



Air Conditioner ERP Test Report	
Report Number.....	4390415.50
Tested by (name + signature):	Elvis Chen 
Approved by (name + signature):	Jacky Zhang 
Date of issue.....	2022-08-30
Total number of pages.....	21 pages
Testing Laboratory	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou branch
Address.....	Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China
Applicant's name	TCL Air conditioner (Zhong Shan) Co.,Ltd.
Address.....	No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China
Test specification:	
Standard	EN 14511-1:2018, EN 14511-2:2018, EN 14511-3:2018, EN 14511-4:2018, EN 14825:2018, EN 12102-1:2017+CRGD:2018
Test procedure.....	(EU) No 206/2012, (EU) No 626/2011, EU 2017/254, EU 2016/2282
Non-standard test method.....	N/A
Test Report Form No.	EN 14825-2018 V1.1
Test Report Form(s)	DEKRA Guangzhou
Originator	
Test item description	
Trade Mark.....	TCL
Manufacturer.....	TCL Air Conditioner (Zhong Shan) Co., Ltd.
Factory	TCL Air Conditioner (Zhong Shan) Co., Ltd.
Model/Type reference.....	TAC-09CHSD/*I3A (* = TP11, TP21, TP31, TPG11, TPG21, TPG31, TP41, TP51, TP61, TP71, TP72, TP81, TP91, TPA1)
Ratings.....	220-240 V~, 50 Hz, see rating label

Summary of testing:**Tests performed (Test items):**

Cooling capacity

Heating capacity

Standby/off, thermostat off mode power consumption

Testing location:




TCL Air conditioner (Zhong Shan) Co.,Ltd.

No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China

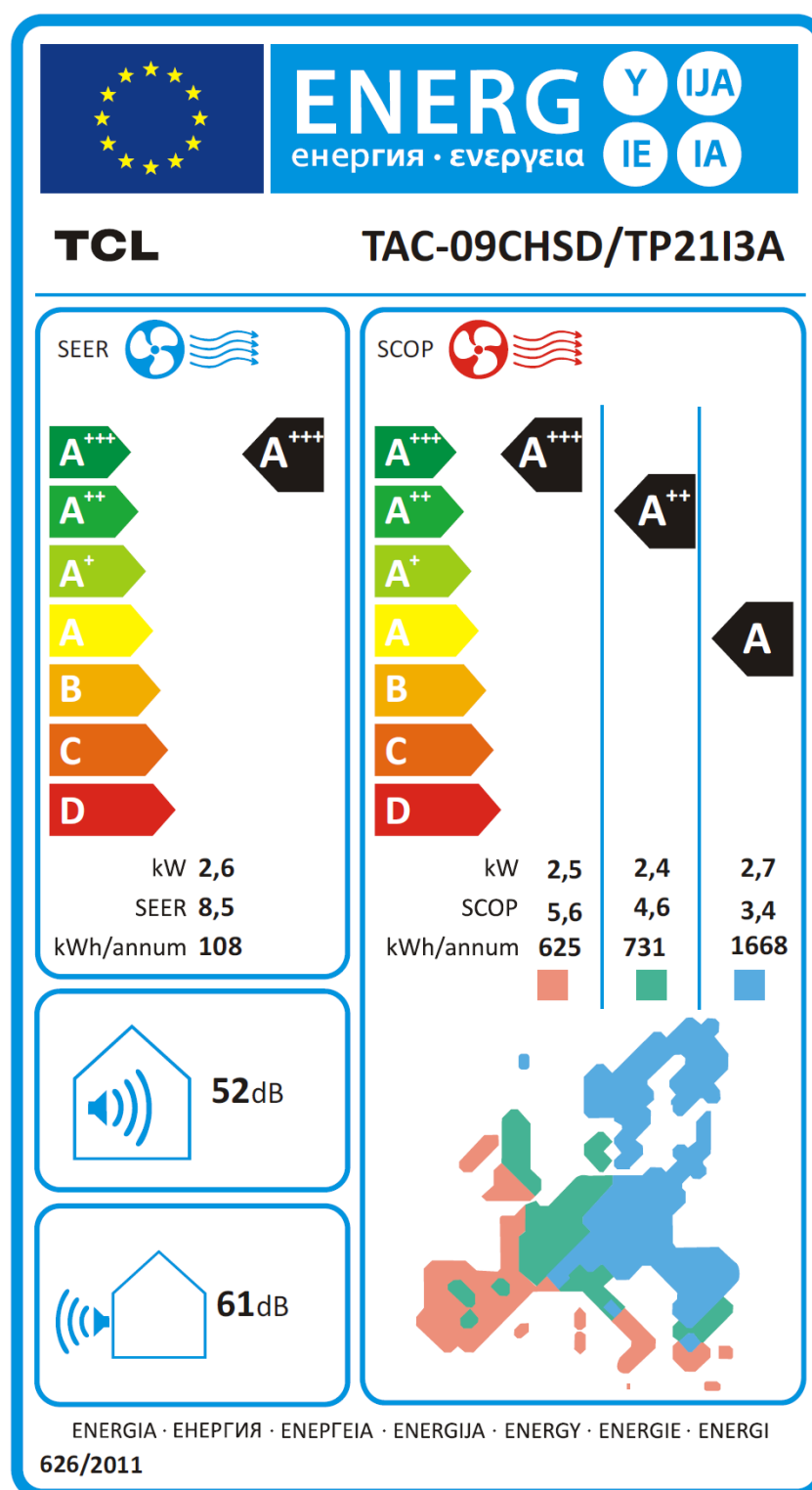
Copy of marking plate:

