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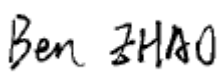
TEST REPORT N°: BUUQ-ESH-P20081513B

EMC TEST REPORT

To :	NINGBO POWER (JORO) SANITARY ELECTRICAL APPLIANCE CO., LTD	Fax :	--
Attn :	--	Email :	--
Address :	No.99 Xiangyun North Road, High-Tech Zone, Ningbo, China		
Cc :	--	Fax/Email :	--
Attn :	--		
This document includes : 10 pages		Test date :	Aug.18 to Oct.21, 2020

FACTORY NAME :	NINGBO POWER (JORO) SANITARY ELECTRICAL APPLIANCE CO., LTD	
ADDRESS :	No.99 Xiangyun North Road, High-Tech Zone, Ningbo, China	
PRODUCT :	Aluminum alloy automatic soap dispenser	
TYPE REFERENCE :	PW-M, PW-ML, PW-MJ, PW-MQ, PW-MS / PW-Mf, PW-MLf, PW-MJf, PW-MQf, PW-MSf / PW-Ms, PW-MLs, PW-MJs, PW-MQs, PW-MSs PW-N, PW-NX, PW-NJ, PW-NQ, PW-NS / PW-Nf, PW-NXf, PW-NJf, PW-NQf, PW-NSf / PW-Ns, PW-NXs, PW-NJs, PW-NQs, PW-NSs PW-H, PW-HL, PW-HJ, PW-MH, PW-HS / PW-Hf, PW-HLf, PW-HJf, PW-MQf, PW-HSf, PW-HLs, PW-HJs, PW-HQs, PW-HSs	
RATED VOLTAGE :	DC 4*1.5V(AA) batteries	
RATED INPUT POWER :	--	
PROTECTION CLASS :	III	
TESTS REALISED :	On one sample of PW-MS	
STANDARDS USED(DATE) :	EN 55014-1:2017 EN 55014-2:2015	
CLAUSES EXAMINED :	All Clauses Relevant.	

Test Location: Building C, No. 829, Xin Zhuan Road, Shanghai, CHINA

CONCLUSION :	The sample does satisfy the clauses examined .
Test done by:	Approved by:
 Name : Ben ZHAO Date : Oct.22, 2020	Name : Wen ZHU Date : Oct.22, 2020

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

LCIE China Company Limited 必维欧亚电气技术咨询服务(上海)有限公司	Building 4, No. 518, Xin Zhuan Road, CaoHejing Songjiang High-Tech Park, Shanghai, CHINA Page 1 of 10	Tel: +86 21 6195 7000 Fax: +86 21 6195 7001 Email: contact@cn.bureauveritas.com
TEST REPORT EN 55014-1:2017 VER.5.0		



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1 TESTING PROGRAM

The tests have been carried out according to the requirements of the following standards :

Emission standard EN 55014-1:2017

- Measurement of the disturbance voltage levels.
- Measurement of the discontinuous disturbance levels.
- Measurement of the disturbance power levels.
- Measurement of the radiated disturbance levels.
- Measurement of the magnetic field levels.

Immunity standard EN 55014-2:2015

- Immunity to electrostatic discharges - publication IEC 61000-4-2.
- Immunity to fast transients/bursts - publication IEC 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication IEC 61000-4-6.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication IEC 61000-4-3.
- Immunity to surges - publication IEC 61000-4-5.
- Immunity to voltage dips -publication IEC 61000-4-11.

Special Comment : All models are similar as each other except mechanical components. All models are without USB port. So all EMC tests were performed on model PW-MS, the test result is applicable to all models.

2 HISTORY OF FAILURE

None.

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3 EQUIPMENT CHARACTERISTICS

3.1 List of critical EMC components

Object/Part No.	Manufacturer / Trademark	Type / Model	Technical data
DC motor	Shenzhen Pinya Technology Co. LTD	310C (HYGY001)	DC 6V

3.2 Picture of the sample





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4 OPERATING CONDITIONS

The apparatus was placed in a shielded room, full or semi anechoic chamber and was powered by battery. The apparatus was worked continuously.

Climatic conditions :	Temperature	: 22-23 °C
	Relative humidity	: 48-53 %
	Atmospheric pressure	: 101.3 kPa

5 PERFORMANCE CRITERIA

- Criterion A : The apparatus operate as intended during the test. No degradation of performance or loss of function is allowed below the performance level.
- Criterion B : The apparatus operate as intended after the test. No change of operating state and the stored data are allowed. During the test, degradation of performance is allowed.
- Criterion C : Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.



