# CPS PCCooler YS850

Serial Number A3A1520003

Lab ID PL85002370

Certification ID 252370

Test Result Report ID: 24PS2370A

Certificate Issue Date: Feb 23, 2024

Scheme: ETA-EMI PSU

115V — CYBENETICS GOLD

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<br>Chroma 63600-2<br>Chroma 63640-80-80 x10<br>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 | CPS PCCooler |
| Model | YS850 |
| OEM/ODM | Seasonic |
| Serial Number | A3A1520003 |
| Product Specifications | |
| Manufacturer-Provided Information | |
| Rated Voltage (Vrms) | 100-240 |
| Rated Current (Arms) | 11-5.5 |

| | |
|---|---|
| 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 | 135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z) |
| Semi-Passive Operation | ✓ (selectable) |
| Cybenetics Testing Information | |
| Lab ID | PL85002370 |
| Date of receipt | Jan 25, 2024 |
| Testing Date | Feb 6, 2024 |
| Report Issued Date | Feb 23, 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 20+4 pin (610mm) | 1 | 1 | 16-18AWG | No |
| 4+4 pin EPS12V (710mm) | 2 | 2 | 16AWG | No |
| 6+2 pin PCIe (760mm) | 2 | 2 | 16-18AWG | No |
| 12+4 pin PCIe (700mm) (600W) | 1 | 1 | 16-28AWG | No |
| SATA (410mm+155mm) | 1 | 2 | 18AWG | No |
| SATA (500mm+155mm+155mm+155mm) | 2 | 8 | 18AWG | No |
| 4-pin Molex (450mm+125mm+125mm) | 1 | 3 | 18AWG | No |

## 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 | 3 | 0.3 |
| | Watts | 100 | | 840 | 15 | 3.6 |
| Total Max. Power (W) | | 850 | | | | |

## Parts Description

| General Data | |
|---|---|
| Manufacturer (OEM) | Seasonic |
| PCB Type | Double-Sided |
| Primary Side | |
| Transient Filter | 4x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x CM02X (Discharge IC) |
| Inrush Protection | 1x NTC Thermistor MF72-5D20L (5 Ohm) & Relay |
| Bridge Rectifier(s) | 2x |
| APFC MOSFETs | 2x Infineon IPP60R160P6 (650V, 23.8A, @ 25°C Rds(on): 0.160Ohm) |
| APFC Boost Diode | 1x ST STTH8S06 (600V, 8A) |
| Bulk Cap(s) | 1x Nippon Chemi-Con (420V, 390uF, 2,000h @ 105°C, KMR) & 1x Nippon Chemi-Con (420V, 330uF, 2,000h @ 105°C, KMR) |
| Main Switchers | 4x Great Power GPT13N50D (500V, 13A , Rds(on): 0.49Ohm) |
| APFC Controller | Champion CM6500UNX |
| Resonant Controller | Champion CU6901VPA |

| | |
|---|---|
| Topology | Primary side: APFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters |
| Secondary Side | |
| +12V MOSFETs | 6x Nexperia PSMN1R0-40YLD (40V, 198A @ 100°C, Rds(on): 1.93mOhm) |
| 5V & 3.3V | DC-DC Converters: 6x Nexperia PSMN4R0-30YLD (30V, 67A @ 100°C, Rds(on): 6.6mOhm) PWM Controller(s): ANPEC APW7159C |
| Filtering Capacitors | Electrolytic: 4x Nippon Chemi-Con (5-6,000h @ 105°C, KZH) 4x Nippon Chemi-Con (5-6,000h @ 105°C, KY) 3x Nichicon (2-5,000h @ 105°C, HD), 2x Rubycon (3-6,000h @ 105°C, YXG), 1x Nippon Chemi-Con (1-5,000h @ 105°C, KZE) Polymer: 8x FCAP, 25x FPCAP, 2x Rubycon |
| Supervisor IC | Weltrend WT7527 (OCP, OVP, UVP, SCP, PG) |
| Fan Model | Hong Hua HA13525H12F-Z (135mm, 12V, 0.50A, Fluid Dynamic Bearing Fan) |

# 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) | 88.828% |
| Average Noise Output (>1450 Load Combinations) | 24.67dBA |
| Average PF (>1450 Load Combinations) | 0.973 |
| Efficiency With 10W (≤500W) or 2% (>500W) Load | 73.271% |
| Standby Power Consumption | 0.0542W |
| Non-Accredited | |
| 12V Ripple (Full Load) | 26.02mV |
| 5V Ripple (Full Load) | 18.93mV |
| 3.3V Ripple (Full Load) | 18.94mV |

| | |
|---|---|
| 5VSB Ripple (Full Load) | 25.18mV |
| 12V Load Regulation | 0.85% |
| 5V Load Regulation | 0.54% |
| 3.3V Load Regulation | 0.85% |
| 5VSB Load Regulation | 2.25% |
| Inrush Current | 32.500A |

## 230V

| | | |
|---|---|---|
| Accredited | | |
| Average Efficiency (>1450 load combinations) | 91.112% | |
| Average Noise Output (>1450 Load Combinations) | 25.53dBA | |
| Average PF (>1450 Load Combinations) | 0.939 | |
| Efficiency With 10W (≤500W) or 2% (>500W) Load | 72.448% | |
| Standby Power Consumption | 0.1297W | |
| Non-Accredited | | |
| 12V Ripple (Full Load) | 27.00mV | |
| 5V Ripple (Full Load) | 19.37mV | |
| 3.3V Ripple (Full Load) | 18.06mV | |
| 5VSB Ripple (Full Load) | 25.52mV | |
| 12V Load Regulation | 0.87% | |
| 5V Load Regulation | 0.52% | |
| 3.3V Load Regulation | 0.85% | |
| 5VSB Load Regulation | 2.23% | |
| Inrush Current | 65.850A | |
| 12V Transient Response (200%) | 11.45V | |
| 5V Transient Response (200%) | 4.890V | |
| 3.3V Transient Response (200%) | 3.194V | |
| 5VSB Transient Response (200%) | 4.935V | |
| Hold-Up Time & PWR_OK Signal | 24.60ms | |
| AC Loss to PWR_OK Hold Up Time | 19.80ms | |
| PWR_OK Inactive to DC Loss Delay | 4.80ms | |
| PSU Timings: T1 (20% / 100%) | 72.0ms | 71.0ms |

