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m：PMC202404070002

TEST REPORT

NAMEOF SAMPLE: Air Conditioner

APPLICANT: Panasonic Marketing Middle East & Africa. FZE

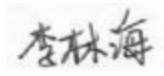
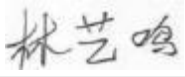
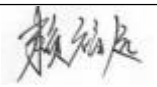
CLASSIFICATION OF TEST: Commission Test

Testing Center of TCL Air Conditioner (Zhongshan) Co., Ltd.

59 Nantou Road West, Nantou, Zhongshan, Guangdong, China

TEST REPORT

The rating and performance tests for Air-conditioner

Applicant Name ..... :	Panasonic Marketing Middle East & Africa FZE		
Address ..... :	P.O Box NO. 17985 Jebel Ali, Dubai, United Arab Emirates		
Manufacturer ..... :	Panasonic Marketing Middle East & Africa FZE		
Address ..... :	P.O Box NO. 17985 Jebel Ali, Dubai, United Arab Emirates		
Factory ..... :	TCL Air Conditioner (Zhongshan) Co. Ltd. 59, Nantou Road West, Nantou, Zhongshan, China		
Product name ..... Trademark ..... Model / type reference ..... Rating and characteristics.	Air conditioner Panasonic CS/CU-FS18AKF-1 230V~ 60Hz		
Date of receipt of test item	2024-04-06	Date(s) of test	2024-04-06
Test specification/Standard	SASO 2663/2021 SASO GSO ISO 5151: 2017 ISO 16358-1 :2013/Cor 1 :2013/AMD1 :2019		
To compile	李林海		
audit	林艺鸣		
The director of the approval	赖福远		
Date of issue	2024-04-07		

The rating and performance tests for Air conditioner	
Test case verdicts	/
Test case does not apply to the test object	N.A.
Test item does meet the requirement	Pass
Test item does not meet the requirement	N.A.
Procedure deviation	N.A.
Non-standard test method	N.A.

General remarks

The test results presented in this report relate only to the item tested.

The test report is invalid without the official stamp of TCL.

The test report is invalid without the signatures of Author and Reviewer.

Test Method

T1:Within the first 3 minutes after the indoor unit is powered on, start up and run the cooling mode, set the temperature of 30℃, medium speed wind, press the ECO or Sleep button 7 times continuously within 8 seconds, and the buzzer beeps 3 times, then set 25℃;

T3:Within the first 3 minutes after the indoor unit is powered on, start up and run the cooling mode, set the temperature of 30℃, medium speed wind, press the ECO or Sleep button 7 times continuously within 8 seconds, and the buzzer beeps 3 times, then set 28℃;

Half capacity:Within the first 3 minutes after the indoor unit is powered on, start up and run the cooling mode, set the temperature of 30℃, medium speed wind, press the ECO or Sleep button 7 times continuously within 8 seconds, and the buzzer beeps 3 times, then set 26℃;

(Note: If you do not clearly hear the three short beeps of the buzzer, please power off and operate again)

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Brief description of the tested sample(s)		
1	Ratings	
	Rated voltage/rated voltage range (V)	230
	Rated frequency (Hz)	60
	Rated input (W)	Cooling（T1- Full load capacity）：1508 Cooling（T1- Half load capacity）：551 Cooling（T3）：1878 Heating：/
	Rated capacity (Btu/h)	Cooling（T1- Full load capacity）：18400 Cooling（T1- Half load capacity）：9500 Cooling（T3）：16900 Heating：/
	Rated current (A)	Cooling（T1- Full load capacity）：9.4 Cooling（T1- Half load capacity）：3.4 Cooling（T3）：11.7 Heating：/
2	Type of power supply	☒ Single phase ☐ Three phase
3	Construction of the unit	☒ Split type ☐ Single packaged type ☐ Multi-split type
4	Type of the unit considering if it has the air ducts	☐ Spot ☐ Single-duct ☐ Double ducts
5	The number of the indoor units if multi-split type	
6	Type of the indoor unit if split type	☒ Wall-mounted ☐ Free-standing ☐ Ceiling-mounted ☐ Other type
7	Type of outdoor unit if split type	☒ Free-standing ☐ Other type
9	Supplementary heating element	☐ Yes ☒ No
10	Operation function	☐ Cooling mode and heating mode ☒ Cooling only ☐ Heating only
11	Type of the refrigerant	As attach page
12	Mass of refrigerant (kg)	As attach page
13	Compressor information	As attach page
14	Compressor stages type	☐ Fixed capacity unit ☐ Two-stage capacity unit ☐ Multi-stage capacity unit ☒ Variable capacity unit