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6 TEST RESULTS

6.1 EMISSION STANDARD EN 55014-1:2017

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
4.3	<u>Continuous disturbances</u>	Operating conditions : according to the article 6 and Annex A				
4.3.2	<u>Magnetic field limits</u> Frequency range: 0.009 to 30 MHz	☐ Magnetic field induced current (2 m LAS) ☐ Magnetic field strength (0.6 m loop antenna) Port(s) : • Enclosure port Diagram(s) No. < >	[]	[]	[X]	[]
4.3.3	<u>Disturbance voltage limits</u> Frequency range: 0.15 to 30 MHz	Port(s) : • Mains port Diagram(s) No. < >	[]	[]	[X]	[1]
4.3.4.4	<u>Disturbance power limits</u> Frequency range : 30 to 300 MHz	Port(s) : • Mains port Diagram(s) No. < >	[]	[]	[X]	[1]
4.3.4.5	<u>Radiated disturbance limits</u> Frequency range: 30 to 1000 MHz	Measuring Distance: 3 m Port(s) : • Enclosure port Diagram(s) No. <1>	[X]	[]	[]	[]
4.4	<u>Discontinuous disturbances</u>	Operating conditions : according to the article 6 and Annex A				
4.4.2	<u>Discontinuous disturbances limits</u> Frequency range: 0.15 to 30 MHz	Port(s) : • Mains port Table(s) No. < >	[]	[]	[X]	[1]

P : pass – F : Fail – NA : not applicable – Rem : remark



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6.2 IMMUNITY STANDARD EN 55014-2:2015

☒ Apparatus category : III

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.1	<u>Electrostatic discharges</u> Table 1 Enclosure Performance Criterion B	Contact discharges Level : ± 4 kV Application points : • horizontal coupling plane • vertical coupling plane				
			[X] [X]	[] []	[] []	[2] [2]
		Air discharges Level : ± 8 kV Application points : • enclosure	[X]	[]	[]	[2]
5.2	<u>Fast transients/bursts</u> Table 4 Alternative current power input and output port(s) Performance Criterion B	Level : ± 1 kV Repetition rate : 5 kHz Testing time : 2 min Port(s) : • AC mains	[]	[]	[X]	[1]
5.3	<u>Injected current 0.15 to 230 MHz</u> Table 7 Alternative current power input and output port(s) Performance Criterion A Article 8.4	Voltage level : 3V (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time: 2 s Application with CDN-M2/M3 Port(s) : • AC mains	[]	[]	[X]	[1]

P : pass - F : Fail - NA : not applicable - Rem : remark



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Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.5	Radio-frequency electromagnetic fields 80 to 1000 MHz Table 11 Enclosure Performance criteria A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 2 s ☒ Logperiodic antenna ☐ GTEM: - horizontal position - vertical position	 [X] [X]	 [] []	 [] []	 [2] [2]
5.6	Surges Table 12 Alternative current power input and output port(s) Performance Criterion B	Tr/Th(μs) : 1.2/50 (8/20) Number of surges : 5 positive and 5 negative Phase angles : 90° and 270° Level : ± 1 kV Port(s) : • power input, between lines and neutral	 []	 []	 [X]	 [1]
		Level : ± 2 kV Port(s) : • power input, between lines and earth • power input, between neutral and earth	 [] []	 [] []	 [X] [X]	 [] []

P : pass - F : Fail - NA : not applicable - Rem : remark



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Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.7	<u>Voltage dips</u> Table 13 Alternative current power input port(s) Performance Criterion C	<u>Voltage dips</u> Test level : 0 % Ut -> 0 V Duration : 10 ms Phase angles : 0° and 180° Port(s) : • AC mains	[]	[]	[X]	[1]
		<u>Voltage dips</u> Test level : 40 % Ut -> 92 V Duration : 200 ms Phase angles : 0° Port(s) : • AC mains	[]	[]	[X]	[1]
		<u>Voltage dips</u> Test level : 70 % Ut -> 161 V Duration : 500 ms Phase angles : 0° Port(s) : • AC mains	[]	[]	[X]	[1]

P : pass - F : Fail - NA : not applicable - Rem : remark

Remark(s) :

- 1 : The EUT powered by battery.
- 2 : During and after the test, there are no loss of function and no change of motor speed, power consumption and operating state.

7 CONCLUSION

The apparatus Aluminum alloy automatic soap dispenser and models PW-M, PW-ML, PW-MJ, PW-MQ, PW-MS / PW-Mf, PW-MLf, PW-MJf, PW-MQf, PW-MSf / PW-Ms, PW-MLs, PW-MJs, PW-MQs, PW-MSs, PW-N, PW-NX, PW-NJ, PW-NQ, PW-NS / PW-Nf, PW-NXf, PW-NJf, PW-NQf, PW-NSf / PW-Ns, PW-NXs, PW-NJs, PW-NQs, PW-NSs, PW-H, PW-HL, PW-HJ, PW-MH, PW-HS / PW-Hf, PW-HLf, PW-HJf, PW-MQf, PW-HSf, PW-HLs, PW-HJs, PW-HQs, PW-HSs are in compliance with the requirements of the standards EN 55014-1:2017, EN 55014-2:2015.