| | | |
|---|---|---|
| PSU Timings: T3 (20% / 100%) | 127.0ms | 126.0ms |
| 12V OCP (26.6°C / 43.0°C) | 97.20A (138.86%), 12.151V | 95.60A (136.57%), 12.171V |
| 5V OCP (26.6°C / 43.0°C) | 29.4A (147.00%), 4.974V | 29.3A (146.50%), 4.973V |
| 3.3V OCP (26.6°C / 43.0°C) | 29.3A (146.50%), 3.303V | 29.3A (146.50%), 3.303V |
| 5VSB OCP (26.6°C / 43.0°C) | 6.4A (213.33%), 4.992V | 6.4A (213.33%), 4.988V |
| OPP (26.85°C / 42.18°C) | 141.24% | 133.30% |

## Hold-Up Time & PWR_OK Signal

| | |
|---|---|
| Hold-Up Time (ms) | 24.6 |
| AC Loss to PWR_OK Hold Up Time (ms) | 19.8 |
| PWR_OK Inactive to DC Loss Delay (ms) | 4.8 |

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### Tables

**115V**

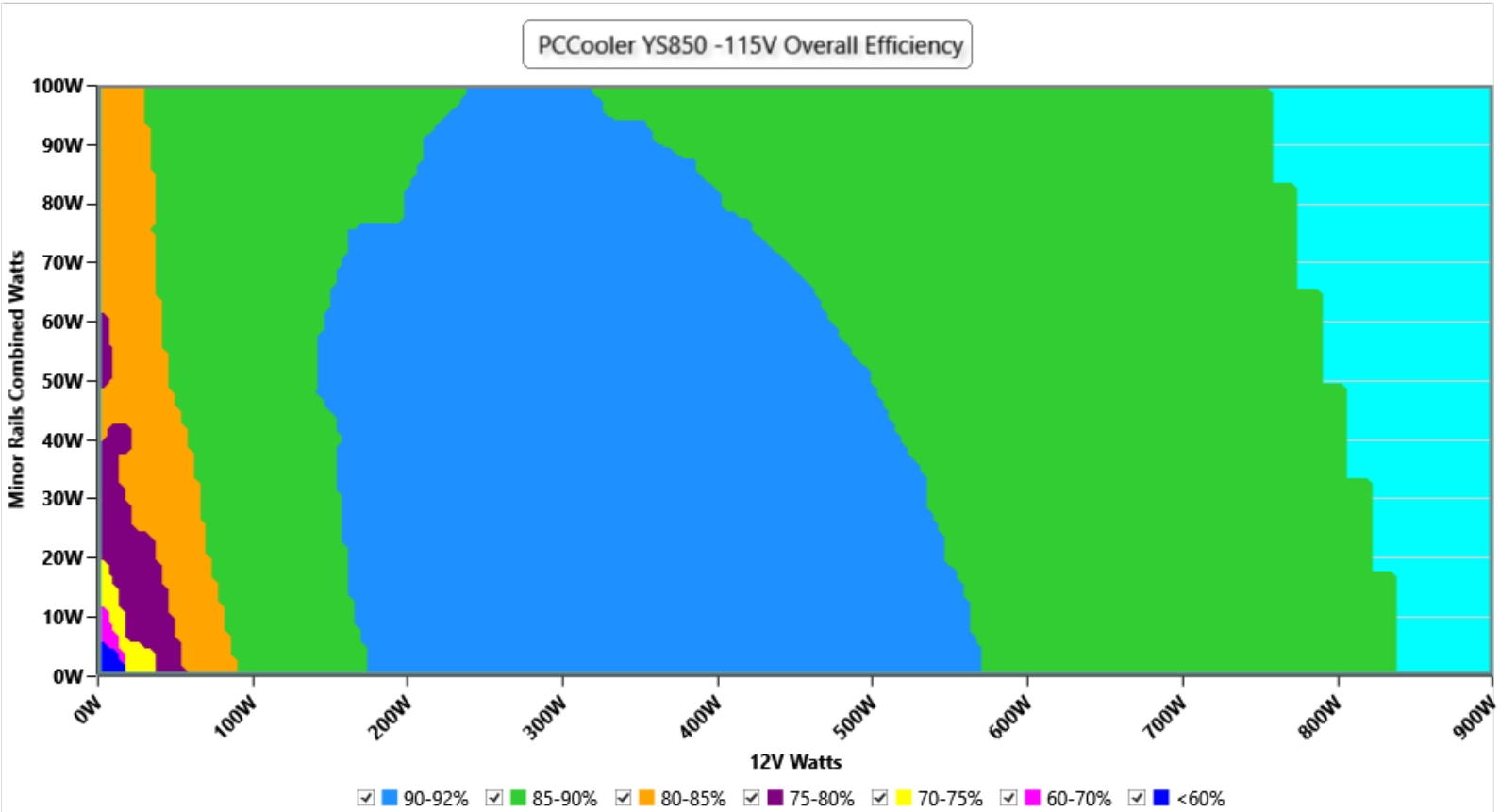
| Detailed Results | | | | | | |
|---|---|---|---|---|---|---|
| | Average | Min | Limit Min | Max | Limit Max | Result |
| Mains Voltage RMS: | 114.88 V | 114.84 V | 113.85 V | 114.94 V | 116.15 V | PASS |
| Mains Frequency: | 60.00 Hz | 59.99 Hz | 59.40 Hz | 60.01 Hz | 60.60 Hz | PASS |
| Mains Voltage CF: | 1.418 | 1.416 | 1.340 | 1.422 | 1.490 | PASS |
| Mains Voltage THD: | 0.15 % | 0.09 % | N/A | 0.27 % | 2.00 % | PASS |
| Real Power: | 0.054 W | -0.002 W | N/A | 0.085 W | N/A | N/A |
| Apparent Power: | 10.391 W | 10.366 W | N/A | 10.425 W | N/A | N/A |
| Power Factor: | 0.004 | N/A | N/A | N/A | N/A | N/A |

