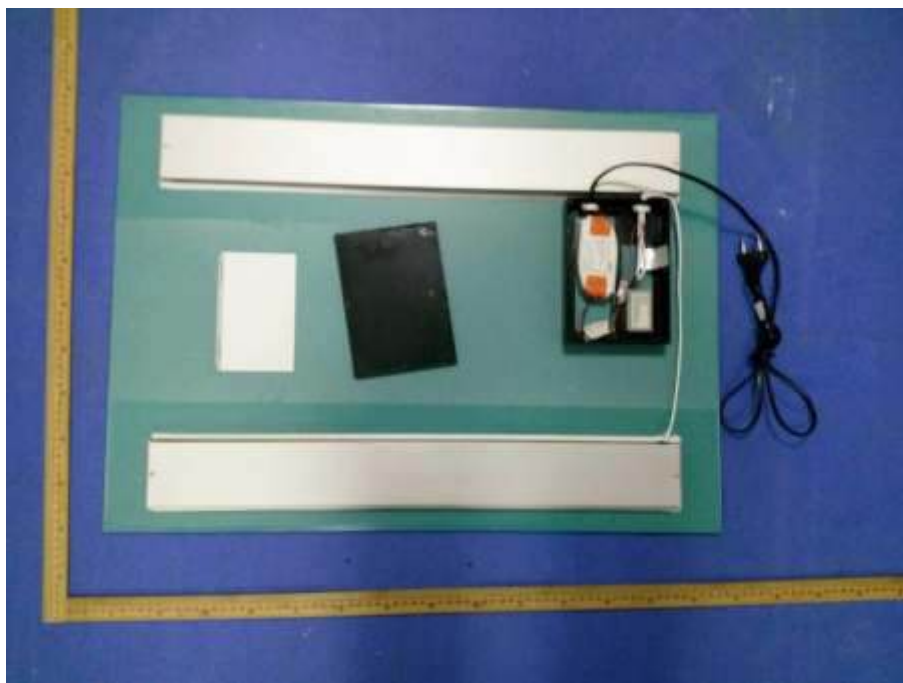


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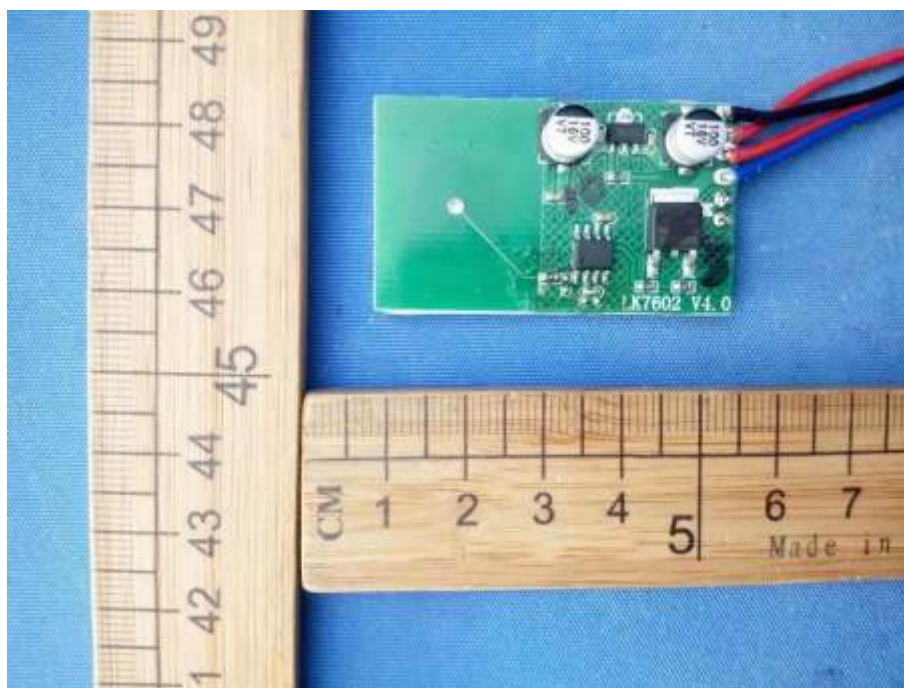
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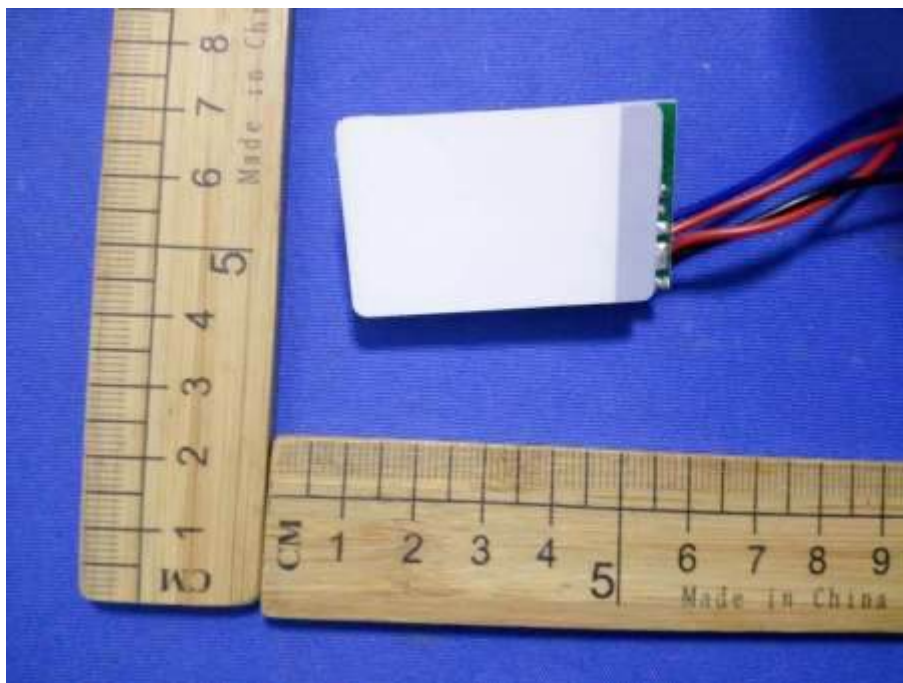
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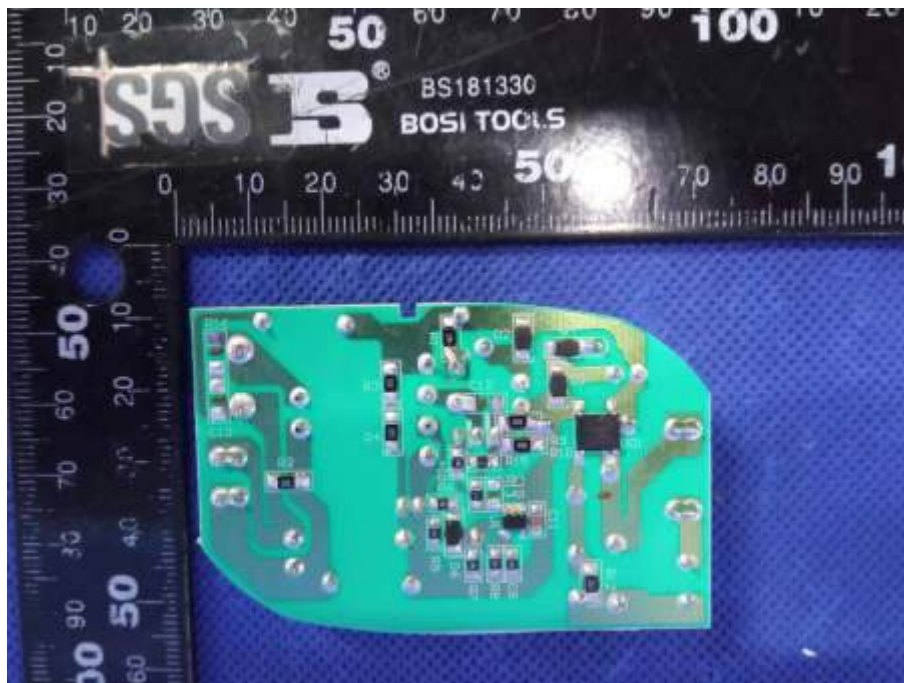
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TEST REPORT

Applicant / address: Zhejiang Summerside Sanitary Ware Technology Co., Ltd
49 Chengnan Road, Longyou Economic Development Zone, Donghua Street,
Longyou, Quzhou, Zhejiang, China

Manufacturer / address: Same as applicant

Test laboratory / address: SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch
No.1177, Lingyun Road, Hi-Tech Zone, Ningbo, Zhejiang, China

Test specifications / Test standard : EN IEC 60598-1:2021; EN IEC 60598-2-1:2021
(only tests of clause 1.14 (9.2.0 and 9.2.5))

Test item description: Fixed Luminaire (LED Luminaire)

Trade mark: SUMMERSIDE / KODA

Model/Type reference: See model list

Ratings: See "General product information"

Test result : In the opinion of SGS-CSTC the presented appliance was found to be in compliance with the test specification as indicated in the details on the following pages.

Remark : According to client's requirement, clause 1.14 (9.2.0 and 9.2.5) of the above standards were conducted.



Leo Du

Leo Du
Reviewer
Safety Laboratory

Ruby Yu

Ruby Yu
Project Engineer



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Summary of testing:

According to the client's requirement, only tests of clause 1.14 (9.2.0 and 9.2.5) of the below standards were performed on the model H-1085F50L60XTRSF and H-1009L6T. The provided samples were found to meet the clause 1.14 (9.2.0 and 9.2.5) of the below standards:
EN IEC 60598-1:2021; EN IEC 60598-2-1:2021

Copy of marking plate:

N/A

Test item particulars

Classification of installation and use..... : Fixed; Normal

Supply Connection..... : Supply cord or Plug with supply cord

..... :

Possible test case verdicts:

- test case does not apply to the test object..... : N/A

- test object does meet the requirement : P (Pass)

- test object does not meet the requirement..... : F (Fail)

Testing

Date of receipt of test item..... : 2021-12-31

Date (s) of performance of tests..... : 2021-12-31 to 2022-01-24



SGS-CT Standards Technical Services Co., Ltd.
Ningbo Branch Inspection & Testing Laboratory

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General product information:

The products were LED mirror for indoor use only, IP44, Class II.

Model/Type reference: H-abcdefgh

"H" stands for the abbreviation of client;

"a" could be 01-3999, stand for the shape of mirror (regular and irregular);

"b" could be F11-F50 or blank, stands for the power of Defogger, from 11 W to 50W, blank=no Defogger;

"c" could be L01-L60, stand for the power of LED strip, from 1W to 60 W;

"d" could be X or blank, X= with clock, blank= no clock;

"e" could be T or Blank, T=with touch switch, blank =without touch switch;

"f" could be R or Blank, R=with infrared sensor switch, blank = without infrared sensor switch;

"g" could be S or Blank, S=with mechanical switch, blank = without mechanical switch;

"h" could be cable plug. F=with cable plug, blank =without cable plug;

Example:

Model: H-190F50L60XTRSF, with 50W Defogger, with 60W led strip, with clock, with touch switch, with infrared sensor and mechanical switch, with cable plug, total power is max.110W.

Model: H-1009L6T, with 6 W LED strip, with touch switch, total power is max.6 W.

They shared same construction, circuit diagram except shape, power, appearance, size, with/without clock, with/without touch switch, with/without infrared sensor switch, with/without mechanical switch, with/without defogger and LED drivers.

The additional models were the same as the above models except for model names.

Model list:

Additional model	Maximum rated power (W)	Size (mm)	Corresponding to the above model
BR 8045 8704 S	8	450*800	H-1280L8S
BR 7080 8700 S	15	800*700	H-1282L15S
BR 70100 8701 S	15	1000*700	H-1284L15S
BR 70120 8702 S	20	1200*700	H-1285L20S
BR 70140 8703 S	20	1400*700	H-1286L20S
BR 7090 8711 S	70	900*700	H-1287F50L20S
BR 7075 8710 S	55	700*750	H-1288F40L15S
BT 0075 8712 S	50	750*750	H-2289F30L20S
980.835020	8	500*700	H-1293L8T
980.837020	8	700*700	H-1294L8T
980.839020	8	900*700	H-1295L8T
980.831120	8	1100*700	H-1296L8T



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Ningbo Branch

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Additional model	Maximum rated power (W)	Size (mm)	Corresponding to the above model
980.835021	15	500*700	H-1297L15T
980.837021	15	700*700	H-1298L15T
980.839021	20	900*700	H-1299L20T
980.831121	20	1100*700	H-1300L20T
980.831421	20	1400*700	H-1301L20T
S17-FSP06-700X600EK	15	600*700	H-1302L15T
S17-FSP08-700X700EK	15	700*700	H-1303L15T
S17-FSP10-700X800EK	15	800*700	H-1304L15T
S17-FSP12-700X900EK	20	900*700	H-1305L20T
S17-FSP14-700X1000EK	20	1000*700	H-1306L20T
S17-FSP20-700X1200EK	20	1200*700	H-1307L20T
FEENS2170EK	20	700*700	H-2291L20T
980.836024	15	600*600	H-2292L15T
980.836023	15	600*800	H-1308L15R
980.837023	15	700*900	H-1309L15R
980.835022	15	500*700	H-1310L15XT
980.837022	15	700*700	H-1311L15XT
980.839022	20	900*700	H-1312L20XT
980.831122	20	1100*700	H-1313L20XT
1162275-120	9	1200*500	H-1093L9
1162275-100	9	1000*500	H-1094L9
1162275-90	9	900*500	H-1095L9
1162275-80	9	800*500	H-1096L9
1162275-60	9	600*500	H-1097L9
1162258	15	800*600	H-1086L15
1162261-60	15	600*500	H-1087L15
1162261-80	15	800*500	H-1088L15
1162261-90	15	900*500	H-1089L15
1162261-100	15	1000*500	H-1090L15
1162261-120	15	1200*500	H-1091L15

After review, tests of IP44 were performed on model H-1085F50L60XTRSF and H-1009L6T.