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.

Representative model

TCL					
SPLIT TYPE AIR CONDITIONER					
Model	TAC-09CHSD/TP21I3A				
	Indoor	TAC-09CHSD/TP21I3A			
	Outdoor	TAC-09CHSD/TP21I3A			
		Cooling	Heating		
Capacity		2610W (940~3700)	3000W (940~4000)		
Current		3.3A (1.2~8.1)	3.7A (1.2~9.0)		
Rated Current (IEC/EN60335)		8.1A	9.0A		
Power Input		699W (240~1380)	740W (240~1552)		
Rated Power Input (IEC/EN60335)		1380W	1552W		
Indoor Air Volume		560m³/h	560m³/h		
Maximum Allowable Pressure			3.7MPa		
Max.Pressure	Discharge		3.7MPa		
	Suction		1.2MPa		
Sound Power	Indoor		52dB(A)		
	Outdoor		61dB(A)		
Weight	Indoor		8.5kg		
	Outdoor		23kg		
Rated Voltage		220-240V~			
Rated Frequency		50Hz			
Refrigerant/Charge/GWP		R32/0.450kg/675			
CO ₂ equivalent		0.304 tonnes			
Contains fluorinated greenhouse gases					
Outdoor Unit Water Proof Protection		IPX4			
TCL Air conditioner (Zhong Shan) Co., Ltd No. 59, Nantou Road West, Nantou,Zhongshan, Guangdong,China					

Rating label (draft version only for indicating the ratings)



Energy label (draft version only for indicating the ratings)

Test item particulars :	
Classification of installation and use	Fixed appliance
Supply Connection..... :	Non-detachable power supply cord with plug

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..... : 2022-05-26
Date (s) of performance of tests..... : 2022-05-26 to 2022-08-08

General remarks:
<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 testing laboratory.</p> <p>"(see Enclosure #)" refers to additional information appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report, a dot is used as the decimal separator.</p> <p>The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>This report is not used for social proof function in China market.</p>

General product information:	
Model number of Unit Under Test	TAC-09CHSD/TP21I3A Indoor: TAC-09CHSD/TP21I3A Outdoor: TAC-09CHSD/TP21I3A
Type of System	Split type air conditioner
Air-conditioner Type	Cooling and heating
Power Supply	Single Phase
Refrigerant	R32
Unit Mounting (applicable to non ducted indoor units only)	Wall mounted
Heat Source (Heating Mode)	Air
Heat Sink (Cooling Mode)	Air-cooled
Does this air conditioner have a variable output compressor?	Yes
Type of compressor	inverter
Maximum continuous frequency for cooling (applicable to inverter driven compressor only) (Hz)	52
Maximum continuous frequency for heating (applicable to inverter driven compressor only) (Hz)	100
<p>This appliance is a split type air conditioner. Model TAC-09CHSD/*I3A * can be TP11, TP21, TP31, TPG11, TPG21, TPG31, TP41, TP51, TP61, TP71, TP72, TP81, TP91, TPA1, means different appearance and/or colour.</p> <p>After review, model TAC-09CHSD/TP21I3A was subjected to test.</p>	

