Make It Yours.

Cooler Master X Silent Edge Platinum 850

Serial Number MPS8501AZAPBEU1243800001

Lab ID CM85002603

Certification ID 252603

Test Result Report ID: 24PS2603A

Certificate Issue Date: Oct 10, 2024

Scheme: ETA-EMI PSU

115V 230V

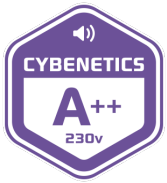




Scheme: LAMBDA PSU

115V 230V







Outside Validation Scope



General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Cooler Master
Model	X Silent Edge Platinum 850
OEM/ODM	Cooler Master
Serial Number	MPS8501AZAPBEU1243800001
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9-5

Rated Frequency (Hz)	50-60
Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	Passive
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CM85002603
Date of receipt	Sep 23, 2024
Testing Date	Oct 10, 2024
Report Issued Date	Oct 10, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	**Cable Count**	**Connector Count (Total)**	**Gauge**	In Cable Capacitors
ATX connector 24 pin (645mm)	1	1	16AWG	No
4+4 pin EPS12V (650mm)	1	1	16AWG	No
8 pin EPS12V (650mm)	1	1	16AWG	No
6+2 pin PCIe (550mm)	4	4	16-18AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-28AWG	No
SATA (500mm+150mm+150mm+150mm)	3	12	18AWG	No
4-pin Molex (450mm+120mm+120mm+120mm)	1	4	18AWG	No

M/B USB Connector (800mm)	1	1	24AWG	No
4-pin PWM Fan Connector (400mm)	1	1	28AWG	No
AC Power Cord (1380mm) - C13 coupler	1	1	17AWG	-

Protection Features(Manufacturer)

Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70.8	3	0.3
	Watts	120		850	15	3.6
Total Max. Power (W)		850				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.900%
Average Noise Output (>1450 Load Combinations)	6.00dBA
Average PF (>1450 Load Combinations)	0.995
Efficiency With 10W (≤500W) or 2% (>500W) Load	61.124%
Standby Power Consumption	0.0687W
Non-Accredited	
12V Ripple (Full Load)	33.61mV
5V Ripple (Full Load)	19.69mV
3.3V Ripple (Full Load)	15.45mV
5VSB Ripple (Full Load)	9.82mV
12V Load Regulation	0.27%
5V Load Regulation	1.00%
3.3V Load Regulation	1.30%
5VSB Load Regulation	2.53%
Inrush Current	16.850A

230V

Accredited	
Average Efficiency (>1450 load combinations)	92.807%
Average Noise Output (>1450 Load Combinations)	6.00dBA
Average PF (>1450 Load Combinations)	0.976
Efficiency With 10W (≤500W) or 2% (>500W) Load	60.875%
Standby Power Consumption	0.1617W
Non-Accredited	
12V Ripple (Full Load)	33.09mV
5V Ripple (Full Load)	21.19mV
3.3V Ripple (Full Load)	18.08mV

5VSB Ripple (Full Load)		11.29mV
12V Load Regulation		0.45%
5V Load Regulation		1.16%
3.3V Load Regulation		1.51%
5VSB Load Regulation		2.64%
Inrush Current		33.540A
12V Transient Response (200%)		11.49V
5V Transient Response (200%)		4.904V
3.3V Transient Response (200%)		3.206V
5VSB Transient Response (200%)		4.987V
Hold-Up Time & PWR_OK Signal		26.80ms
AC Loss to PWR_OK Hold Up Time		16.80ms
PWR_OK Inactive to DC Loss Delay		10.00ms
PSU Timings: T1 (20% / 100%)	77.0ms	44.0ms
PSU Timings: T3 (20% / 100%)	125.0ms	126.0ms
12V OCP (29.2°C / 40.6°C)	88.40A (124.86%), 12.009V	87.80A (124.01%), 12.030V
5V OCP (29.2°C / 40.6°C)	25.1A (125.50%), 5.002V	24.5A (122.50%), 5.012V
3.3V OCP (29.2°C / 40.6°C)	25.5A (127.50%), 3.335V	24.8A (124.00%), 3.343V
5VSB OCP (29.2°C / 40.6°C)	4.6A (153.33%), 4.989V	4.6A (153.33%), 4.991V
OPP (28.51°C / 41.63°C)	125.13%	123.84%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	26.8
AC Loss to PWR_OK Hold Up Time (ms)	16.8
PWR_OK Inactive to DC Loss Delay (ms)	10

