Air Conditioner ERP Test Report

Report Number.....:	4398600.50
Tested by (name + signature).:	Elvis Chen
Approved by (name + signature).....:	Jacky Zhang
Date of issue.....:	2023-1-10
Total number of pages.....	17 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.....:	HANTECH IKLIMLENDIRME SAN.TIC.A.S.
Address.....:	Ziya Gökalp Mah. Süleyman Demirel Blv. No:138 7-E, Başakşehir İstanbul, Türkiye
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 V1.0
Test Report Form(s) Originator.....:	DEKRA Guangzhou
Test item description.....:	Air conditioner
Trade Mark.....:	HANTECH
Manufacturer.....:	TCL Air conditioner (Zhong Shan) Co.,Ltd. No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China
Factory.....:	TCL Air conditioner (Zhong Shan) Co.,Ltd. No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China
Model/Type reference.....:	Indoor unit: HNT-F24VMTC/I, Outdoor unit: HNT-F24VMTC/O
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.

HANTECH DAS KLIMA

FLOOR STANDING TYPE AIR CONDITIONER INDOOR/
SALON TİPİ KLİMA İÇ ÜNİTE

INDOOR MODEL CODE İÇ ÜNİTE MODEL KODU	HNT-F24VMTC/I	
	COOLING/ SOĞUTMA	HEATING/ ISITMA
CAPACITY/ KAPASİTE	6950(890~8500)W	7310(890~9800)W
CURRENT / ÇALIŞMA AKIMI	10,8(1,2~14,6)A	11,3(1,2~16,1)A
RATED CURRENT / MAKS. AKIM (IEC/EN60335)	14,6A	16,1A
POWER INPUT /ENERJİ TÜKETİMİ	2350(260~3200)W	2520(260~3630)W
RATED POWER INPUT / MAKS.ENERJİ TÜKETİMİ	3200W	3630W
INDOOR AIR VOLUME / İÇ ÜNİTE HAVA DEBİSİ	1250m³/h	1300m³/h
MAX. PRESSURE MAKSİMUM BASINÇ	DISCHARGE / BASMA	3,7Mpa
	SUCTION /EMİŞ	1,2Mpa
SOUND PRESSURE / POWER / SES BASINCI/GÜCÜ SEVİYESİ	47/43/34/30dB(A)/57dB(A)	
WEIGHT/ AĞIRLIK	27kg	
RATED VOLTAGE/ANMA GERİLİMİ	220-240V~	
RATED FREQUENCY/ ANMA FREKANSI GERİLİMİ	50Hz	
CONTAINS FLUORINATED GREENHOUSE GASES / FLORLU SERA GAZLARI İÇERİR		
INDOOR UNIT WATER PROOF PROTECTION/ İÇ ÜNİTE KORUMA SINIFI	IPX0	
MANUFACTURE/ADRES/ DATE ÜRETİCİ FİRMA/ TARİH	TCL AIR CONDITIONER(ZHONGSHAN)CO.,LTD 59, Nantou Road West, Nantou Town, Zhongshan, Guangdong, 528427 China	
IMPORTER / İTHALATÇI	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş. Ziya Gökalp Mah. Süleyman Demirel Blv. No:7E / 138 Başakşehir – İstanbul / Türkiye	

