SAMA 先马

# SAMA B850

Serial Number XMBB08525122000099

Lab ID SM85003185

Certification ID 263185

Test Result Report ID: 26PS3185A

Certificate Issue Date: Mar 11, 2026

Scheme: ETA-EMI PSU

115V




230V




Scheme: LAMBDA PSU

115V




230V







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 | SAMA |
| Model | B850 |
| OEM/ODM | RSY |
| Serial Number | XMBB08525122000099 |
| Product Specifications | |
| Manufacturer-Provided Information | |
| Rated Voltage (Vrms) | 100-240 |
| Rated Current (Arms) | 6-10 |

| | |
|---|---|
| Rated Frequency (Hz) | 50-60 |
| Rated Power (W) | 850 |
| Operating Temperature (Continuous Full Load) (°C) | 0 - 40 |
| Type | ATX12V |
| Cable Design | Fixed cables |
| Warranty | 3 years |
| Cybenetics Measurements | |
| Dimensions (W x H x D) | 150 x 85 x 140mm |
| Weight | 1.58 kg (3.48 lb) |
| Cooling | 120mm Sleeve Bearing Fan (S1202512L) |
| Semi-Passive Operation | ✗ |
| Cybenetics Testing Information | |
| Lab ID | SM85003185 |
| Date of receipt | Feb 2, 2026 |
| Testing Date | Mar 4, 2026 |
| Report Issued Date | Mar 11, 2026 |
| Engineer Name | Ioannis Kalyviotis |
| Authorized By the Laboratory Technical Manager | Aristeidis Bitziopoulos |
| Signature |  |

## Cables and Connectors(Non-accredited measurements)

| `Captive Cables` | | | | |
|---|---|---|---|---|
| **Description** | **Cable Count** | **Connector Count (Total)** | **Gauge** | Cable Type |
| ATX connector 24 pin (560mm) | 1 | 1 | 18-22AWG | Tinned Copper |
| 4+4 pin EPS12V (700mm+150mm) | 1 | 2 | 18AWG | Tinned Copper |
| 6+2 pin PCIe (560mm) | 1 | 1 | 18AWG | Tinned Copper |
| 6+2 pin PCIe (560mm+150mm) | 1 | 2 | 18AWG | Tinned Copper |
| 12+4 pin PCIe (600mm) (450W) | 1 | 1 | 16-24AWG | Tinned Copper |
| SATA (500mm+150mm+150mm) / 4-pin Molex (+150mm) | 2 | 6 / 2 | 18AWG | Tinned Copper |
| `Modular Cables` | | | | |

| Captive Cables | | | | |
|---|---|---|---|---|
| AC Power Cord (1350mm) - C13 coupler | 1 | 1 | 18AWG | - |

## 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 | 15 | 15 | 70.8 | 2.5 | 0.4 |
| | Watts | 100 | | 849.6 | 12.5 | 4.8 |
| Total Max. Power (W) | | 850 | | | | |

## Parts Description

| General Data | |
|---|---|
| Manufacturer (OEM) | RSY |
| PCB Type | Double-Sided |
| **Primary Side** | |
| Transient Filter | 4x Y caps, 2x X caps, 2x CM chokes, 1x MOV |
| Inrush Protection | NTC thermistor 2.5D-15 (2.5Ω @ 25°C) |
| Bridge Rectifier | 1x bridge rectifier (600V, 30A @ 100°C) |
| APFC MOSFETs | 2x Shenzhen SI Semiconductors SIF40N65G2HP (650V, 40A @ 100°C, $R_{DS(on)}$: 0.09Ω) |
| APFC Boost Diode | Maplesemi MSP08065G1 (650V, 8A @ 150°C) |
| Bulk Cap(s) | 1x TEAPO DG (420V, 390µF, 2,000h @ 105°C) |
| Main Switchers | 2x Shenzhen SI Semiconductors SIF40N65G2HP (650V, 40A @ 100°C, $R_{DS(on)}$: 0.09Ω) |
| APFC Controller | Texas Instruments UCC28180 & Sync Power SPN5003 for reduced no-load consumption |
| Resonant Controller | Texas Instruments UCC25600 |

| | |
|---|---|
| IC Driver | - |
| Topology | Primary side: APFC, half-bridge & LLC resonant converter<br>Secondary side: +12V synchronous rectification & minor rails generated through DC-DC converters |
| **Secondary Side** | |
| +12V MOSFETs | 4x AGMSemi AGM1405C1 (40V, 130A @ 100°C, $R_{DS(on)}$: 3.2mΩ) |
| 5V & 3.3V | DC-DC Converters: 4x Leinuosemi LN035N030GP (30V, 91A @ 100°C, $R_{DS(on)}$: 4.0mΩ)<br>PWM Controller(s): 2x Anpec APW7164 |
| Filtering Capacitors | Electrolytic: 16x Suscon electrolytic capacitors, 105°C, values not fully identified<br>Polymer: 2x polymer capacitors, details not identified |
| Supervisor IC | Grenergy GR8313F (OVP, UVP, OCP, PG) |
| Fan Control IC / Op-Amp | Texas Instruments LM358 |
| Fan Model | Globe Fan S1202512L (120mm, 12V, 0.18A fan; bearing type not verified) |
| **5VSB Circuit** | |
| 5VSB Switcher MOSFET | Shenzhen SI Semiconductors SIF4N70F |
| Standby PWM Controller | 583J33-marked IC, exact model not identified |

# 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) | 86.491% |
| Average Noise Output (>1450 Load Combinations) | 38.71dBA |
| Average PF (>1450 Load Combinations) | 0.987 |

| | |
|---|---|
| Efficiency With 10W (≤500W) or 2% (>500W) Load | 65.715% |
| Standby Power Consumption | 0.0548W |
| Non-Accredited | |
| 12V Ripple (Full Load) | 63.95mV |
| 5V Ripple (Full Load) | 34.43mV |
| 3.3V Ripple (Full Load) | 40.21mV |
| 5VSB Ripple (Full Load) | 34.12mV |
| 12V Load Regulation | 0.72% |
| 5V Load Regulation | 1.57% |
| 3.3V Load Regulation | 4.94% |
| 5VSB Load Regulation | 3.27% |
| Inrush Current | 68.120A |