Vampire Power

Tables

115V

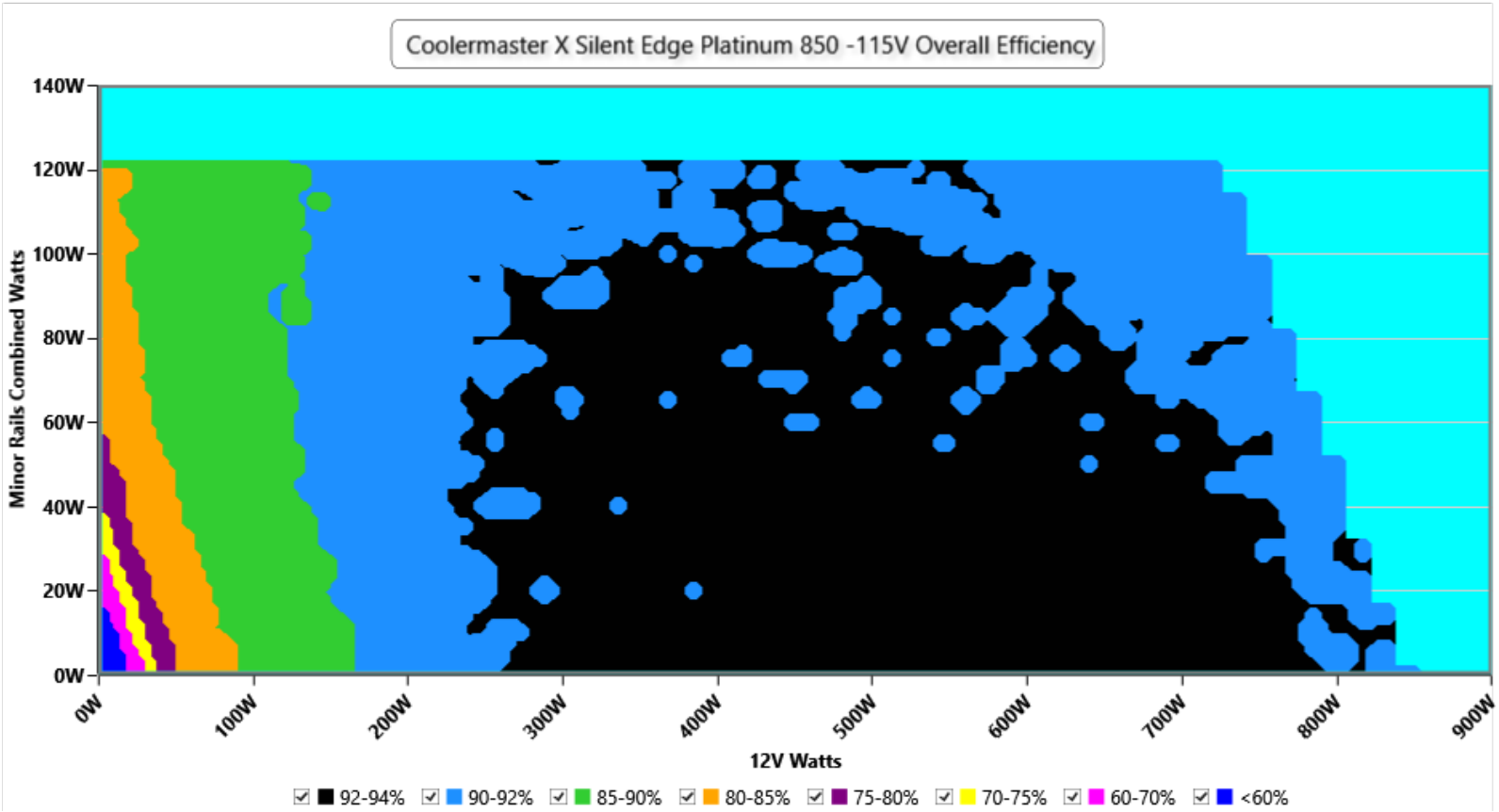
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.03 V	113.85 V	115.11 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.94 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.14 %	0.10 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.069 W	0.004 W	N/A	0.177 W	N/A	N/A
Apparent Power:	14.366 W	14.165 W	N/A	14.563 W	N/A	N/A
Power Factor:	0.010	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.02 V	230.92 V	227.70 V	231.09 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.14 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.162 W	0.119 W	N/A	0.236 W	N/A	N/A
Apparent Power:	47.760 W	47.330 W	N/A	48.194 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

