

AGENTIS AIR LLC

Test Report

SCOPE OF WORK

ANSI/AHAM AC-1 2020 CADR Testing on Air Cleaner Model Brio 550

REPORT NUMBER

104787168CRT-001

ISSUE DATE

September 27, 2021

[REVISED DATE]

NA

PAGES

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DOCUMENT CONTROL NUMBER

GFT-OP-10i (28-Nov-2018)

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Test Report

Report Number 104787168CRT-001

Test Laboratory Name / Address Intertek Testing Services
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Applicant Name / Address Agentis Air LLC
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USA

Manufacturing Name / Address Agentis Air LLC
9505 Berger Rd
Columbia, MD 21046
USA

Product Air Cleaner

Authorization Authorized by signed Quote No. Qu-01200286-0, dated August 12, 2021.

Brand Name Agentis

Model Number(s) Brio 550

Model Similarity NA

Rated Voltage 120 V Tested Voltage 120 V

Rated Frequency 60 Hz Tested Frequency 60 Hz

Rated Power NA

Control Number CRT2108261043-001

Serial Numbers NA

Connected Functionality No

Date of Receipt of Sample(s) August 26, 2021

Sample Condition Prototype

Sample Placement Tested on the Floor

Sample Description High Speed

Date of Test September 24 - 25, 2021

Test Standard(s) or Criteria(s) *ANSI/AHAM AC-1-2020 - Method for Measuring Performance of Portable Household Electric Cord Connected Room Air Cleaners*
ENERGY STAR Program Requirements Product Specification for Room Air Cleaners Eligibility Criteria: Version 2.0

Conclusion The results reported are within the minimum and maximum limits of measurability of the ANSI/AHAM AC-1-2020 & Model does not meet the ENERGY STAR Program Requirements version 2.0

Date of Issue September 27, 2021

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The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid. When determining the test result, measurement uncertainty has been considered.

Test Method:

Tests were performed in accordance with ANSI/AHAM AC-1-2020 entitled "Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners". This standard method has defined limits of measurability. The practical limits of measurability are: Dust 10 to 600 CADR, Tobacco smoke 10 to 600 CADR and Pollen 25 to 450 CADR. The statistical validity of test results outside of the stated practical limits is questionable and unevaluated. Clean Air Delivery Rates (CADR's) were determined using Tobacco Smoke, AC Fine Test Dust, and Paper Mulberry Pollen.

Additional requirements for energy taken from IEC 62301 Ed. 2 entitled, "Household Electrical Appliances – Measurement of Standby Power".

Monitored particle size ranges for the three particulates were as follows:
Smoke - 0.10-1.0 microns; Dust - 0.5-3 microns; Pollen - 5-11 microns.

PM2.5 CADR is obtained by combining the CADR of Cigarette smoke particle sizes ranging from 0.1 and 0.5 microns with the CADR of dust particles that fall in the range of 0.5 to 2.5 microns and performing a geometric average calculation.

$$PM2.5\ CADR = \sqrt[2]{Smoke\ CADR(0.1 - 0.5\mu m) \times Dust\ CADR(0.5 - 2.5)}$$

Calibrated Test Equipment List:

Equipment Name	Model No	Asset Number	Calibration Date	Due Date
Laser Aerosol Spectrometer	3340A	D708	10/23/2020	10/23/2021
Aerodynamic Particle Sizer	3321	D803	7/7/2021	7/7/2022
Fluidized Bed Aerosol Generator	3400A	--	--	--
Temperature/Humidity Sensor	HMW30YB	T680	10/2/2020	10/2/2021
Stop Watch	EX0BP	D715	12/4/2020	12/4/2021
Scale	SP202	S281	1/26/2021	1/26/2022
RPM Guage	DA Plus 115	E410	10/5/2020	10/5/2021
Flow Meter	RMA-5	D716	12/10/2020	12/10/2021
Power Supply	3001 Lx	--	--	--
Power Analyzer	WT210	G065	10/2/2020	10/1/2021

Device Under Test Description and Photos:

