


Prüfbericht-Nr.: <i>Test report No.:</i>	CN22SWBC 001	Auftrags-Nr.: <i>Order No.:</i>	178162532	Seite 1 von 35 Page 1 of 35
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	10.02.2022	
Auftraggeber <i>Client:</i>	[REDACTED]			
Prüfgegenstand <i>Test item:</i>	Refrigerator-Freezer			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	HD-500RWEN(CE-BCD385WX-AT)			
Auftrags-Inhalt <i>Order content:</i>	ERP			
Prüfgrundlage: <i>Test specification:</i>	COMMISSION REGULATION (EU) 2019/2019 with amendment (EU) 2021/341, COMMISSION DELEGATED REGULATION (EU) 2019/2016 with amendment (EU) 2021/340, EN 62552-1:2020 + EN 62552-2:2020 + EN 62552-3:2020			
Wareneingangsdatum: <i>Date of receipt:</i>	10.02.2022			
Prüfmuster-Nr.: <i>Test sample No.:</i>	Engineering sample			
Prüfzeitraum: <i>Testing period:</i>	10.02.2022-10.03.2022			
Ort der Prüfung: <i>Place of testing:</i>	[REDACTED]			
Prüflaboratorium <i>Testing laboratory:</i>	TÜV Rheinland / CCIC(Qingdao) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft/ tested by:		kontrolliert/ reviewed by:		
28.03.2022	Fred Wang /Tester	<i>Fred Wang</i>	29.03.2022	Mingguo Song/Reviewer
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>
				Unterschrift <i>Signature</i>
Sonstiges/ Other:				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
<p>*Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m test specification(s) F(ail) = failed a.m test specification(s) N/A = not applicable N/T = not tested</p>				
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. V04</i></p> <p style="text-align: right;"><i>This test report does not entitle to carry any test mark</i></p>				

5.7 Calculation of Energy Efficiency Index (EEI)

Parameters	Rated value	Measured value
Climate class:	SN/ N/ ST/ T	
Volume V_c (L)	$V_{\text{fresh food compartment}}$: 216.0 $V_{\text{chill compartment}}$: 40.0 V_{freezer} : 122.0 $V_{2\text{-star}}$: N/A $V_{1\text{-star}}$: N/A	$V_{\text{fresh food compartment}}$: 216.2 $V_{\text{chill compartment}}$: 40.5 V_{freezer} : 122.3 $V_{2\text{-star}}$: N/A $V_{1\text{-star}}$: N/A
- n is the number of compartments	2	
Total volume V (L)	378	379
Thermodynamic parameter r_c	For fresh food compartment: 1.00 For chill compartment: 1.10 For freezer compartment: 2.10 For 2-star compartment: 1.80 For 1-star compartment: 1.50	
Modelling parameters N_c	For fresh food compartment: 75 For chill compartment: 138 For 1-star&2-star&freezer compartment: 138	
Modelling parameters M_c	For fresh food compartment: 0.12 For chill compartment: 0.12 For 1-star&2-star&freezer compartment: 0.15	
Defrost factor A_c	For fresh food compartment: 1.00 For chill compartment: 1.00 For 1-star&2-star&freezer compartment: [<input type="checkbox"/> 1.00/ <input checked="" type="checkbox"/> 1.10]	
Built-in factor B_c	For fresh food compartment: [<input checked="" type="checkbox"/> 1.00/ <input type="checkbox"/> 1.02] For chill compartment: [<input checked="" type="checkbox"/> 1.00/ <input type="checkbox"/> 1.03] For 1-star&2-star&freezer compartment: [<input checked="" type="checkbox"/> 1.00/ <input type="checkbox"/> 1.05]	
Combi parameter C	1.54	1.54
Door heat loss factor D	[<input checked="" type="checkbox"/> 1,00/ <input type="checkbox"/> 1,02/ <input type="checkbox"/> 1,035/ <input type="checkbox"/> 1,05]	
Standard annual energy consumption SAE (kWh/a) $SAE = C \times D \times \sum_{c=1}^n A_c \times B_c \times [V_c/V] \times (N_c + V \times r_c \times M_c)$	277.09	277.48
E_{16} (Energy consumption at 16°C) (kWh/24h)	0.188	0.173
E_{32} (Energy consumption at 32°C) (kWh/24h)	0.430	0.412
Daily energy consumption E_{daily} (kWh/24h) $E_{\text{daily}} = 0,5 \times (E_{16} + E_{32})$	0.309	0.293
Auxiliary energy E_{aux} (kWh/a)	N/A	N/A
Load factor L	1.0	