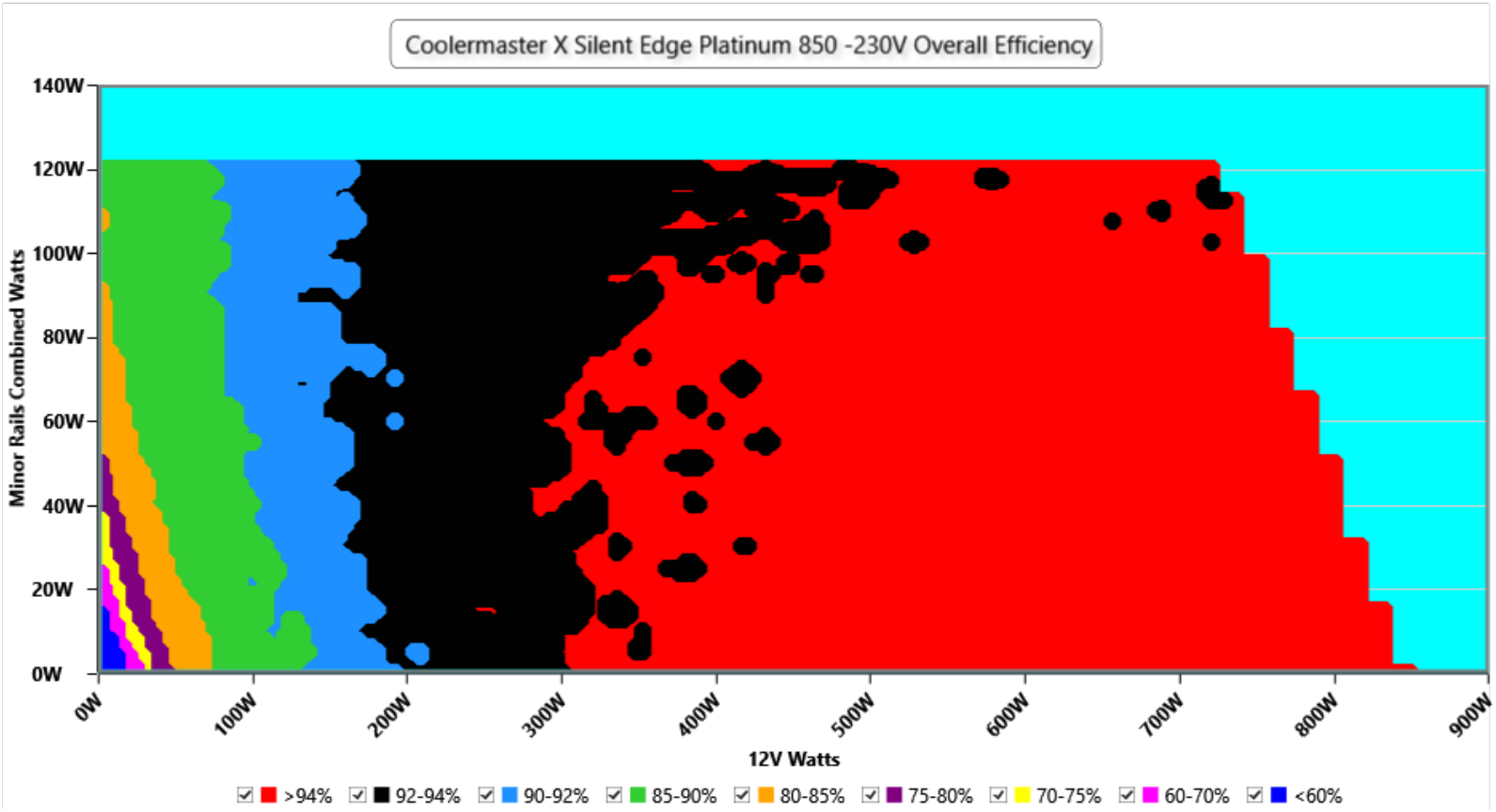
115V



INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

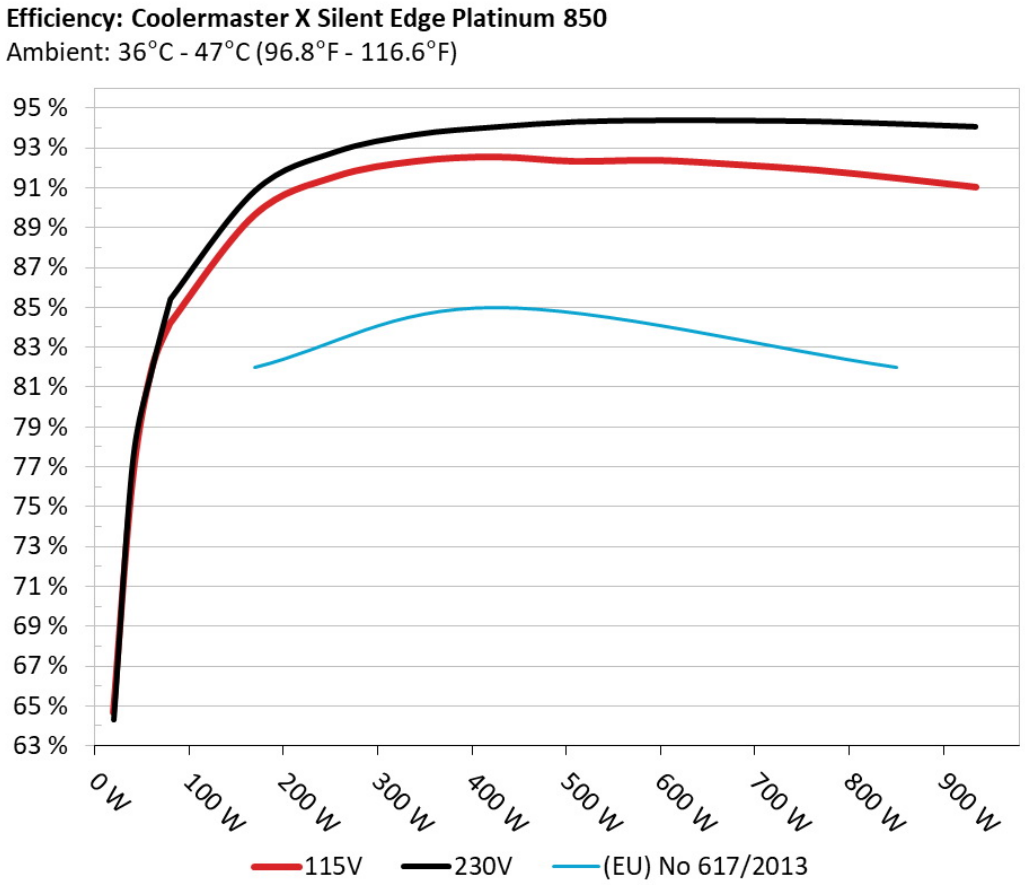


INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

Indicative Performance

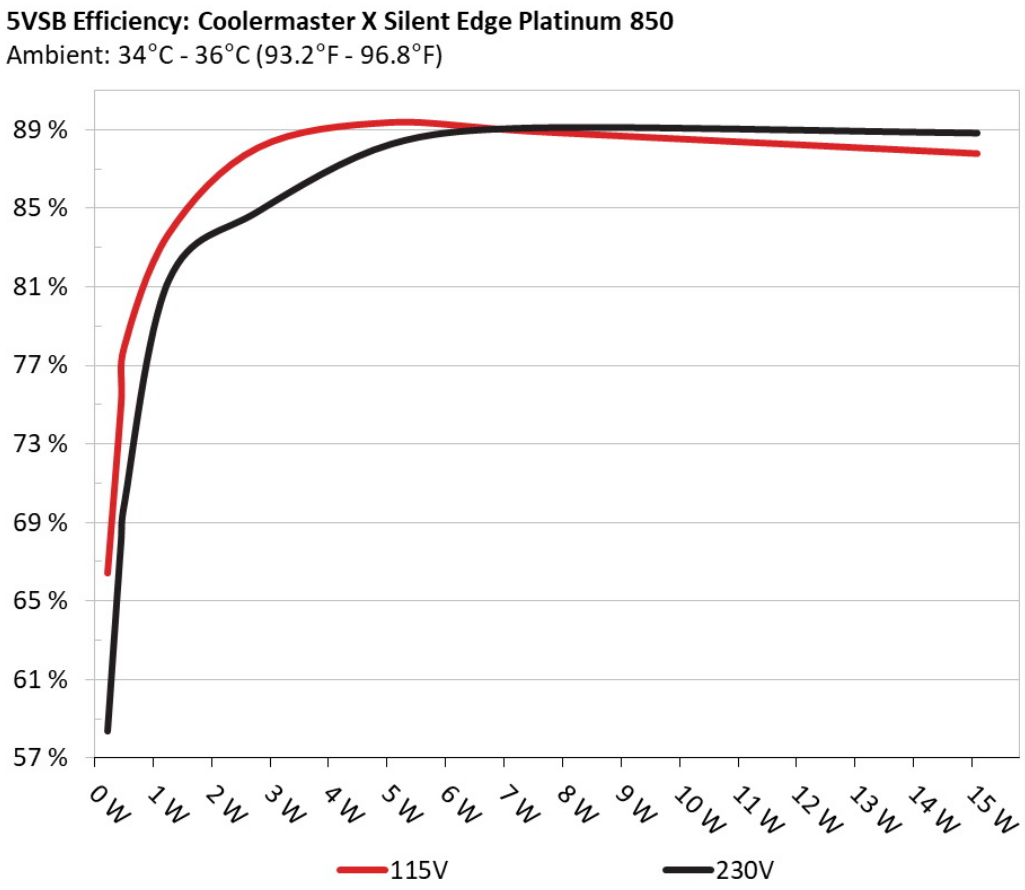
Efficiency under high ambient temperature



INFO

The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB Efficiency



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.23W	66.431%	0.025
	5.101V	0.346W		114.84V
2	**0.09A**	0.459W	75.009%	0.044
	5.1V	0.612W		114.84V
3	**0.55A**	2.799W	88.085%	0.204
	5.089V	3.177W		114.84V
4	**1A**	5.078W	89.375%	0.311
	5.078V	5.682W		114.83V
5	**1.5A**	7.599W	88.897%	0.39
	5.065V	8.548W		114.84V
6	**3A**	15.087W	87.788%	0.489
	5.029V	17.185W		114.83V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.23W	58.343%	0.008
	5.101V	0.397W		229.84V
2	**0.09A**	0.459W	68.016%	0.014
	5.1V	0.675W		229.83V
3	**0.55A**	2.799W	84.842%	0.068
	5.089V	3.299W		229.83V
4	**1A**	5.078W	88.287%	0.115
	5.078V	5.753W		229.82V
5	**1.5A**	7.599W	89.112%	0.163
	5.066V	8.527W		229.83V
6	**3A**	15.088W	88.845%	0.278
	5.029V	16.981W		229.83V