The device tested for this report was Model Brio 550

The following device settings were used during testing: 120 V 60 Hz, High Speed

Connected Functionality: No

		<p style="text-align: center;">NA</p>
<p style="text-align: center;">Unit in Test</p>	<p style="text-align: center;">Control Panel in Test</p>	<p style="text-align: center;">Nameplate Photo</p>
		
<p style="text-align: center;">Filters Installed</p>	<p style="text-align: center;">Collection Cartridge</p>	<p style="text-align: center;">Particle Charger Filter</p>
		
<p style="text-align: center;">Pre-Filter</p>		

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CADR Results of Performance Tests:

Model/Configuration	Test Particulate	Natural Decay Rate	CADR (FT ³ /Min)	CADR STDEV	Power (Watts)
CRT2108261043-001 Model Brio 550	Smoke	0.00292	217.3	1.30	78.9
120 V 60 Hz Tested on the Floor	Dust	0.00729	253.8	1.30	79.0
High Speed	Pollen	0.09920	303.7	9.50	79.0
	PM2.5	-	234.7	-	-

Dust Operating Power Test

Test Sample	Test Voltage V	Test Frequency Hz	Ambient Test Temperature °F	Ambient Humidity %RH	Dust CADR	Power Watts
CRT2108261043-001	119.9	60.0	73.0	36.0	253.8	79.0

Pollen Operating Power Test

Test Sample	Test Voltage V	Test Frequency Hz	Ambient Test Temperature °F	Ambient Humidity %RH	Pollen CADR	Power Watts
CRT2108261043-001	119.9	60.0	73.0	37.0	303.7	79.0

Conclusion:

The results reported are within the minimum and maximum limits of measurability of the ANSI/AHAM AC-1-2020 "Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners" Test Method.

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Energy Star v2.0 Smoke CADR/Watt Requirement

Smoke CADR Bins	Minimum Smoke CADR/W
$30 \leq \text{CADR} < 100$	1.9
$100 \leq \text{CADR} < 150$	2.4
$\text{CADR} \geq 150$	2.9

Energy Star v2.0 Smoke Operating Power Test

Test Sample Information

Applicant Name	Model Number	Nameplate Voltage V	Nameplate Frequency Hz	Nameplate Watts
Agentis Air LLC	Brio 550	120 V	60 Hz	NA

Test Criteria

Test Voltage	Test Frequency Hz	Ambient Test Temperature °F	Ambient Humidity %RH
120 ± 1	60 ± 1	70 ± 5	40 ± 5

Test Results

Test Sample	Test Voltage V	Test Frequency Hz	Ambient Test Temperature °F	Ambient Humidity %RH	Smoke CADR	Power Watts	Smoke CADR/Watt
CRT2108261043-001	119.9	60.0	74	36	217.3	78.9	2.8

Conclusion:

These results illustrate that this sample does not meet the Energy Star Program performance requirements.

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Energy Star v2.0 Partial On Mode Power Test Requirement

Item	Partial On Mode Power Allowance (W) for models without Wi-Fi capability	Partial On Mode Power Allowance (W) for models with Wi-Fi capability
$P_{\text{Base_Allowance}}$	1.00	1.00
$P_{\text{Network_Connected}}$	0.00	1.00
$P_{\text{Maximum_Partial_On}}$	1.00	2.00

Note: $P_{\text{Maximum_Partial_On}} = P_{\text{Base_Allowance}} + P_{\text{Network_Connected}}$

Energy Star v2.0 Partial On Mode Power Test

Test Criteria - IEC 62301

Test Voltage V	Test Frequency Hz	Total Harmonic Distortion of the Electricity Supply System	Ambient Test Temperature °F
115 ± 1	60 ± 1	≤ 2%	73.4 ± 9

Test Results

Test Sample	Test Voltage (V)	Test Frequency (Hz)	THD (%)	Ambient Temp. (°F)	Measured Partial ON Mode Power	$P_{\text{Maximum_Partial_On}}$ (W)
CRT2108261043-001	115.1	60.0	0.17%	70	0.35	1.00

Conclusion:

The results illustrated in the Partial ON Mode Power Data shows that this unit meets the Energy Star Performance Criteria.