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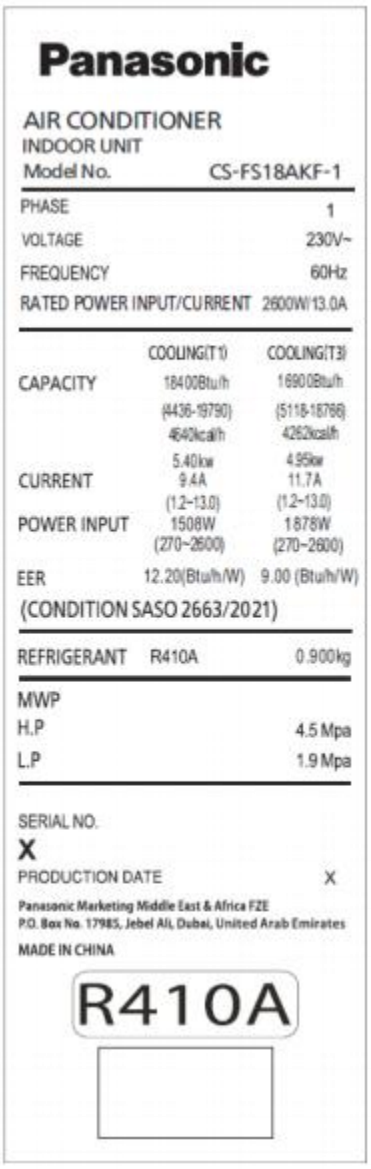
Photo of nameplate:



Panasonic

AIR CONDITIONER
INDOOR UNIT
Model No. CS-FS18AKF-1

PHASE	1
VOLTAGE	230V~
FREQUENCY	60Hz
RATED POWER INPUT/CURRENT	2600W/13.0A

	COOLING(T1)	COOLING(T3)
CAPACITY	18400Btu/h (4436-19790) 4640kcal/h 5.40kw	16900Btu/h (5118-18766) 4262kcal/h 4.95kw
CURRENT	9.4A (1.2~13.0)	11.7A (1.2~13.0)
POWER INPUT	1508W (270~2600)	1878W (270~2600)
EER	12.20(Btu/h/W)	9.00 (Btu/h/W)

(CONDITION SASO 2663/2021)

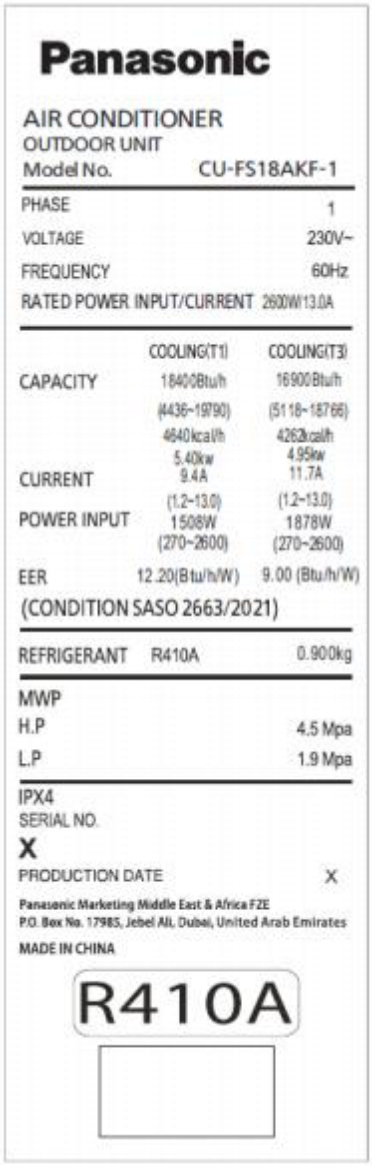
REFRIGERANT	R410A	0.900kg

MWP
H.P 4.5 Mpa
L.P 1.9 Mpa

SERIAL NO.
X
PRODUCTION DATE X

Panasonic Marketing Middle East & Africa FZE
P.O. Box No. 17985, Jebel Ali, Dubai, United Arab Emirates
MADE IN CHINA