Annual energy consumption AE (kWh/a) $AE = 365 \times E_{daily}/L + E_{aux}$	113	106.95
EEl (%) $EEl = AE/SAE.$	40.8	38.5
Energy efficiency classes*	A	A
EEl limits for A*	EEl ≤ 41%	
EEl limits for minimum energy performance requirements**	EEl ≤ 125%	
If following the EEl limits or not**	Pass	Pass

Remark*: the energy efficiency class is determined according to table 1 of ANNEX II of COMMISSION DELEGATED REGULATION (EU) 2019/2016 with amendment (EU) 2021/340;

Remark**: From 1 March 2021, the maximum EEl for refrigerating appliances is determined according to table 1 of ANNEX II of COMMISSION REGULATION (EU) 2019/2019 with amendment (EU) 2021/341

Energy efficiency classes of refrigerating appliances

Energy efficiency class	Energy efficiency index (EEl)
A	$EEl \leq 41$
B	$41 < EEl \leq 51$
C	$51 < EEl \leq 64$
D	$64 < EEl \leq 80$
E	$80 < EEl \leq 100$
F	$100 < EEl \leq 125$
G	$EEl > 125$



TEST REPORT PPP 11123A:2021 TÜV SÜD Test Report for ErP Ecodesign requirement for household refrigeration appliances Implementation measure (EU) 2019/2019	
Report No.:	4840122122900
Date of issue:	2022-08-19
Project handler:	Deshan Yang
Testing laboratory:	TÜV SÜD Certification and Testing (China) Co., Ltd.
Address:	[REDACTED] P.R.China.
Testing location:	[REDACTED]
Client:	[REDACTED]
Client number:	[REDACTED]
Address:	[REDACTED]
Contact person:	[REDACTED]
Standard:	This TÜV SÜD test report form is based on the following requirements: (EU)2019/2019:2019; (EU)2021/341:2021; (EU)2019/2016:2019; (EU)2021/340:2021; Test Method: EN 62552-1:2020, EN 62552-2:2020, EN 62552-3:2020; EN IEC 60704-1:2021, EN 60704-2-14:2013+A11:2015+A1:2019, EN 60704-3:2019
TRF number and revision:	TRF 11123A:2021 Rev. 00:2021
TRF originated by:	TUV SUD Product Service, Mr. Gary Sun (<i>product specialist</i>)
Copyright blank test report:	This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TÜV SÜD Product Service. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.
General disclaimer:	This test report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.
Scheme:	<input type="checkbox"/> TÜV Mark <input checked="" type="checkbox"/> without certification <input type="checkbox"/> EU-Directive
Non-standard test method:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, see details under Summary of testing
National deviations:	None
Number of pages (<i>Report</i>):	33
Number of pages (<i>Attachments</i>):	9