## 230V

| Detailed Results | | | | | | |
|---|---|---|---|---|---|---|
| | Average | Min | Limit Min | Max | Limit Max | Result |
| Mains Voltage RMS: | 229.97 V | 229.90 V | 227.70 V | 230.01 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: | 1.416 | 1.415 | 1.340 | 1.418 | 1.490 | PASS |
| Mains Voltage THD: | 0.13 % | 0.08 % | N/A | 0.18 % | 2.00 % | PASS |
| Real Power: | 0.130 W | 0.083 W | N/A | 0.192 W | N/A | N/A |
| Apparent Power: | 35.098 W | 35.052 W | N/A | 35.164 W | N/A | N/A |
| Power Factor: | 0.004 | N/A | N/A | N/A | N/A | N/A |

## Efficiency Graph

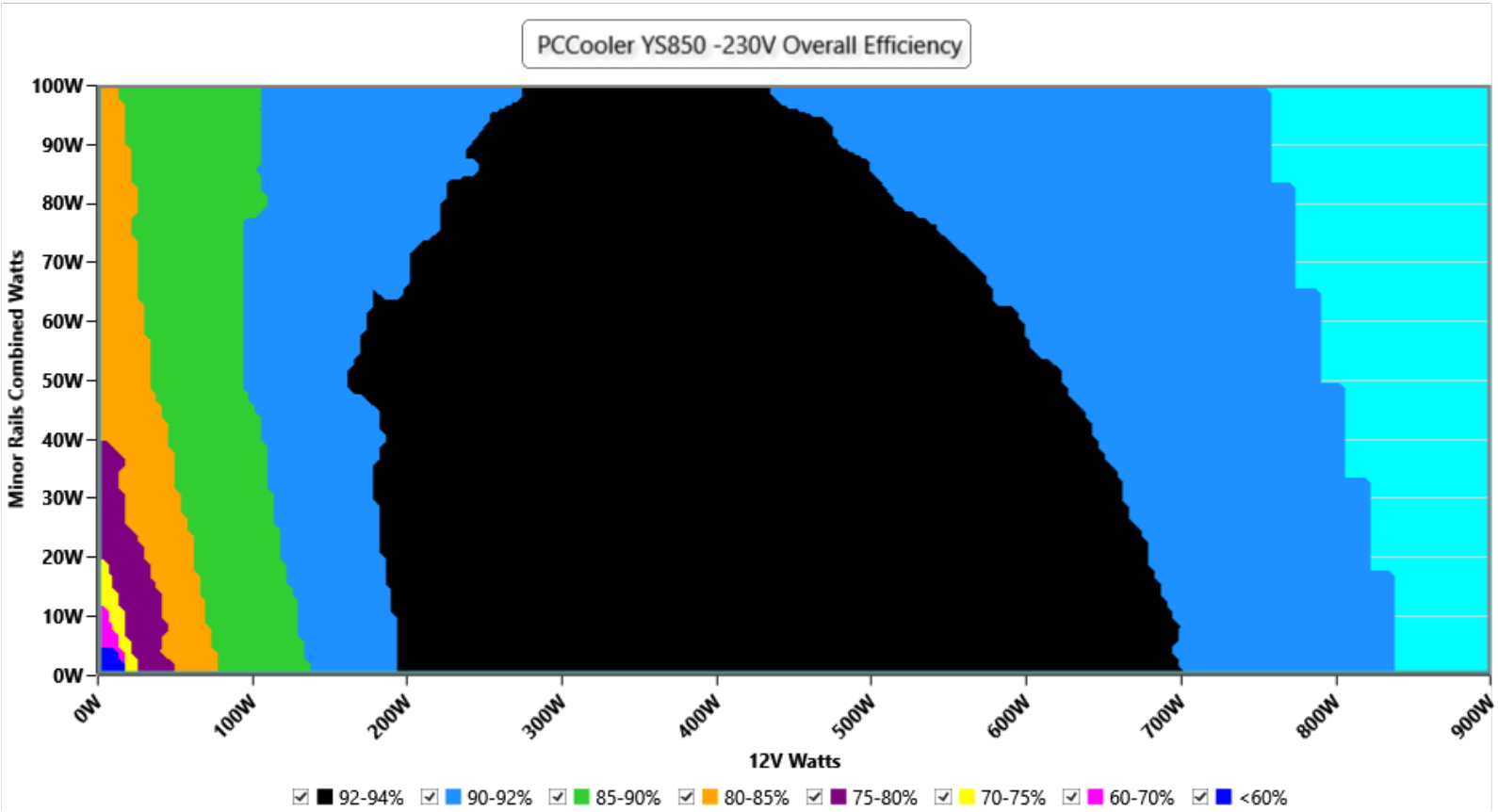
**115V**




**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

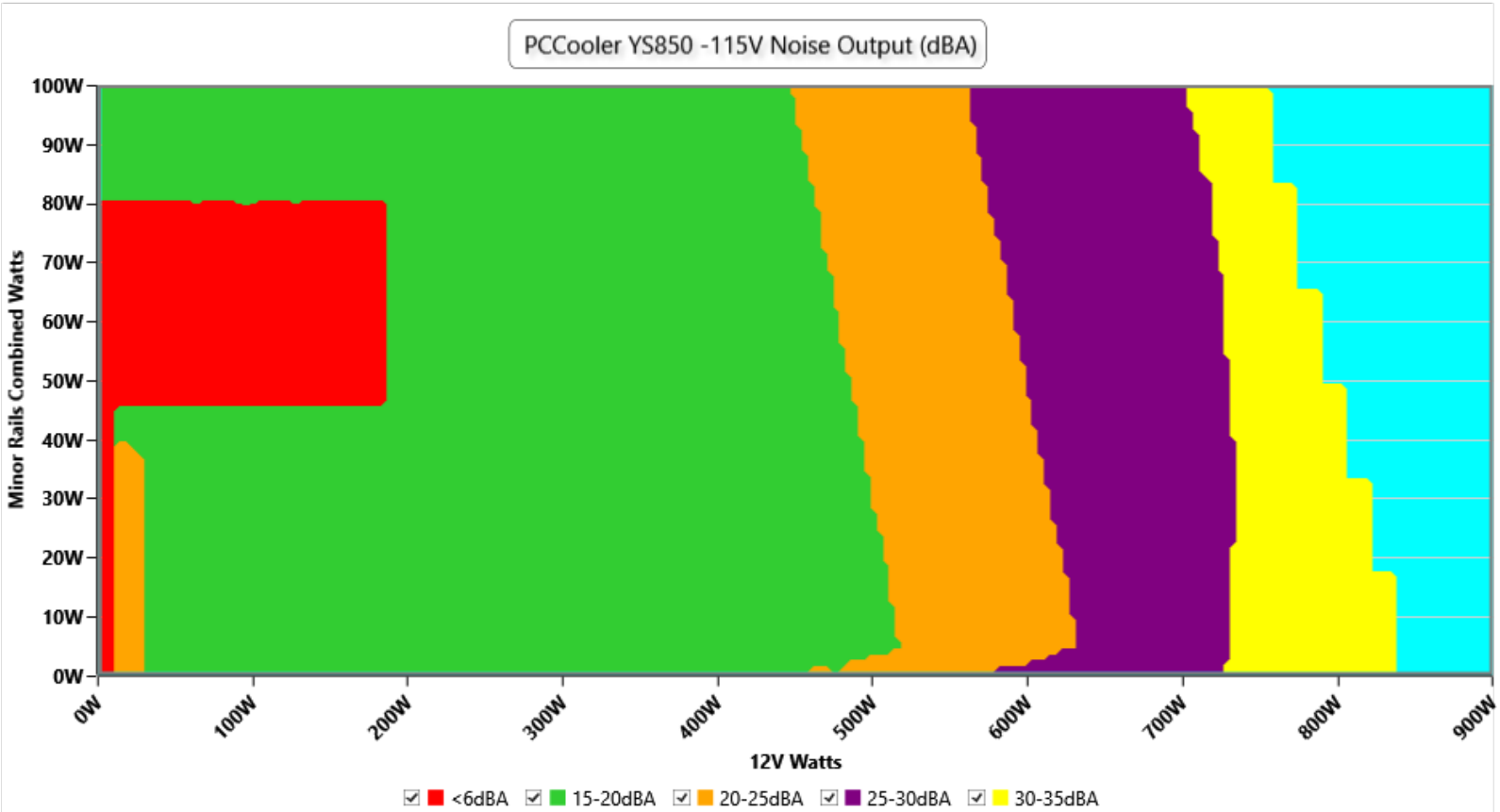



### INFO

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