Y23

MADE IN CHINA

HANTECH DAS KLIMA

FLOOR STANDING TYPE AIR CONDITIONER OUTDOOR/
SALON TİPİ KLİMA DIŞ ÜNİTE

OUTDOOR MODEL CODE DIŞ ÜNİTE MODEL KODU	HNT-F24VMTC/O	
	COOLING/ SOĞUTMA	HEATING/ ISITMA
CAPACITY/ KAPASİTE	6950(890~8500)W	7310(890~9800)W
CURRENT / ÇALIŞMA AKIMI	10,8(1,2~14,6)A	11,3(1,2~16,1)A
RATED CURRENT / MAKS. AKIM (IEC/EN60335)	14,6A	16,1A
POWER INPUT /ENERJİ TÜKETİMİ	2350(260~3200)W	2520(260~3630)W
RATED POWER INPUT / MAKS.ENERJİ TÜKETİMİ	3200W	3630W
MAX. PRESSURE MAKSİMUM BASINÇ	DISCHARGE / BASMA	3,7Mpa
	SUCTION /EMİŞ	1,2Mpa
SOUND PRESSURE / POWER / SES BASINCI/GÜCÜ SEVİYESİ	51dB(A)/61dB(A)	
WEIGHT/ AĞIRLIK	36kg	
RATED VOLTAGE/ANMA GERİLİMİ	220-240V~	
RATED FREQUENCY/ ANMA FREKANSI GERİLİMİ	50Hz	
REFRIGERANT /CHARGE/GWP SOĞUTKAN TİPİ/ŞARJ MİKTARI/GWP	R32/1,5kg/675	
CO_2 EQUIVALENT / CO_2 SALINIMI	1,013 TONNES	
CONTAINS FLUORINATED GREENHOUSE GASES / FLORLU SERA GAZLARI İÇERİR		
OUTDOOR UNIT WATER PROOF PROTECTION/ DIŞ ÜNİTE KORUMA SINIFI	IPX4	
MANUFACTURE/ADRES/ DATE ÜRETİCİ FİRMA/ TARİH	TCL AIR CONDITIONER(ZHONGSHAN)CO.,LTD 59, Nantou Road West, Nantou Town, Zhongshan, Guangdong, 528427 China	
IMPORTER / İTHALATÇI	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş. Ziya Gökalp Mah. Süleyman Demirel Blv. No:7E / 138 Başakşehir – İstanbul / Türkiye	

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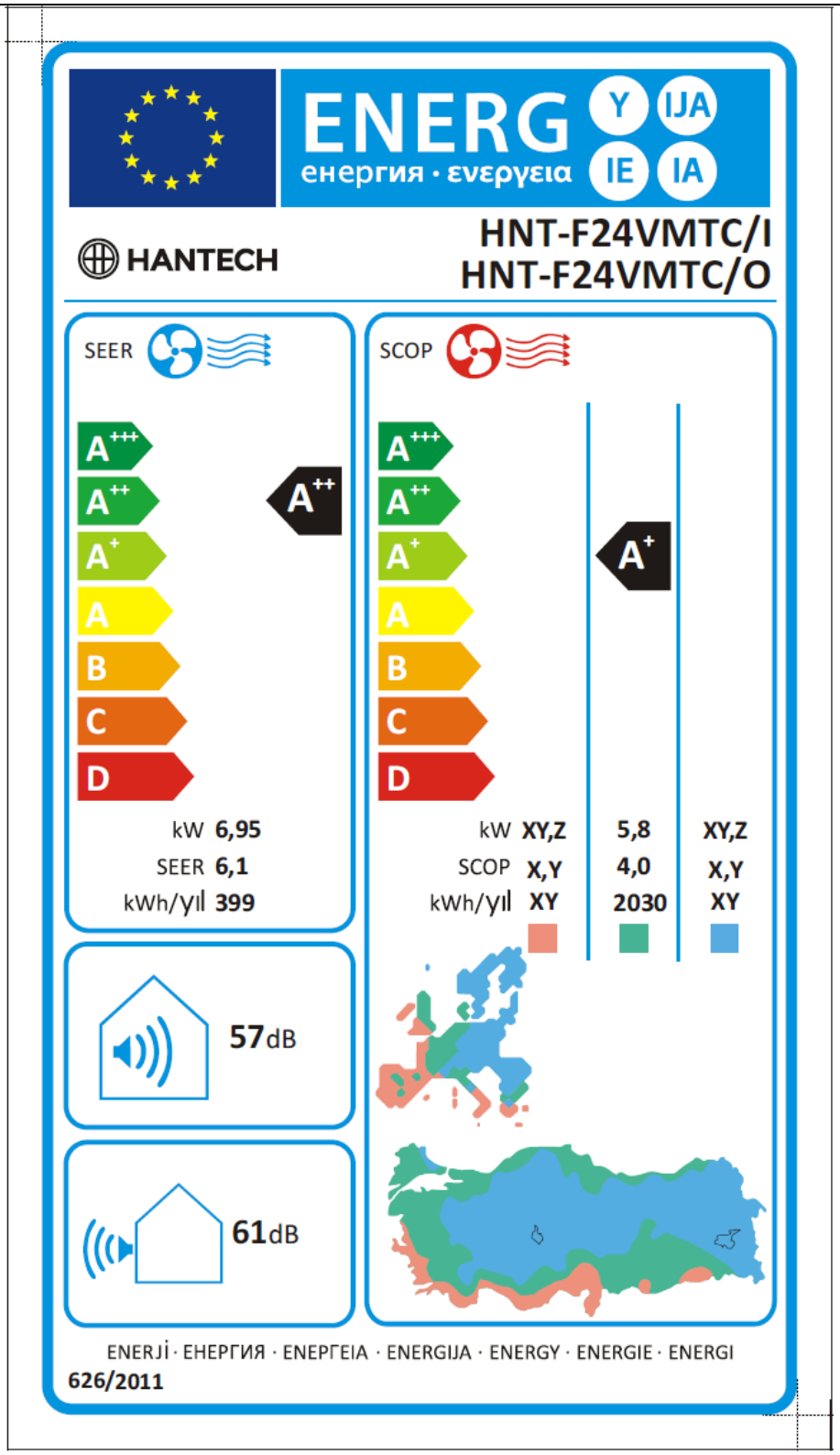
Rating label (draft version only for indicating the ratings)