Test Report PPP 11123A:2021



Compiled by:	Deshan Yang <i>(Printed Name and Signature)</i> <i>Deshan.</i>
Approved by:	Wei Zhang <i>(Printed Name and Signature)</i> <i>Zhang Wei</i>
Test sample:	3 pre-production samples
Type of test object:	Refrigerator-Freezer
Trademark:	[REDACTED]
Model and/or type reference:	HD-500RWEN(CE-BCD385WX(Z)-JT), HD-500RWEN(CE-BCD385WX-JT)
Rating(s):	220-240V~, 50Hz, 1.1A, Class I, Details see marking plate
Manufacturer:	[REDACTED]
Manufacturer number:	[REDACTED]
Address:	[REDACTED]
Sub-contractors/ tests (clause):	N/A
Name:	N/A
Order description:	<input checked="" type="checkbox"/> Complete test according to TRF
	<input type="checkbox"/> Partial test according to manufacturer's specifications
	<input type="checkbox"/> Preliminary test
	<input type="checkbox"/> Spot check
	<input type="checkbox"/> Others:
Date of order:	2022-06-20
Date of receipt of test item:	2022-06-20
Date(s) of performance of test:	2022-06-20 to 2022-08-15
Test item declared particulars:	
Type of refrigerating appliance	: <input type="checkbox"/> Refrigerator; <input checked="" type="checkbox"/> Refrigerator-Freezer; <input type="checkbox"/> Freezer <input type="checkbox"/> Wine storage; <input type="checkbox"/> Other
Climatic class	: <input checked="" type="checkbox"/> SN; <input checked="" type="checkbox"/> N; <input checked="" type="checkbox"/> ST; <input checked="" type="checkbox"/> T
Design type	: <input type="checkbox"/> built-in; <input checked="" type="checkbox"/> freestanding
Defrosting type	: <input type="checkbox"/> Manual; <input checked="" type="checkbox"/> Frost free
Defrost controller type	: <input checked="" type="checkbox"/> Variable; <input type="checkbox"/> Run-time; <input type="checkbox"/> Fixed time; <input type="checkbox"/> Other
Compressor details	: <input type="checkbox"/> Single speed; <input checked="" type="checkbox"/> Variable speed; <input type="checkbox"/> Multiple compressor
Condenser type	: <input type="checkbox"/> Grill (stack); <input checked="" type="checkbox"/> Skin (smooth wall); <input type="checkbox"/> Fan forced (including direction of the exhaust); <input type="checkbox"/> Other
Condenser location	: <input type="checkbox"/> Back; <input checked="" type="checkbox"/> Side; <input type="checkbox"/> Underneath

Lowest values of t1/t2/t3(°C)	3.30/2.20/2.40	t1/t2/t3≥-1
Maximum temperature of ballast load (°C)	-17.00	≤-15.0
Warmest temperature of ballast load at the end(°C)	-21.50	≤-18.0
Remark:		

Table 5	Volume		P
Compartment	Rated storage volume (L)	Measured storage volume (L)	
Fresh-food	256.0	256.7	
One-star compartment	--	--	
Two-star compartment	--	--	
Four-star compartment	122.0	122.3	
Total	378.0	379.0	

Table 6	Sound power level test							P
	Voltage	(V):	230.0					—
	Frequency	(Hz):	50.0					—
	T ambient	(°C):	22.0					—
	Relative humidity	(%):	50.0					—
	Background noise	(dB(A)):	<18					—
	Thermostat	:	3/-22					—
Sample 1	Microphone Position	1 front	2 right	3 left	4 top-right	5 top-left	6 top	
	Lpi: (circle 1) dB(A)	22.60	21.00	26.40	26.90	21.90	22.90	
	Lpi: (circle 2) dB(A)	24.40	21.70	27.10	26.50	21.30	22.60	
	Lpi: (circle 3) dB(A)	23.80	21.60	26.90	26.80	22.30	22.60	
	Lpmc/ Averaged sound pressure level (average) (dB(A))	24.46						
	LW/ Sound power level (average) (dB(A))	37.86						
Sample 2	Microphone Position	1 front	2 right	3 left	4 top-right	5 top-left	6 top	
	Lpi: (circle 1) dB(A)	25.70	21.80	28.30	25.90	21.40	22.50	
	Lpi: (circle 2) dB(A)	24.20	20.70	27.80	25.80	22.60	21.40	
	Lpi: (circle 3) dB(A)	24.60	21.90	26.80	25.50	21.00	22.20	

Test Report PPP 11123A:2021

	Lpmc/ Averaged sound pressure level (average) (dB(A))	24.30					
	LW/ Sound power level (average) (dB(A))	37.70					
Sample 3	Microphone Position	1 front	2 right	3 left	4 top-right	5 top-left	6 top
	Lpi: (circle 1) dB(A)	24.70	20.60	27.10	26.50	21.40	22.90
	Lpi: (circle 2) dB(A)	24.80	21.30	28.20	27.60	21.60	22.20
	Lpi: (circle 3) dB(A)	25.20	21.40	28.90	27.60	21.80	23.00
	Lpmc/ Averaged sound pressure level (average) (dB(A))	24.44					
	LW/ Sound power level (average) (dB(A))	37.83					
Final result (LW/ Sound power level(measured)) (dB(A))		37.79					
LW/ Sound power level (declared) (dB(A))		38					
Remark: Measurements were done 3 times and used the averaged value to be final result.							

Table 7	Data calculation & comparision		P
Item	Rated value	Measured value	
EEI	99.6	87.0	
Energy efficiency class	E	E	
Annual energy consumption (kWh/yr)	265	231.41	