## Noise Graph

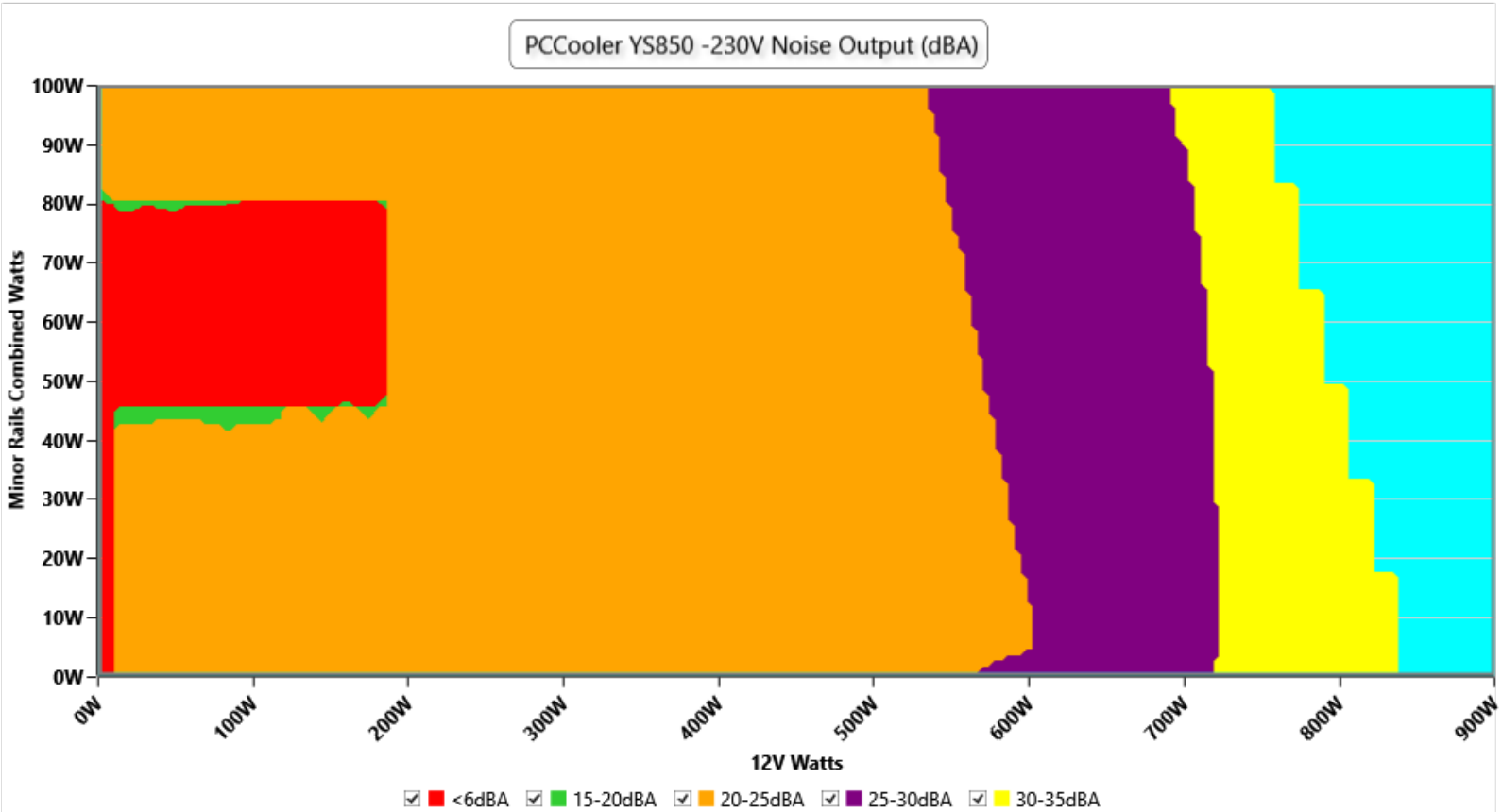
**115V**




**INFO**

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

## 230V

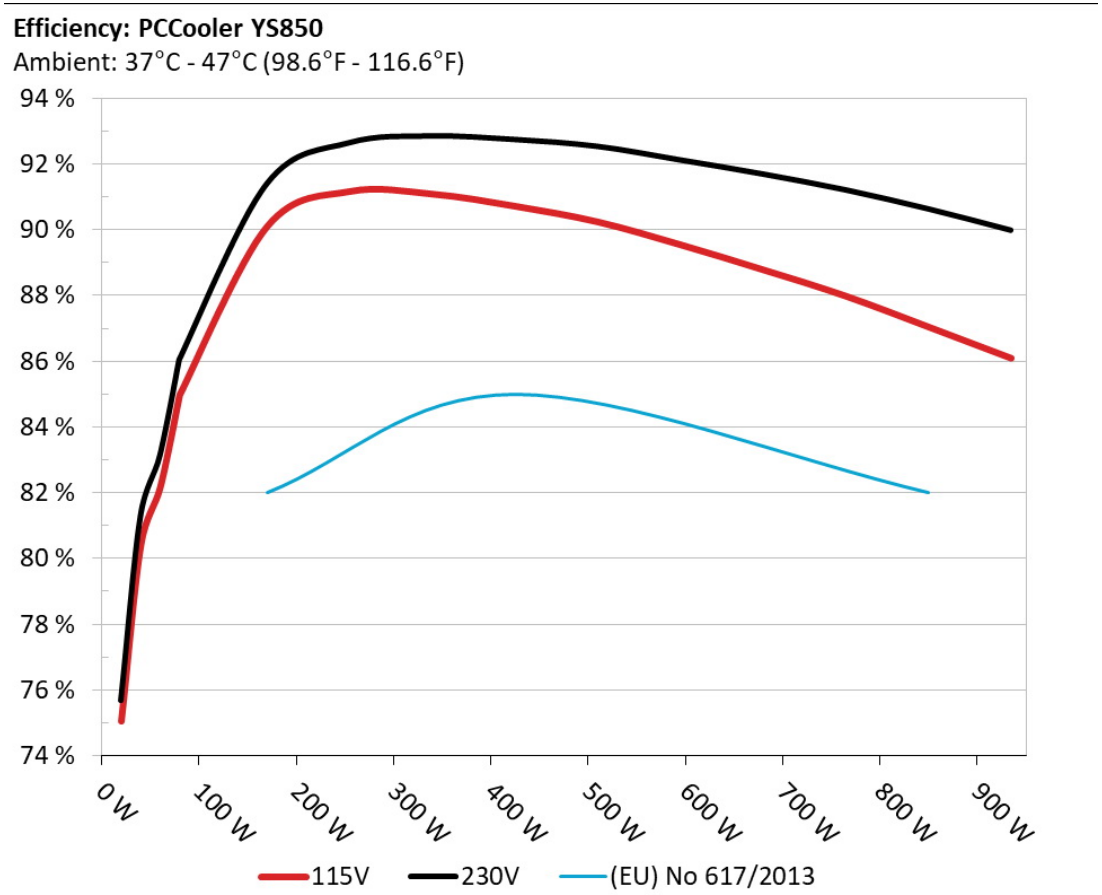



### INFO

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

## Indicative Performance

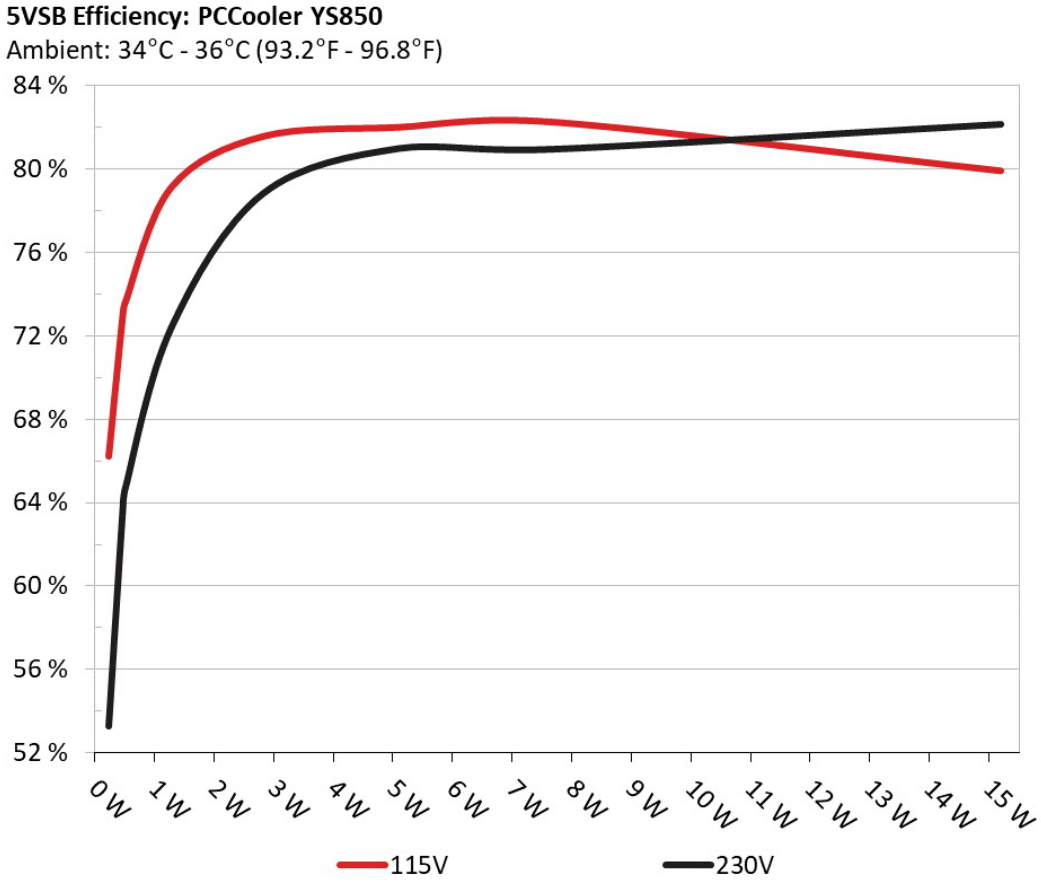
### Efficiency under high ambient temperature