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..... :	2022-04-15
Date (s) of performance of tests..... :	2022-04-18 to 2022-04-22

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(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 dot is used as the decimal separator.

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.
The test results presented in this report relate only to the object tested.
The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.
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This report is not used for social proof function in China market.

General product information:	
Model number of Unit Under Test	Indoor: HNT-F24VMTC/I Outdoor: HNT-F24VMTC/O
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)	Floor standing
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)	79
Maximum continuous frequency for heating (applicable to inverter driven compressor only) (Hz)	90

This report is based on report 4387718.50 which issued on 2022-04-30. It is updated due to the following changes:

1. Changing the information as below table:

	In original report	In this report
Applicant	TCL Air conditioner (Zhong Shan) Co.,Ltd. No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China	HANTECH IKLIMLENDIRME SAN.TIC.A. S. Ziya Gökalp Mah. Süleyman Demirel Blv. No:138 7-E, Başakşehir İstanbul, Türkiye
Trade mark	TCL	HANTECH
Model	TAC-24CHFD/MC	Indoor unit: HNT-F24VMTC/I, Outdoor unit: HNT-F24VMTC/O
Remark: Models in the same row are the same except for model name and trade mark.		

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)	N		
				Colder (if designated)	N		
Item	symbol	value	unit	Item	symbol	value	unit
Design load				Seasonal efficiency			
cooling	Pdesignc	6.950	kW	cooling	SEER	6.10	—
heating/Average	Pdesignh	5.800	kW	heating/Average	SCOP/A	4.00	—
heating/Warmer	Pdesignh	N/A	kW	heating/Warmer	SCOP/W	N/A	—
heating/Colder	Pdesignh	N/A	kW	heating/Colder	SCOP/C	N/A	—
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	6.900	kW	Tj = 35 °C	EERd	3.010	—
Tj = 30 °C	Pdc	4.980	kW	Tj = 30 °C	EERd	4.790	—
Tj = 25 °C	Pdc	3.230	kW	Tj = 25 °C	EERd	7.890	—
Tj = 20 °C	Pdc	2.080	kW	Tj = 20 °C	EERd	11.310	—
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	5.110	kW	Tj = – 7 °C	COPd	2.740	—
Tj = 2 °C	Pdh	3.060	kW	Tj = 2 °C	COPd	4.140	—
Tj = 7 °C	Pdh	1.970	kW	Tj = 7 °C	COPd	5.320	—
Tj = 12 °C	Pdh	1.500	kW	Tj = 12 °C	COPd	6.240	—
Tj = bivalent temperature	Pdh	5.110	kW	Tj = bivalent temperature	COPd	2.740	—
Tj = operating limit	Pdh	4.030	kW	Tj = operating limit	COPd	2.350	—
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	N/A	kW	Tj = 2 °C	COPd	N/A	—
Tj = 7 °C	Pdh	N/A	kW	Tj = 7 °C	COPd	N/A	—
Tj = 12 °C	Pdh	N/A	kW	Tj = 12 °C	COPd	N/A	—
Tj = bivalent temperature	Pdh	N/A	kW	Tj = bivalent temperature	COPd	N/A	—
Tj = operating limit	Pdh	N/A	kW	Tj = operating limit	COPd	N/A	—