Test and verification results			
Clause	Ecodesign requirements - GENERIC ECODESIGN REQUIREMENTS	Result - Remark	Verdict
2a)	From 1 January 2013: Single duct and double duct air conditioners shall correspond to requirements as indicated in Tables 1, 2 and 3		N/A
Table 1	Requirements for minimum energy efficiency		N/A
Table 2	Off mode: Power consumption of equipment in any off-mode condition shall not exceed 1,00 W		N/A
	Standby mode: The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1,00 W.		N/A
	Standby mode: The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2,00 W.		N/A
	Availability of standby and/or off mode Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		N/A
Table 3	Indoor sound power level no more than 65 dB(A)		N/A
2b)	From 1 January 2013, air conditioners, except single and double duct air conditioners, shall correspond to minimum energy efficiency and maximum sound power level requirements as indicated in Tables 4 and 5		N/A
Table 4	Requirements for minimum energy efficiency		P
Table 5	Requirements for maximum sound power level		P
2c)	From 1 January 2014, air conditioners shall correspond to requirements as indicated in the table 6		P
2d)	From 1 January 2014, single duct and double duct air conditioners and comfort fans shall correspond to requirements as indicated in Table 7		N/A
Table 7	Off mode: Power consumption of equipment in any off-mode condition shall not exceed 0,50 W.		N/A

Clause	Ecodesign requirements - GENERIC ECODESIGN REQUIREMENTS	Result - Remark	Verdict
	Standby mode: The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.		N/A
	Standby mode: The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.		N/A
	Availability of standby and/or off modeEquipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		N/A
	Power management When equipment is not providing the main function, or when other energy- using product(s) are not dependent on its functions, equipment shall, unless inappropriate for the intended use, offer a power management function, or a similar function, that switches equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into: — standby mode, or — off mode, or — another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source. The power management function shall be activated before delivery.		N/A

Information requirements for air conditioners, except double duct and single duct air conditioners							
Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
cooling	Y			Average (mandatory)	Y		
heating	Y			Warmer (if designated)	Y		
				Colder (if designated)	Y		
Item	symbol	value	unit	Item	symbol	value	unit
Design load				Seasonal efficiency			
cooling	Pdesignc	2.6	kW	cooling	SEER	8.5	—
heating/Average	Pdesignh	2.4	kW	heating/Average	SCOP/A	4.6	—
heating/Warmer	Pdesignh	2.5	kW	heating/Warmer	SCOP/W	5.6	—
heating/Colder	Pdesignh	2.7	kW	heating/Colder	SCOP/C	3.4	—
Declared capacity (*) for cooling, at indoor temperature 27(19) °C and outdoor temperature Tj				Declared energy efficiency ratio (*), at indoor temperature 27(19) °C and outdoor temperature Tj			
Tj = 35 °C	Pdc	2.602	kW	Tj = 35 °C	EERd	3.843	—
Tj = 30 °C	Pdc	1.905	kW	Tj = 30 °C	EERd	6.145	—
Tj = 25 °C	Pdc	1.237	kW	Tj = 25 °C	EERd	9.896	—
Tj = 20 °C	Pdc	0.642	kW	Tj = 20 °C	EERd	18.343	—
Declared capacity (*) for heating/Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance (*)/Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	2.125	kW	Tj = − 7 °C	COPd	2.935	—
Tj = 2 °C	Pdh	1.375	kW	Tj = 2 °C	COPd	4,760	—
Tj = 7 °C	Pdh	0.861	kW	Tj = 7 °C	COPd	5,740	—
Tj = 12 °C	Pdh	0.941	kW	Tj = 12 °C	COPd	7.022	—
Tj = bivalent temperature	Pdh	2.125	kW	Tj = bivalent temperature	COPd	2.935	—
Tj = operating limit	Pdh	2.108	kW	Tj = operating limit	COPd	2.017	—
Declared capacity (*) for heating/Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance (*)/Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj = 2 °C	Pdh	2.500	kW	Tj = 2 °C	COPd	3.113	—
Tj = 7 °C	Pdh	1.601	kW	Tj = 7 °C	COPd	5.391	—
Tj = 12 °C	Pdh	0.938	kW	Tj = 12 °C	COPd	6.948	—
Tj = bivalent temperature	Pdh	2.500	kW	Tj = bivalent temperature	COPd	3.113	—
Tj = operating limit	Pdh	2.500	kW	Tj = operating limit	COPd	3.113	—