**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 | 0.231W | 66.216% | 0.034 |
| | 5.131V | 0.349W | | 114.87V |
| 2 | 0.09A | 0.462W | 72.866% | 0.061 |
| | 5.129V | 0.634W | | 114.87V |
| 3 | 0.55A | 2.816W | 81.55% | 0.261 |
| | 5.12V | 3.453W | | 114.87V |
| 4 | 1A | 5.11W | 81.994% | 0.355 |
| | 5.11V | 6.232W | | 114.87V |
| 5 | 1.5A | 7.65W | 82.247% | 0.412 |
| | 5.1V | 9.301W | | 114.87V |
| 6 | 3A | 15.199W | 79.903% | 0.486 |
| | 5.066V | 19.021W | | 114.87V |

### 230V

| Test # | 5VSB | DC/AC (Watts) | Efficiency | PF/AC Volts |
|---|---|---|---|---|
| 1 | 0.045A | 0.231W | 53.284% | 0.013 |
| | 5.131V | 0.434W | | 229.95V |
| 2 | 0.09A | 0.462W | 63.5% | 0.021 |
| | 5.13V | 0.728W | | 229.95V |
| 3 | 0.55A | 2.815W | 78.822% | 0.099 |
| | 5.119V | 3.572W | | 229.95V |
| 4 | 1A | 5.11W | 81.005% | 0.164 |
| | 5.11V | 6.308W | | 229.95V |
| 5 | 1.5A | 7.65W | 80.962% | 0.22 |
| | 5.1V | 9.449W | | 229.95V |
| 6 | 3A | 15.205W | 82.159% | 0.327 |
| | 5.068V | 18.504W | | 229.95V |

## Protection Features

| | |
|---|---|
| OCP (Cold @ 26.6°C) | 12V: 97.20A (138.86%), 12.151V<br>5V: 29.4A (147.00%), 4.974V<br>3.3V: 29.3A (146.50%), 3.303V<br>5VSB: 6.4A (213.33%), 4.992V |
| OCP (Hot @ 43.0°C) | 12V: 95.60A (136.57%), 12.171V<br>5V: 29.3A (146.50%), 4.973V<br>3.3V: 29.3A (146.50%), 3.303V<br>5VSB: 6.4A (213.33%), 4.988V |
| OPP (Cold @ 26.9°C) | 1200.58W (141.24%) |
| OPP (Hot @ 42.2°C) | 1133.07W (133.30%) |
| OTP | ✓ (135°C @ Heat Sink) |
| SCP | 12V to Earth: ✓<br>5V to Earth: ✓<br>3.3V to Earth: ✓<br>5VSB to Earth: ✓<br>-12V to Earth: ✓ |
| PWR_OK | Proper Operation |
| NLO | ✓ |
| Fan Failure Protection | ✗ |
| SIP | Surge: MOV<br>Inrush: NTC & Bypass Relay |

## Supplementary Tests (For Reference)

### Typical Load Tests

**115V**

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| 10% | 5.214A | 1.999A | 1.986A | 0.979A | 84.998 | 84.982% | 0 | <6.0 | 44.67°C | 0.953 |
| | 12.158V | 5.003V | 3.324V | 5.106V | 100.021 | | | | 40.42°C | 114.84V |

