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: CYBENETICS PLATINUM

230V: CYBENETICS PLATINUM 230v

Scheme: LAMBDA PSU

115V: CYBENETICS A++

230V: CYBENETICS A++ 230v

CYBENETICS ATX 3.1 PASS

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

Tables

115V

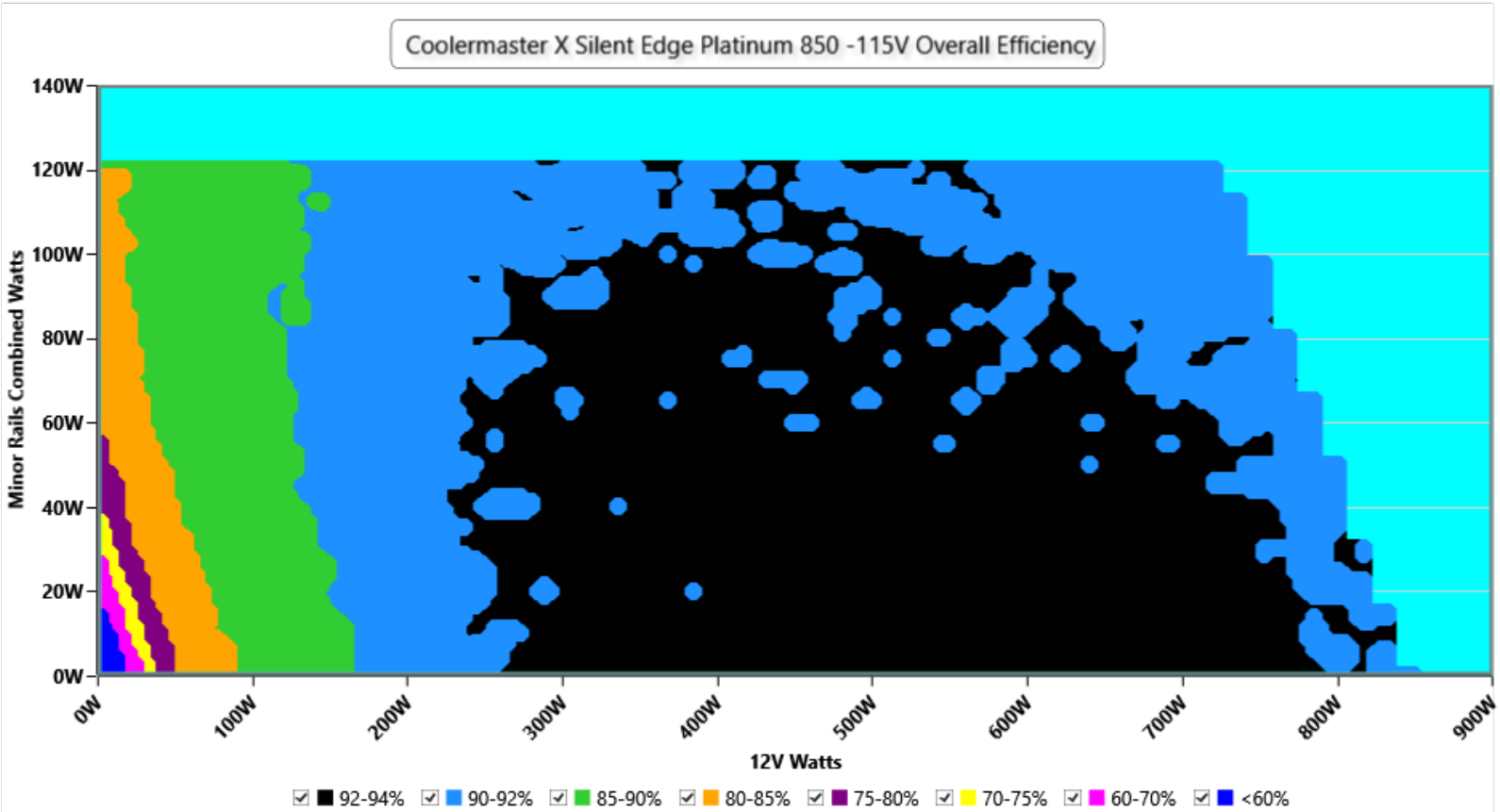
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.03 V	113.85 V	115.11 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.94 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.14 %	0.10 %	N/A	0.20 %	2.00 %	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