Declared capacity (*) for heating/Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance (*) /Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	1.771	kW	Tj = - 7 °C	COPd	2.957	—
Tj = 2 °C	Pdh	1.034	kW	Tj = 2 °C	COPd	4.120	—
Tj = 7 °C	Pdh	0.841	kW	Tj = 7 °C	COPd	5.191	—
Tj = 12 °C	Pdh	0.928	kW	Tj = 12 °C	COPd	6.725	—
Tj = bivalent temperature	Pdh	2.203	kW	Tj = bivalent temperature	COPd	2.076	—
Tj = operating limit	Pdh	1.799	kW	Tj = operating limit	COPd	1.771	—
Tj = - 15 °C	Pdh	2.203	kW	Tj = - 15 °C	COPd	2.076	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-15	°C
heating/Warmer	Tbiv	2	°C	heating/Warmer	Tol	2	°C
heating/Colder	Tbiv	-15	°C	heating/Colder	Tol	-25	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	N/A	kW	for cooling	EERcyc	N/A	—
for heating	Pcych	N/A	kW	for heating	COPcyc	N/A	—
Degradation co-efficient cooling (**)	Cdc	0.25	—	Degradation co-efficient heating (**)	Cdh	0.25	—
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	POFF	—	kW	cooling	QCE	108	kWh/a
standby mode	PSB	0.001	kW	heating/Average	QHE	731	kWh/a
thermostat-off mode	PTO	0.010	kW	heating/Warmer	QHE	625	kWh/a
crankcase heater mode	PCK	—	kW	heating/Colder	QHE	1668	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed	N			Sound power level (indoor/outdoor)	LWA	52 / 61	dB(A)
staged	N			Global warming potential	GWP	675 (R32)	kgCO2 eq.
variable	Y			Rated air flow (indoor/outdoor)	—	560/2200	m3/h

Information requirements for single duct and double duct air conditioners.			
Information to identify the model(s) to which the information relates to [fill in as necessary]			
Description	Symbol	Value	Unit
Rated output power for cooling	P_{rated} for cooling	N/A	kW
Rated output power for heating	P_{rated} for heating	N/A	kW
Rated power input for cooling	P_{EER}	N/A	kW
Rated power input for heating	P_{COP}	N/A	kW
Rated Energy efficiency ratio	EER_{rated}	N/A	—
Rated Coefficient of performance	COP_{rated}	N/A	—
Thermostat-off mode power consumption	P_{TO}	N/A	W
Standby mode power consumption	P_{SB}	N/A	W
Off mode power consumption	P_{OFF}	N/A	W
Seasonal electricity consumption for double ducts (DD): hourly electricity consumption for single ducts (SD): hourly electricity consumption	Q	N/A	kWh/60min.
Sound power level (indoor only)	L_{WA}	N/A	dB(A)
Global warming potential of refrigerant	GWP	N/A	kgCO ₂ eq.
Contact details for obtaining more information	N/A		

Table for cooling test data

General test conditions/part load	unit	A35/A27(100%)	A30/A27(74%)	A25/A27(47%)	A20/A27(21%)
-	-	A	B	C	D
Barometric	KPa	100.60	100.86	100.59	100.68
Voltage	V	230.66	230.42	229.57	229.73
Current input	A	4.77	2.30	1.06	0.36
Power input	kW	0.677	0.310	0.125	0.035
Test conditions indoor unit					
Air inlet temperature, DB/WB	°C	27.00/19.00	27.03/19.03	27.06/18.97	27.04/19.01
Air outlet temperature, DB/WB	°C	N/A	N/A	N/A	N/A
Test conditions outdoor unit					
Air inlet temperature, DB/WB	°C	34.98/24.04	30.01/25.04	25.03/15.00	20.06/14.04
Total cooling capacity	kW	2.602	1.905	1.237	0.642
Power input	kW	0.677	0.310	0.125	0.035
Energy efficiency ratio	-	3.84	6.15	9.90	18.34
Compressor frequency	Hz	52	30	17	8

Table for heating test data (Average)

General test conditions/part load	unit	A-10/A20 (100%)	A-7/A20 (88%)	A-7/A20 (88%)	A2/A20 (54%)	A7/A20 (35%)	A12/A20 (15%)
-	-	E	F	A	B	C	D
Barometric	KPa	100.86	100.85	100.85	101.00	100.67	101.06
Voltage	V	230.34	230.24	230.24	230.08	230.30	230.76
Current input	A	4.77	3.36	3.36	2.12	1.25	1.12
Power input	kW	1.045	0.724	0.724	0.289	0.150	0.134
Test conditions indoor unit							
Air inlet temperature, DB/WB	°C	20.01/15.00	20.00/15.01	20.00/15.01	20.02/14.99	19.99/14.97	20.00/15.00
Air outlet temperature, DB/WB	°C	28.65/18.02	29.10/18.21	29.10/18.21	25.46/16.86	N/A	N/A
Test conditions outdoor unit							
Air inlet temperature, DB/WB	°C	-10.00/-11.00	-7.01/-7.99	-7.01/-7.99	2.00/1.00	7.01/6.00	12.02/10.98
Summary of the test results							
Total heating capacity	kW	2.108	2.125	2.125	1.375	0.861	0.941
Power input	kW	1.045	0.724	0.724	0.289	0.150	0.134
Co-efficiency of performance	-	2.02	2.94	2.94	4.76	5.74	7.02
Compressor frequency	Hz	98	68	68	32	19	17