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TEST RESULTS:

Clause	Requirement + Test	Remarks	Verdict
1.14(9.2.0)	IP4X Test	—	P
1.14(9.2.5)	IPX4 Test	—	P

ELECTRIC STRENGTH MEASUREMENTS:

Test voltage applied between:	Voltage(V)	Breakdown (Yes/No)
SELV		
- between current-carrying parts and mounting surface	500	No
- between current-carrying parts and accessible parts	500	No
Other than SELV		
- between live parts of different polarity	1480 V	No
- between live parts and mounting surface	2960 V	No
- between live parts and metal parts	2960 V	No
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts	1480 V	No

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ANNEX I: Photo documentation

Details of: H-1085F50L60XTRSF

View:

☒ general

☐ front

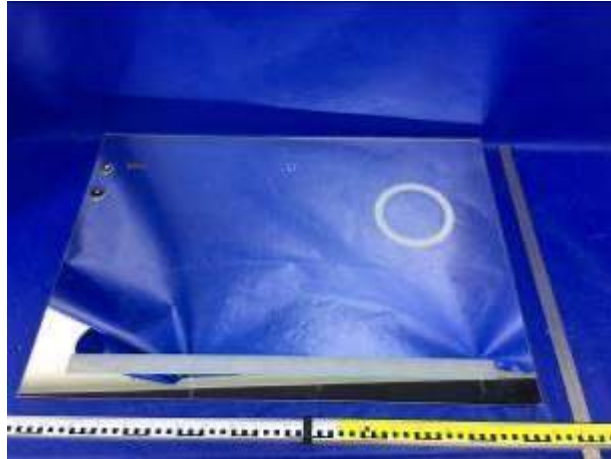
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☐ right

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Details of: H-1085F50L60XTRSF

View:

☒ general

☐ front

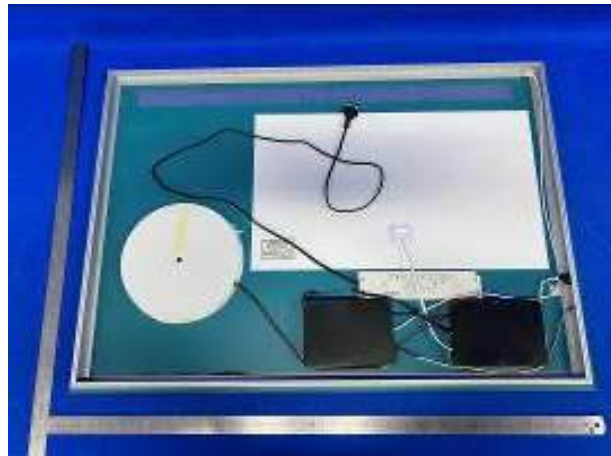
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Details of: H-1009L6T

View:

☒ **general**

☐ front

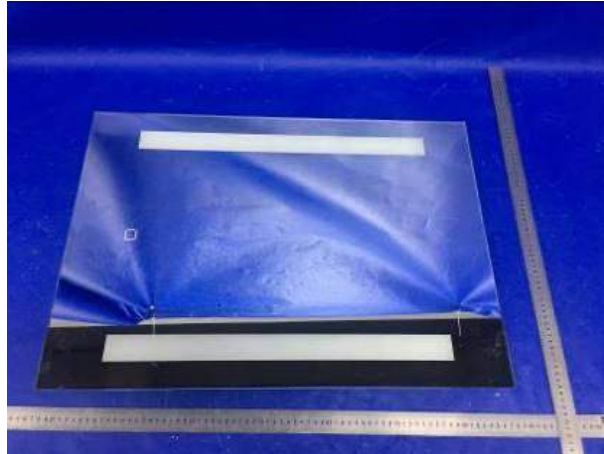
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Details of: H-1009L6T

View:

☒ **general**

☐ front

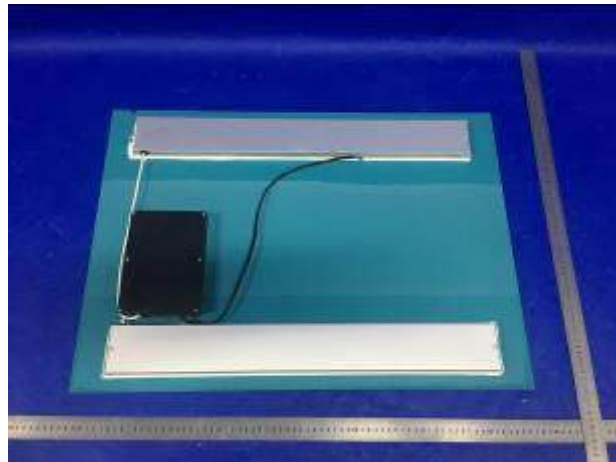
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Ningbo Branch Inspection Laboratory

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Details of: H-1293L8T

View:

☒ general

☐ front

☐ rear

☐ right

☐ left

☐ top

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Details of: H-1293L8T

View:

☒ general

☐ front

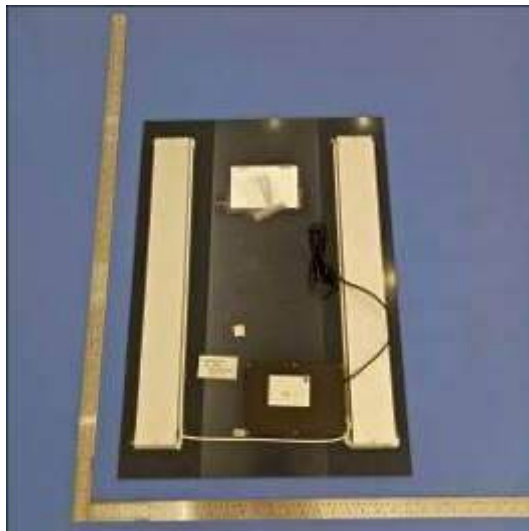
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Details of: H-1302L15T

View:

☒ general

☐ front

☐ rear

☐ right

☐ left

☐ top

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Details of: H-1302L15T

View:

☒ general

☐ front

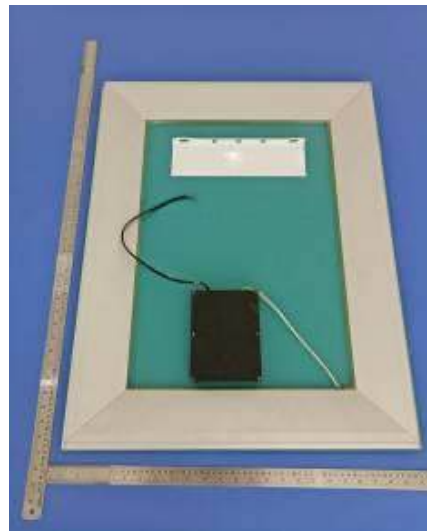
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Details of: H-2291L20T

View:

☒ [X] general

☐ [] front

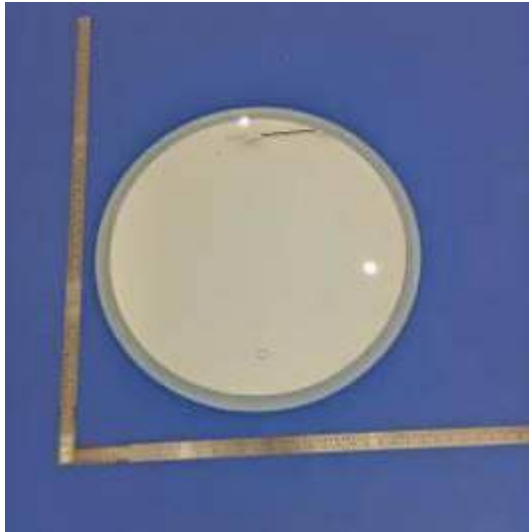
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Details of: H-2291L20T

View:

☒ [X] general

☐ [] front

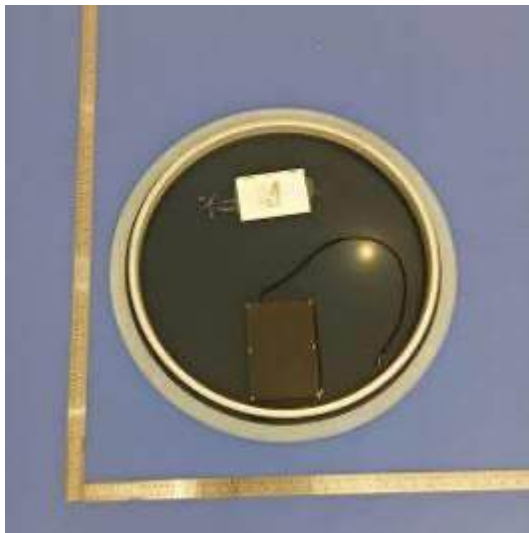
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---End of Report---



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TEST REPORT
IEC 60598-2-1
Luminaires
Part 2: Particular requirements
Section 1: Fixed general purpose luminaires

Report Number. : **NBES211200638401**

Date of issue : **2022-03-15**

Total number of pages : **48**

Name of Testing Laboratory : **SGS-CSTC Standards Technical Services Co., Ltd. Ningbo**
preparing the Report : **Branch**

Applicant's name : **Zhejiang Summerside Sanitary Ware Technology Co., Ltd**

Address : **49 Chengnan Road, Longyou Economic Development Zone,
Donghua Street, Longyou, Quzhou, Zhejiang, China**

Test specification:

Standard : **IEC 60598-2-1:2020 used in conjunction with IEC 60598-1:2020**

Test procedure : **SGS-CSTC**

Non-standard test method : **N/A**

TRF template used : **IECEE OD-2020-F1:2020, Ed.1.3**

Test Report Form No. : **IEC60598_2_1H**

Test Report Form(s) Originator.... : **Intertek Semko AB**

Master TRF..... : **Dated 2021-05-21**

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General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description	Fixed Luminaire (LED Luminaire)	
Trade Mark(s)	SUMMERSIDE / KODA	
Manufacturer	Same as applicant	
Model/Type reference	See Page 6	
Ratings	220 V - 240 V; 50 Hz / 60 Hz; Max.110 W; IP44; Class II; Ta: 30 °C	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch
Testing location/ address		No.1177, Lingyun Road, Hi-Tech Zone, Ningbo, Zhejiang, China
Tested by (name, function, signature)		Ruby Yu, PE <i>Ruby Yu</i>
Approved by (name, function, signature) ..		Leo Du, Reviewer <i>Leo Du</i>
☐	Testing procedure: CTF Stage 1:	N/A
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
☐	Testing procedure: CTF Stage 2:	N/A
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) ..		
Approved by (name, function, signature) ..		
☐	Testing procedure: CTF Stage 3:	N/A
☐	Testing procedure: CTF Stage 4:	N/A
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) ..		
Approved by (name, function, signature) ..		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):

1. Attachment A – European group differences (1 page)
2. Attachment B – The requirement of EN 62031 (4 pages)
3. Attachment C – The requirement of EN 61347-2-11 used in conjunction with EN 61347-1 (8 pages)
4. Attachment D – Photo documentation (30 pages)

Summary of testing:**Tests performed (name of test and test clause):**

Full tests except for IEC/TR 62778

IEC/TR 62778

Testing location:

SGS-CSTC Standards Technical Services Co., Ltd.
Ningbo Branch
No.1177, Lingyun Road, Hi-Tech Zone, Ningbo,
Zhejiang, China

SGS-CSTC Standards Technical Services
(Shanghai) Co., Ltd.
588 West Jindu Road, Xinqiao, Songjiang, 201612
Shanghai, China

Summary of compliance with National Differences (List of countries addressed):

1. EU Group Differences: Yes
2. EU Special National Conditions: No
3. EU A-deviations: No

☒ **The product fulfils the requirements of**

EN IEC 60598-1:2021

EN IEC 60598-2-1:2021

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:****Procedure number, issue date and title:**

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☒ **Statement not required by the standard used for type testing**

(Note: When IEC or ISO standard requires a statement concerning the uncertainty of the measurement systems used for tests, this should be reported above. The informative text in parenthesis should be delete in both cases after selecting the applicable option)

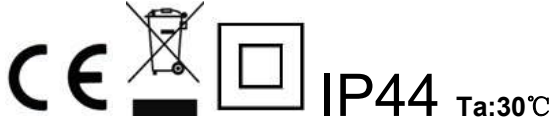
Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

H-1085F50L60XTRSF

220 V - 240 V 50 Hz / 60 Hz LED 60 W

Defogger: 50 W



Manufacturer: Zhejiang Summerside Sanitary Ware Technology Co., Ltd

Postal address: 49 Chengnan Road, Longyou Economic Development Zone, Donghua Street, Longyou, Quzhou, Zhejiang, China

Importer name:

Postal address:

Information on the packaging:

Terminal block not included. Installation must be performed by a qualified person.

User manual:**1. For type Y attachments:**

"If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid a hazard."

2. For non-user replaceable light sources:

"The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person."

3. Luminaires which are other than ordinary, provided with a PVC supply cord, shall be provided with information about the intended use:

"For indoor use only".

Note 1: The height of graphical symbols shall not be less than 5 mm, and the height of letters and numerals shall not be less than 2 mm. The height of WEEE symbol shall not be less than 7 mm.

Note 2: Other models are same as the above example except for model name, appearance and rated power.

Note 3: As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Note 4: Marking on the packaging or in a document accompanying the electrical equipment is only acceptable if it is not possible to place such markings on the product.

Test item particulars :	
Classification of installation and use..... : Fixed; normal use	
Supply Connection : Supply cord with plug or Supply cord	
Possible test case verdicts: - test case does not apply to the test object..... : N/A - test object does meet the requirement..... : P (Pass) - test object does not meet the requirement..... : F (Fail)	
Testing :	
Date of receipt of test item..... : 2021-12-31	
Date (s) of performance of tests : 2021-12-31 to 2022-01-24	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☒ comma / ☐ point is used as the decimal separator. Clause numbers between brackets refer to clauses in IEC 60598-1 This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx . Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60598-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)..... : Same as applicant	

General product information and other remarks:

The products were LED mirror for indoor use only, IP44, Class II. LED modules were used as light source.

Model/Type reference: H-abcdefgh

“H” stands for the abbreviation of client;

“a” could be 01-3999, stand for the shape of mirror (regular and irregular);

“b” could be F11-F50 or blank, stands for the power of Defogger, from 11 W to 50W, blank=no Defogger;

“c” could be L01-L60, stand for the power of LED strip, from 1W to 60 W;

“d” could be X or blank, X= with clock, blank= no clock;

“e” could be T or Blank, T=with touch switch, blank =without touch switch;

“f” could be R or Blank, R=with infrared sensor switch, blank = without infrared sensor switch;

“g” could be S or Blank, S=with mechanical switch, blank = without mechanical switch;

“h” could be cable plug. F=with cable plug, blank =without cable plug;

Example:

Model: H-190F50L60XTRSF, with 50W Defogger, with 60W led strip, with clock, with touch switch, with infrared sensor and mechanical switch, with cable plug, total power is max.110W.

Model: H-1009L6T, with 6 W LED strip, with touch switch, total power is max.6 W.

They shared same construction, circuit diagram except shape, power, appearance, size, with/without clock, with/without touch switch, with/without infrared sensor switch, with/without mechanical switch, with/without defogger and LED drivers.