## 230V

| | |
|---|---|
| Accredited | |
| Average Efficiency (>1450 load combinations) | 88.865% |
| Average Noise Output (>1450 Load Combinations) | 38.72dBA |
| Average PF (>1450 Load Combinations) | 0.950 |
| Efficiency With 10W (≤500W) or 2% (>500W) Load | 67.195% |
| Standby Power Consumption | 0.1231W |
| Non-Accredited | |
| 12V Ripple (Full Load) | 65.38mV |
| 5V Ripple (Full Load) | 35.00mV |
| 3.3V Ripple (Full Load) | 43.74mV |
| 5VSB Ripple (Full Load) | 34.07mV |
| 12V Load Regulation | 0.70% |
| 5V Load Regulation | 1.57% |
| 3.3V Load Regulation | 3.29% |
| 5VSB Load Regulation | 3.23% |
| Inrush Current | 137.260A |
| 12V Transient Response (200%) | 11.20V |
| 5V Transient Response (200%) | 4.897V |

| | | |
|---|---|---|
| 3.3V Transient Response (200%) | | 3.139V |
| 5VSB Transient Response (200%) | | 5.049V |
| Hold-Up Time & PWR_OK Signal | | 17.90ms |
| AC Loss to PWR_OK Hold Up Time | | 16.80ms |
| PWR_OK Inactive to DC Loss Delay | | 1.10ms |
| PSU Timings: T1 (20% / 100%) | 111.0ms | 111.0ms |
| PSU Timings: T3 (20% / 100%) | 119.0ms | 120.0ms |
| 12V OCP (28.2°C / 43.7°C) | 91.80A (129.66%), 12.012V | 86.20A (121.75%), 12.011V |
| 5V OCP (28.2°C / 43.7°C) | 26.6A (177.33%), 5.007V | 25.8A (172.00%), 5.009V |
| 3.3V OCP (28.2°C / 43.7°C) | 27.5A (183.33%), 3.301V | 27.1A (180.67%), 3.302V |
| 5VSB OCP (28.2°C / 43.7°C) | 4.1A (164.00%), 5.041V *High Ripple (63.68mV) | 4.1A (164.00%), 5.047V *High Ripple (67.11mV) |
| OPP (28.79°C / 43.02°C) | 125.02% | 117.96% |

## Hold-Up Time & PWR_OK Signal

| | |
|---|---|
| Hold-Up Time (ms) | 17.9 |
| AC Loss to PWR_OK Hold Up Time (ms) | 16.8 |
| PWR_OK Inactive to DC Loss Delay (ms) | 1.1 |

## Vampire Power

### Tables

#### 115V

| Detailed Results | | | | | | |
|---|---|---|---|---|---|---|
| | Average | Min | Limit Min | Max | Limit Max | Result |
| Mains Voltage RMS: | 115.06 V | 115.05 V | 113.85 V | 115.08 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: | 1.416 | 1.415 | 1.340 | 1.416 | 1.490 | PASS |
| Mains Voltage THD: | 0.13 % | 0.11 % | N/A | 0.15 % | 2.00 % | PASS |
| Real Power: | 0.055 W | 0.035 W | N/A | 0.079 W | N/A | N/A |

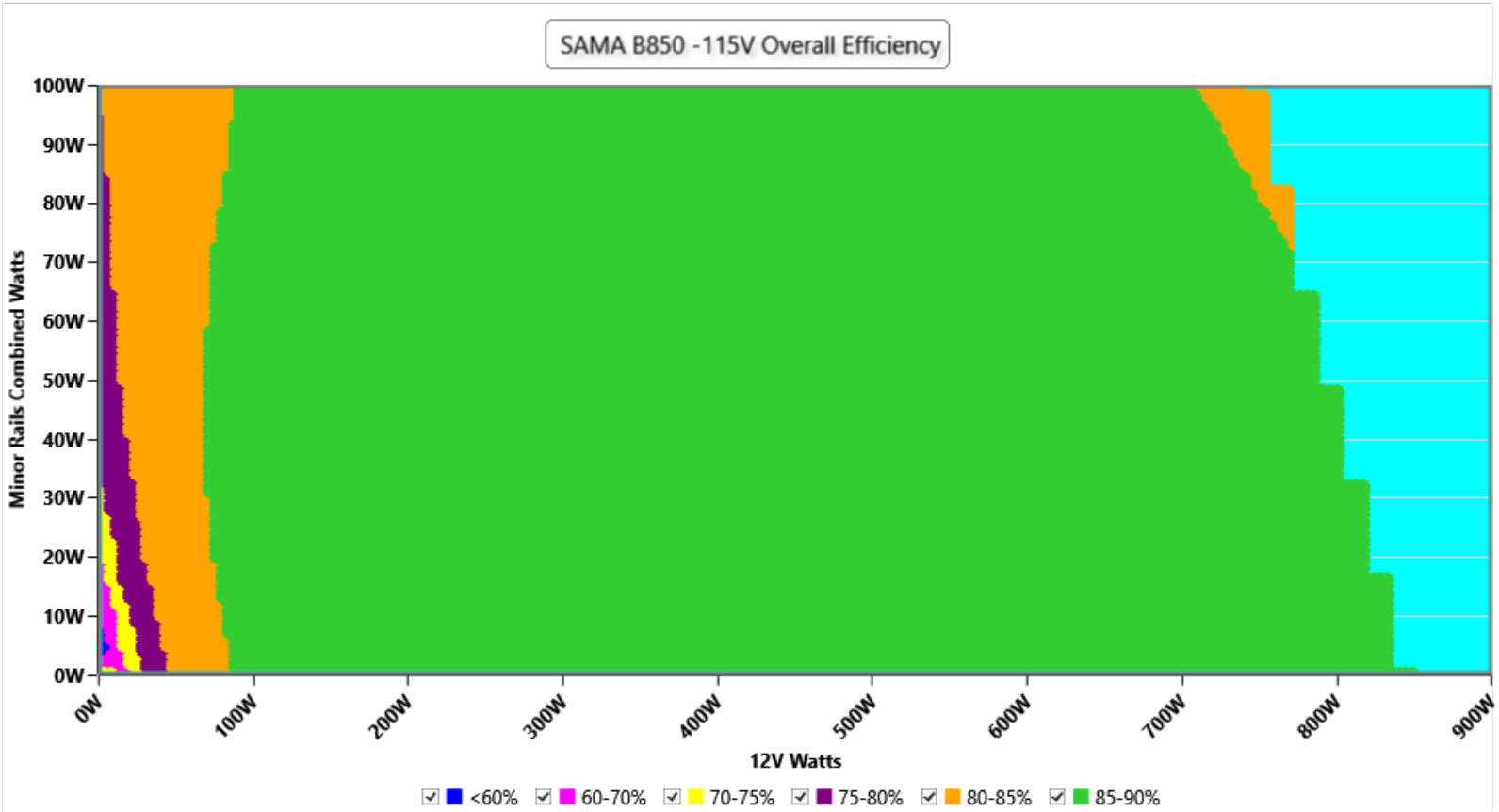
| | | | | | | |
|---|---|---|---|---|---|---|
| Apparent Power: | 9.177 W | 9.158 W | N/A | 9.199 W | N/A | N/A |
| Power Factor: | 0.005 | N/A | N/A | N/A | N/A | N/A |