Table for heating test data (Warmer)

General test conditions/part load	unit	A2/A20 (100%)	A2/A20 (100%)	--	A2/A20 (100%)	A7/A20 (64%)	A12/A20 (29%)
-	-	E	F	A	B	C	D
Barometric	KPa	101.10	101.10	--	101.10	101.09	100.90
Voltage	V	230.13	230.13	--	230.13	230.58	230.46
Current input	A	3.68	3.68	--	3.68	2.18	1.12
Power input	kW	0.803	0.803	--	0.803	0.297	0.135
Test conditions indoor unit							
Air inlet temperature, DB/WB	°C	19.99/15.01	19.99/15.01	--	19.99/15.01	20.03/14.97	20.02/15.04
Air outlet temperature, DB/WB	°C	30.34/18.50	30.34/18.50	--	30.34/18.50	N/A	N/A
Test conditions outdoor unit							
Air inlet temperature, DB/WB	°C	2.00/1.00	2.00/1.00	--	2.00/1.00	7.02/6.02	12.03/11.02
Summary of the test results	-	A2/A20 (100%)	A2/A20 (100%)	--	A2/A20 (100%)	A7/A20 (64%)	A12/A20 (29%)
Total heating capacity	kW	2.500	2.500	--	2.500	1.601	0.938
Power input	kW	0.803	0.803	--	0.803	0.297	0.135
Co-efficiency of performance	-	3.11	3.11	--	3.11	5.39	6.95
Compressor frequency	Hz	71	71	--	71	33	17

Table for heating test data (Colder)

General test conditions/part load	unit	A-22/A20 (100%)	A-15/A20 (82%)	A-15/A20 (82%)	A-7/A20 (61%)	A2/A20 (37%)	A7/A20 (24%)	A12/A20 (11%)
-	-	E	F	G	A	B	C	D
Barometric	KPa	101.11	100.99	100.99	101.48	101.03	100.65	101.01
Voltage	V	230.21	230.47	230.47	230.25	230.21	229.75	230.37
Current input	A	4.63	4.84	4.84	4.19	1.86	1.35	1.15
Power input	kW	1.016	1.061	1.061	0.599	0.251	0.162	0.138
Test conditions indoor unit								
Air inlet temperature, DB/WB	°C	20.00/ 15.01	20.01/ 15.00	20.01/ 15.00	20.01/ 15.00	19.99/ 15.00	19.91/ 14.97	20.04/ 14.97
Air outlet temperature, DB/WB	°C	27.30/ 17.61	28.96/ 17.94	28.96/ 17.94	27.32/ 26.73	24.27/ 16.56	N/A	N/A
Test conditions outdoor unit								
Air inlet temperature, DB/WB	°C	-22.00/ -21.10	-15.00/ -16.20	-15.00/ -16.20	-7.00/ -8.00	2.00/ 1.00	6.99/ 5.99	11.99/ 11.04
Summary of the test results	-	A-22/A20 (100%)	A-15/A20 (82%)	A-15/A20 (82%)	A-7/A20 (61%)	A2/A20 (37%)	A7/A20 (24%)	A12/A20 (11%)
Total heating capacity	kW	1.799	2.203	2.203	1.771	1.034	0.841	0.928
Power input	kW	1.016	1.061	1.061	0.599	0.251	0.162	0.138
Co-efficiency of performance	-	1.77	2.08	2.08	2.96	4.12	5.19	6.72
Compressor frequency	Hz	100	98	98	58	26	19	17

SEER calculation:

	Outdoor air	measured Cooling Capacity	Input Power	EER _{DC/meas}	Cd	EER _{PL}
	°C	kW	kW			
A	35	2.602	0.677	3.84	0.25	3.84
B	30	1.905	0.31	6.15	0.25	6.15
C	25	1.237	0.125	9.90	0.25	9.90
D	20	0.642	0.035	18.34	0.25	18.34