Protection Features

OCP (Normal @ 29.2°C)	12V: 88.40A (124.86%), 12.009V 5V: 25.1A (125.50%), 5.002V 3.3V: 25.5A (127.50%), 3.335V 5VSB: 4.6A (153.33%), 4.989V
OCP (Hot @ 40.6°C)	12V: 87.80A (124.01%), 12.030V 5V: 24.5A (122.50%), 5.012V 3.3V: 24.8A (124.00%), 3.343V 5VSB: 4.6A (153.33%), 4.991V
OPP (Normal @ 28.5°C)	1063.64W (125.13%)
OPP (Hot @ 41.6°C)	1052.65W (123.84%)
OTP	✓ (110°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	Passive
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	**5.254A**	**1.983A**	**1.966A**	**0.985A**	85.002	84.31%	42.17°C	0.98
	12.068V	5.043V	3.357V	5.076V	100.835		40.22°C	114.82V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20%	**11.524A**	**2.978A**	**2.953A**	**1.185A**	169.933	89.66%	43.44°C	0.994
	12.065V	5.037V	3.352V	5.065V	189.53		40.77°C	114.78V
30%	**18.149A**	**3.477A**	**3.45A**	**1.385A**	254.938	91.57%	43.86°C	0.997
	12.062V	5.033V	3.348V	5.054V	278.406		41.32°C	114.79V
40%	**24.783A**	**3.977A**	**3.947A**	**1.586A**	340.022	92.343%	44.7°C	0.998
	12.058V	5.028V	3.344V	5.043V	368.274		41.62°C	115.02V
50%	**31.053A**	**4.977A**	**4.941A**	**1.789A**	424.819	92.563%	45.93°C	0.998
	12.054V	5.023V	3.34V	5.032V	458.961		42.13°C	114.76V
60%	**37.307A**	**5.979A**	**5.937A**	**1.992A**	509.364	92.34%	47.28°C	0.998
	12.050V	5.018V	3.335V	5.021V	551.355		42.76°C	114.68V
70%	**43.630A**	**6.984A**	**6.937A**	**2.196A**	594.668	92.395%	49.09°C	0.998
	12.046V	5.012V	3.33V	5.01V	643.609		43.17°C	114.69V
80%	**49.959A**	**7.988A**	**7.937A**	**2.299A**	679.503	92.18%	51.02°C	0.999
	12.042V	5.007V	3.326V	5.001V	737.214		43.83°C	114.91V
90%	**56.686A**	**8.495A**	**8.428A**	**2.404A**	764.93	91.902%	53.63°C	0.998
	12.039V	5.003V	3.322V	4.993V	832.306		44.4°C	115.09V
100%	**63.151A**	**9.003A**	**8.95A**	**3.018A**	849.746	91.5%	56.49°C	0.999
	12.035V	4.998V	3.318V	4.971V	928.738		45.95°C	114.92V
110%	**69.485A**	**10.014A**	**10.049A**	**3.022A**	934.319	91.045%	60.08°C	0.999
	12.032V	4.993V	3.313V	4.965V	1026.084		46.31°C	114.67V
CL1	**0.115A**	**14.389A**	**14.272A**	**0A**	121.296	84.837%	59.72°C	0.988
	12.079V	5.018V	3.342V	5.095V	142.977		42.28°C	114.85V
CL2	**0.115A**	**19.897A**	**0A**	**0A**	101.34	83.425%	57.87°C	0.985
	12.081V	5.023V	3.352V	5.099V	121.478		42.88°C	114.81V