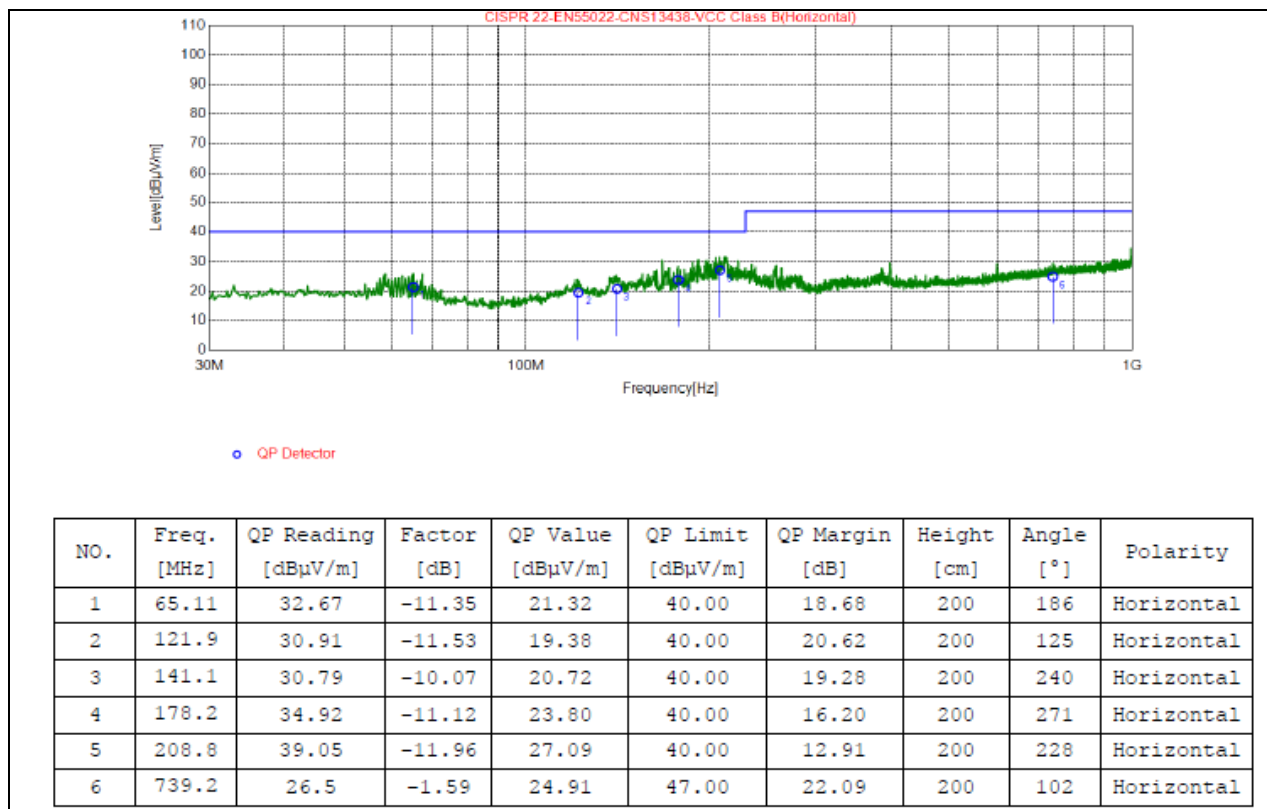




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Diagram No. 1

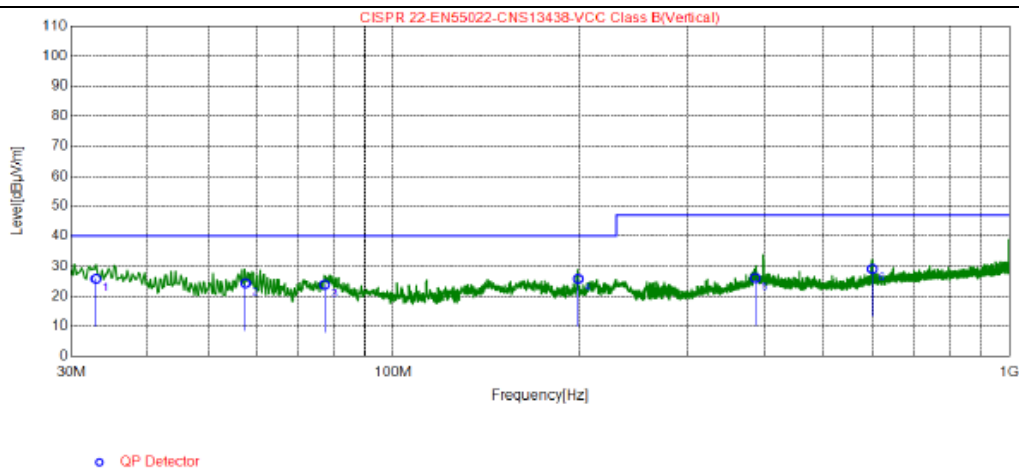




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Continued



NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.91	36.18	-10.35	25.83	40.00	14.17	100	62	Vertical
2	57.54	34.66	-10.34	24.32	40.00	15.68	100	204	Vertical
3	77.33	37.15	-13.32	23.83	40.00	16.17	100	326	Vertical
4	199.3	38.14	-12.33	25.81	40.00	14.19	100	166	Vertical
5	386.7	33.92	-7.82	26.10	47.00	20.90	100	238	Vertical
6	598.8	33.39	-4.26	29.13	47.00	17.87	100	162	Vertical