	Tj	Part load ratio	Cooling demand Pc(Tj)	Bin hours hj	Measured Cooling capacity	Capacity ratio	Measured EER	Corrected EER _{PL}	EER(Tj) Cd=0.25	hj × Pc(Tj)	hj × EERbin(Tj)
	17	5.3%	0.137	205					17.67	28	2
	18	10.5%	0.274	227					17.67	62	4
	19	15.8%	0.411	225					17.67	92	5
D	20	21.1%	0.548	225	0.642	0.853	18.34	17.67	17.67	123	7
	21	26.3%	0.685	216					16.12	148	9
	22	31.6%	0.822	215					14.56	177	12
	23	36.8%	0.959	218					13.01	209	16
	24	42.1%	1.096	197					11.45	216	19
C	25	47.4%	1.233	178	1.237	0.996	9.90	9.90	9.90	219	22
	26	52.6%	1.369	158					9.15	216	24
	27	57.9%	1.506	137					8.40	206	25
	28	63.2%	1.643	109					7.65	179	23
	29	68.4%	1.780	88					6.90	157	23
B	30	73.7%	1.917	63	1.905	1.006	6.15	6.15	6.15	121	20
	31	78.9%	2.054	39					5.68	80	14
	32	84.2%	2.191	31					5.22	68	13
	33	89.5%	2.328	24					4.76	56	12
	34	94.7%	2.465	17					4.30	42	10
A	35	100.0%	2.602	13	2.602	1.000	3.84	3.84	3.84	34	9
	36	105.3%	2.739	9					3.84	25	6
	37	110.5%	2.876	4					3.84	12	3
	38	115.8%	3.013	3					3.84	9	2
	39	121.1%	3.150	1					3.84	3	1
	40	126.3%	3.287	0					3.84	0	0
										2482	280
										SEERon	8.87
										SEER	8.51

Equiv. Hce	350	h				Q _c /SEER _{on}	102.62515
H _{TO}	221	h	P _{TO}	0.01	kW	HTO*PTO	2.21 kwh
H _{SB}	2142	h	P _{SB}	0.001	kW	HSB*PSB	2.142 kwh
H _{CK}	2672	h	P _{CK}	0	kW	HCK*PCK	0 kwh
H _{OFF}	0	h	P _{OFF}	0	kW	HOFF*POFF	0 kwh
						Q _{ce}	106.97715
P _{designc}	2.602	kW					
Q _c	910.7	kWh					

SCOP calculation (Average):

	Outdoor air °C	measured Heating Capacity kW	Input Power kW	COP _{DC/meas}	Cd	COP _{PL} (COP bin (T _j))
A	-7	2.125	0.724	2.94	0.25	2.94
B	2	1.375	0.289	4.76	0.25	4.76
C	7	0.861	0.150	5.74	0.25	5.74
D	12	0.941	0.134	7.02	0.25	7.02
E	-10	2.108	1.045	2.02	0.25	2.02
F	-7	2.125	0.724	2.94	0.25	2.94