The additional models were the same as the above models except for model names.

Details see below:

Additional model	Maximum rated power (W)	Size (mm)	Corresponding to the above model
BR 8045 8704 S	8	450*800	H-1280L8S
BR 7080 8700 S	15	800*700	H-1282L15S
BR 70100 8701 S	15	1000*700	H-1284L15S
BR 70120 8702 S	20	1200*700	H-1285L20S
BR 70140 8703 S	20	1400*700	H-1286L20S
BR 7090 8711 S	70	900*700	H-1287F50L20S
BR 7075 8710 S	55	700*750	H-1288F40L15S
BT 0075 8712 S	50	750*750	H-2289F30L20S
980.835020	8	500*700	H-1293L8T
980.837020	8	700*700	H-1294L8T
980.839020	8	900*700	H-1295L8T
980.831120	8	1100*700	H-1296L8T
980.835021	15	500*700	H-1297L15T
980.837021	15	700*700	H-1298L15T
980.839021	20	900*700	H-1299L20T
980.831121	20	1100*700	H-1300L20T
980.831421	20	1400*700	H-1301L20T
S17-FSP06-700X600EK	15	600*700	H-1302L15T
S17-FSP08-700X700EK	15	700*700	H-1303L15T
S17-FSP10-700X800EK	15	800*700	H-1304L15T
S17-FSP12-700X900EK	20	900*700	H-1305L20T
S17-FSP14-700X1000EK	20	1000*700	H-1306L20T
S17-FSP20-700X1200EK	20	1200*700	H-1307L20T
FEENS2170EK	20	700*700	H-2291L20T
980.836024	15	600*600	H-2292L15T

980.836023	15	600*800	H-1308L15R
980.837023	15	700*900	H-1309L15R
980.835022	15	500*700	H-1310L15XT
980.837022	15	700*700	H-1311L15XT
980.839022	20	900*700	H-1312L20XT
980.831122	20	1100*700	H-1313L20XT
1162275-120	9	1200*500	H-1093L9
1162275-100	9	1000*500	H-1094L9
1162275-90	9	900*500	H-1095L9
1162275-80	9	800*500	H-1096L9
1162275-60	9	600*500	H-1097L9
1162258	15	800*600	H-1086L15
1162261-60	15	600*500	H-1087L15
1162261-80	15	800*500	H-1088L15
1162261-90	15	900*500	H-1089L15
1162261-100	15	1000*500	H-1090L15
1162261-120	15	1200*500	H-1091L15

After review, model H-1085F50L60XTRSF was selected to perform full test according to EN IEC 60598-2-1:2021 used in conjunction with EN IEC 60598-1:2021.

Tests of 1.12 (8.2.7) were performed on model H-1085F50L60XTRS.

Tests of 1.12(12.4.1), 1.13(9.2.0, 9.2.5), 1.14(10.2.2) were performed on model H-1009L6T.

Test of 1.12(Tc point of 12.4.1) was performed on model H-1085F50L60XTRSF (with SNP60-12VFP).

Clock, touch switch 1, touch switch 2, touch switch 3, touch switch 4 and infrared sensor switch were performed the tests according to EN 61347-2-11: 2001 + A1:2019 used in conjunction with EN 61347-1:2015.

The LED module of H-1085F50L60XTRSF was performed the tests according to EN 62031:2008 + A1:2013 + A2:2015.

Model H-1085F50L60XTRSF was classified as RG1 at 200 mm according to IEC/TR 62778:2014.

The submitted appliances were found to be in compliance with EMF requirement of EN 62493:2015 according to the clause 4.2.2, no tests were necessary.

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.4 (0)	GENERAL TEST REQUIREMENTS		P
1.4 (0.3)	More sections applicable	Yes ☐ No ☒ Section/s:	—
1.4 (0.5)	Components	(see Annex 1)	—
1.4 (0.7)	Information for luminaire design in light sources standards		—
1.4 (0.7.2)	Light source safety standard	EN 62031	—
	Luminaire design in the light source safety standard		P
1.5 (2)	CLASSIFICATION OF LUMINAIRES		P
1.5 (2.2)	Type of protection	Class II	P
1.5 (2.3)	Degree of protection	IP44	—
1.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes ☒ No ☐	—
1.5 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—
1.6 (3)	MARKING		P
1.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.6 (3.3)	Additional information		P
	Language of instructions		P
1.6 (3.3.1)	Combination luminaires		N/A
1.6 (3.3.2)	Nominal frequency in Hz		P
1.6 (3.3.3)	Operating temperature		P
1.6 (3.3.5)	Wiring diagram		N/A
1.6 (3.3.6)	Special conditions		N/A
1.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.6 (3.3.8)	Limitation for semi-luminaires		N/A
1.6 (3.3.9)	Power factor and supply current		P
1.6 (3.3.10)	Suitability for use indoors		P
1.6 (3.3.11)	Luminaires with remote control		N/A
1.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
1.6 (3.3.13)	Specifications of protective shields		N/A
1.6 (3.3.14)	Symbol for nature of supply		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (3.3.15)	Rated current of socket outlet		N/A
1.6 (3.3.16)	Rough service luminaire		N/A
1.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
1.6 (3.3.18)	Non-ordinary luminaires with PVC cable	For indoor use only	P
1.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non-user replaceable	P
1.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.6 (3.3.23)	Luminaires without control gear provided with necessary information for selection of appropriate component		N/A
1.6 (3.3.24)	If not supplied with terminal block, information on the packaging		P
1.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
1.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		P
1.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

1.7 (4)	CONSTRUCTION		P
1.7 (4.2)	Components replaceable without difficulty		P
1.7 (4.3)	Wireways smooth and free from sharp edges		P
1.7 (4.4)	Lamp holders		N/A
1.7 (4.4.1)	Integral lamp holder		N/A
1.7 (4.4.2)	Wiring connection		N/A
1.7 (4.4.3)	Lamp holder for end-to-end mounting		N/A
1.7 (4.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lamp holder comply with relevant standard sheets and show no damage		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation		N/A
	- bending test (N)		—
	After test the lamp holder has not moved from its position and show no permanent deformation		N/A
1.7 (4.4.5)	Peak pulse voltage		N/A
1.7 (4.4.6)	Centre contact		N/A
1.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.7 (4.4.8)	Lamp connectors		N/A
1.7 (4.4.9)	Caps and bases correctly used		N/A
1.7 (4.4.10)	Light source for lamp holder or connection according IEC 60061 not connected another way		N/A
1.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
1.7 (4.7)	Terminals and supply connections		P
1.7 (4.7.1)	Contact to metal parts		P
1.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
1.7 (4.7.3)	Terminals for supply conductors		P
1.7 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
1.7 (4.7.4)	Terminals other than supply connection		P
1.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.8)	Switches		P
	- adequate rating		P
	- adequate fixing		P
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		P
1.7 (4.9)	Insulating lining and sleeves		P
1.7 (4.9.1)	Retainment		P
	Method of fixing: Heat-shrinkable tube		P
1.7 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C):		N/A
1.7 (4.10)	Double or reinforced insulation		P
1.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
1.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
1.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lamp holder		N/A
1.7 (4.10.4)	Protective impedance device		P
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		P
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		P
	Capacitors comply with IEC 60384-14		P
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
1.7 (4.11)	Electrical connections and current-carrying parts		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.11.1)	Contact pressure		P
1.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
1.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
1.7 (4.11.4)	Material of current-carrying parts		P
1.7 (4.11.5)	No contact to wood or mounting surface		P
1.7 (4.11.6)	Electro-mechanical contact systems		N/A
1.7 (4.12)	Screws and connections (mechanical) and glands		P
1.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	0,5; Fixed electrical box	P
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
1.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
1.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lamp holder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
1.7 (4.12.5)	Screwed glands; force (Nm)		N/A
1.7 (4.13)	Mechanical strength		P
1.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:	Glass; 0,2	P
	- other parts; energy (Nm).....:	Enclosure; 0,35	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
1.7 (4.13.2)	Metal parts have adequate mechanical strength		P
1.7 (4.13.3)	Straight test finger		P
1.7 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
1.7 (4.13.6)	Tumbling barrel		N/A
1.7 (4.14)	Suspensions, fixings and means of adjusting		P
1.7 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
1.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
1.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.7 (4.14.5)	Guide pulleys		N/A
1.7 (4.14.6)	Strain on socket-outlets		N/A
1.7 (4.15)	Flammable materials		P
	- glow-wire test 650°C	See Test Table 1.15 (13.3.2)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- electronic circuits exempted		N/A
1.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear: (compliance with Section 12)		N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
1.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.7 (4.16.2)	Thermal protection:		P
	- in lamp control gear		P
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		P
1.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.7 (4.17)	Drain holes		P
	Clearance at least 5 mm		P
1.7 (4.18)	Resistance to corrosion		P
1.7 (4.18.1)	- rust-resistance		P
1.7 (4.18.2)	- season cracking in copper		P
1.7 (4.18.3)	- corrosion of aluminium		P
1.7 (4.19)	Ignitors compatible with ballast		N/A
1.7 (4.20)	Rough service vibration		N/A
1.7 (4.21)	Protective shield		N/A
1.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
1.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.7 (4.21.3)	No direct path		N/A
1.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment: See Test Table 1.15 (13.3.2)		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
1.7 (4.23)	Semi-luminaires comply Class II		N/A
1.7 (4.24)	Photobiological hazards		P
1.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.7 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778	RG1	—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 ...:		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
1.7 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
1.7 (4.26)	Short-circuit protection		N/A
1.7 (4.26.1)	Adequate means of uninsulated accessible SELV / PELV parts		N/A
1.7 (4.26.2)	Short-circuit test with test chain according 4.26.3:		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
1.7 (4.27)	Terminal blocks with integrated screwless protective earthing contacts		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
1.7 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C):		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
1.7 (4.29)	Luminaires with non-replaceable light source		N/A
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
1.7 (4.30)	Luminaires with non-user replaceable light source		P
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	At least one fixing means requiring use of tool		N/A
1.7 (4.31)	Insulation between circuits		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
1.7 (4.31.1)	SELV or PELV circuits		P
	Used SELV/PELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV/PELV circuits from LV supply		P
	Insulating of SELV/PELV circuits from other non SELV/PELV circuits		N/A
	Insulating of SELV/PELV circuits from FELV		N/A
	Insulating of SELV/PELV circuits from other SELV/PELV circuits		N/A
	SELV/PELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage $\leq$ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
1.7 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
1.7 (4.32)	Overvoltage protective devices		N/A
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
1.6 (4.33)	Luminaire powered via information technology communication cabling		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
1.6 (4.34)	Electromagnetic fields (EMF)		P
	No harmful electromagnetic fields		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	-hardness less than D60 Shore		N/A
	-peripheral speed less than 15 m/s		N/A
	-input power of fan ≤ 2 W at rated voltage		N/A
1.6 (4.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A

1.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
1.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☐ Category III ☒	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
1.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347-1, clause 7.1, item w	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A

1.9 (7)	PROVISION FOR EARTHING		N/A
1.9 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance $< 0,5 \Omega$:		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
1.9 (7.2.2 + 7.2.3)	Protective earth continuity in joints, etc.		N/A
1.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
1.9 (7.2.5)	Protective earth terminal integral part of connector socket		N/A
1.9 (7.2.6)	Protective earth terminal adjacent to mains terminals		N/A
1.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal		N/A
1.9 (7.2.8)	Material of protective earth terminal		N/A
	Contact surface bare metal		N/A
1.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
1.9 (7.2.11)	Protective earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
1.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A

1.10 (14)	SCREW TERMINALS		P
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 3)	N/A

1.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		P
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 4)	N/A

1.11 (5)	EXTERNAL AND INTERNAL WIRING		P
1.11 (5.2)	Supply connection and external wiring		P
1.11 (5.2.1)	Means of connection.....	Supply cord with plug or Supply cord	P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
1.11 (5.2.2)	Type of cable.....:	H03VVH2-F or H05VVH2-F	P
	Nominal cross-sectional area (mm ²).....:	2 x 0,75	P
	Cables equal to IEC 60227 or IEC 60245		P
1.11 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
1.11 (5.2.5)	Type Z not connected to screws		N/A
1.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.11 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
1.11 (5.2.9)	Locking of screwed bushings		N/A
1.11 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
1.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
1.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N): 60		P
	- torque test: torque (Nm).....: 0,15		P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
1.11 (5.2.10.4)	Luminaire with/designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV ≤ 25 V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12 V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12 V RMS/30V DC		N/A
	Pull test of 30N		N/A
1.11 (5.2.11)	External wiring passing into luminaire		P
1.11 (5.2.12)	Looping-in terminals		N/A
1.11 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
1.11 (5.2.14)	Mains plug same protection	For indoor use only	P
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
1.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
1.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.11 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard		P
1.11 (5.3)	Internal wiring		P
1.11 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A).....:		N/A
	- temperatures.....: (see Annex 2)		N/A
	Green-yellow for protective earth only		N/A
1.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²): Min. 0,75		P
	Insulation thickness (mm): 0,53		P
	Extra insulation added where necessary		N/A
1.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm ²): Min. 24 AWG		P
1.11 (5.3.1.3)	Double or reinforced insulation for class II		P
1.11 (5.3.1.4)	Conductors without insulation		N/A
1.11 (5.3.1.5)	SELV/PELV current-carrying parts		P
1.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
1.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
1.11 (5.3.4)	Joints and junctions effectively insulated		P
1.11 (5.3.5)	Strain on internal wiring		N/A
1.11 (5.3.6)	Wire carriers		N/A
1.11 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
1.11 (5.4)	Test to determine suitability of conductors having a reduced cross-sectional area		P
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	P
	No damage to luminaire wiring after test		P

1.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
1.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N/A
1.12 (8.2.3.b)	BC lamp holder of metal in class I luminaires shall be connected to protective earth		N/A
1.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	- interrupted DC voltage (V)		N/A
	- touch current if applicable (mA)		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	- interrupted DC voltage (V)		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
1.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	One pole insulated if required		N/A
1.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
1.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.12 (8.2.6)	Covers reliably secured		P
1.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection	Max. 12,5 V	P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Portable luminaire with capacitor > 0,1 μ F (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μ F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection	Max. 12 V	P

