

## TEST REPORT



REPORT NO.: CTNT230726021R

Product name: Car Refrigerator

Model No.: VX18

Applicant: Nanjing Hongyuan Renewable Energy Technology Co., Ltd

Test procedure: Entrustment Inspection

Shenzhen Zhongwei Testing Technology Co., Ltd.



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<b>TEST REPORT</b> <b>10 CFR 430.32(a). (Appendix A to Subpart B of Part 430)</b>	
<b>Report Number</b> ..... :	CTNT230726021R
<b>Date of issue</b> .....	Aug.28,2023
<b>Name of Testing Laboratory preparing the Report</b> .....	Shenzhen Zhongwei Testing Technology Co., Ltd. Room 1A106, 1/F., No.109, Lijia Road, Henggang, Henggang Street, Longgang District, Shenzhen, Guangdong, China Tel: 086-755-28680489 E-mail: admin@ctnt-cert.com Web: www.ctnt-cert.com
<b>Applicant's name</b> .....	Nanjing Hongyuan Renewable Energy Technology Co., Ltd
<b>Address</b> ..... :	ROOM 5012 NanYou RD ,Jiangning District,Nanjing,China
<b>Test specification:</b>	
<b>Standard</b> .....	10 CFR 430.32(a). (Appendix A to Subpart B of Part 430) as applicable; AHAM HRF-1-2019
<b>Test procedure</b> ..... :	<input checked="" type="checkbox"/> DOE: Appendix A to Subpart B of Part 430 - Uniform Test Method for Measuring the Energy Consumption of Refrigerators, Refrigerator-Freezers, and Miscellaneous Refrigeration Products
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	DOE- BC-RRF
<b>Test Report Form(s) Originator</b> .... :	1.0
<b>Master TRF</b> .....	CTNT
<b>General disclaimer:</b>	
<p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing CTNT Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the CTNT, responsible for this Test Report.</p>	
<b>Test item description</b> ..... :	Car Refrigerator
<b>Model/Type reference</b> ..... :	VX18
<b>Trade Mark</b> ..... :	ACOPOWER/LIONCOOLER
<b>Manufacturer</b> .....	Guangdong Minghua Auto Equipment Technology Co., Ltd.
<b>Address</b> ..... :	#601, Block 4, Shiyou Industrial Park, No. 194, Junyi Road, Shatou Community, Jun'an Town, Shunde District, Foshan City, Guangdong Province, P.R. China
<b>Ratings</b> ..... :	12V/24V= (Powered by external driver Input:100-240V~ 50/60Hz, Out put: 14.5V= 6.0A)

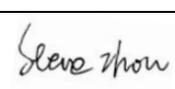
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<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<b>Laboratory Name</b>	Shenzhen Zhongwei Testing Technology Co., Ltd.	
<b>Testing location/ address .....</b>	Room 1A106, 1/F., No.109, Lijia Road, Henggang, Henggang Street, Longgang District, Shenzhen, Guangdong, China	
<b>Tested by(Test Engineer).....</b>	Steve Zhou	
<b>Reviewed By(Supervisor) .....</b>	Airan Lu	
<b>Approved by(Chief Engineer).....</b>	Flight Lee	
<b>Summary of testing:</b>		
<b>Tests performed (name of test and test clause):</b>	<b>Testing location:</b>	
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods.	Shenzhen Zhongwei Testing Technology Co., Ltd.	
A representative sample of the product covered by this report has been tested and complies with the applicable requirements of 10 CFR 430.32(a).	Room 1A106, 1/F., No.109, Lijia Road, Henggang, Henggang Street, Longgang District, Shenzhen, Guangdong, China	
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<b>General conditions for measurements:</b>		
<b>1.Test Room</b>		
The ambient temperature shall be maintained at 90.0 ±1 °F. (32.2 ± 0.6 °C.)		
<b>2.Power supply</b>		
The electrical power supply shall be 115 ± 1 V, 60 Hz at the product service connection. The actual voltage shall be maintained and recorded throughout the test. Instantaneous voltage fluctuations caused by the turning on or off of electrical components shall not be considered.		
<b>3. Supply voltage waveform</b>		
The total harmonic content of the supply voltage when supplying the appliance under test in the specified mode shall not exceed 2 %; harmonic content is defined as the root-mean-square (r.m.s.) summation of the individual components using the fundamental as 100 %.		
<b>4. Power measurement accuracy</b>		
Precision measurement of energy consumption shall be made with a precision equal to the greater of 0.1 Watt-hour or 1% of full-scale measurement.		