## 230V

| Detailed Results | | | | | | |
|---|---|---|---|---|---|---|
| | Average | Min | Limit Min | Max | Limit Max | Result |
| Mains Voltage RMS: | 230.14 V | 230.12 V | 227.70 V | 230.16 V | 232.30 V | PASS |
| Mains Frequency: | 50.00 Hz | 50.00 Hz | 49.50 Hz | 50.00 Hz | 50.50 Hz | PASS |
| Mains Voltage CF: | 1.415 | 1.415 | 1.340 | 1.416 | 1.490 | PASS |
| Mains Voltage THD: | 0.14 % | 0.13 % | N/A | 0.16 % | 2.00 % | PASS |
| Real Power: | 0.123 W | 0.085 W | N/A | 0.175 W | N/A | N/A |
| Apparent Power: | 30.009 W | 29.975 W | N/A | 30.043 W | N/A | N/A |
| Power Factor: | 0.004 | N/A | N/A | N/A | N/A | N/A |

## Efficiency Graph

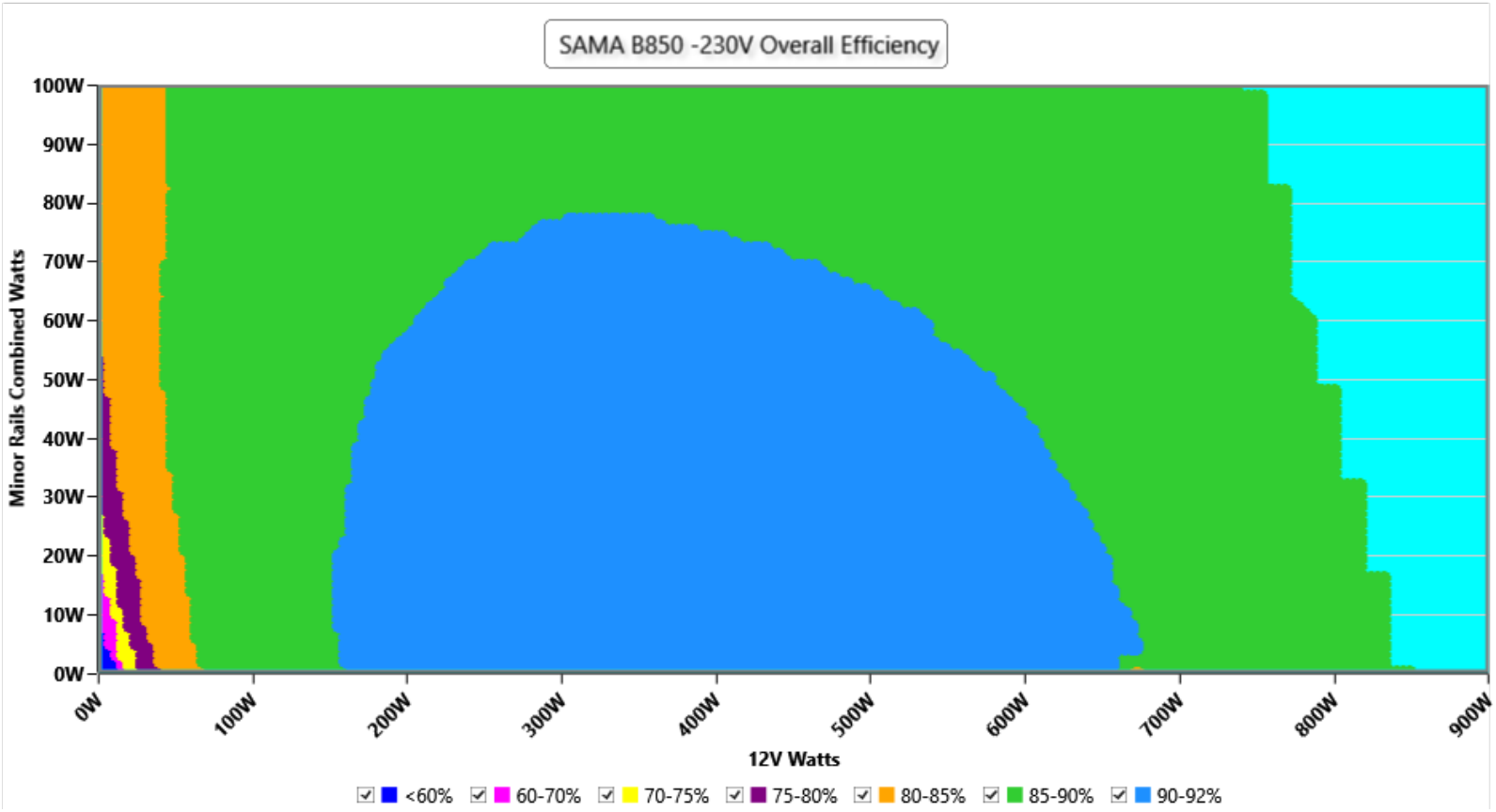
**115V**




**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

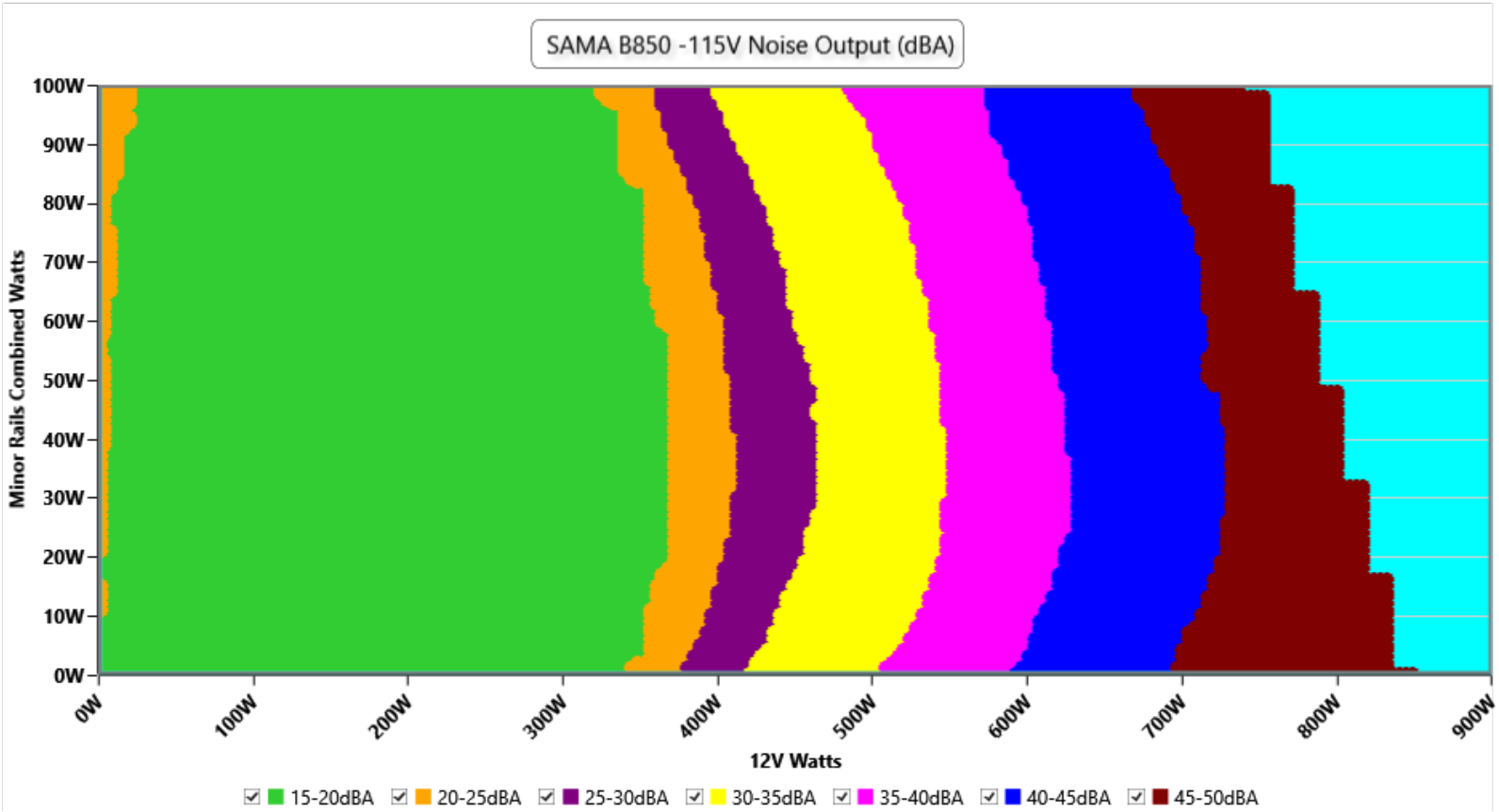



### INFO

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

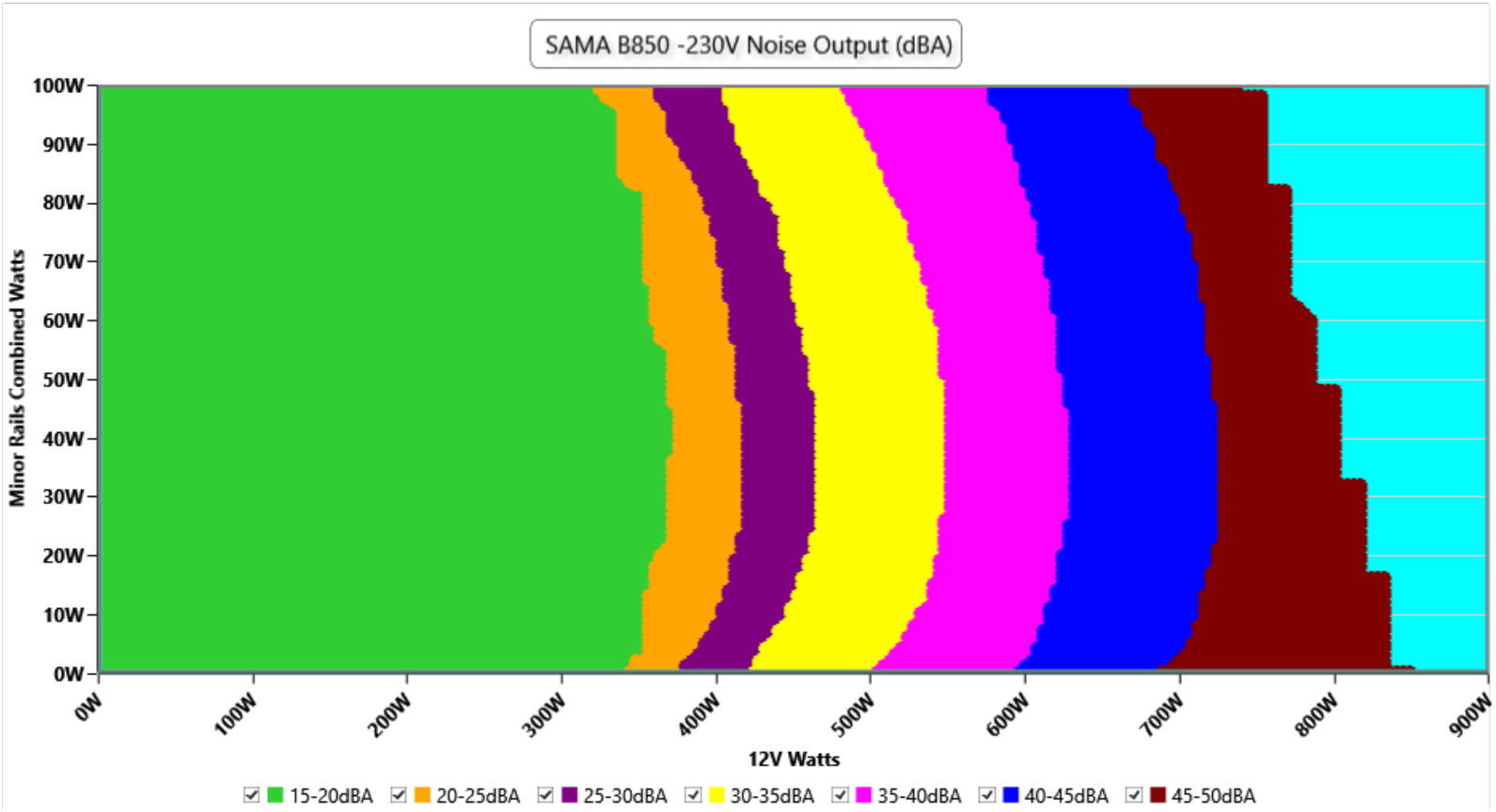
**115V**




**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

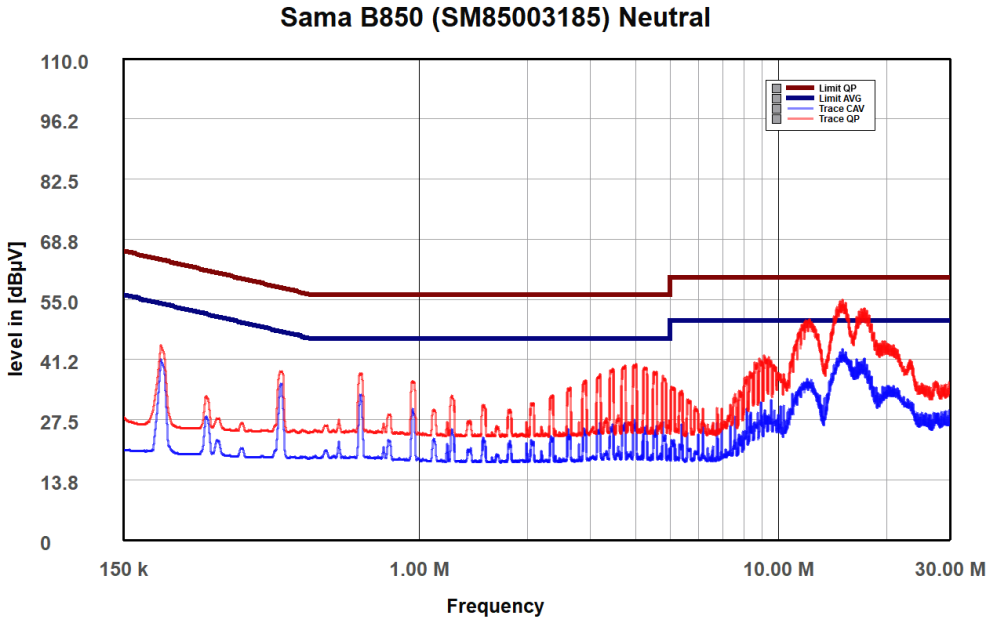
## 230V



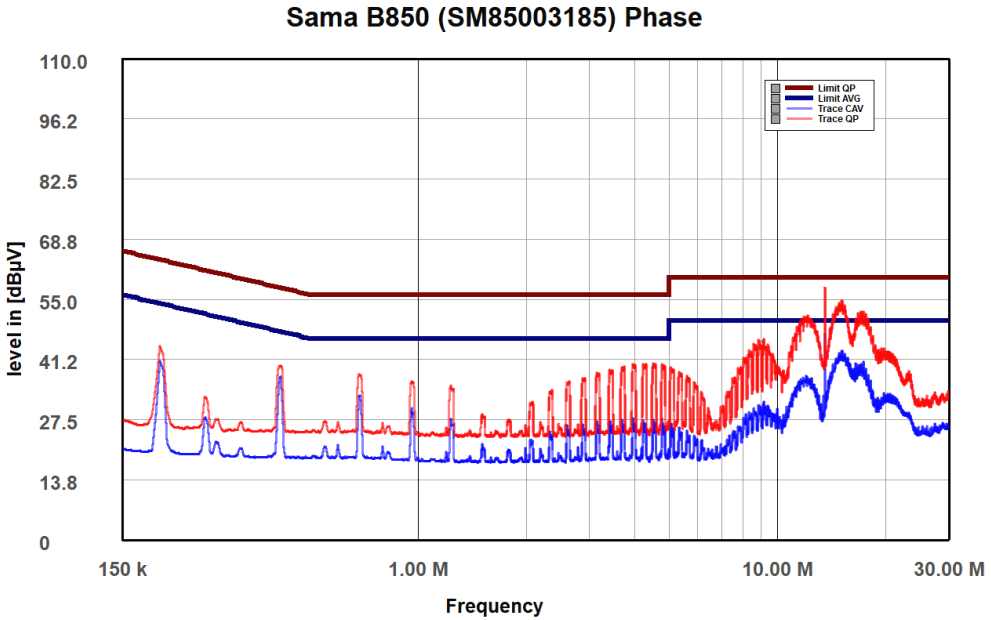

### INFO

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

## Conducted Emissions EN 55032 & CISPR 32



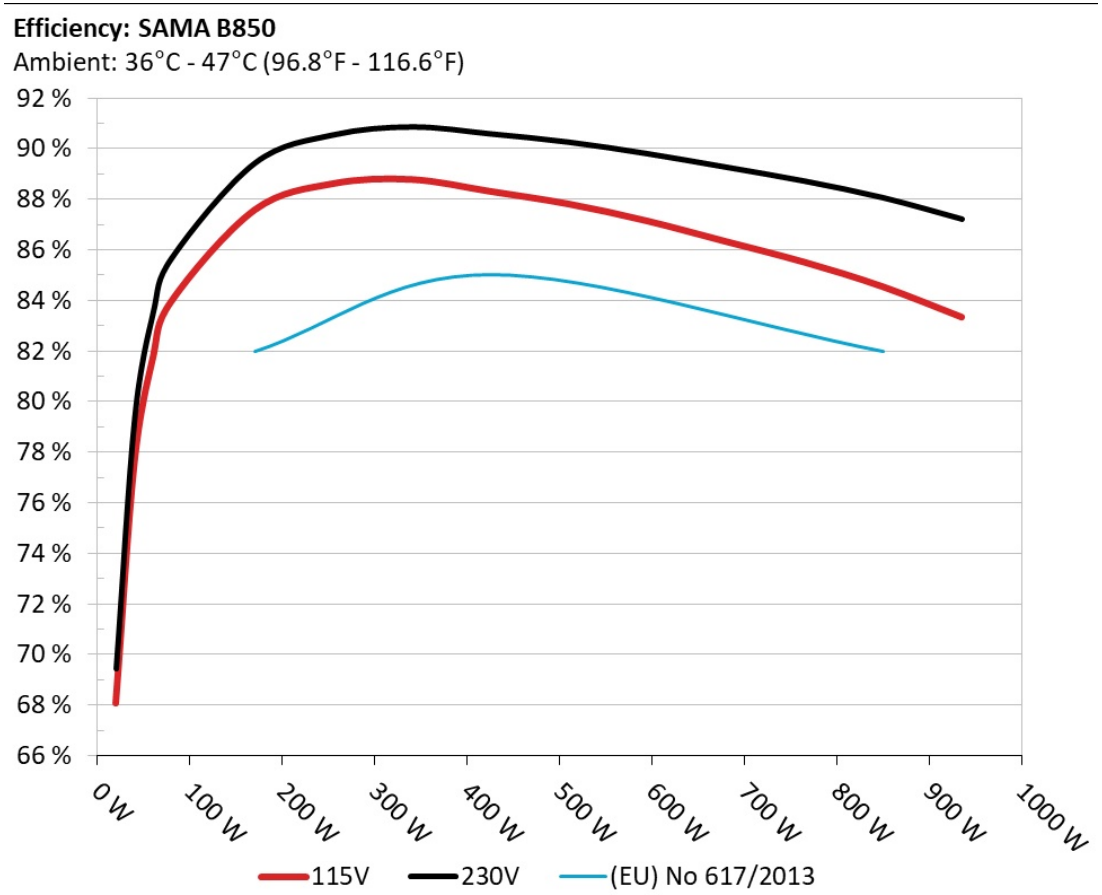

NEUTRAL