1.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) as specified in 1.14		—
1.13 (12.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Control gear if separate and not supplied	(Control gear used see Annex 2)	—
1.13 (12.3)	Endurance test		P
	a) mounting-position	Fixed on the wall	—
	b) test temperature (°C)	40	—
	c) total duration (h)	240	—
	d) supply voltage (V)	264	—
	d) if not equipped with control gear, constant voltage/current (V) or (A)	—	—
1.13 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		N/A
	- voltage under normal operation (V)	—	—
	- voltage under abnormal operation (V)	—	—
	e) luminaire ceases to operate		—
	f) luminaire with constant light output function		N/A
1.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
1.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.13 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.13 (12.7.1)	Luminaire without temperature sensing control		N/A
1.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....	See Test Table 1.15 (13.2.1)	N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....	See Test Table 1.15 (13.2.1)	N/A
1.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....	Yes ☐ No ☐	—
	- manual reset cut-out.....	Yes ☐ No ☐	—
	- auto reset cut-out	Yes ☐ No ☐	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C):		—
	Ball-pressure test:.....	See Test Table 1.15 (13.2.1)	N/A

1.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
1.14 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
1.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....	IP44	—
	- mounting position during test	Normal used position	—
	- fixing screws tightened; torque (Nm).....	Two-thirds of that specified in the clause 1.7 (4.12.1)	—
	- tests according to clauses	9.2.0 and 9.2.5	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		P
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		P
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
1.14 (9.3)	Humidity test 48 h		P

1.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø	Covered by metal foil	—
	Insulation resistance (MΩ): See below		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	> 500 MΩ	P
	- between current-carrying parts and metal parts of the luminaire	> 500 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity	> 500 MΩ	P
	- between live parts and mounting surface	> 500 MΩ	P
	- between live parts and metal parts	> 500 MΩ	P
	- between live parts of different polarity through action of a switch		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts	> 500 MΩ	P
	- Insulation bushings as described in Section 5		N/A
1.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V): See below		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	500 V	P
	- between current-carrying parts and metal parts of the luminaire.....	500 V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity	1480 V	P
	- between live parts and mounting surface	2960 V	P
	- between live parts and metal parts.....	2960 V	P
	- between live parts of different polarity through action of a switch		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts	1480 V	P
	- Insulation bushings as described in Section 5		N/A
1.15 (10.3)	Touch current (mA).....		N/A
	Protective conductor current (mA).....	Max. 0,21 mA	P

1.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
1.16 (13.2.1)	Ball-pressure test.....	See Test Table 1.16 (13.2.1)	P
1.16 (13.3.1)	Needle-flame test (10 s)	See Test Table 1.16 (13.3.1)	P
1.16 (13.3.2)	Glow-wire test (650°C).....	See Test Table 1.16 (13.3.2)	P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.16 (13.4)	Proof tracking test (IEC 60112).....:	See Test Table 1.16 (13.4)	P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.8 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	1)	1,5	11.1.B	1)	2,5	11.1.A
Working voltage (V).....:					240		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV)					N/A		—
Supplementary information:							
1) Between live parts of different polarity: Min. Cl. = Cr. = 2,6 mm							
Distance 2:	S	2)	1,5	11.1.B	2)	2,5	11.1.A
Working voltage (V).....:					240		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV)					N/A		—
Supplementary information:							
2) Between basic insulation and accessible parts: Min. Cl. = Cr. = 2,6 mm							
Between the outer surface of cable clamped by cord anchorage and accessible metal parts: Min. Cl. = Cr. = 2,6 mm							
Distance 3:	R	3)	3,0	11.1.B	3)	5,0	11.1.A
Working voltage (V).....:					240		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV)					N/A		—
Supplementary information:							
3) Between live parts and supporting surface: Cl. = Cr. = 5,1 mm							
Between live parts and accessible parts: Cl. = Cr. = 5,1 mm							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.8 (11.2)	TABLE II: Creepage distances and clearances						N/A	
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages								
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2								
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required		
			clearance	*Table		creepage	*Table	
Distance 1:	—	—	—	—	—	—	—	
Working voltage (V)					—		—	
Frequency if applicable (kHz).....					—		—	
PTI.....					< 600 ☒ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)					—		—	
Supplementary information: N/A								
Distance 2:	—	—	—	—	—	—	—	
Working voltage (V)					—		—	
Frequency if applicable (kHz).....					—		—	
PTI.....					< 600 ☒ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)					—		—	
Supplementary information: N/A								
Distance 3:	—	—	—	—	—	—	—	
Working voltage (V)					—		—	
Frequency if applicable (kHz).....					—		—	
PTI.....					< 600 ☒ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)					—		—	
Supplementary information: N/A								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced.

IEC 60598-2-1			
Clause	Requirement + Test		Verdict
1.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm)		2	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Electrical box	See Annex 1	75	1,3
Defogger connector	See Annex 1	75	1,3
PCB	See Annex 1	125	1,4
Enclosure of relay	See Annex 1	75	1,3
Enclosure of touch switch	See Annex 1	75	1,4
Supplementary information: N/A			

1.16 (13.3.1)	TABLE: Needle-flame test				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
LED board	See Annex 1	10	No	0	P
PCB	See Annex 1	10	No	0	P
DC Connector	FOSHAN XINMIN ELETRONIC TECHNOLOGY CO., LTD	10	No	0	P
Supplementary information: N/A					

1.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests						P
Object/ Part No./ Material	Manufacturer/ trademark	Glow wire test (°C)					Verdict
		650		750		850	
		te	ti	te	ti		
Defogger connector	Dalian Lily Mirror Co., Ltd	0	0	—	—	—	P
Electrical box	See Annex 1	0	0	—	—	—	P
Heated - shrinkable tube	See Annex 1	0	0	—	—	—	P
Enclosure of relay	See Annex 1	0	0	—	—	—	P

IEC 60598-2-1							
Clause	Requirement + Test			Result - Remark			Verdict
Enclosure of touch switch	See Annex 1	0	0	—	—	—	P
Close-end connector	See Annex 1	0	0	—	—	—	P
Glue	SHENZHN SMILE LIGHTING CO., LTD.	0	0	—	—	—	P
Ignition of the specified layer placed underneath the test specimen (Yes/No)..... :							No
Supplementary information: N/A							

1.16 (13.4)	TABLE: Proof tracking test					P
Test voltage PTI		175 V				—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens				Verdict
Defogger connector	Dalian Lily Mirror Co., Ltd	No flashover	No flashover	No flashover		P
Electrical box	See Annex 1	No flashover	No flashover	No flashover		P
Supplementary information:						

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1		TABLE: Critical components information					P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
LED driver 1	B	Letaron Electronic Co., Ltd.	AED06-12VLS	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.500 mA / 6 W; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1 065581 0304 Rev.01)	
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SNP6-12VF	Input: 200-240 V; 50/60 Hz; Output: 12VDC; Max.0,5 A / 6 W; Tc: 80 °C;SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50392596)	
LED driver 2	B	Letaron Electronic Co., Ltd.	AED9-12VLS	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.750 mA / 9 W; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1 065581 0304 Rev.01)	
LED driver 3	D	Ningbo Snappy Optoelectronics Co., Ltd.	SNP8-12VL-1	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.0,67 A / 8 W; Tc: 75 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50249628)	
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SE8-12VL	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.0.67 A / 8 W; Ta: 45 °C; Tc: 75 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50518882)	
LED driver 4	B	Letaron Electronic Co., Ltd.	AED15-12VLSJ	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.1,25 A / 15 W; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1 065581 0243 Rev.02)	
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SNP15-12VL	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.1,25 A / 15 W; Tc: 80 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50202847)	

IEC 60598-2-1						
Clause	Requirement + Test			Result - Remark		Verdict
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SE15-12VF	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.1,25 A / 15 W; Ta: 45 °C; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50518846)
LED driver 5	B	Letaron Electronic Co., Ltd.	AED20-12VLSJ	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.1,66 A / 20 W; Tc: 85 °C; IP20; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1 065581 0243 Rev.02)
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SNP20-12VF-E	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.1,67 A / 20 W; Tc: 80 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50348869)
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SS20-12VF	Input: 220-240 V; 50/60 Hz; Output: 12 VDC; Max.1,67 A / 20 W; Tc: 80 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (AN 50460786)
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SE20-12VF	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.1,65 A / 20 W; Ta: 45 °C; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50518846)
LED driver 6	B	Letaron Electronic Co., Ltd.	AED25-12VLSJ	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.2100 mA / 25 W; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1A 065581 0179 Rev.01)
LED driver 7	B	Ningbo Snappy Optoelectronics Co., Ltd.	SE30-12VL	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.2,5 A / 30 W; Tc: 80 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50388243)

IEC 60598-2-1						
Clause	Requirement + Test			Result - Remark		Verdict
LED driver 8	B	Letaron Electronic Co., Ltd.	AED36-12VLSJ	Input: 220-240 V; 50/60 Hz; Output: DC 12 V; Max.3000 mA / 36 W; Tc: 85 °C; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1A 065581 0179 Rev.01)
LED driver 9	B	Letaron Electronic Co., Ltd.	AED48-12VLSTB-IP44	Input: 220-240 V; 50/60 Hz; Output: 12 VDC; Max.4 A / 48 W; Tc: 80 °C; IP44; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (Z1 065581 0292 Rev.03)
LED driver 10	B	Letaron Electronic Co., Ltd.	AED60-12VLSTB-IP44	Input: 220-240 V; 50/60 Hz; Output: 12 VDC; Max.5 A / 60 W; Tc: 80 °C; IP44; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV SUD (N8A 065581 0293 Rev.02)
(Alternative)	D	Ningbo Snappy Optoelectronics Co., Ltd.	SNP60-12VFP	Input: 200-240 V; 50/60 Hz; Output: 12 VDC; Max.5 A / 60 W; Tc: 90 °C; IP44; SELV	EN 61347-1 EN 61347-2-13 EN 62493	TUV Rheinland (R 50412906)
Plug	B	Ningbo Jinting Nuclear Cable Co., Ltd.	FY001	250 V; 2,5 A; IP20	EN 50075	VDE (40036482)
(Alternative)	D	Ningbo Jinting Nuclear Cable Co., Ltd.	FY006A	250 V; 13 A	BS 1363-1	ASTA (1295)
Supply cord 1	B	Zhejiang Jinting Nuclear Cable Co.,Ltd.	H03VVH2-F	2 x 0,75 mm ²	EN 50525-2-11	VDE (40013419)
Supply cord 2	B	Zhejiang Jinting Nuclear Cable Co.,Ltd.	H05VVH2-F	2 x 1,0 mm ²	EN 50525-2-11	VDE (40013419)
Internal wire	C	DONGGUAN YANGDA ELECTRONIC TECHNOLOGY CO., LTD	1007	300 V; 80 °C; 24 AWG	EN 60598-1 EN 60598-2-1	UL (E467966) + Tested with appliance
(Alternative)	C	SHENZEN DAYODA TECHNOLOGY CO., LTD	2464	300 V; 80 °C; 22 AWG	EN 60598-1 EN 60598-2-1	Tested with appliance
(Alternative)	C	DONGGUAN TRIUMPHCABLE CO LTD	2468	300 V; 80 °C; 22 AWG	EN 60598-1 EN 60598-2-1	UL (E249743) + Tested with appliance

IEC 60598-2-1						
Clause	Requirement + Test			Result - Remark		Verdict
Defogger	B	Dalian Lily Mirror Co., Ltd	FWMP-*, FWMT-*(*=1-26)	220 V - 240 V; 50 Hz / 60 Hz; 220 W/M ²	EN 60335-1 EN 62233	SGS SHES15050 0258301HS C
Mechanical switch	B	Dongguan HUACONN Electronics Co., Ltd	HS8 series	AC 250 V; 12(4) A; T105/55	EN IEC 61058-1	VDE (40043123)
Touch switch 1	C	FOSHAN XINMIN ELETRONIC TECHINOLOGY CO., LTD	XM319-T-1	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
Touch switch 2	C	WENZHOU GUANGDA SANITARY CO., LTD.	LK7602	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
Touch switch 3	C	FOSHAN XINMIN ELETRONIC TECHINOLOGY CO., LTD	XM319-2	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
Touch switch 4	C	WENZHOU GUANGDA SANITARY CO., LTD.	LK7618	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
Clock	C	FOSHAN XINMIN ELETRONIC TECHINOLOGY CO., LTD	XM319-T	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
Infrared sensor switch	C	Shenzhen Hordsung Technology Co., Ltd.	ISH1D20	12 VDC; 2,5 A	EN 61347-2-11 EN 61347-1	Tested with appliance
LED	C	SHENZHN SMILE LIGHTING CO., LTD.	SM-1206W	IF = 60 mA	IEC / TR 62778	Tested with appliance
LED module	C	SHENZHN SMILE LIGHTING CO., LTD.	2835, 3528	12 VDC	EN 62031	Tested with appliance
Relay	B	Xiamen Hongfa Electroacoustic Co., Ltd.	HF32FV 12-HSTF	AC 250 V; Rated coil voltage:12 VDC; 5 A; 85 °C	EN 61810-1	VDE (40012204)
Alternative	D	Shenzhen Yuanze Electric Co., Ltd.	Y32F-SS-112DM	AC 250 V; Rated coil voltage:12 VDC; 5 A; 85 °C	EN 61810-1	TUV (R 50198475)

IEC 60598-2-1						
Clause	Requirement + Test			Result - Remark		Verdict
Fuse	B	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	AC 250 V; 1 A	EN 60127-1 EN 60127-3	VDE (40036821)
Electrical box	C	Wenzhou Guangda Sanitary Ware Co., Ltd.	P2	GWT 650 °C	EN 60598-1 EN 60598-2-1	Tested with appliance
PCB	C	KINGBOARD LAMINATES HOLDINGS LTD	KB-5150	V-0; 130 °C	EN 60598-1 EN 60598-2-1	UL (E123995) + Tested with appliance
LED board	C	SHENZHN SMILE LIGHTING CO., LTD.	A2	V-0; 130 °C	EN 60598-1 EN 60598-2-1	Tested with appliance
Heat – shrinkable tube	C	Yueqing mingguang heat shrinkable material Co., Ltd.	R1	GWT 650 °C	EN 60598-1 EN 60598-2-1	Tested with appliance
Close-end connector	C	Heavy Power Co., Ltd.	CE2, CE5	GWT 650 °C	EN 60598-1 EN 60598-2-1	UL (E113650) + Tested with appliance
Remark: no information found in physical sample, information provided by supplier.						
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. License available upon request. The codes above have the following meaning: A - The component is replaceable with another one, also certified, with equivalent characteristics B - The component is replaceable if authorised by the test house C - Integrated component tested together with the appliance D - Alternative component						