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	N/A	kW	Tj = – 7 °C	COPd	N/A	—
Tj = 2 °C	Pdh	N/A	kW	Tj = 2 °C	COPd	N/A	—
Tj = 7 °C	Pdh	N/A	kW	Tj = 7 °C	COPd	N/A	—
Tj = 12 °C	Pdh	N/A	kW	Tj = 12 °C	COPd	N/A	—
Tj = bivalent temperature	Pdh	N/A	kW	Tj = bivalent temperature	COPd	N/A	—
Tj = operating limit	Pdh	N/A	kW	Tj = operating limit	COPd	N/A	—
Tj = – 15 °C	Pdh	N/A	kW	Tj = – 15 °C	COPd	N/A	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-15	°C
heating/Warmer	Tbiv	N/A	°C	heating/Warmer	Tol	N/A	°C
heating/Colder	Tbiv	N/A	°C	heating/Colder	Tol	N/A	°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	399	kWh/a
standby mode	PSB	0.007	kW	heating/Average	QHE	2030	kWh/a
thermostat-off mode	PTO	0.07	kW	heating/Warmer	QHE	—	kWh/a
crankcase heater mode	PCK	—	kW	heating/Colder	QHE	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed	N			Sound power level (indoor/outdoor)	LWA	57 / 61	dB(A)
staged	N			Global warming potential	GWP	675 (R32)	kgCO2 eq.
variable	Y			Rated air flow (indoor/outdoor)	—	1250/2300	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*	kgCO2eq.
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	100.56	100.57	100.66	101.07
Voltage	V	230.3	230.2	230.0	230.3
Current input	A	10.08	4.56	1.79	0.81
Power input	kW	6.904	1.038	0.409	0.184
Test conditions indoor unit					
Air inlet temperature, DB/WB	℃	27.01/19.00	27.00/19.02	27.02/19.01	27.00/19.00
Air outlet temperature, DB/WB	℃	N/A	N/A	N/A	N/A
Test conditions outdoor unit					
Air inlet temperature, DB/WB	℃	35.00/24.02	30.02/20.01	25.01/16.03	20.02/12.22
Total coolling capacity	kW	6.904	4.975	3.230	2.082
Power input	kW	2.297	1.038	0.409	0.184
Energy efficiency ratio	-	3.01	4.79	7.90	11.32
Compressor frequency	Hz	79	60	28	16

Table for heating test data (Average)

General test conditions/part load	unit	A-15/A20 (119%)	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	100.32	100.31	100.31	100.29	100.21	100.19
Voltage	V	230.25	230.17	230.17	230.09	230.46	230.14
Current input	A	7.54	8.21	8.21	4.49	2.50	1.80
Power input	kW	1.714	1.867	1.867	0.739	0.370	0.241
Test conditions indoor unit							
Air inlet temperature, DB/WB	℃	20.04/15.03	20.05/15.03	20.05/15.03	20.01/15.02	20.01/15.00	20.03/ 15.02
Air outlet temperature, DB/WB	℃	29.77/18.40	32.62/19.31	32.62/19.31	27.32/17.59	24.63/16.65	23.53/ 16.28
Test conditions outdoor unit							
Air inlet temperature, DB/WB	℃	-14.87/ -15.62	-6.98/-7.77	-6.98/-7.77	2.00/1.03	7.02/6.03	12.08/ 11.11
Summary of the test results	-	A-15/A20 (119%)	A-7/A20 (88%)	A-7/A20 (88%)	A2/A20 (54%)	A7/A20 (35%)	A12/A20 (15%)
Total heating capacity	kW	4.033	5.112	5.112	3.062	1.967	1.504
Power input	kW	1.714	1.867	1.867	0.739	0.370	0.241
Coefficiency of performance	-	2.35	2.74	2.74	4.14	5.32	6.24
Compressor frequency	Hz	90	82	82	42	24	14

SEER calculation:

	Outdoor air °C	measured Cooling Capacity kW	Input Power kW	$EER_{DC/meas}$	Cd	EER_{PL}
A	35	6.904	2.297	3.01	0.25	3.01
B	30	4.975	1.038	4.79	0.25	4.79
C	25	3.230	0.409	7.90	0.25	7.90
D	20	2.082	0.184	11.32	0.25	11.32