PHASE

## Indicative Performance

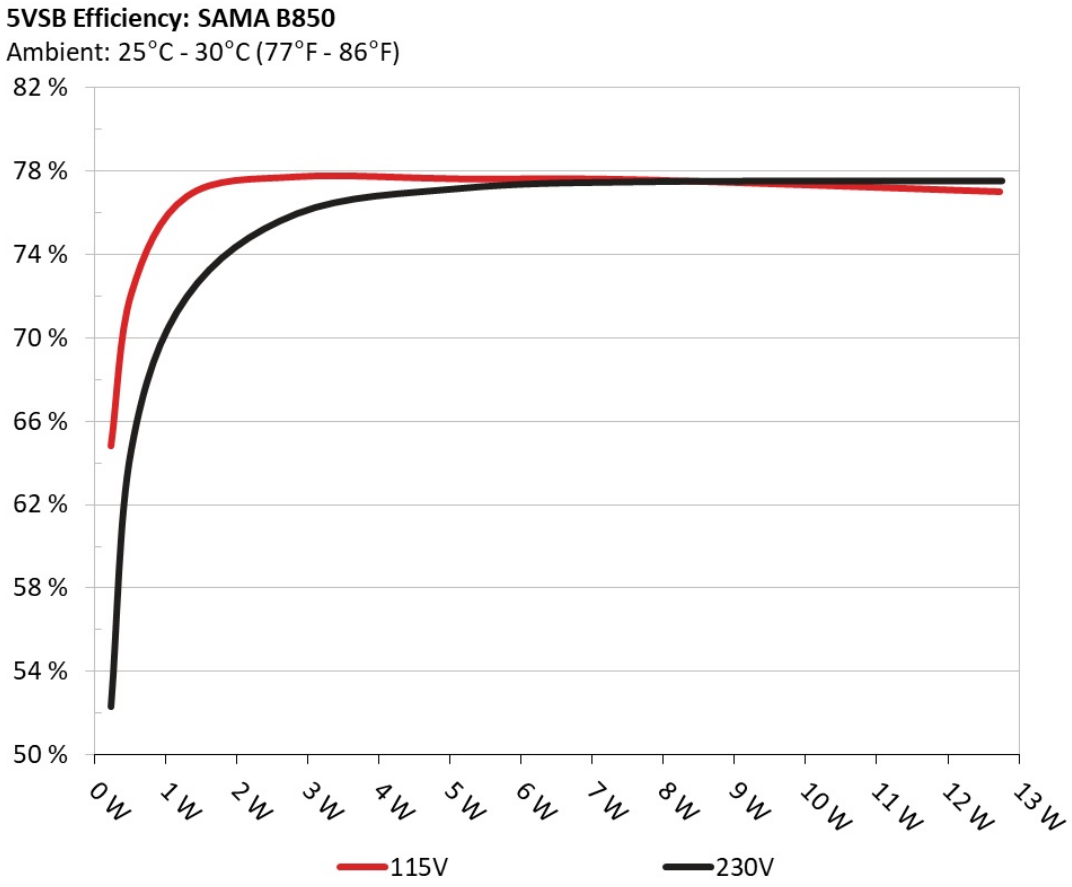
### Efficiency under high ambient temperature




**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** | 0.234W | 64.81% | 0.04 |
| | 5.195V | 0.361W | | 115.04V |
| **2** | **0.09A** | 0.467W | 71.445% | 0.071 |
| | 5.193V | 0.654W | | 115.04V |
| **3** | **0.55A** | 2.849W | 77.712% | 0.243 |
| | 5.18V | 3.666W | | 115.04V |
| **4** | **1A** | 5.164W | 77.61% | 0.299 |
| | 5.164V | 6.654W | | 115.04V |
| **5** | **1.5A** | 7.714W | 77.564% | 0.328 |
| | 5.142V | 9.945W | | 115.03V |
| **6** | **2.5A** | 12.734W | 76.995% | 0.359 |
| | 5.094V | 16.539W | | 115.03V |

### 230V

| Test # | 5VSB | DC/AC (Watts) | Efficiency | PF/AC Volts |
|---|---|---|---|---|
| **1** | **0.045A** | 0.234W | 52.335% | 0.015 |
| | 5.191V | 0.447W | | 230V |
| **2** | **0.09A** | 0.467W | 63.119% | 0.025 |
| | 5.19V | 0.741W | | 229.99V |
| **3** | **0.55A** | 2.848W | 75.97% | 0.114 |
| | 5.178V | 3.748W | | 230V |
| **4** | **1A** | 5.165W | 77.185% | 0.171 |
| | 5.165V | 6.692W | | 230V |
| **5** | **1.5A** | 7.722W | 77.497% | 0.213 |
| | 5.148V | 9.965W | | 229.99V |
| **6** | **2.5A** | 12.757W | 77.541% | 0.259 |
| | 5.103V | 16.452W | | 229.99V |