	T _j	Part load ratio	Heating demand Ph(T _j)	Bin hours h _j	Heat load covered by the heat pump		Capacity elbu(T _j) ratio	COP _{PL}	COP _{bin(T_j)}	h _j x Ph(T _j)		COP _{bin(T_j)} including backup heater	h _j x [Ph(T _j) - elbu(T _j)]		h _j x [Ph(T _j) - elbu(T _j)] / COP _{bin(T_j)}
					pump	elbu(T _j)				h _j x Ph(T _j)	h _j x [Ph(T _j) - elbu(T _j)]		h _j x [Ph(T _j) - elbu(T _j)]	h _j x [Ph(T _j) - elbu(T _j)] / COP _{bin(T_j)}	
A	-10	100.0%	2.402	1	2.108	0.294	1.14	2.02	2.02	2	1	1.79	2	1.05	
	-9	96.2%	2.310	25	2.114	0.196	1.09	2.32	2.32	58	28	2.09	53	22.75	
	-8	92.3%	2.217	23	2.119	0.098	1.05	2.63	2.63	51	21	2.45	49	18.54	
	-7	88.5%	2.125	24	2.125	0.000	1.00	2.94	2.94	51	17	2.94	51	17.38	
	-6	84.6%	2.033	27	2.033	0.000	1.00	3.14	3.14	55	17	3.14	55	17.49	
	-5	80.8%	1.940	68	1.940	0.000	1.00	3.34	3.34	132	39	3.34	132	39.50	
	-4	76.9%	1.848	91	1.848	0.000	1.00	3.54	3.54	168	47	3.54	168	47.47	
	-3	73.1%	1.755	89	1.755	0.000	1.00	3.75	3.75	156	42	3.75	156	41.72	
	-2	69.2%	1.663	165	1.663	0.000	1.00	3.95	3.95	274	70	3.95	274	69.51	
	-1	65.4%	1.571	173	1.571	0.000	1.00	4.15	4.15	272	65	4.15	272	65.47	
B	0	61.5%	1.478	240	1.478	0.000	1.00	4.35	4.35	355	82	4.35	355	81.51	
	1	57.7%	1.386	280	1.386	0.000	1.00	4.56	4.56	388	85	4.56	388	85.19	
	2	53.8%	1.293	320	1.293	0.000	1.00	4.76	4.76	414	87	4.76	414	87.00	
	3	50.0%	1.201	357	1.201	0.000	1.00	4.95	4.95	429	87	4.95	429	86.55	
	4	46.2%	1.109	356	1.109	0.000	1.00	5.15	5.15	395	77	5.15	395	76.63	
	5	42.3%	1.016	303	1.016	0.000	1.00	5.35	5.35	308	58	5.35	308	57.59	
	6	38.5%	0.924	330	0.924	0.000	1.00	5.54	5.54	305	55	5.54	305	55.00	
	7	34.6%	0.832	326	0.832	0.000	1.00	5.74	5.74	271	47	5.74	271	47.23	
	8	30.8%	0.739	348	0.739	0.000	1.00	5.78	5.78	257	44	5.78	257	44.48	
	9	26.9%	0.647	335	0.647	0.000	1.00	5.83	5.83	217	37	5.83	217	37.18	
C	10	23.1%	0.554	315	0.554	0.000	1.00	5.87	5.87	175	30	5.87	175	29.75	
	11	19.2%	0.462	215	0.462	0.000	1.00	5.91	5.91	99	17	5.91	99	16.80	
	12	15.4%	0.370	169	0.370	0.000	1.00	5.96	5.96	62	10	5.96	62	10.49	
	13	11.5%	0.277	151	0.277	0.000	1.00	5.995	5.995	42	7	6.00	42	6.98	
	14	7.7%	0.185	105	0.185	0.000	1.00	6.0428	6.0428	19	3	6.04	19	3.21	
	15	3.8%	0.092	74	0.092	0.000	1.00	6.0860	6.0860	7	1	6.09	7	1.12	
	16	0.0%		4910											
						0.588				summation	4962	1075	4955	1068	
										SCOP _{on}	4.62		SCOP _{net}	4.64	
										SCOP	4.60				

H _{he}	1400	h					Q _h /SCOP _{on}	728.59722	
H _{TO}	179	h		P _{TO}	0.01	kW	HTO*PTO	1.79	kWh
H _{SB}	0	h		P _{SB}	0.001	kW	HSB*PSB	0	kWh
H _{CK}	179	h		P _{CK}	0	kW	HCK*PCK	0	kWh
H _{OFF}	0	h		P _{OFF}	0	kW	HOFF*POFF	0	kWh
							Q _{he}	730.38722	
P _{designh}	2.402	kW							
Q _H	3363.0435	kWh							

SCOP calculation (Warmer):

	Outdoor air °C	measured Heating Capacity kW	Input Power kW	COP _{DC/meas}	Cd	COP _{PL} (COP bin (T _j))
B	2	2.5	0.803	3.11	0.25	3.11
C	7	1.601	0.297	5.39	0.25	5.39
D	12	0.938	0.135	6.95	0.25	6.95
E	2	2.5	0.803	3.11	0.25	3.11
F	2	2.5	0.803	3.11	0.25	3.11