CL3	**0.114A**	**0A**	**19.692A**	**0A**	67.382	78.791%	55.99°C	0.971
	12.080V	5.039V	3.352V	5.099V	85.51		42.75°C	114.85V
CL4	**70.559A**	**0A**	**0A**	**0A**	849.504	92.052%	57.44°C	0.999
	12.040V	5.024V	3.336V	5.05V	922.831		46.26°C	114.57V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	**5.251A**	**1.982A**	**1.965A**	**0.985A**	85.003	85.486%	44.93°C	0.879
	12.074V	5.044V	3.358V	5.077V	99.439		40.15°C	229.82V
20%	**11.520A**	**2.977A**	**2.952A**	**1.185A**	169.936	90.873%	44.91°C	0.957
	12.070V	5.039V	3.353V	5.066V	187.001		40.74°C	229.81V
30%	**18.143A**	**3.476A**	**3.449A**	**1.385A**	254.94	92.81%	45.11°C	0.979
	12.065V	5.034V	3.349V	5.055V	274.666		41.23°C	229.8V
40%	**24.777A**	**3.977A**	**3.947A**	**1.586A**	340.024	93.68%	45.4°C	0.987
	12.060V	5.029V	3.345V	5.044V	362.998		41.65°C	229.79V
50%	**31.049A**	**4.977A**	**4.941A**	**1.788A**	424.828	94.062%	45.71°C	0.991
	12.056V	5.023V	3.34V	5.033V	451.516		42.06°C	229.78V
60%	**37.304A**	**5.979A**	**5.937A**	**1.992A**	509.363	94.324%	46.97°C	0.994
	12.051V	5.018V	3.335V	5.022V	540.029		42.83°C	229.77V
70%	**43.629A**	**6.983A**	**6.937A**	**2.196A**	594.682	94.397%	47.84°C	0.995
	12.047V	5.012V	3.33V	5.01V	629.993		43.08°C	229.75V
80%	**49.958A**	**7.988A**	**7.937A**	**2.299A**	679.515	94.39%	48.87°C	0.996
	12.042V	5.007V	3.326V	5.002V	719.847		43.5°C	229.73V
90%	**56.689A**	**8.495A**	**8.428A**	**2.404A**	764.943	94.347%	49.6°C	0.997
	12.038V	5.002V	3.322V	4.993V	810.789		44.5°C	229.72V
100%	**63.155A**	**9.003A**	**8.951A**	**3.018A**	849.759	94.227%	51.11°C	0.997
	12.035V	4.998V	3.318V	4.971V	901.823		45.67°C	229.7V
110%	**69.492A**	**10.015A**	**10.049A**	**3.022A**	934.333	94.081%	52.51°C	0.998
	12.031V	4.992V	3.313V	4.964V	993.062		46.98°C	229.69V
CL1	**0.116A**	**14.391A**	**14.273A**	**0A**	121.297	85.97%	49.79°C	0.932
	12.077V	5.017V	3.342V	5.095V	141.102		42.21°C	229.82V
CL2	**0.115A**	**19.899A**	**0A**	**0A**	101.344	84.472%	49.56°C	0.91
	12.079V	5.023V	3.352V	5.099V	119.965		42.33°C	229.83V
CL3	**0.114A**	**0A**	**19.694A**	**0A**	67.382	79.434%	47.71°C	0.85
	12.077V	5.039V	3.351V	5.099V	84.845		41.93°C	229.84V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
CL4	**70.575A**	**0A**	**0A**	**0A**	849.518	94.78%	49.82°C	0.998
	12.038V	5.024V	3.336V	5.05V	896.341		44.56°C	229.71V