## Protection Features

| | |
|---|---|
| OCP (Normal @ 28.2°C) | 12V: 91.80A (129.66%), 12.012V<br>5V: 26.6A (177.33%), 5.007V<br>3.3V: 27.5A (183.33%), 3.301V<br>5VSB: 4.1A (164.00%), 5.041V *High Ripple (63.68mV) |
| OCP (Hot @ 43.7°C) | 12V: 86.20A (121.75%), 12.011V<br>5V: 25.8A (172.00%), 5.009V<br>3.3V: 27.1A (180.67%), 3.302V<br>5VSB: 4.1A (164.00%), 5.047V *High Ripple (67.11mV) |
| OPP (Normal @ 28.8°C) | 1062.66W (125.02%) |
| OPP (Hot @ 43.0°C) | 1002.65W (117.96%) |
| OTP | ✓ (93°C @ 12V Heatsink) |
| 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 |
| UVP (Full Load @ 90V) | ✓ |
| UVP (No Damage @ 80V) | ✓ |
| Conducted Emissions EN55032 & CISPR 32 | ✓ |
| NLO | ✓ |
| Fan Failure Protection | ✗ |
| SIP | Surge: MOV<br>Inrush: NTC |

## 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%** | **5.244A** | **1.985A** | **1.978A** | **0.97A** | 84.999 | 83.554% | 831 | 20.3 | 40.15°C | 0.97 |
| | 12.089V | 5.037V | 3.337V | 5.153V | 101.73 | | | | 42.44°C | 115.01V |
| **20%** | **11.507A** | **2.982A** | **2.982A** | **1.168A** | 169.934 | 87.559% | 845 | 20.3 | 40.99°C | 0.982 |
| | 12.082V | 5.03V | 3.32V | 5.138V | 194.078 | | | | 43.58°C | 114.98V |
| **30%** | **18.129A** | **3.485A** | **3.492A** | **1.366A** | 254.942 | 88.602% | 861 | 20.7 | 41.22°C | 0.987 |
| | 12.074V | 5.022V | 3.307V | 5.124V | 287.738 | | | | 43.55°C | 114.95V |
| **40%** | **24.768A** | **3.988A** | **4.006A** | **1.566A** | 340.034 | 88.768% | 866 | 20.9 | 41.98°C | 0.99 |
| | 12.065V | 5.015V | 3.295V | 5.109V | 383.06 | | | | 49.02°C | 114.92V |
| **50%** | **31.051A** | **4.993A** | **5.034A** | **1.767A** | 424.842 | 88.299% | 1142 | 30.7 | 42.16°C | 0.992 |
| | 12.055V | 5.007V | 3.278V | 5.093V | 481.138 | | | | 50.47°C | 114.88V |
| **60%** | **37.317A** | **6.002A** | **6.075A** | **1.97A** | 509.385 | 87.804% | 1455 | 37.2 | 42.68°C | 0.993 |
| | 12.048V | 4.999V | 3.26V | 5.078V | 580.14 | | | | 49.83°C | 114.85V |
| **70%** | **43.657A** | **7.015A** | **7.127A** | **2.173A** | 594.704 | 87.133% | 1799 | 42.1 | 43.13°C | 0.993 |
| | 12.040V | 4.99V | 3.242V | 5.061V | 682.522 | | | | 51.25°C | 114.82V |
| **80%** | **50.012A** | **8.029A** | **8.188A** | **2.278A** | 679.524 | 86.324% | 2074 | 46.1 | 43.81°C | 0.993 |
| | 12.030V | 4.981V | 3.224V | 5.048V | 787.181 | | | | 53.25°C | 114.79V |
| **90%** | **56.776A** | **8.544A** | **8.721A** | **2.384A** | 764.949 | 85.502% | 2073 | 46 | 44.03°C | 0.993 |
| | 12.020V | 4.973V | 3.211V | 5.034V | 894.654 | | | | 55°C | 114.75V |
| **100%** | **63.483A** | **9.061A** | **9.291A** | **2.49A** | 849.664 | 84.537% | 2076 | 46.1 | 45.04°C | 0.993 |
| | 12.011V | 4.965V | 3.197V | 5.02V | 1005.08 | | | | 58.36°C | 114.71V |
| **110%** | **69.938A** | **10.085A** | **10.481A** | **2.496A** | 935.054 | 83.338% | 2075 | 46.1 | 46.4°C | 0.991 |
| | 12.000V | 4.956V | 3.177V | 5.009V | 1122.001 | | | | 59.92°C | 114.67V |
| **CL1** | **0.116A** | **11.998A** | **12.206A** | **0A** | 101.297 | 78.911% | 1097 | 28.5 | 40.89°C | 0.984 |
| | 12.089V | 5.016V | 3.253V | 5.162V | 128.371 | | | | 46.91°C | 115V |

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| **CL2** | **0.116A** | **14.923A** | **0A** | **0A** | 76.383 | 78.232% | 850 | 20.4 | 40.19°C | 0.969 |
| | 12.091V | 5.025V | 3.345V | 5.173V | 97.636 | | | | 44.72°C | 115.01V |
| **CL3** | **0.115A** | **0A** | **15.292A** | **0A** | 50.895 | 72.103% | 837 | 20.4 | 40.3°C | 0.947 |
| | 12.092V | 5.034V | 3.237V | 5.174V | 70.587 | | | | 44.09°C | 115.02V |
| **CL4** | **70.769A** | **0A** | **0A** | **0.002A** | 849.544 | 85.48% | 2075 | 46.1 | 45.49°C | 0.993 |
| | 12.005V | 4.987V | 3.278V | 5.109V | 993.858 | | | | 57.35°C | 114.72V |