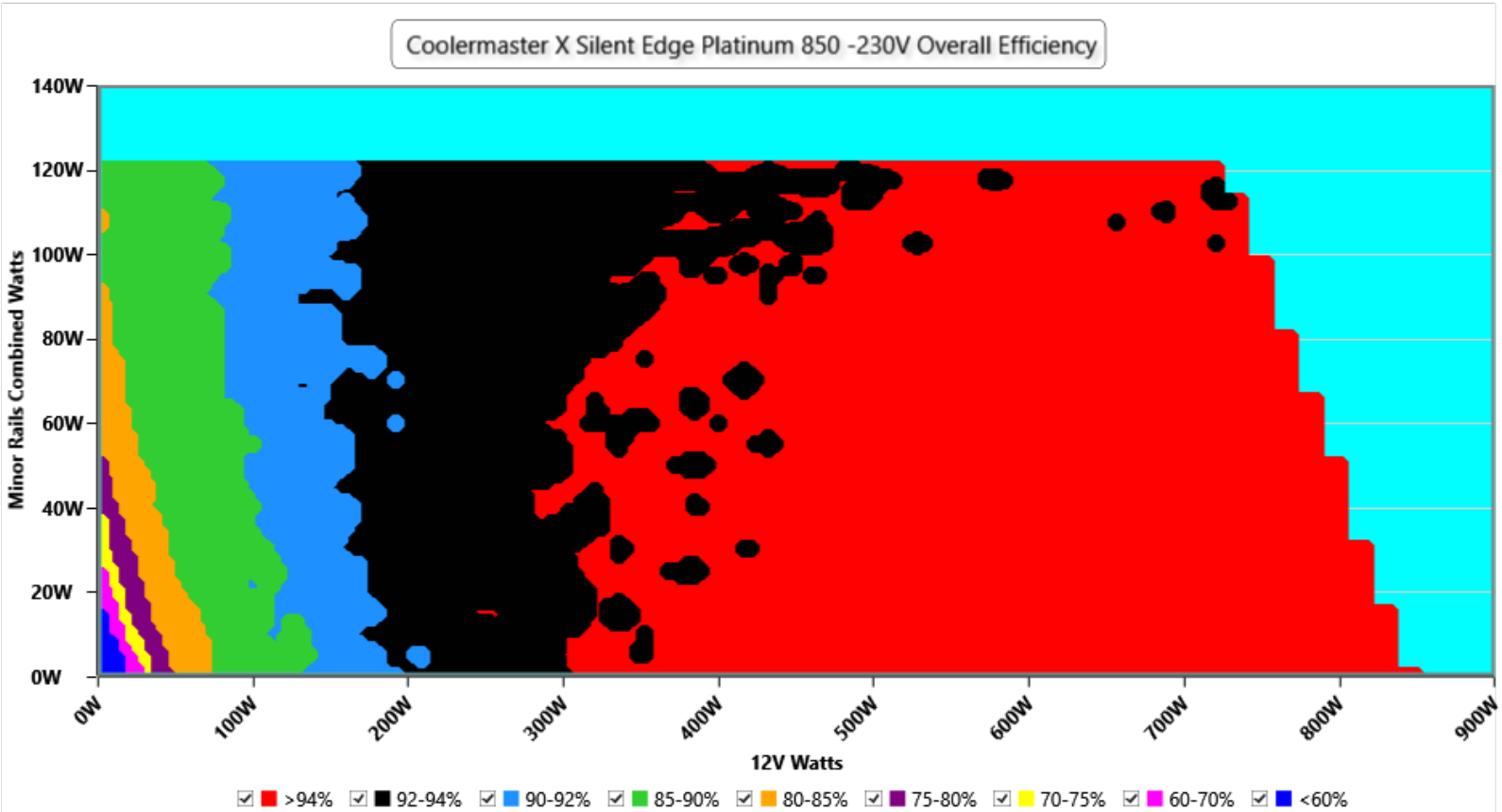
115V



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

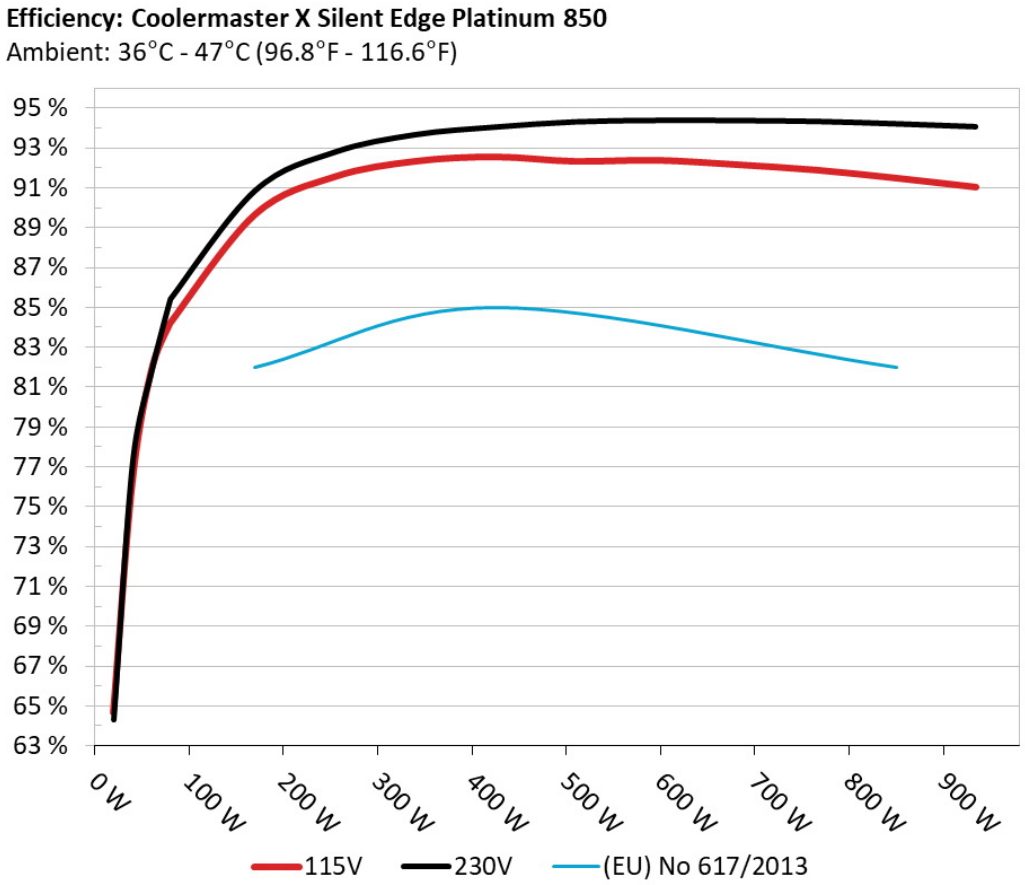


INFO

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

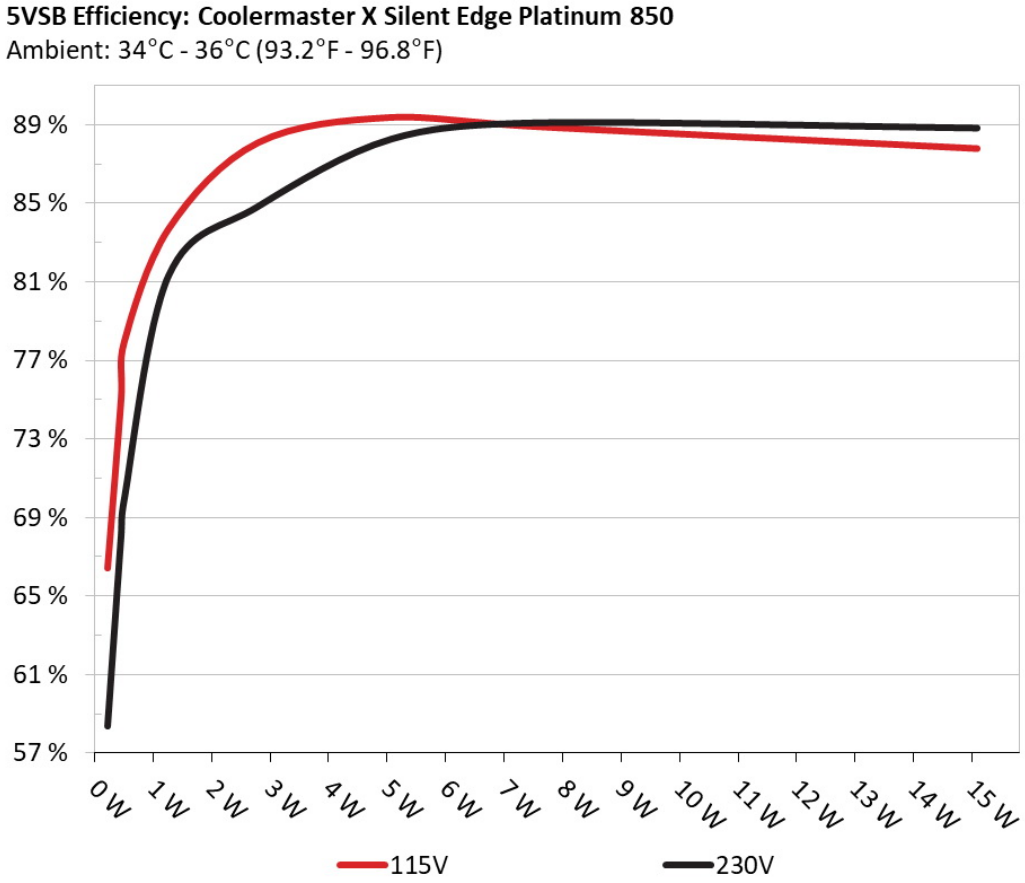
Efficiency under high ambient temperature



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

Cybenetics [illegible] ETA[illegible] LAMBDA[illegible] SAFE[illegible] DELTA[illegible] PHI[illegible]

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