IEC 60598-2-1

Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 2	TABLE: Thermal tests of Section 12		P				
	Type reference	H-1085F50L60XTRSF	—				
	Lamp used	LED module	—				
	Lamp control gear used	AED60-12VLSTB-IP44	—				
	Mounting position of luminaire	Fixed on the wall	—				
	Supply wattage (W)	86,29	—				
	Supply current (A)	0,344	—				
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—				
	- abnormal operating mode.....	10% LEDs were short-circuited	—				
1.13 (12.4)	- test 1: rated voltage	240 V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 x 240 V = 254,4 V	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	—	—				
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—				
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage	1,1 x 240 V = 264 V	—				
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	30	—	40,8	—	75	—	—
Tc of LED Driver	30	46,3	—	—	80	—	—
Internal wire	30	—	42,2	—	80	—	—
Mechanical switch	30	—	39,7	—	55	—	—
Touch switch 1	30	—	39,4	—	55	—	—
Infrared sensor switch	30	—	48,7	—	55	—	—
Electrical box	30	—	40,0	—	Ref.	—	—
Relay	30	—	47,0	—	85	—	—
Electrolytic capacitor(hottest)	30	—	50,5	—	105	48,7	115
PCB	30	—	43,0	—	Ref.	—	—
LED board	30	—	53,7	—	Ref.	—	—

IEC 60598-2-1							
Clause	Requirement + Test			Result - Remark			Verdict
Defogger	30	—	42,7	—	Ref.	—	—
Defogger connector	30	—	50,3	—	Ref.	—	—
Closed-end connector	30	—	43,8	—	Ref.	—	—
Mounting surface	30	—	40,7	—	90	39,7	130
Lighted object	30	—	44,3	—	90	42,8	175
Supplementary information: Test with touch switch 1							

	Type reference	H-1085F50L60XTRSF	—
	Lamp used	LED module	—
	Lamp control gear used	AED60-12VLSTB-IP44	—
	Mounting position of luminaire	Fixed on the wall	—
	Supply wattage (W)	80,9	—
	Supply current (A)	0,322	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—
	- abnormal operating mode	—	—
1.13 (12.4)	- test 1: rated voltage	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 x 240 V = 254,4 V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	—	—
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage	—	—

Temperature measurements (°C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Touch switch 3	30	—	35,3	—	55	—	—

Supplementary information: Test with touch switch 3

IEC 60598-2-1

Clause	Requirement + Test	Result - Remark	Verdict
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	Type reference	H-1085F50L60XTRSF	—				
	Lamp used	LED module	—				
	Lamp control gear used	SNP60-12VFP	—				
	Mounting position of luminaire	Fixed on the wall	—				
	Supply wattage (W)	77,25	—				
	Supply current (A)	0,329	—				
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—				
	- abnormal operating mode.....	—	—				
1.13 (12.4)	- test 1: rated voltage	240 V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	—	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	—	—				
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—				
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage	—	—				
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Tc of LED Driver	30	44,5	—	—	90	—	—
Supplementary information: Test with touch switch 1							

	Type reference	H-1009L6T	—
	Lamp used	LED	—
	Lamp control gear used	AED06-12VLS	—
	Mounting position of luminaire	Fixed on the wall	—
	Supply wattage (W)	7,4	—
	Supply current (A)	0,061	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—
	- abnormal operating mode	—	—
1.13 (12.4)	- test 1: rated voltage	240 V	—

IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current :				1,06 x 240 V = 254,4 V		—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage:				—		—
	Through wiring or looping-in wiring loaded by a current of A during the test:				—		—
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:				—		—
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	30	—	41,0	—	90	—	—
Tc of LED Driver	30	43,9	—	—	80	—	—
Touch switch 2	30	—	39,8	—	55	—	—
Electrolytic capacitor(hottest)	30	—	41,1	—	105	—	—
Internal wire	30	—	38,6	—	80	—	—
Mounting surface	30	—	38,5	—	90	—	—
Lighted object	30	—	38,4	—	90	—	—
Supplementary information: test with touch switch 2							

	Type reference	H-1009L6T	—
	Lamp used.....	LED	—
	Lamp control gear used	AED06-12VLS	—
	Mounting position of luminaire.....	Fixed on the wall	—
	Supply wattage (W)	7,2	—
	Supply current (A)	0,060	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—
	- abnormal operating mode	—	—
1.13 (12.4)	- test 1: rated voltage	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 x 240 V = 254,4 V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	—	—
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—

IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:				—		—
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Touch switch 4	30	—	35,3	—	55	—	—
Supplementary information: test with touch switch 4							

	Type reference	H-1085F50L60XTRSF	—				
	Lamp used	LED module	—				
	Lamp control gear used	AED60-12VLSTB-IP44	—				
	Mounting position of luminaire.....	Fixed on the wall	—				
	Supply wattage (W)	test condition 1: 35,6 test condition 2: 0,40	—				
	Supply current (A).....	test condition 1: 0,165 test condition 2: 0,056	—				
	Temperatures in test 1 - 4 below are corrected for ta (°C)	30	—				
	- abnormal operating mode	N/A	—				
1.12 (12.4)	- test 1: rated voltage	—	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 x 240 = 254,4	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	—	—				
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—				
1.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	—	—				
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Input wire of LED board (OL) (test condition 1)	30	—	40,4	—	80	—	—
Input wire of LED board (SC) (test condition 2)	30	—	30,9	—	80	—	—

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

test condition 1: with the resistive load set to draw maximum output current

test condition 2: the resistive load is then set to 0 Ω (short circuit)

IEC 60598-2-1

Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm)..... :		N/A
	Torque (Nm)..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples).....:		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

(15.6.3.1) (15.6.3.2)	TABLE: Contact resistance test / Heating tests										N/A
	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—	
	Voltage drop of two inseparable joints										—
	Voltage drop after 10th alt. 25th cycle										—
	Max. allowed voltage drop (mV)..... :					—					—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—	
	Voltage drop after 50th alt. 100th cycle										—
	Max. allowed voltage drop (mV)..... :					—					—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—	
	Continued ageing: voltage drop after 10th alt. 25th cycle										—
	Max. allowed voltage drop (mV)..... :					—					—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—	
	Continued ageing: voltage drop after 50th alt. 100th cycle										—
	Max. allowed voltage drop (mV)..... :					—					—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	—	—	
Supplementary information: N/A											

--- End of main report ---

Attachment A

IEC60598_2_1H ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center">ATTACHMENT TO TEST REPORT IEC 60598-2-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires</p>			
Differences according to EN IEC 60598-2-1:2021 used in conjunction with EN IEC 60598-1:2021			
Annex Form No. EU_GD_IEC60598_2_1H Annex Form Originator SGS Master Annex Form 2021-09-18			
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	CENELEC COMMON MODIFICATIONS (EN)	P
	No Common modifications	—

--- End of attachment A ---

Attachment B

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.4	Integral modules tested assembled in the luminaire		P
4.5	Independent modules complies with requirements in IEC 60598-1		N/A
5	GENERAL TEST REQUIREMENTS		P
5.5	SELV-operated LED modules comply with Annex I of IEC 61347-2-13	(see Annex 1)	N/A
	General conditions for tests in Annex A	(see Annex A)	P
6	CLASSIFICATION		P
	Built-in module	Yes ☐ No ☒	—
	Independent module	Yes ☐ No ☒	—
	Integral module	Yes ☒ No ☐	—
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		—
7	MARKING		N/A
	No need such tests		—
8	TERMINALS		N/A
	No need such tests		—
9 (9)	PROVISION FOR PROTECTIVE EARTHING		N/A
	No need such tests		—
10 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS		P
	Refer to main report		—
11 (11)	MOISTURE RESISTANCE AND INSULATION		P
	Refer to main report		—
12 (12)	ELECTRIC STRENGTH		P
	Refer to main report		—
13 (14)	FAULT CONDITIONS		P
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P

Attachment B

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	N/A
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664-3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq 1 \text{ M}\Omega$:	> 500 $\text{M}\Omega$	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		P
13.2	Overpower condition		P
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P
	Molten material does not ignite tissue paper, spread below the module		P
15	CONSTRUCTION		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
16 (16)	CREEPAGE DISTANCES AND CLEARANCES		N/A
	Refer to main report		—
17 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
	Refer to main report		—

Attachment B

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
18 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
	Refer to main report		—
19 (19)	RESISTANCE TO CORROSION		P
	Refer to main report		—
20	INFORMATION FOR LUMINAIRE DESIGN		N/A
	Information in Annex D (informative)		—
21	HEAT MANAGEMENT		N/A
21.1	General		N/A
	Exchangeability is safeguarded by cap or base		N/A
21.2	Heat-conducting foil and paste		N/A
	Heat-conducting foil delivered with the module if necessary		N/A
22	PHOTOBIOLOGICAL SAFETY		P
22.1	UV radiation		P
	Luminous radiation not exceed 2mW/klm		P
22.2	Blue light hazard		P
	Assessed according to IEC TR 62778	RG1 (for Strip LED): Lb = 272,3 W/m ² /sr	P
22.3	Infrared radiation		N/A
	Requirements for infrared radiation when required		N/A
A	ANNEX A - TESTS		P
	All tests performed in accordance with the advice given in Annex H of IEC 61347-1, if applicable		P
13 (14)	TABLE: tests of fault conditions		P
Part	Simulated fault		Hazard
One LED	Short-circuited; The short-circuited LED was no operation		NO
ANNEX 1	SELV-operated LED modules		N/A
	No need such tests		—

Attachment B

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Critical components information						P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Refer to main report for details							
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. The codes above have the following meaning: A - The component is replaceable with another one, also certified, with equivalent characteristics B - The component is replaceable if authorised by the test house C - Integrated component tested together with the appliance D - Alternative component							

ANNEX 3	Screw terminals (part of the luminaire)	N/A
	No need such tests	—

ANNEX 4	Screwless terminals (part of the luminaire)	P
	Refer to main report	—

--- End of Attachment B ---

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict

4 (4)	GENERAL REQUIREMENTS		P
- (4)	<u>Insulation materials</u> for double or reinforced insulation according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of <u>independent controlgear enclosure</u> with IEC 60598-1		N/A
- (4)	<u>Built-in magnetic ballast</u> with double or reinforced insulation comply with Annex I of IEC 61347-1		N/A
- (4)	<u>Built-in electronic controlgear</u> with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
- (4)	<u>SELV controlgear</u> comply with Annex L of IEC 61347-1	(see Annex L)	N/A

6 (6)	CLASSIFICATION		P
	Built-in controlgear	Yes ☐ No ☒	—
	Independent controlgear	Yes ☐ No ☒	—
	Integral controlgear	Yes ☒ No ☐	—

7 (7)	MARKING		N/A
	No need such tests		—

8 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS		P
	Refer to main report		—

9 (8)	TERMINALS		N/A
	No need such tests		—

10 (9)	PROVISION FOR EARTHING		N/A
	No need such tests		—

11 (11)	MOISTURE RESISTANCE AND INSULATION		P
	Refer to main report		—

12 (12)	ELECTRIC STRENGTH		P
	Refer to main report		—

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict

14 (14)	FAULT CONDITIONS		P
- (14.1)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (after any reduction in 14.2 - 14.5)	(see appended table)	N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq 1 \text{ M}\Omega$	> 500 M Ω	P
	No flammable gases		P
	No accessible parts have become live		N/A
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power a.c. supply		—

15 (15)	CONSTRUCTION		P
- (15.1)	Wood, cotton, silk, paper and similar fibrous material		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	Printed circuits		P
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	Plugs and socket-outlets used in SELV or ELV circuits		N/A

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
- (15.4)	Insulation between circuits and accessible parts		P
- (15.4.2)	SELV circuits		P
	Source used to supply SELV circuits:		P
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		P
	- another source		N/A
	Voltage in the circuit not higher than ELV		P
	SELV circuits insulated from LV by double or reinforced insulation		P
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		P
- (15.4.3)	FELV circuits		N/A
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating controlgear providing basic insulation between input and output circuits in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict

	- source in circuits separated by the LV supply by basic insulation		N/A
	Voltage in the circuit not higher than ELV		N/A
	FELV circuits insulated from LV supply by at least basic insulation		N/A
	FELV circuits insulated from other FELV circuits if functional purpose		N/A
	FELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
	Plugs and socket-outlets for FELV system comply with:		N/A
	- plugs not able to enter socket-outlets of other voltage systems		N/A
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		P
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according Table 6 in 15.4.5.		P
- (15.4.5)	Insulation between circuits and accessible conductive parts		P
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		P
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A
	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A

16 (16)	CREEPAGE DISTANCES AND CLEARANCES		P
	Refer to main report		—

17 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
	Refer to main report		—

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict
18 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
	Refer to main report		—
19 (19)	RESISTANCE TO CORROSION		N/A
	No need such tests		—
20 (-)	ANNEXES		P
	Comply with appropriate annexes of IEC 61347-1	(see Annexes)	P
14	TABLE: tests of fault conditions		P
Part (For touch switch 1)	Simulated fault		Hazard
Q1	Short-circuited; Switch function fail		NO
U1	Short-circuited; Switch function fail		NO
U2	Short-circuited; Switch function fail		NO
Part (For touch switch 2)	Simulated fault		Hazard
Q1	Short-circuited; Switch function fail		NO
Q2	Short-circuited; Switch function fail		NO
U1	Short-circuited; Switch function fail		NO
Part (For touch switch 3)	Simulated fault		Hazard
Q1	Short-circuited; Switch function fail		NO
Q2	Short-circuited; Switch function fail		NO
C4	Short-circuited; Switch function fail		NO
U2	Short-circuited; Switch function fail		NO
C3	Short-circuited; Switch function fail		NO
Part (For touch switch 4)	Simulated fault		Hazard
U1	Short-circuited; Switch function fail		NO
U2	Short-circuited; Switch function fail		NO
U3	Short-circuited; Switch function fail		NO
Q1	Short-circuited; Switch function fail		NO

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict
C7	Short-circuited; Switch function fail		NO
C8	Short-circuited; Switch function fail		NO
Part (For Infrared sensor switch)	Simulated fault		Hazard
Q3	Short-circuited; Switch function fail		NO
Q2	Short-circuited; Switch function fail		NO
U1	Short-circuited; Switch function fail		NO
U3	Short-circuited; Switch function fail		NO
Part (For Clock)	Simulated fault		Hazard
Q1	Short-circuited; Clock function fail		NO
U1	Short-circuited; Clock function fail		NO

(A)	ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK		N/A
	Refer to main report		—

(C)	ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING		N/A
	No need such tests		—

(D)	ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A

(F)	ANNEX F - DRAUGHT-PROOF ENCLOSURE		P
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A

(H)	ANNEX H - TESTS		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict

(I)	ANNEX I – ADDITIONAL REQUIREMENTS FOR BUILT-IN MAGNETIC BALLASTS WITH DOUBLE OR REINFORCED INSULATION		N/A
	No need such tests		—