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**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)

**Declared data:**

Rated Voltage/Frequency.....: 12V/24=

Rated Power.....(W): 45W

Capacity.....( L): 18L

Energy consumption.....(kWh/year): N/A

**Testing:**

Test period.....: Aug.02-07,2023

**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 10 CFR Part 430

**Other important notes:**

1. If you have any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receipt of the report.
2. Entrusting test only responsible for the incoming samples, and the test results are used by the entrusting party to understand the quality of the samples.
3. This test report is invalid without the "test stamp".
4. This report may not be reproduced in part without permission to avoid ambiguous interpretation.
5. Test items with "\*" are subcontracted items.
6. The remaining samples under test must be collected within three months of receipt of the inspection report. If the samples are not collected within the time limit, the laboratory will handle them by selves.

Company name: Shenzhen Zhongwei Testing Technology Co., Ltd.

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**Temperature Control Settings:**

- All-refrigerator 39°F (3.9°C) fresh food compartment temperature.
- Refrigerator 39°F (3.9°C) fresh food compartment temperature and 15°F (-9.4°C) freezer Compartment temperature.
- Refrigerator-freezer 39°F (3.9°C) fresh food compartment temperature and 0°F (-17.8°C) freezer compartment temperature.
- Freezer 0°F (-17.8°C).
- Miscellaneous refrigeration products 55°F (12.8°C) cooler compartment temperature.

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**General conditions for measurements:**

Test condition	Requirements	Measured
Ambient temperature	90 °F ± 1 °F	90°F
Test voltage	115 ± 1%	115.43v
Test frequency	60 Hz ± 1%	59.998Hz
Total harmonic content (up to and including the 13th harmonic)	≤ 2 %	0.715%
Resolution of power meter	0.01W (at least)	0.001W

**Total volume**

Compartment identification	Total Volume (L)	Cubic feet (ft <sup>3</sup> )	Adjusted volume, liters (L)	Cubic feet (ft <sup>3</sup> )
Chill	17.9L	0.63cuft	17.9L	0.63cuft

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Data of First test (4°C)	
Temperature in compartments (°C)	t1= 3.7°C, t2= 4.3 °C, t3= 3.8°C; t <sub>avg</sub> = 3.9°C
EP1(kWh)	0.074kWh
T1(min)	432min
<p>Note: Mode is selected as Cool;                      EP1= energy expended during the first part of the test, in kilowatt-hours;                      T1= length of time on the first test period, in minutes</p>	

Data of Second test(-10°C)	
Temperature in compartments (°C)	t1= -9.8 °C, t2= -10.2°C, t3= -9.6 °C; t <sub>avg</sub> = 9.8°C
EP2(kWh)	0.178kWh
T2(min)	387min
<p>Note: Mode is selected as Cool;                      EP2= energy expended during the second part of the test, in kilowatt-hours;                      T2= length of time on the Second test period, in minutes</p>	

Energy Consumption	
Formula	$ET = \frac{1440 \times EP \times K}{T}$
K	1.0
Energy consumption ET1 (kWh/day)	0.247kWh/day
Energy consumption ET2 (kWh/day)	0.622kWh/day
Energy consumption ET (kWh/d) Average value	0.455kWh/day
The higher of year Energy consumption (kWh/year)	166.08kWh/year
<p>Note:                      ET=test cycle energy expended in kWh/day;                      1440=conversion factor to adjust to a 24-hour period in minutes per day;                      K =correction factor of 0.7 for chest freezers and 0.85 for upright freezers and 0.55 for miscellaneous refrigeration products (1.0 for all other models) to adjust for average usage, dimensionless</p>	

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Equations for maximum energy use (kWh/yr)				
Product class	Equations for maximum energy use (kWh/year)	Limit value	The higher of year Energy consumption	Verdict
11A.Compact all-refrigerators - manual defrost	$7.84AV + 219.1$	224.04 kWh/year	166.08 kWh/year	P
<p>Note:            Compact refrigerator-freezers and refrigerators are those with a volume of less than 7.75 cubic feet (220 liters).            AV = Total adjusted volume, expressed in ft<sup>3</sup></p>				

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Photo Document



Photo 1: Sample appearance 1



Photo 2: Sample appearance 2

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## Photo Document



Photo 3: Sample appearance 3

---END OF REPORT---

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