	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 x Pc(Tj)	hj x Pc(Tj) / EERbin(Tj)
	17	5.3%	0.363	205					10.46	74	7
	18	10.5%	0.727	227					10.46	165	16
	19	15.8%	1.090	225					10.46	245	23
D	20	21.1%	1.453	225	2.082	0.698	11.32	10.46	10.46	327	31
	21	26.3%	1.817	216					9.95	392	39
	22	31.6%	2.180	215					9.44	469	50
	23	36.8%	2.544	218					8.92	555	62
	24	42.1%	2.907	197					8.41	573	68
C	25	47.4%	3.270	178	3.230	1.012	7.90	7.90	7.90	582	74
	26	52.6%	3.634	158					7.28	574	79
	27	57.9%	3.997	137					6.66	548	82
	28	63.2%	4.360	109					6.03	475	79
	29	68.4%	4.724	88					5.41	416	77
B	30	73.7%	5.087	63	4.975	1.023	4.79	4.79	4.79	320	67
	31	78.9%	5.451	39					4.44	213	48
	32	84.2%	5.814	31					4.08	180	44
	33	89.5%	6.177	24					3.72	148	40
	34	94.7%	6.541	17					3.36	111	33
A	35	100.0%	6.904	13	6.904	1.000	3.01	3.01	3.01	90	30
	36	105.3%	7.267	9					3.01	65	22
	37	110.5%	7.631	4					3.01	31	10
	38	115.8%	7.994	3					3.01	24	8
	39	121.1%	8.357	1					3.01	8	3
	40	126.3%	8.721	0					3.01	0	0
										6586	992
										SEERon	6.64
										SEER	6.13

Equiv. Hce	350	h				$Q_c/SEER_{on}$	363.91858	
H_{TO}	221	h	P_{TO}	0.07	kW	HTO*PTO	15.47	kwh
H_{SB}	2142	h	P_{SB}	0.007	kW	HSB*PSB	14.994	kwh
H_{CK}	2672	h	P_{CK}	0	kW	HCK*PCK	0	kwh
H_{OFF}	0	h	P_{OFF}	0.001	kW	HOFF*POFF	0	kwh
						Q_{ce}	394.38258	
Pdesignc	6.904	kW						
Q_c	2416.4	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	5.112	1.867	2.74	0.25	2.74
B	2	3.062	0.739	4.14	0.25	4.14
C	7	1.967	0.307	6.41	0.25	6.41
D	12	1.504	0.241	6.24	0.25	6.24
E	-10	4.033	1.714	2.35	0.25	2.35
F	-7	5.112	1.867	2.74	0.25	2.74

	Tj	Part load ratio	Heating demand Ph(Tj)	Bin hours hj	Heat load covered by the heat pump	elbu(Tj)	Capacity ratio	COPPL	COPbin(Tj)	hj × Ph(Tj)	hj *[(Ph(Tj)-elbu(Tj))]/COPbin(Tj) +elbu(Tj)]	COP (including backup heater)	hj*[Ph(Tj)-elbu(Tj)]	hj*[Ph(Tj)-elbu(Tj)]/COPbin(Tj)
	-10	100.0%	5.779	1	4.033	1.746	1.43	2.35	2.35	6	3	1.67	4	1.71
	-9	96.2%	5.557	25	4.393	1.164	1.26		2.48	139	73	1.89	110	44.26
	-8	92.3%	5.334	23	4.752	0.582	1.12		2.61	123	55	2.22	109	41.88
A	-7	88.5%	5.112	24	5.112	0.000	1.00	2.74	2.74	123	45	2.74	123	44.81
	-6	84.6%	4.890	27	4.890	0.000	1.00		2.89	132	46	2.89	132	45.62
	-5	80.8%	4.667	68	4.667	0.000	1.00		3.05	317	104	3.05	317	104.05
	-4	76.9%	4.445	91	4.445	0.000	1.00		3.21	405	126	3.21	405	126.15
	-3	73.1%	4.223	89	4.223	0.000	1.00		3.36	376	112	3.36	376	111.77
	-2	69.2%	4.001	165	4.001	0.000	1.00		3.52	660	188	3.52	660	187.59
	-1	65.4%	3.778	173	3.778	0.000	1.00		3.67	654	178	3.67	654	177.87
	0	61.5%	3.556	240	3.556	0.000	1.00		3.83	853	223	3.83	853	222.78
	1	57.7%	3.334	280	3.334	0.000	1.00		3.99	933	234	3.99	933	234.12
B	2	53.8%	3.112	320	3.112	0.000	1.00	4.14	4.14	996	240	4.14	996	240.31
	3	50.0%	2.889	357	2.889	0.000	1.00		4.60	1032	224	4.60	1032	224.43
	4	46.2%	2.667	356	2.667	0.000	1.00		5.05	949	188	5.05	949	188.06
	5	42.3%	2.445	303	2.445	0.000	1.00		5.50	741	135	5.50	741	134.65
	6	38.5%	2.223	330	2.223	0.000	1.00		5.95	733	123	5.95	733	123.18
C	7	34.6%	2.000	326	2.000	0.000	1.00	6.41	6.41	652	102	6.41	652	101.78
	8	30.8%	1.778	348	1.778	0.000	1.00		6.25	619	99	6.25	619	99.06
	9	26.9%	1.556	335	1.556	0.000	1.00		6.09	521	86	6.09	521	85.65
	10	23.1%	1.334	315	1.334	0.000	1.00		5.92	420	71	5.92	420	70.90
	11	19.2%	1.111	215	1.111	0.000	1.00		5.76	239	41	5.76	239	41.45
D	12	15.4%	0.889	169	0.889	0.000	1.00	5.60	5.60	150	27	5.60	150	26.82
	13	11.5%	0.667	151	0.667	0.000	1.00		5.4419	101	19	5.44	101	18.50
	14	7.7%	0.445	105	0.445	0.000	1.00		5.2810	47	9	5.28	47	8.84
	15	3.8%	0.222	74	0.222	0.000	1.00		5.1201	16	3	5.12	16	3.21
	16	0.0%		4910										
						3.492				summation	11937	2754	11893	2709
										SCOPon	4.33		SCOPnet	4.39
										SCOP	4.31			