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| 20% | 11.441A | 3A | 2.981A | 1.177A | 169.924 | 90.108% | 0 | <6.0 | 45.42°C | 0.971 |
| | 12.151V | 5V | 3.321V | 5.096V | 188.575 | | | | 40.86°C | 114.81V |
| 30% | 18.024A | 3.502A | 3.481A | 1.376A | 254.925 | 91.172% | 0 | <6.0 | 46.29°C | 0.978 |
| | 12.144V | 4.998V | 3.318V | 5.087V | 279.607 | | | | 41.26°C | 114.78V |
| 40% | 24.610A | 4.003A | 3.981A | 1.576A | 340.008 | 91.091% | 753 | 21.2 | 41.84°C | 0.981 |
| | 12.142V | 4.996V | 3.316V | 5.078V | 373.262 | | | | 47.39°C | 114.76V |
| 50% | 30.835A | 5.006A | 4.98A | 1.776A | 424.8 | 90.721% | 749 | 21.1 | 42.29°C | 0.983 |
| | 12.138V | 4.995V | 3.313V | 5.068V | 468.251 | | | | 48.33°C | 114.72V |
| 60% | 37.028A | 6.01A | 5.982A | 1.977A | 509.331 | 90.247% | 745 | 20.9 | 42.81°C | 0.984 |
| | 12.140V | 4.992V | 3.31V | 5.058V | 564.375 | | | | 49.39°C | 114.69V |
| 70% | 43.274A | 7.016A | 6.985A | 2.179A | 594.639 | 89.548% | 858 | 25.4 | 43.16°C | 0.985 |
| | 12.144V | 4.989V | 3.307V | 5.048V | 664.052 | | | | 50.24°C | 114.66V |
| 80% | 49.515A | 8.002A | 7.988A | 2.282A | 679.382 | 88.789% | 1072 | 31.8 | 43.9°C | 0.986 |
| | 12.149V | 4.986V | 3.304V | 5.04V | 765.169 | | | | 51.93°C | 114.63V |
| 90% | 56.149A | 8.527A | 8.479A | 2.385A | 764.919 | 87.982% | 1215 | 35.8 | 44.22°C | 0.987 |
| | 12.154V | 4.984V | 3.302V | 5.032V | 869.406 | | | | 53.32°C | 114.6V |
| 100% | 62.512A | 9.032A | 9.001A | 2.992A | 849.719 | 87.044% | 1461 | 40.9 | 45.14°C | 0.988 |
| | 12.158V | 4.982V | 3.299V | 5.013V | 976.195 | | | | 55.22°C | 114.55V |
| 110% | 68.754A | 10.04A | 10.1A | 2.995A | 934.305 | 86.098% | 1801 | 47.0 | 46.86°C | 0.989 |
| | 12.160V | 4.98V | 3.297V | 5.008V | 1085.166 | | | | 57.79°C | 114.53V |
| CL1 | 0.114A | 12.068A | 11.98A | 0A | 101.291 | 82.848% | 755 | 21.3 | 39.99°C | 0.961 |
| | 12.172V | 4.988V | 3.314V | 5.119V | 122.261 | | | | 45.48°C | 114.83V |
| CL2 | 0.114A | 20.068A | 0A | 0A | 101.366 | 81.855% | 874 | 25.9 | 40.02°C | 0.961 |
| | 12.171V | 4.982V | 3.323V | 5.122V | 123.833 | | | | 47.12°C | 114.83V |
| CL3 | 0.113A | 0A | 19.933A | 0.001A | 67.382 | 75.734% | 893 | 26.5 | 40.65°C | 0.95 |
| | 12.165V | 5V | 3.311V | 5.119V | 88.972 | | | | 49.75°C | 114.84V |
| CL4 | 69.928A | 0A | 0A | 0A | 849.498 | 87.903% | 1237 | 36.6 | 45.46°C | 0.987 |
| | 12.149V | 4.995V | 3.309V | 5.085V | 966.421 | | | | 56.42°C | 114.56V |

The results above are not used in the certification process

## 230V

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| 10% | 5.214A | 1.999A | 1.986A | 0.979A | 85 | 86.057% | 0 | <6.0 | 44.64°C | 0.816 |
| | 12.160V | 5.002V | 3.323V | 5.106V | 98.772 | | | | 40.38°C | 229.94V |
| 20% | 11.440A | 3.001A | 2.982A | 1.177A | 169.932 | 91.411% | 0 | <6.0 | 45.26°C | 0.905 |
| | 12.153V | 4.999V | 3.32V | 5.096V | 185.902 | | | | 40.71°C | 229.92V |
| 30% | 18.020A | 3.502A | 3.481A | 1.376A | 254.936 | 92.66% | 0 | <6.0 | 46.28°C | 0.937 |
| | 12.146V | 4.997V | 3.318V | 5.087V | 275.134 | | | | 41.25°C | 229.91V |
| 40% | 24.606A | 4.004A | 3.981A | 1.576A | 340.019 | 92.863% | 753 | 21.2 | 41.84°C | 0.952 |
| | 12.144V | 4.996V | 3.315V | 5.078V | 366.151 | | | | 47.35°C | 229.9V |
| 50% | 30.833A | 5.007A | 4.981A | 1.776A | 424.826 | 92.757% | 749 | 21.1 | 42.37°C | 0.96 |
| | 12.140V | 4.994V | 3.313V | 5.068V | 457.998 | | | | 48.38°C | 229.88V |
| 60% | 37.025A | 6.011A | 5.982A | 1.977A | 509.353 | 92.549% | 745 | 20.9 | 42.65°C | 0.966 |
| | 12.142V | 4.991V | 3.31V | 5.058V | 550.356 | | | | 49.22°C | 229.87V |
| 70% | 43.270A | 7.017A | 6.986A | 2.179A | 594.659 | 92.134% | 895 | 26.7 | 43.23°C | 0.97 |
| | 12.146V | 4.989V | 3.307V | 5.048V | 645.437 | | | | 50.25°C | 229.86V |
| 80% | 49.519A | 8.002A | 7.989A | 2.281A | 679.391 | 91.707% | 1052 | 31.3 | 43.73°C | 0.973 |
| | 12.149V | 4.986V | 3.304V | 5.041V | 740.831 | | | | 51.79°C | 229.84V |
| 90% | 56.155A | 8.528A | 8.48A | 2.384A | 764.93 | 91.221% | 1213 | 35.8 | 44.34°C | 0.975 |
| | 12.152V | 4.984V | 3.302V | 5.033V | 838.546 | | | | 53.38°C | 229.83V |
| 100% | 62.520A | 9.033A | 9.002A | 2.992A | 849.728 | 90.644% | 1455 | 40.9 | 45.31°C | 0.977 |
| | 12.157V | 4.982V | 3.299V | 5.014V | 937.435 | | | | 55.323°C | 229.81V |
| 110% | 68.758A | 10.041A | 10.101A | 2.995A | 934.318 | 89.997% | 1796 | 47.0 | 46.78°C | 0.978 |
| | 12.159V | 4.979V | 3.296V | 5.009V | 1038.161 | | | | 57.69°C | 229.8V |
| CL1 | 0.114A | 12.069A | 11.981A | 0A | 101.292 | 83.81% | 755 | 21.3 | 40.49°C | 0.85 |
| | 12.173V | 4.988V | 3.313V | 5.119V | 120.864 | | | | 45.91°C | 229.94V |
| CL2 | 0.114A | 20.067A | 0A | 0A | 101.36 | 82.835% | 874 | 25.9 | 40.05°C | 0.852 |
| | 12.171V | 4.982V | 3.323V | 5.122V | 122.364 | | | | 47.06°C | 229.94V |
| CL3 | 0.113A | 0A | 19.933A | 0.001A | 67.382 | 76.502% | 892 | 26.5 | 40.65°C | 0.794 |
| | 12.165V | 5V | 3.311V | 5.119V | 88.074 | | | | 49.75°C | 229.95V |