(L)	ANNEX L - PARTICULAR ADDITIONAL REQUIREMENTS FOR CONTROLGEARS PROVIDING SELV		N/A
	No need such tests		—

(N)	ANNEX N - REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION		N/A
	No need such tests		—

(O)	ANNEX O - ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION		N/A
	No need such tests		—

(P)	ANNEX P - Creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting		N/A
	No need such tests		—

ANNEX 1	TABLE: Critical components information						P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Refer to main report for details.							
Supplementary information:							
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.							
The codes above have the following meaning:							
A - The component is replaceable with another one, also certified, with equivalent characteristics							
B - The component is replaceable if authorised by the test house							
C - Integrated component tested together with the appliance							
D - Alternative component							

	ANNEX 2: screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
	No such parts		N/A

Attachment C

EN 61347-2-11			
Clause	Requirement + Test	Result - Remark	Verdict

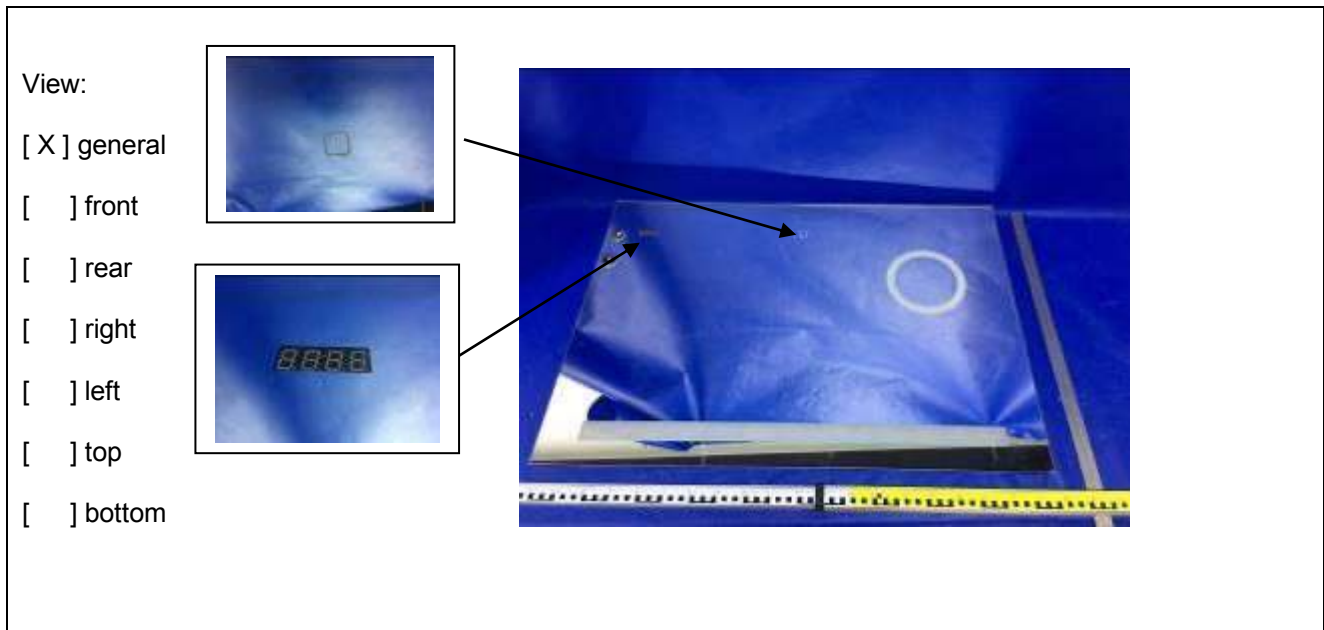
	ANNEX 3: screwless terminals (part of the luminaire)	N/A
(15)	SCREWLESS TERMINALS	N/A
	No such parts	N/A

--- End of Attachment C ---

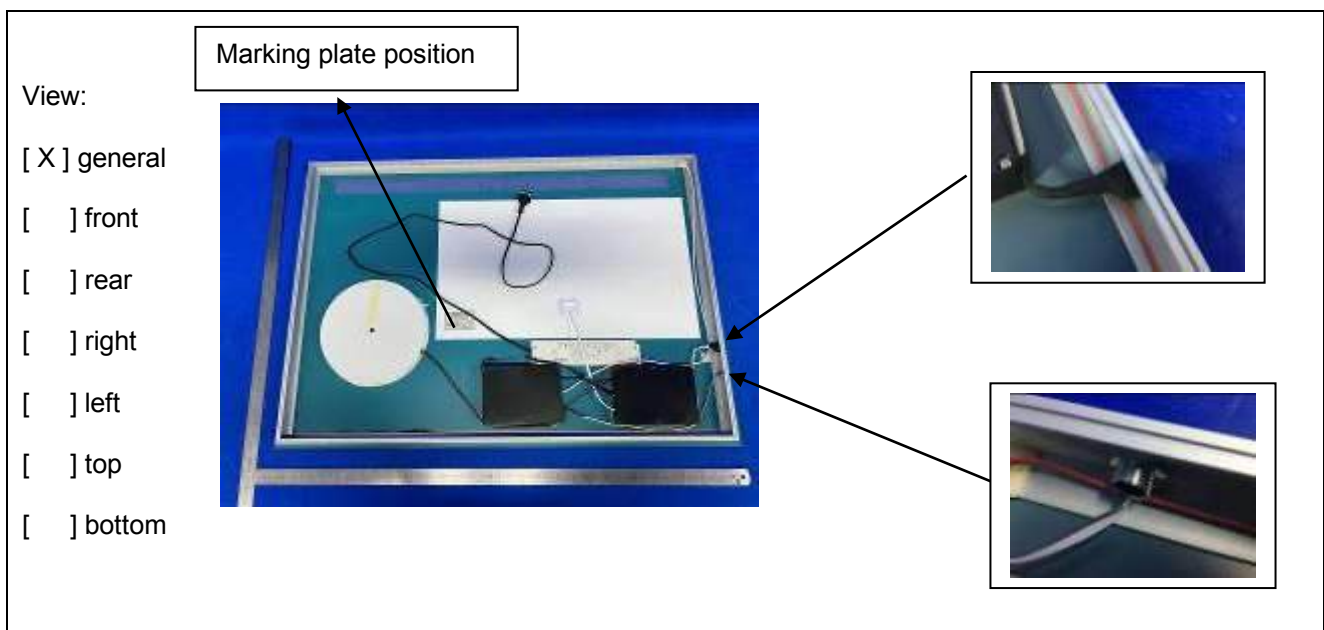
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1085F50L60XTRSF



Details for: H-1085F50L60XTRSF



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: Marking of mechanical switch and infrared sensor switch for model H-1085F50L60XTRSF

View:

☒ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom



Details for: Relay, clock and Infrared sensor switch in electrical box for model H-1085F50L60XTRSF

View:

☐ general

☐ front

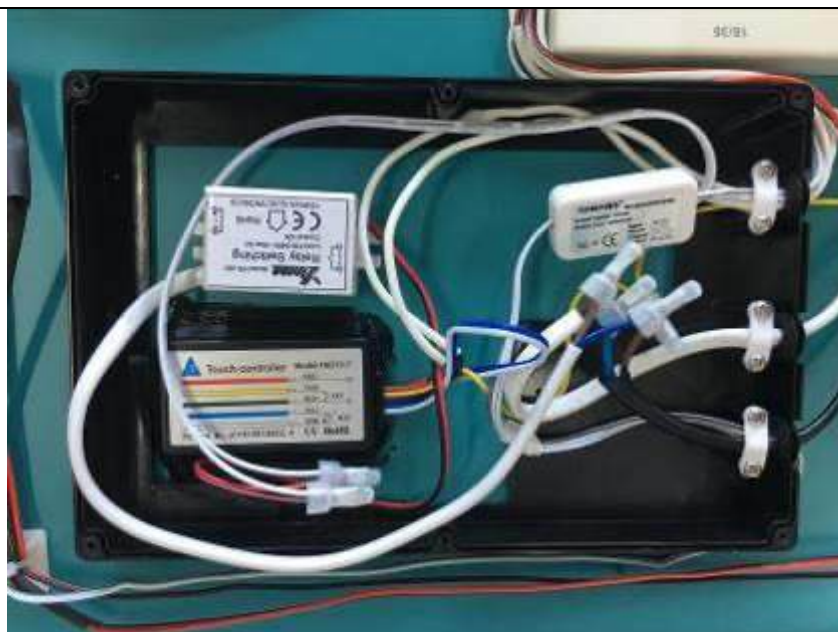
☐ rear

☐ right

☐ left

☐ top

☐ bottom



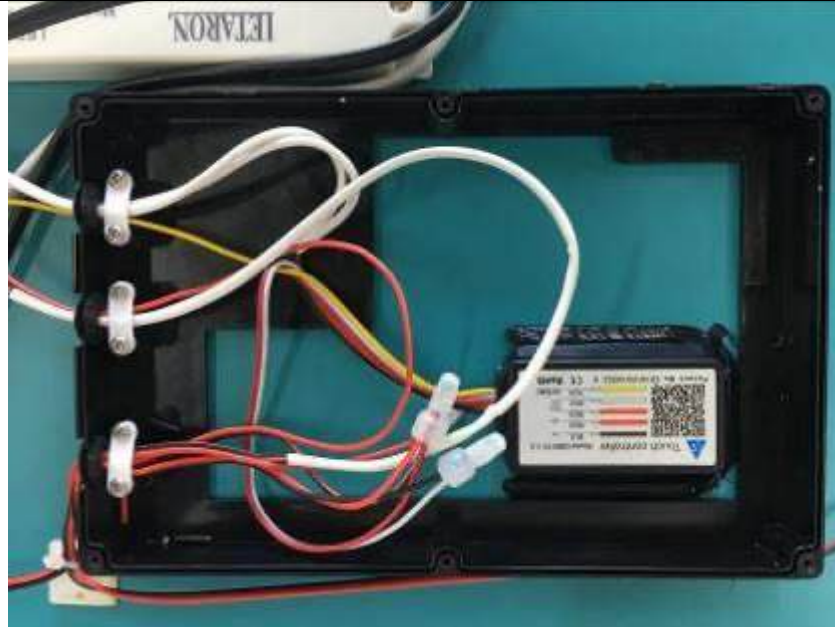
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: Touch switch 1 in electrical box for model H-1085F50L60XTRSF

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED strip

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: LED strip for model H-1085F50L60XTRSF

View:

☐ general

☐ front

☐ rear

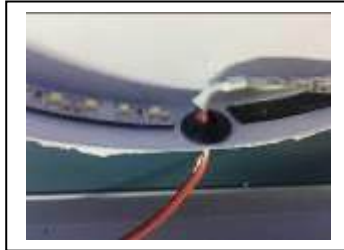
☐ right

☐ left

☐ top

☐ bottom

**marking
plate
position**



Details for: Internal view for Touch switch 1

View:

☐ general

☐ front

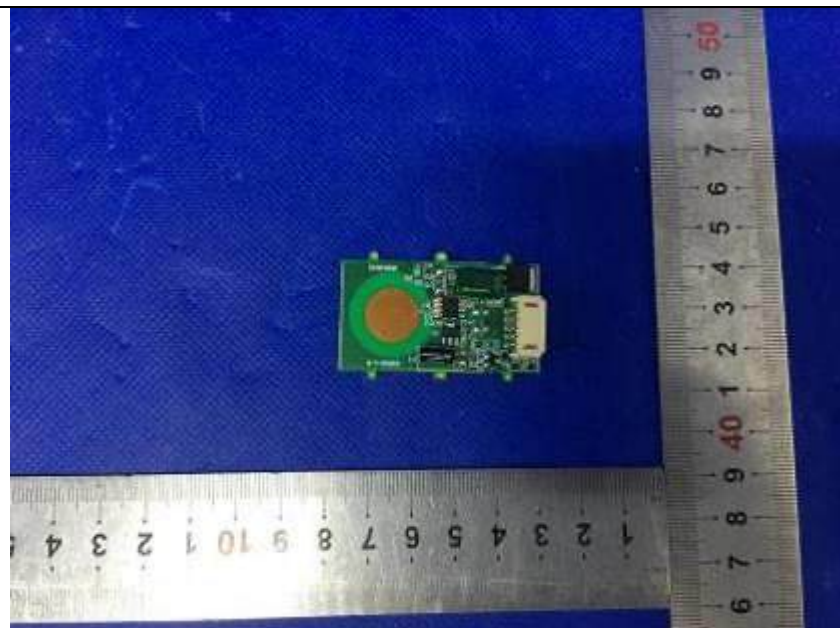
☐ rear

☐ right

☐ left

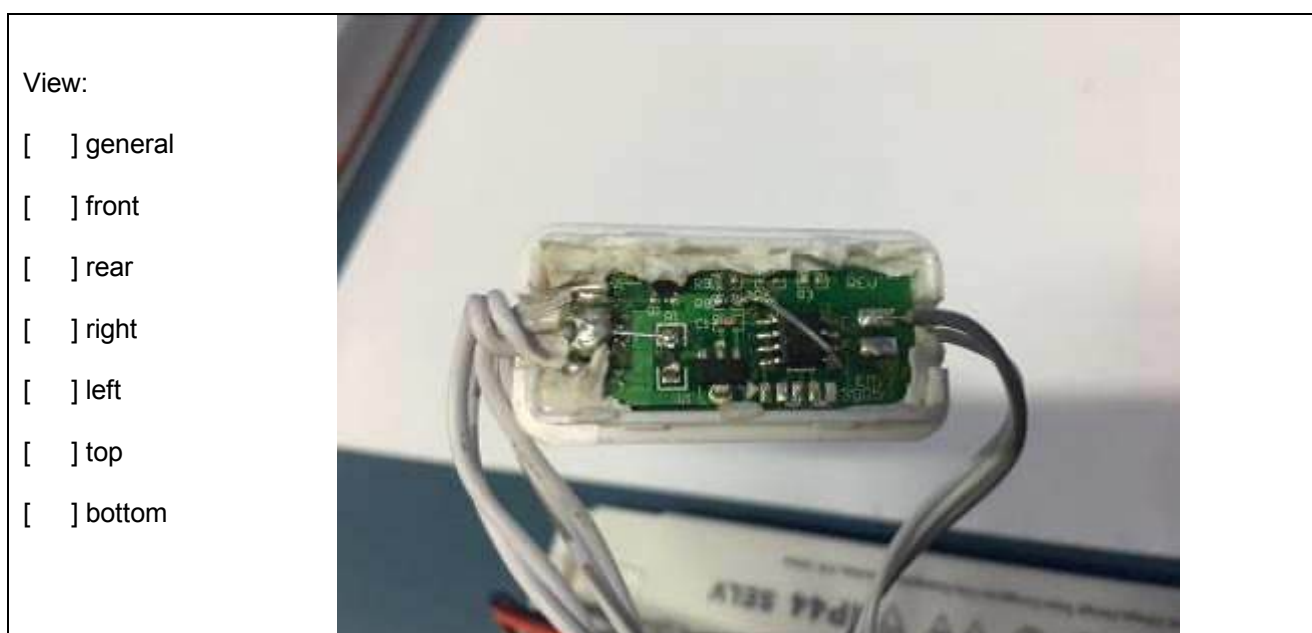
☐ top

☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: Infrared sensor switch**Details for:** Internal view for infrared sensor switch

Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: Internal view for Relay

View:

☐ general

☐ front

☐ rear

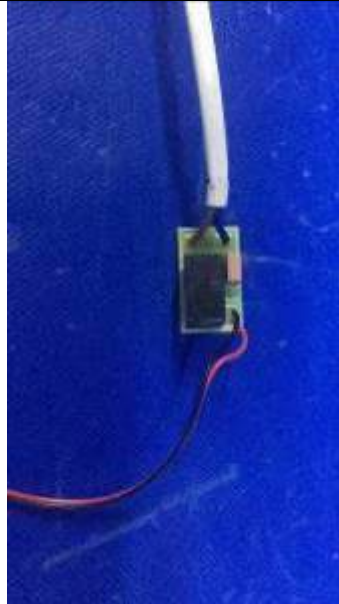
☐ right

☐ left

☐ top

☐ bottom

**marking
plate
position**



Details for: Internal view for Clock

View:

☐ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom

**marking
plate
position**



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

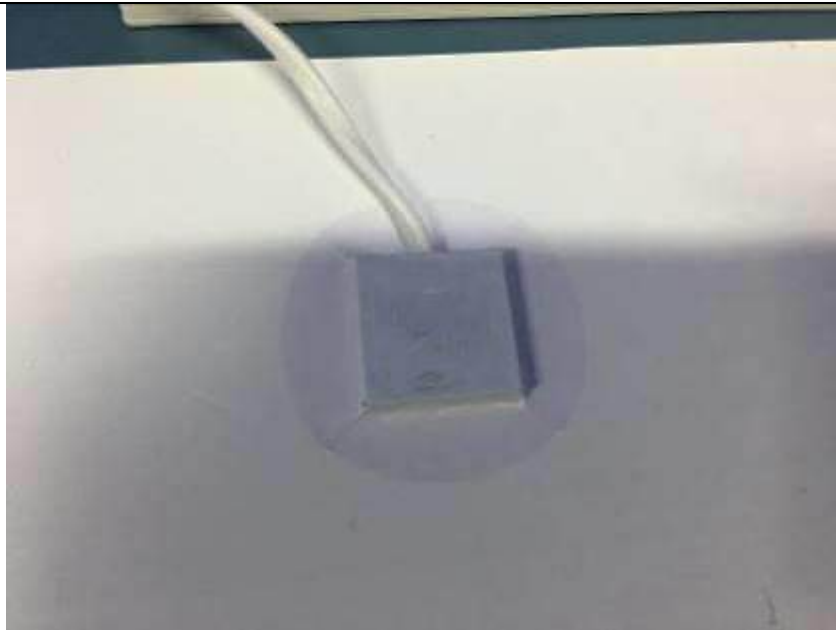
Report No.: NBES211200638401

Details for: Defogger connector

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottom

**marking
plate
position**



Details for: Mechanical switch

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottom

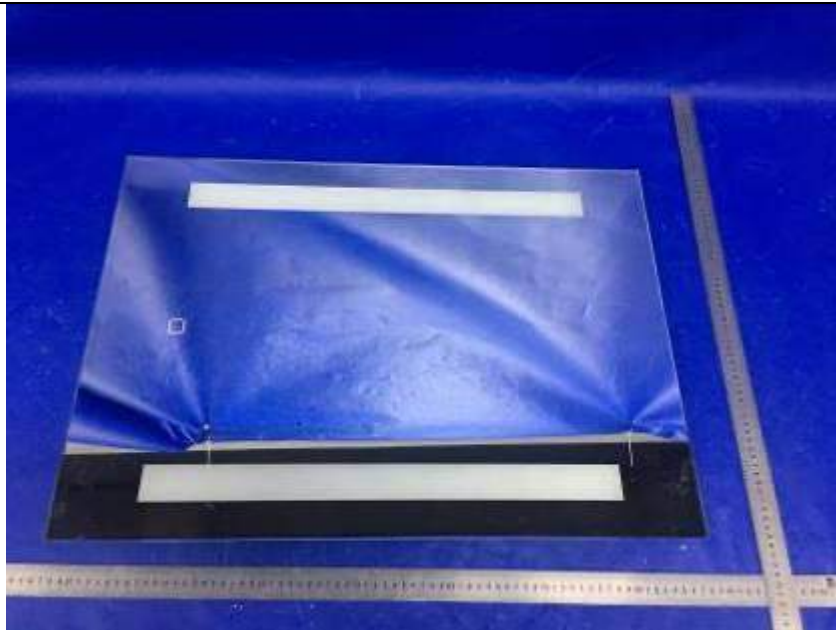
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1009L6T

View:

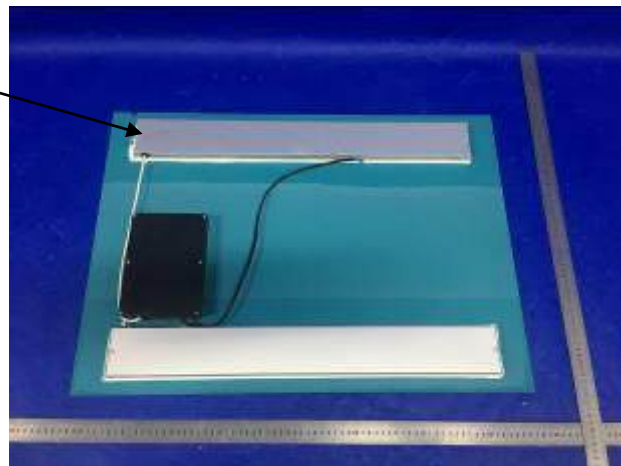
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: H-1009L6T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: Touch switch and LED driver in electrical box for model H-1009L6T

View:

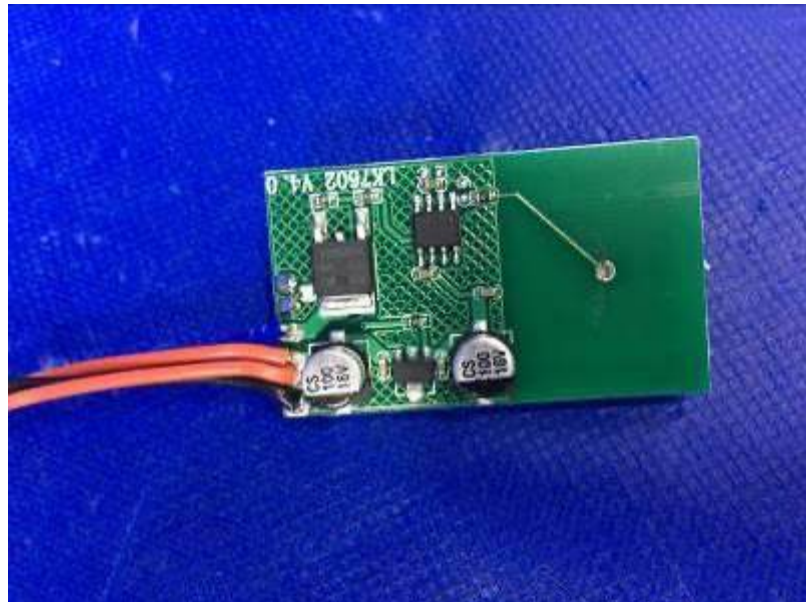
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: Internal view for Touch switch 2

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1281L15S

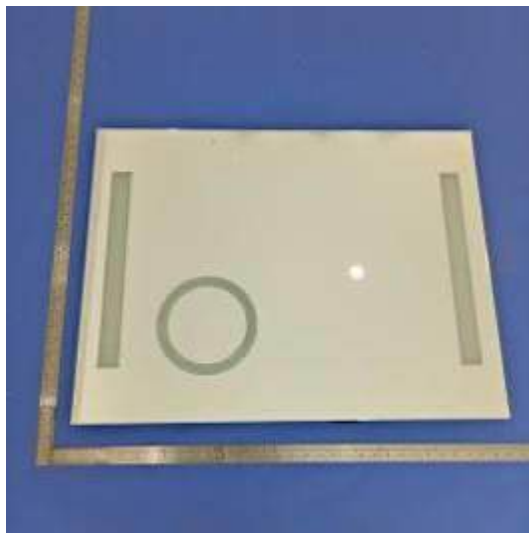
View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

**Details for:** H-1086L15

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



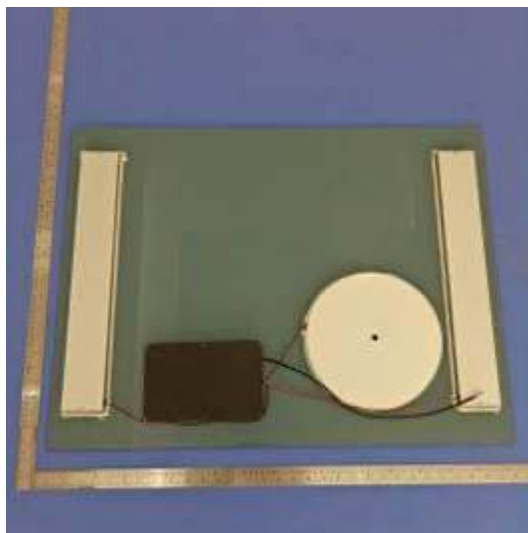
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1086L15

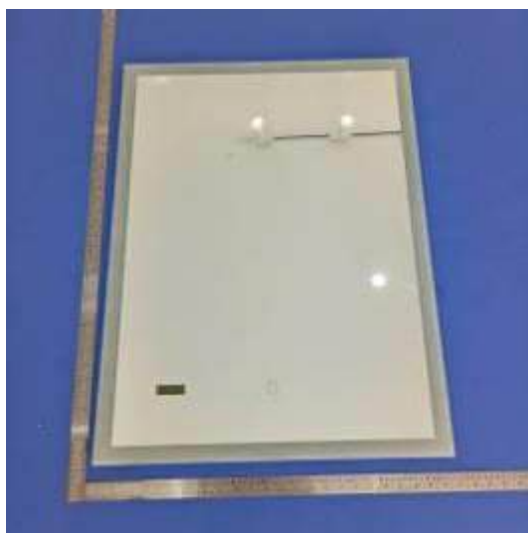
View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Details for: H-1313L15TX

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1313L15TX

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

**Details for:** H-1293L8T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1293L8T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

**Details for:** H-1302L15T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



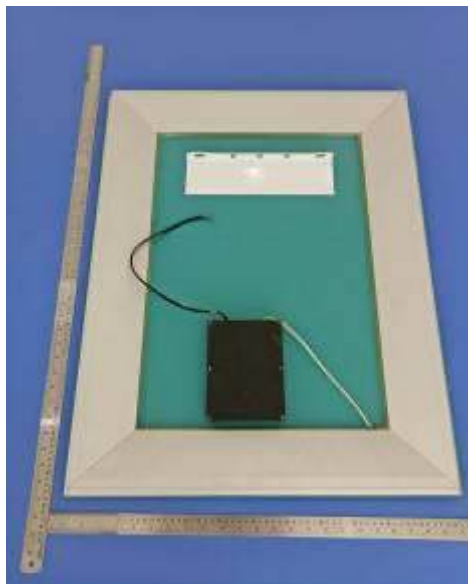
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1302L15T

View:

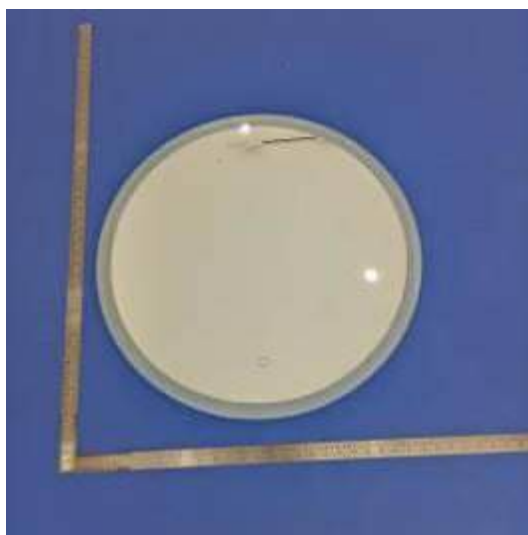
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: H-2291L20T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



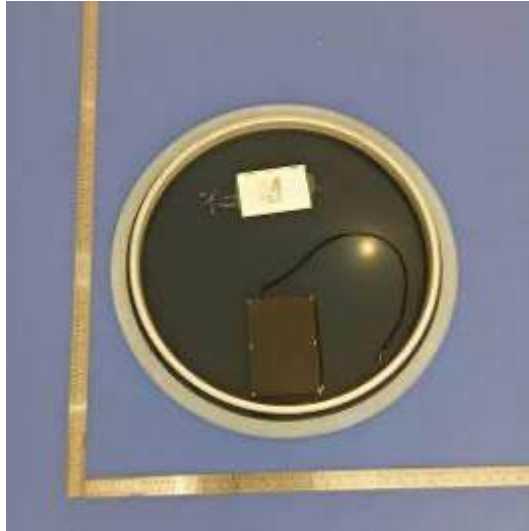
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-2291L20T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Details for: H-2292L15T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-2292L15T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Details for: H-3061L20

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



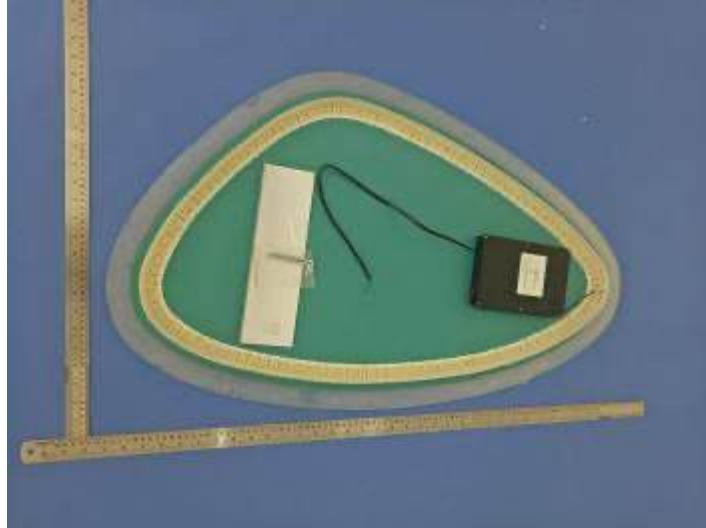
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-3061L20