H_{hc}	1400	h				$Q_h/SCOP_{on}$	1866.3466	
H_{TO}	179	h	P_{TO}	0.07	kW	HTO*PTO	12.53	kwh
H_{SB}	0	h	P_{SB}	0.007	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}	1878.8766	
Pdesignh	5.779	kW						
Q_H	8090.2957	kWh						

Item	Measured value	Rated value	Deviation	Verdict
SEER	6.13	6.10	0.5%	P
SCOP(average)	4.31	4.00	7.8%	P
Power consumption in thermostat off mode	70.0 W	70.0 W	0%	P
Power consumption in standby mode	7.0 W	7.0 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 ≥ 8,50	SCOP ≥ 5,10
A++	6,10 ≤ SEER < 8,50	4,60 ≤ SCOP < 5,10
A+	5,60 ≤ SEER < 6,10	4,00 ≤ SCOP < 4,60
A	5,10 ≤ SEER < 5,60	3,40 ≤ SCOP < 4,00
B	4,60 ≤ SEER < 5,10	3,10 ≤ SCOP < 3,40
C	4,10 ≤ SEER < 4,60	2,80 ≤ SCOP < 3,10
D	3,60 ≤ SEER < 4,10	2,50 ≤ SCOP < 2,80
E	3,10 ≤ SEER < 3,60	2,20 ≤ SCOP < 2,50
F	2,60 ≤ SEER < 3,10	1,90 ≤ 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	90.73 m^2									
Background Noise Level [dB]	18,0									
Microphone Position	1	2	3	4	5	6	7	8	9	10
L_{pi} [dB]	35.8	37.1	37.0	36.7	36.6	36.4	37.5	36.3	37.5	37.6
Lpmc / Averaged Sound Presure Level [dB (A)]	36.89									
LW / Sound Power Level [dB (A)]	56.46									
Rated sound Power Level [dB (A)]	57									
Verdict	P									

outdoor					
Test voltage / frequency	230 V / 50 Hz				
Air inlet temperature, DB/WB	35.0 °C/24.0 °C				
Measured surface	25.13 m2				
Background Noise Level [dB]	18,0				
Microphone Position	1	2	3	4	5
L_{pi} [dB]	46.6	46.9	47.5	47.0	45.4
Lpmc / Averaged Sound Presure Level [dB (A)]	46.73				
LW / Sound Power Level [dB (A)]	60.74				
Rated sound Power Level [dB (A)]	61				
Verdict	P				

Photos:

Indoor

Outdoor unit

Compressor

End of report