R410A



Panasonic

AIR CONDITIONER
OUTDOOR UNIT
Model No. CU-FS18AKF-1

PHASE	1
VOLTAGE	230V~
FREQUENCY	60Hz
RATED POWER INPUT/CURRENT	2600W/13.0A

	COOLING(T1)	COOLING(T3)
CAPACITY	18400Btu/h (4436~19790) 4640kcal/h 5.40kw	16900Btu/h (5118~18766) 4262kcal/h 4.95kw
CURRENT	9.4A (1.2~13.0)	11.7A (1.2~13.0)
POWER INPUT	1508W (270~2600)	1878W (270~2600)
EER	12.20(Btu/h/W)	9.00 (Btu/h/W)

(CONDITION SASO 2663/2021)

REFRIGERANT	R410A	0.900kg

MWP
H.P 4.5 Mpa
L.P 1.9 Mpa

IPX4
SERIAL NO.
X
PRODUCTION DATE X

Panasonic Marketing Middle East & Africa FZE
P.O. Box No. 17985, Jebel Ali, Dubai, United Arab Emirates
MADE IN CHINA

R410A

Photo of the tested sample:

TCL空调器（中山）有限公司 测试中心 TEST CENTER TCL AIR CONDITIONER (ZHONGSHAN)CO.,LTD.

Photo of compressor:

TCL空调器（中山）有限公司 测试中心 TEST CENTER TCL AIR CONDITIONER (ZHONGSHAN)CO.,LTD.

Summary

Test method		Enthalpy test room
COOLING CAPACITY(T1-Full load capacity)	Total cooling capacity in Btu/h	19018
	Air conditioner power consumption in W	1518
	Energy Efficiency Ratio(EER) in Btu/h/w	12.53
COOLING CAPACITY(T1-Half load capacity)	Total cooling capacity in W	9649
	Air conditioner power consumption in W	542
	Energy Efficiency Ratio(EER)	17.80
COOLING CAPACITY(T3)	Total cooling capacity in Btu/h	17893
	Air conditioner power consumption in W	1841
	Energy Efficiency Ratio(EER) in Btu/h/w	9.72
HEATING CAPACITY	Total cooling capacity in w	/
	Air conditioner power consumption in W	/
	Energy Efficiency Ratio(COP) in w/w	/

Test Result:

☒ **Pass** ☐ **Fail**

Note: If failed, it shall be indicated which part it was fail in.

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1- Sample Information

Brand	Panasonic				
Model No.	**System (if application)**	CS/CU-FS18AKF-1			
	Indoor (split system only)	CS-FS18AKF-1			
	Outdoor (split system only)	CU-FS18AKF-1			
Serial number	Indoor: G440N02001N010130001	Outdoor: G440W02001N010130002			
Air-Conditioner Type	Split air conditioner				
Air Distribution	Four way				
Type of system	R410A	Mass of Refrigerant (kg)	0.90		
Heat transfer	Cooling only				
Voltage(V)	230				
Phase	1ph				
Hz	60				
Compressor	**Type**	Hermetic motor-compressor			
	Brand	Sanyo			
	Model Name	C-1RZ140H3CBF			
	Maker	AVIC ELECTROMECHANICAL(SHENYANG)SANYO REFRIGERATION EQUIPMENT CO.,LTD.			
	Country of Origin	China			
Indoor Fan motor	**Type**	DC motor			
	Brand	BROAD-OCEAN			
	Model	ZWK465B00501			
	Maker	ZHONGSHAN BROAD-OCEAN MOTOR Co., LTD.			
	Country of Origin	China			
Outdoor Fan motor	**Type**	DC motor			
	Brand	WELLING			
	Model	ZKFN-33-10-1			
	Maker	Guangdong Welling Motor Manufacuring Co. Ltd.			
	Country of Origin	China			
Evaporator	**Volume(mm)**	843mmx 357mmx 25.4 mm			
	Type	Hydrophilic & Louver Fin; Innergroover tube type			
Condenser	**Volume(mm)**	843mm x 566 mm x 23.2 mm			
	Type	Louver or Corrugated Fin; Innergroover tube type			
Refrigerant	**Type: R410A**	900g			
Dimensions	Indoor(mm)	Width:1132	Depth :332	Height :229	
	Outdoor(mm)	Width :863	Depth :349	Height :602	