The results above are not used in the certification process

Light Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20W	**1.231A**	**0.495A**	**0.491A**	**0.196A**	19.998	64.675%	44.98°C	0.88
	12.063V	5.047V	3.36V	5.097V	30.922		36.14°C	114.84V
40W	**2.708A**	**0.693A**	**0.687A**	**0.294A**	39.997	76.175%	44.12°C	0.941
	12.068V	5.048V	3.361V	5.095V	52.505		37.94°C	114.84V
60W	**4.187A**	**0.891A**	**0.884A**	**0.393A**	59.997	81.78%	41.79°C	0.965
	12.068V	5.047V	3.36V	5.092V	73.365		38.77°C	114.82V
80W	**5.660A**	**1.09A**	**1.08A**	**0.491A**	79.939	84.201%	41.06°C	0.978
	12.068V	5.046V	3.359V	5.088V	94.944		39.48°C	114.81V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20W	**1.229A**	**0.494A**	**0.49A**	**0.196A**	20.007	64.316%	58.58°C	0.534
	12.089V	5.056V	3.368V	5.102V	31.123		36.1°C	229.83V
40W	**2.705A**	**0.693A**	**0.686A**	**0.294A**	40.003	77.215%	55.12°C	0.714
	12.086V	5.054V	3.366V	5.098V	51.804		37.06°C	229.83V
60W	**4.182A**	**0.891A**	**0.883A**	**0.393A**	60.002	81.778%	54.89°C	0.814
	12.084V	5.052V	3.364V	5.094V	73.385		38.14°C	229.82V
80W	**5.654A**	**1.089A**	**1.079A**	**0.491A**	79.947	85.412%	54.1°C	0.867
	12.082V	5.05V	3.363V	5.09V	93.634		39.14°C	229.82V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.7 mV	12.6 mV	11.7 mV	6.7 mV	Pass
20% Load	10.4 mV	12.9 mV	11.4 mV	6.6 mV	Pass
30% Load	11.5 mV	13.3 mV	12.2 mV	6.8 mV	Pass
40% Load	13.0 mV	14.2 mV	11.7 mV	7.1 mV	Pass
50% Load	14.3 mV	15.0 mV	13.3 mV	7.7 mV	Pass
60% Load	16.2 mV	14.1 mV	12.7 mV	7.3 mV	Pass
70% Load	18.4 mV	15.2 mV	14.5 mV	8.8 mV	Pass
80% Load	20.6 mV	16.9 mV	16.7 mV	8.7 mV	Pass
90% Load	22.7 mV	16.5 mV	15.4 mV	8.5 mV	Pass
100% Load	33.6 mV	19.7 mV	15.5 mV	9.8 mV	Pass
110% Load	37.1 mV	20.2 mV	16.3 mV	10.5 mV	Pass
Crossload 1	13.8 mV	20.2 mV	15.0 mV	22.3 mV	Pass
Crossload 2	11.4 mV	19.9 mV	13.3 mV	17.3 mV	Pass
Crossload 3	10.9 mV	12.0 mV	15.0 mV	17.2 mV	Pass
Crossload 4	34.3 mV	14.8 mV	13.9 mV	23.2 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.6 mV	15.6 mV	14.2 mV	12.9 mV	Pass
20% Load	12.1 mV	15.3 mV	14.8 mV	13.4 mV	Pass
30% Load	11.1 mV	14.3 mV	11.9 mV	6.9 mV	Pass
40% Load	12.7 mV	14.4 mV	12.8 mV	7.9 mV	Pass
50% Load	13.5 mV	13.3 mV	12.8 mV	7.0 mV	Pass
60% Load	15.8 mV	16.7 mV	13.2 mV	7.5 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	17.0 mV	15.0 mV	13.3 mV	8.1 mV	Pass
80% Load	18.8 mV	16.7 mV	15.3 mV	8.4 mV	Pass
90% Load	20.7 mV	16.0 mV	14.4 mV	8.2 mV	Pass
100% Load	33.1 mV	21.2 mV	18.1 mV	11.3 mV	Pass
110% Load	34.8 mV	21.6 mV	19.8 mV	11.1 mV	Pass
Crossload 1	16.4 mV	22.3 mV	18.1 mV	23.5 mV	Pass
Crossload 2	12.4 mV	21.7 mV	14.4 mV	19.2 mV	Pass
Crossload 3	10.9 mV	12.8 mV	15.1 mV	17.9 mV	Pass
Crossload 4	30.7 mV	15.8 mV	14.9 mV	22.4 mV	Pass

The results above are not used in the certification process

Cooler Master X Silent Edge Platinum 850



Top side



Power specifications label

All data and graphs included in this test report can be used by any individual on the following conditions:

› It should be mentioned that the test results are provided by Cybenetics

› The link to the original test results document should be provided in any case

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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