	Tj	Part load ratio	Heating demand Ph(Tj)	Bin hours hj	Heat load covered by the heat		Capacity ratio	COP _d	COP _{bin} (Tj)	hj x Ph(Tj)		COP (including backup heater)	hj*[Ph(Tj)- elbu(Tj)]/C	
					pump	elbu(Tj)				h _j x Ph(Tj)	COPbin(Tj) +elbu(Tj)]		h _j *[Ph(Tj)- elbu(Tj)]	OPbin(Tj)
B	2	100.0%	2.500	3	2.500	0.000	1.00	3.11	3.11	8	2	3.11	7.5	2.4
	3	92.9%	2.321	22	2.320	0.001	1.00		3.57	51	14	3.56	51.0	14.3
	4	85.7%	2.143	63	2.140	0.002	1.00		4.02	135	34	4.01	134.8	33.5
	5	78.6%	1.964	63	1.961	0.004	1.00		4.48	124	28	4.45	123.5	27.6
	6	71.4%	1.786	175	1.781	0.005	1.00		4.94	313	64	4.88	311.6	63.1
C	7	64.3%	1.607	162	1.601	0.006	1.00	5.39	5.39	260	49	5.30	259.4	48.1
	8	57.1%	1.429	259	1.468	0.000	0.97		5.62	370	66	5.62	370.0	65.8
	9	50.0%	1.250	360	1.336	0.000	0.94		5.85	450	77	5.85	450.0	77.0
	10	42.9%	1.071	428	1.203	0.000	0.89		6.08	459	75	6.08	458.6	75.5
	11	35.7%	0.893	430	1.071	0.000	0.83		6.31	384	61	6.31	383.9	60.9
D	12	28.6%	0.714	503	0.938	0.000	0.76	6.53	6.53	359	55	6.53	359.3	55.0
	13	21.4%	0.536	444	0.805	0.000	0.67		6.76	238	35	6.76	237.9	35.2
	14	14.3%	0.357	384	0.673	0.000	0.53		6.99	137	20	6.99	137.1	19.6
	15	7.1%	0.179	294	0.540	0.000	0.33		7.22	53	7	7.22	52.5	7.3
	16	0.0%	0.000	0	0.408	0.000	0.00		7.45	0	0			
										SCOPon	5.68	SCOPnet	5.70	
										SCOP	5.62			

Equiv. H	1400	h				Q _h /SCOP _{on}	615.76965	
H _{TO}	755	h	P _{TO}	0.01	kW	HTO*PTO	7.55	kwh
H _{SB}	0	h	P _{SB}	0.001	kW	HSB*PSB	0	kwh
H _{CK}	755	h	P _{CK}	0	kW	HCK*PCK	0	kwh
H _{OFF}	0	h	P _{OFF}	0	kW	HOFF*POFF	0	kwh
						Q _{h0}	623.31965	
P _{designh}	2.500	kW						
Q _{ch}	3500	kWh						

Item	Measured value	Rated value	Deviation	Verdict
SEER	8.51	8.5	0.1%	P
SCOP(average)	4.60	4.6	0%	P
SCOP (warmer)	5.62	5.6	0.4%	P
SCOP (colder)	3.44	3.4	1.2%	P
Power consumption in thermostat off mode	10.0 W	10.0 W	0%	P
Power consumption in standby mode	1.0 W	1.0 W	0%	P
Remark: For the original qualification test, the rating values should be equal to or more unfavorable than the tested values.				

Table 1

Energy efficiency classes for air conditioners, except double ducts and single ducts

Energy Efficiency Class	SEER	SCOP
A+++	SEER \geq 8,50	SCOP \geq 5,10
A++	6,10 \leq SEER < 8,50	4,60 \leq SCOP < 5,10
A+	5,60 \leq SEER < 6,10	4,00 \leq SCOP < 4,60
A	5,10 \leq SEER < 5,60	3,40 \leq SCOP < 4,00
B	4,60 \leq SEER < 5,10	3,10 \leq SCOP < 3,40
C	4,10 \leq SEER < 4,60	2,80 \leq SCOP < 3,10
D	3,60 \leq SEER < 4,10	2,50 \leq SCOP < 2,80
E	3,10 \leq SEER < 3,60	2,20 \leq SCOP < 2,50
F	2,60 \leq SEER < 3,10	1,90 \leq SCOP < 2,20
G	SEER < 2,60	SCOP < 1,90

Table for sound power

indoor										
Test voltage / frequency	230 V / 50 Hz									
Air inlet temperature, DB/WB	27.0 °C / 19.0 °C									
Measured surface	6.28 m ²									
Background Noise Level [dB]	18,0									
Microphone Position	1	2	3	4	5	6	7	8	9	10
L _{pi} [dB]	41.4	43.4	43.8	44.1	42.9	43.0	44.6	43.8	43.2	43.4
L _{pmc} / Averaged Sound Pressure Level [dB (A)]	43.43									
LW / Sound Power Level [dB (A)]	51.41									
Rated sound Power Level [dB (A)]	52									
Verdict	P									

outdoor					
Test voltage / frequency	230 V / 50 Hz				
Air inlet temperature, DB/WB	35.0 °C / 24.0 °C				
Measured surface	14.14 m ²				
Background Noise Level [dB]	18,0				
Microphone Position	1	2	3	4	5
L _{pi} [dB]	49.1	49.6	50.1	50.2	47.9
L _{pmc} / Averaged Sound Pressure Level [dB (A)]	49.46				
LW / Sound Power Level [dB (A)]	60.96				
Rated sound Power Level [dB (A)]	61				
Verdict	P				

Photos:



Indoor



Outdoor unit



End of report