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2- Test report

2.1 Cooling capacity test (T1-Full load capacity)

Data to be recorded for Enthalpy cooling capacity tests

Test Duration(min)	90
Power supplied	220-240V
Applied voltage (V)	229.9
Frequency (Hz)	60
Current (A)	9.42
Power Consumption (W)	1518
Power factor	70.1%
Fan speed settings	High speed
Dry bulb temperature, indoor (℃)	27.01
Wet bulb temperature, indoor (℃)	19.00
Dry bulb temperature, outdoor (℃)	35.00
Wet bulb temperature, outdoor (℃)	24.00
Barometer (Pa)	102.28
Indoor cooling capacity (Btu/h)	19018
Sensible cooling capacity(Btu/h)	17961
Latent cooling capacity (dehumidifying capacity) (Btu/h)	1057
Static pressure(Pa)	0.0
Volume flow rate of air(m3/hr)	1491.6
Cooling capacity (Btu/h)	19018
EER(Btu/h)/W	12.53

2.2 Cooling capacity test (T1-Half load capacity)

Test Duration(min)	90
Power supplied	220-240V
Applied voltage (V)	230.7
Frequency (Hz)	60
Current (A)	3.63
Power Consumption (W)	542
Power factor	64.8%
Fan speed settings	High speed
Dry bulb temperature, indoor (℃)	27.00
Wet bulb temperature, indoor (℃)	19.00
Dry bulb temperature, outdoor (℃)	35.00
Wet bulb temperature, outdoor (℃)	24.00
Barometer (Pa)	102.34
Indoor cooling capacity (W)	9649
Sensible cooling capacity (W)	9649
Latent cooling capacity (dehumidifying capacity) (W)	0
Static pressure(Pa)	0.0
Volume flow rate of air(m3/hr)	1306.0
Cooling capacity (Btu/h)	9649
EER(Btu/h)/W	17.80

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2.3 Test record of cooling capacity test (T3)

Test Duration(min)	90
Power supplied	220-240V
Applied voltage (V)	229.6
Frequency (Hz)	60
Current (A)	11.31
Power Consumption (W)	1841
Power factor	70.9%
Fan speed settings	High speed
Dry bulb temperature, indoor (℃)	28.97
Wet bulb temperature, indoor (℃)	19.01
Dry bulb temperature, outdoor (℃)	46.00
Wet bulb temperature, outdoor (℃)	23.86
Barometer (Pa)	102.15
Indoor cooling capacity (Btu/h)	17893
Sensible cooling capacity(Btu/h)	17893
Latent cooling capacity (dehumidifying capacity) (Btu/h)	0
Static pressure(Pa)	0.0
Volume flow rate of air(m3/hr)	1533.4
Cooling capacity (Btu/h)	17893
EER(Btu/h)/W	9.72

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2.4 Test record of heating capacity test (H1)

Test Duration(min)	/
Power supplied	/
Applied voltage (V)	/
Frequency (Hz)	/
Current (A)	/
Power Consumption (W)	/
Power factor	/
Fan speed settings	/
Dry bulb temperature, indoor (℃)	/
Wet bulb temperature, indoor (℃)	/
Dry bulb temperature, outdoor (℃)	/
Wet bulb temperature, outdoor (℃)	/
Barometer (Pa)	/
Indoor heating capacity (W)	/
Sensible heating g capacity (W)	/
Latent heating capacity (dehumidifying capacity) (W)	/
Static pressure(Pa)	/
Volume flow rate of air(m3/hr)	/
heating capacity W	/
heating capacity (Btu/h)	/
COP (Btu/h)/W	/

