



## Household and similar electrical appliances – Safety – Radiation in hazardous amount Testing Report



Testing Laboratory  
1888

1. The inspection report totally has 7 pages, and it will be invalid when the pages are separated.
2. The inspection report shall not be extracted without the consent of use.
3. The inspection report may not be used for advertising, publications or merchandising purposes.
4. The inspection report will be invalid without the "the seal on the perforation".
5. The inspection report is only responsible for the test samples.





## Household and similar electrical appliances – Safety – Radiation in hazardous amount Testing report

Applicant : MICRO-STAR INTERNATIONAL CO., LTD.

Applicant Address : No. 69, Lide St., Zhonghe Dist, New Taipei City 235 Taiwan

Sample : UVC purifier

Model : MS-5503

Rated Voltage : DC 12-24 V

Testing Voltage : DC 12V

Dimensions : L 445 mm × W 125 mm × H 140 mm

Standard : IEC 60335-2-65(2015)

Sampling procedure : Sent by applicant

Date of receipt : Oct. 13, 2021

Testing date : Nov. 29, 2021

Testing Engineer : Chun Liang, Lin

Laboratory : Jing Hong Examine Technology Co., Ltd.

Result of test : Result of test see page 3~4.



Report signee : Chong-Liang Chen



IEC 60335-2-65			
Clause	Standard remark	Result remark	Verdict
32.102 Radiation, toxicity and similar hazards	<p>Appliances shall not emit radiation in hazardous amount. Compliance is checked by the followings test.</p> <p>The appliances is supplied at rated voltage and operated under normal operation. The irradiance is measured at a 300 mm, the measuring instrument being positioned so that the highest radiation is record.</p> <p>If the appliance has an inspection window, the measuring distance is reduced to 0 mm.</p> <p>The measuring instrument used shall measure the mean irradiance over a circular area having a diameter not exceeding 20 mm. The response of the instrument shall be proportional to cosine of the angle between incident radiation and the normal to the circular area.</p> <p>The spectral irradiance shall be measured at intervals not exceeding 2.5 nm in an appropriate spectro-radiometric system.</p> <p>The spectro-radiometric shall have a bandwidth not exceeding 2.5 nm.</p> <p>NOTE 1 A bandwidth of 1 nm is advisable for greater measurement accuracy in cases where a rapid change of the spectral energy occurs within a small bandwidth area.</p> <p>The irradiance is measured when the radiation from the UV-C emitter has stabilized. Appliances shall have a total irradiance not exceeding 0.003 W/m<sup>2</sup>, for wavelengths between 200 nm and 280 nm. The spectral irradiance shall not exceed 10<sup>-5</sup> Wm<sup>-2</sup>nm<sup>-1</sup>.</p> <p>NOTE 2 The total irradiance us given by</p> $I = \sum_{200 \text{ nm}}^{280 \text{ nm}} E_{\lambda} \Delta \lambda$ <p>where</p> <p>I is the total irradiance;</p> <p>E<sub>λ</sub> is the spectral irradiance in Wm<sup>-2</sup>nm<sup>-1</sup>;</p> <p>Δλ is the wavelength interval in nm.</p> <p>The total irradiance shall not exceed 1 mW/m<sup>2</sup> for wavelength between 250 nm and 400 nm.</p> <p>NOTE 3 the total irradiance is given by</p> $E = \sum_{250 \text{ nm}}^{400 \text{ nm}} S_{\lambda} E_{\lambda} \Delta \lambda$ <p>where</p> <p>I is the total effective irradiance;</p> <p>E<sub>λ</sub> is the spectral irradiance in Wm<sup>-2</sup>nm<sup>-1</sup>;</p> <p>S<sub>λ</sub> is the weighting factor specified in table 1;</p> <p>Δλ is the wavelength interval in nm.</p>	Details shown in Table 32	P





IEC 60335-2-65				
Clause	Standard remark			Verdict
Table 1	Weighting factors for different wavelengths			P
Wavelengths	Weighting factors	Wavelengths	Weighting factors	
nm	$S_{\lambda}$	nm	$S_{\lambda}$	
250	0.430	319	0.0012	
254	0.500	320	0.0010	
255	0.520	322	0.00067	
260	0.650	323	0.00054	
265	0.810	325	0.00050	
270	1.000	328	0.00044	
275	0.960	330	0.00041	
280	0.880	333	0.00037	
285	0.770	332	0.00034	
290	0.640	340	0.00028	
295	0.540	345	0.00024	
297	0.460	350	0.00020	
300	0.300	355	0.00016	
303	0.120	360	0.00013	
305	0.060	365	0.00011	
308	0.026	370	0.000093	
310	0.015	375	0.000077	
313	0.006	380	0.000064	
315	0.003	385	0.000053	
316	0.0024	390	0.000044	
317	0.0020	395	0.000036	
318	0.0016	400	0.000030	
NOTE The weighting factors for intermediate wavelengths are determined by interpolation.				

Table 32

Test items	Test wavelengths	Test Result	Limit	Verdict
Total irradiance	200 nm-280 nm	0 W/m <sup>2</sup>	0.003 W/m <sup>2</sup>	P
The highest spectral irradiance between 200 nm and 280 nm	200 nm-280 nm	0 Wm <sup>-2</sup> nm <sup>-1</sup>	10 <sup>-5</sup> Wm <sup>-2</sup> nm <sup>-1</sup>	P
Total effective irradiance	250 nm-400 nm	0 mW/ m <sup>2</sup>	1 mW/m <sup>2</sup>	P

Please note : The evaluation of measurement will exclude the Measurement Uncertainty as it complies to IEC Guide while the decision rule won't be considered into it.



Product (Sample)-Front view



Product (Sample)-Back view



Product (Sample)-Inside view







## Equipment list :

No.	Equipment Name	Brand / Model	Equipment Number	Effective Calibration Date	Remarks
1	UV Radiation Test System	SENSING/SUV3000	GH-036-00	2022/01/15	
2	MEP Meter	SENSING	GH-036-02	No-Calibration Requirement	
3	Power Meter	SENSING/UI2012	GH-036-03	2022/08/10	
4	Power Supply	apc/AFC-500W	GH-036-05	No-Calibration Requirement	
5	Hygrometer (6)	HTC-1	GH-029-04	Checks regularly	

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