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

**Details for:** H-1311L15R

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1311L15R

View:

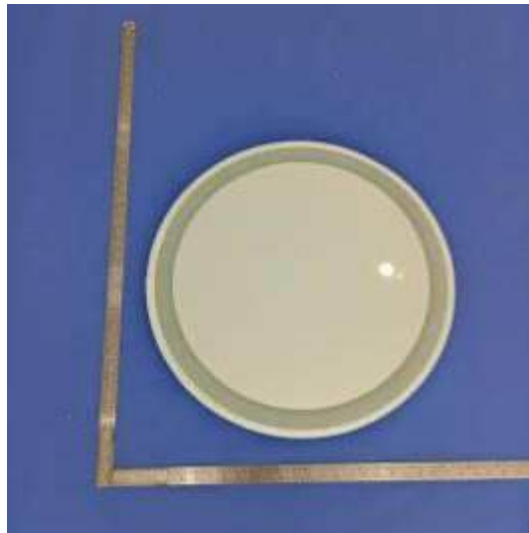
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: H-2290L20R

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



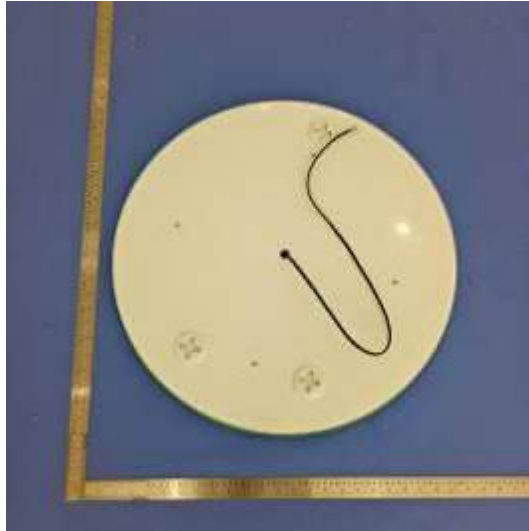
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-2290L20R

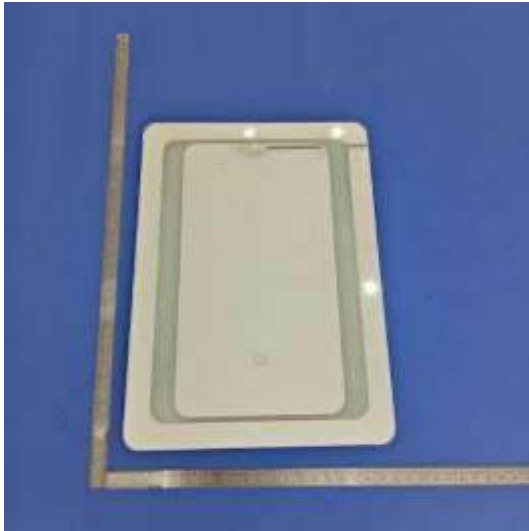
View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

**Details for:** H-1297L15T

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



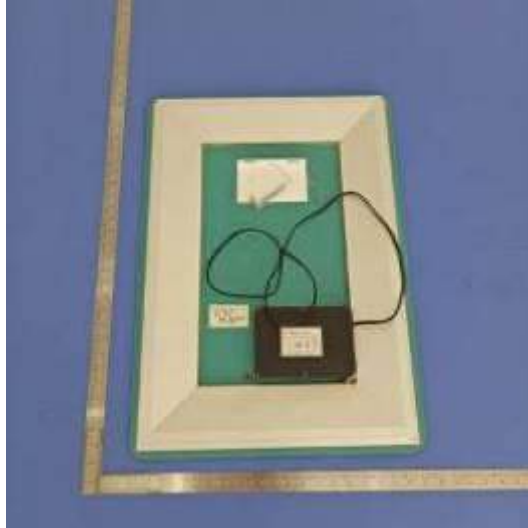
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: H-1297L15T

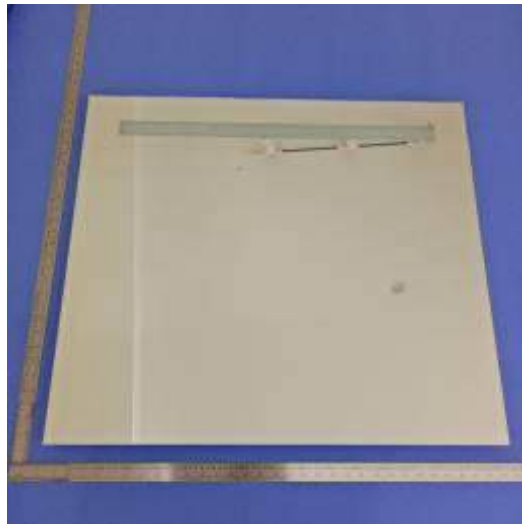
View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Details for: H-1281L15S

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver AED60-12VLSTB-IP44

View:

☐ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom



Details for: LED driver SNP60-12VFP

View:

☐ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver AED48-12VLSTB-IP44

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED36-12VLSJ

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SE30-12VL

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED25-12VLSJ

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SNP20-12VF-E

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED20-12VLSJ

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SNP15-12VL

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED15-12VLSJ

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SNP8-12VL-1

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED9-12VLS

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SNP6-12VF

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: LED driver AED06-12VLS

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: LED driver SS20-12VF

View:

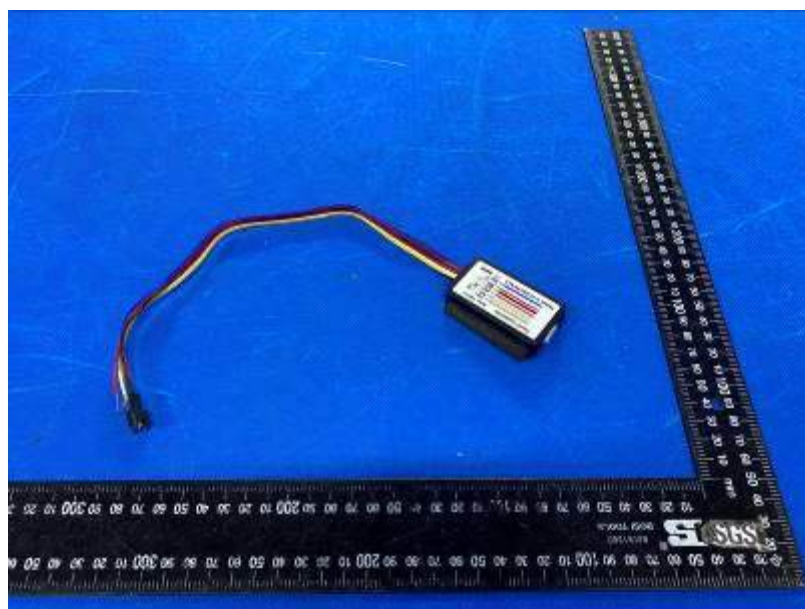
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: Touch switch 3

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



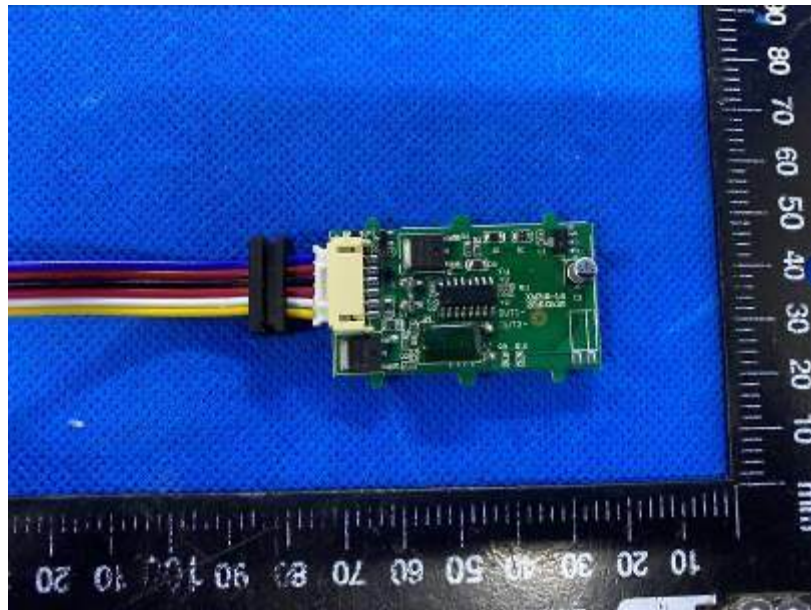
Attachment D
Photo documentation
Fixed luminaire (LED mirror)
See main report

Report No.: NBES211200638401

Details for: Internal view for Touch switch 3

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Details for: Touch switch 4

View:

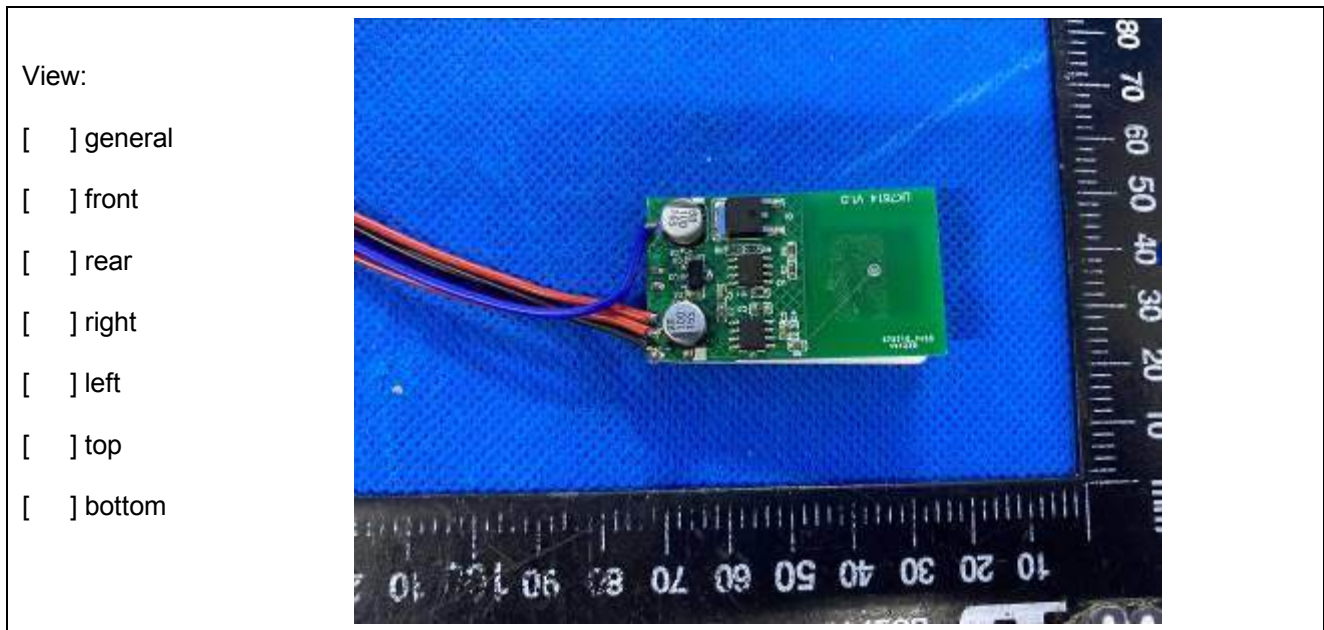
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



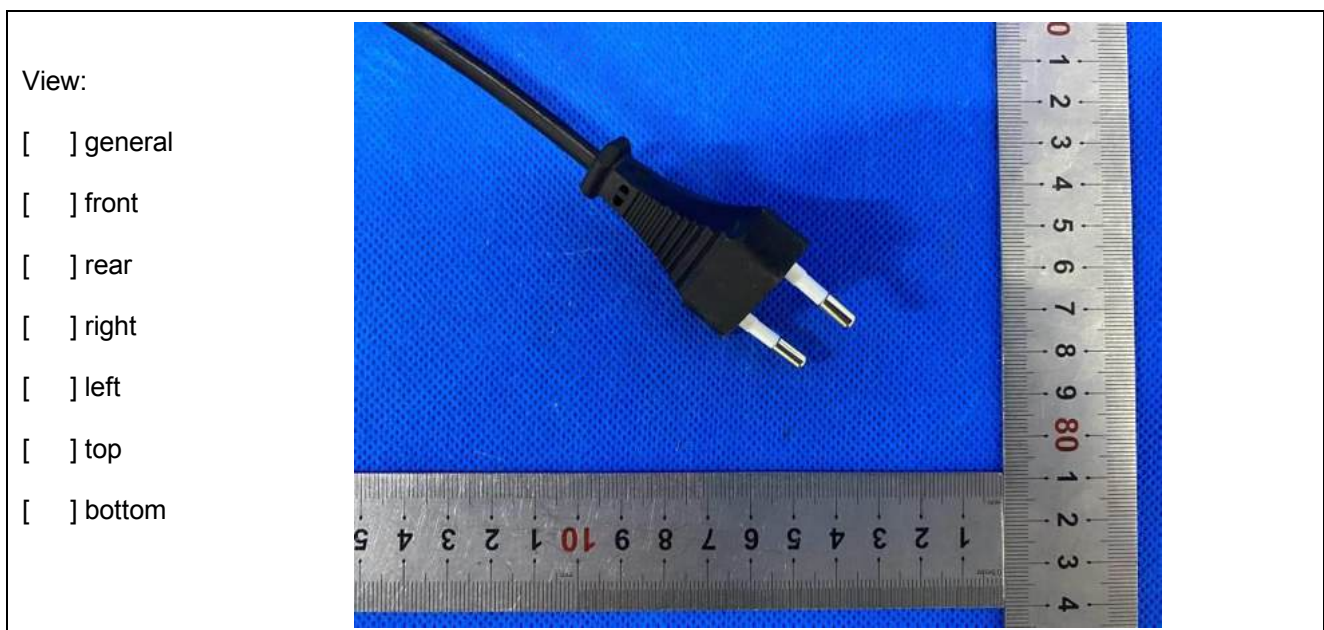
Attachment D
 Photo documentation
 Fixed luminaire (LED mirror)
 See main report

Report No.: NBES211200638401

Details for: Internal view for Touch switch 4



Details for: Plug for model H-1085F50L60XTRSF



---End for Attachment D---