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2.5 Functional Performance -Cooling&Heating

Operability at Maximum cooling conditions at 52℃	☒ Tested ☐ Declared	Result:	☒ Pass ☐ Fail ☐ Non Relevant
Operability at Minimum cooling conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Freeze up air blockage and freeze-up drip	☒ Tested ☐ Declared		☒ Pass ☐ Fail ☐ Non Relevant
Condensate control and enclosure sweat performance	☒ Tested ☐ Declared		☒ Pass ☐ Fail ☐ Non Relevant
Operability at Maximum heating conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Operability at Minimum heating conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Verification of automatic defrost	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant

2.6 Capacity tests at below condition were considered in this report.

Mode	Indoor air temperature		Outdoor air temperature		Test voltage
	Dry bulb	**Wet bulb**	**Dry bulb**	**Wet bulb**	
Cooling mode (T1-Full load capacity)	**27**	**19**	**35**	**24**	230V, 60Hz
Cooling mode (T1-Half load capacity)	**27**	**19**	**35**	**24**	230V, 60Hz
Cooling mode (T3)	**29**	**19**	**46**	**24**	230V, 60Hz
Temperature (H1)	**20**	**15**	**7**	**6**	230V, 60Hz

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Conclusion

Cooling capacity test (for condition T1- Full load capacity)					
Mode	**Rated**	**Tested**	**Verifying**	**Required EER**	Verdict
Cooling capacity, Btu/h	**18400**	**19018**	**3.36%**	**>=17480**	Pass
Cooling power input, W	**1508**	**1518**	**0.66%**	**<=1583.40**	Pass
EER, Btu/W ·h	**12.20**	**12.53**	**2.70%**	**>=11.59**	Pass
Cooling capacity test (for condition T1- Half load capacity)					
Cooling capacity, Btu/h	**9500**	**9649**	**1.57%**	**>=9025**	Pass
Cooling power input, W	**551**	**542**	**-1.63%**	**<=578.55**	Pass
EER, Btu/W ·h	**17.25**	**17.80**	**3.19%**	**>=16.39**	Pass
Cooling capacity test (for condition T3)					
Cooling capacity, Btu/h	**16900**	**17893**	**5.88%**	**>=16055**	Pass
Cooling power input, W	**1878**	**1841**	**-1.97%**	**<=1971.90**	Pass
EER, Btu/W ·h	**9.00**	**9.72**	**8.00%**	**>=8. 55**	Pass
Heating capacity					
Heating capacity, W	/	/	/	/	/
Heating power input,	/	/	/	/	/
COP, WW	/	/	/	/	/
Annual Energy Consumption (Kwh)	4440				
SEER class	B				
SEER	15.15				

Cooling capacity(T1 Full load capacity)	≥ 0.95 × rated capacity
Cooling power input(T1 Full load capacity)	≤ 1.05× rated
Cooling capacity(Half load capacity)	≥ 0.95 × rated capacity
Cooling capacity(T3)	≥ 0.95 × rated capacity
Cooling power input(T3)	≤ 1.05× rated
Heating capacity	≥ 0.95 × rated capacity
Heating power input	≤ 1.05× rated
EER(T1 Full load capacity)	≥ 0.95 × rated
EER(T3)	≥ 0.95 × rated
COP	≥ 0.95 × rated

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Energy Rating Classification

Table 6 – Seasonal Energy Efficiency Ratio (SEER) Classification			
Bar color	**Energy class**		**SEER limits (Btu/W.h)**
Dark green	أ	A	SEER ≥ 18.0
Green	ب	B	18.0> SEER ≥ 15.0
Light green	ج	C	15.0> SEER ≥ 12.5
Yellow	د	D	12.5> SEER ≥ 10.0
Orange	هـ	E	10.0> SEER ≥ 9.0
Red	و	F	9.0> SEER ≥ 8.0
Dark Red	ز	G	8.0> SEER

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