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| CL4 | 69.932A | 0A | 0A | 0A | 849.497 | 91.337% | 1237 | 36.6 | 45.49°C | 0.977 |
| | 12.148V | 4.995V | 3.309V | 5.085V | 930.073 | | | | 56.45°C | 229.81V |

The results above are not used in the certification process

## Light Load Tests

### 115V

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| 20W | 1.230A | 0.499A | 0.496A | 0.195A | 19.993 | 75.053% | 0 | <6.0 | 40.01°C | 0.834 |
| | 12.062V | 5.009V | 3.327V | 5.126V | 26.637 | | | | 36.94°C | 114.87V |
| 40W | 2.712A | 0.699A | 0.694A | 0.293A | 39.994 | 80.41% | 0 | <6.0 | 40.83°C | 0.914 |
| | 12.055V | 5.008V | 3.326V | 5.123V | 49.737 | | | | 37.5°C | 114.86V |
| 60W | 4.158A | 0.899A | 0.893A | 0.391A | 59.994 | 82.172% | 0 | <6.0 | 42.19°C | 0.94 |
| | 12.151V | 5.006V | 3.326V | 5.12V | 73.013 | | | | 38.37°C | 114.85V |
| 80W | 5.620A | 1.099A | 1.092A | 0.489A | 79.932 | 84.945% | 0 | <6.0 | 43.19°C | 0.952 |
| | 12.155V | 5.005V | 3.325V | 5.117V | 94.098 | | | | 39.21°C | 114.85V |

The results above are not used in the certification process

### 230V

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| 20W | 1.230A | 0.499A | 0.496A | 0.195A | 19.995 | 75.682% | 0 | <6.0 | 39.79°C | 0.475 |
| | 12.064V | 5.008V | 3.327V | 5.126V | 26.416 | | | | 36.76°C | 229.95V |
| 40W | 2.712A | 0.699A | 0.694A | 0.293A | 39.996 | 81.278% | 0 | <6.0 | 40.79°C | 0.654 |
| | 12.055V | 5.007V | 3.326V | 5.123V | 49.209 | | | | 37.5°C | 229.95V |
| 60W | 4.158A | 0.899A | 0.893A | 0.391A | 59.996 | 83.131% | 0 | <6.0 | 42.04°C | 0.75 |
| | 12.149V | 5.006V | 3.325V | 5.12V | 72.168 | | | | 38.55°C | 229.94V |
| 80W | 5.620A | 1.099A | 1.092A | 0.489A | 79.937 | 85.949% | 0 | <6.0 | 42.98°C | 0.805 |
| | 12.156V | 5.004V | 3.325V | 5.117V | 93.002 | | | | 39.14°C | 229.93V |

The results above are not used in the certification process

## Ripple Measurements

### 115V

| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| 10% Load | 14.18mV | 16.38mV | 16.19mV | 14.09mV | Pass |
| 20% Load | 31.59mV | 13.09mV | 13.86mV | 11.00mV | Pass |
| 30% Load | 21.77mV | 13.39mV | 13.81mV | 10.89mV | Pass |
| 40% Load | 15.72mV | 14.01mV | 13.96mV | 22.71mV | Pass |
| 50% Load | 15.83mV | 14.73mV | 14.27mV | 22.30mV | Pass |
| 60% Load | 14.69mV | 14.01mV | 14.12mV | 21.68mV | Pass |
| 70% Load | 15.67mV | 14.99mV | 14.79mV | 22.45mV | Pass |
| 80% Load | 15.57mV | 15.56mV | 17.01mV | 22.35mV | Pass |
| 90% Load | 16.65mV | 17.11mV | 17.74mV | 23.59mV | Pass |
| 100% Load | 26.02mV | 18.93mV | 18.94mV | 25.18mV | Pass |
| 110% Load | 27.01mV | 18.51mV | 20.47mV | 24.99mV | Pass |
| Crossload1 | 13.81mV | 19.30mV | 18.31mV | 26.64mV | Pass |
| Crossload2 | 15.47mV | 24.16mV | 19.55mV | 24.67mV | Pass |
| Crossload3 | 14.33mV | 18.96mV | 18.77mV | 24.73mV | Pass |
| Crossload4 | 25.49mV | 17.81mV | 16.95mV | 24.56mV | Pass |

The results above are not used in the certification process

### 230V

| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| 10% Load | 14.28mV | 16.95mV | 16.60mV | 13.63mV | Pass |
| 20% Load | 36.44mV | 13.50mV | 13.86mV | 10.48mV | Pass |
| 30% Load | 24.92mV | 13.75mV | 14.07mV | 10.43mV | Pass |
| 40% Load | 16.46mV | 15.46mV | 13.75mV | 21.01mV | Pass |
| 50% Load | 14.45mV | 14.42mV | 13.86mV | 21.58mV | Pass |
| 60% Load | 15.16mV | 14.63mV | 14.89mV | 21.73mV | Pass |

| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| 70% Load | 16.50mV | 15.35mV | 16.55mV | 21.52mV | Pass |
| 80% Load | 15.88mV | 16.17mV | 17.37mV | 22.04mV | Pass |
| 90% Load | 16.57mV | 17.05mV | 17.01mV | 21.52mV | Pass |
| 100% Load | 27.00mV | 19.37mV | 18.06mV | 25.52mV | Pass |
| 110% Load | 29.55mV | 18.29mV | 19.48mV | 24.71mV | Pass |
| Crossload1 | 13.92mV | 19.46mV | 19.58mV | 27.39mV | Pass |
| Crossload2 | 14.49mV | 23.39mV | 18.98mV | 24.98mV | Pass |
| Crossload3 | 13.51mV | 17.67mV | 18.98mV | 24.36mV | Pass |
| Crossload4 | 27.67mV | 18.53mV | 17.24mV | 23.71mV | Pass |

The results above are not used in the certification process

## CPS PCCooler YS850

Top side

Power specifications label

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