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%** | **5.244A** | **1.985A** | **1.971A** | **0.97A** | 85.003 | 85.431% | 830 | 20.2 | 40.22°C | 0.821 |
| | 12.089V | 5.037V | 3.348V | 5.153V | 99.5 | | | | 41.66°C | 229.98V |
| **20%** | **11.508A** | **2.983A** | **2.966A** | **1.168A** | 169.943 | 89.441% | 832 | 20.3 | 40.55°C | 0.924 |
| | 12.082V | 5.029V | 3.338V | 5.138V | 190.004 | | | | 42.99°C | 229.97V |
| **30%** | **18.130A** | **3.485A** | **3.47A** | **1.366A** | 254.951 | 90.559% | 834 | 20.3 | 41.38°C | 0.956 |
| | 12.073V | 5.022V | 3.329V | 5.123V | 281.531 | | | | 45.19°C | 229.95V |
| **40%** | **24.768A** | **3.988A** | **3.977A** | **1.566A** | 340.041 | 90.872% | 835 | 20.4 | 41.8°C | 0.969 |
| | 12.065V | 5.015V | 3.319V | 5.109V | 374.197 | | | | 47.32°C | 229.94V |
| **50%** | **31.049A** | **4.993A** | **4.989A** | **1.767A** | 424.854 | 90.599% | 1147 | 30.7 | 42.36°C | 0.974 |
| | 12.057V | 5.007V | 3.308V | 5.093V | 468.937 | | | | 48.01°C | 229.92V |
| **60%** | **37.314A** | **6.003A** | **6.007A** | **1.97A** | 509.381 | 90.273% | 1491 | 37.8 | 42.62°C | 0.976 |
| | 12.049V | 4.998V | 3.297V | 5.078V | 564.266 | | | | 48.34°C | 229.91V |
| **70%** | **43.653A** | **7.016A** | **7.034A** | **2.173A** | 594.694 | 89.813% | 1810 | 42.1 | 43.15°C | 0.976 |
| | 12.040V | 4.99V | 3.285V | 5.062V | 662.145 | | | | 48.4°C | 229.89V |
| **80%** | **50.004A** | **8.029A** | **8.067A** | **2.278A** | 679.516 | 89.284% | 2068 | 45.9 | 43.61°C | 0.974 |
| | 12.031V | 4.981V | 3.273V | 5.049V | 761.076 | | | | 49.28°C | 229.87V |
| **90%** | **56.768A** | **8.544A** | **8.583A** | **2.383A** | 764.933 | 88.729% | 2071 | 45.9 | 44.39°C | 0.973 |
| | 12.022V | 4.973V | 3.262V | 5.036V | 862.099 | | | | 50.88°C | 229.86V |

| Test | 12V | 5V | 3.3V | 5VSB | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|---|---|---|---|---|---|---|---|---|---|---|
| **100%** | **63.477A** | **9.06A** | **9.135A** | **2.489A** | 849.645 | 88.072% | 2076 | 46.1 | 45.93°C | 0.972 |
| | 12.012V | 4.966V | 3.251V | 5.022V | 964.714 | | | | 54.09°C | 229.84V |
| **110%** | **69.932A** | **10.084A** | **10.284A** | **2.495A** | 935.042 | 87.227% | 2075 | 46.1 | 46.97°C | 0.97 |
| | 12.001V | 4.957V | 3.238V | 5.011V | 1071.97 | | | | 56.25°C | 229.82V |
| **CL1** | **0.116A** | **11.998A** | **11.954A** | **0A** | 101.294 | 81.11% | 1049 | 27.1 | 41.2°C | 0.866 |
| | 12.090V | 5.016V | 3.321V | 5.163V | 124.887 | | | | 45.94°C | 229.98V |
| **CL2** | **0.116A** | **14.926A** | **0A** | **0A** | 76.38 | 79.964% | 847 | 20.4 | 41.22°C | 0.813 |
| | 12.091V | 5.024V | 3.345V | 5.173V | 95.519 | | | | 44.72°C | 229.98V |
| **CL3** | **0.114A** | **0A** | **14.869A** | **0A** | 50.892 | 74.799% | 835 | 20.4 | 41.3°C | 0.736 |
| | 12.092V | 5.034V | 3.329V | 5.174V | 68.038 | | | | 43.8°C | 229.99V |
| **CL4** | **70.762A** | **0A** | **0A** | **0.002A** | 849.523 | 88.91% | 2073 | 46 | 45.65°C | 0.971 |
| | 12.005V | 4.987V | 3.279V | 5.11V | 955.488 | | | | 52.08°C | 229.84V |

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** | **1.227A** | **0.496A** | **0.492A** | **0.193A** | 19.993 | 68.1% | 812 | 18.8 | 36.1°C | 0.834 |
| | 12.097V | 5.043V | 3.355V | 5.184V | 29.358 | | | | 37.71°C | 115.03V |
| **40W** | **2.702A** | **0.694A** | **0.689A** | **0.29A** | 39.993 | 77.573% | 820 | 19.4 | 37.02°C | 0.914 |
| | 12.094V | 5.042V | 3.352V | 5.179V | 51.556 | | | | 38.38°C | 115.02V |
| **60W** | **4.178A** | **0.893A** | **0.887A** | **0.386A** | 59.993 | 81.707% | 824 | 19.6 | 38.71°C | 0.948 |
| | 12.092V | 5.04V | 3.348V | 5.174V | 73.425 | | | | 39.32°C | 115.01V |
| **80W** | **5.650A** | **1.091A** | **1.085A** | **0.484A** | 79.936 | 83.953% | 828 | 20 | 39.44°C | 0.968 |
| | 12.089V | 5.039V | 3.345V | 5.169V | 95.215 | | | | 40.82°C | 115.01V |

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** | **1.228A** | **0.496A** | **0.491A** | **0.193A** | 20.002 | 69.45% | 814 | 19 | 36.38°C | 0.555 |
| | 12.096V | 5.044V | 3.358V | 5.184V | 28.801 | | | | 37.03°C | 229.99V |
| **40W** | **2.704A** | **0.694A** | **0.689A** | **0.29A** | 40.001 | 79.372% | 819 | 19.3 | 37.44°C | 0.669 |
| | 12.093V | 5.042V | 3.355V | 5.179V | 50.397 | | | | 37.8°C | 229.99V |
| **60W** | **4.179A** | **0.893A** | **0.886A** | **0.387A** | 59.999 | 83.533% | 823 | 19.6 | 38.71°C | 0.748 |
| | 12.091V | 5.04V | 3.353V | 5.174V | 71.828 | | | | 39.2°C | 229.99V |
| **80W** | **5.652A** | **1.091A** | **1.083A** | **0.484A** | 79.946 | 85.684% | 827 | 19.9 | 39.19°C | 0.807 |
| | 12.089V | 5.039V | 3.35V | 5.169V | 93.303 | | | | 40.23°C | 229.98V |

The results above are not used in the certification process

## Ripple Measurements

### 115V

| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| 10% Load | 24.96mV | 21.51mV | 27.32mV | 23.48mV | Pass |
| 20% Load | 27.93mV | 22.38mV | 26.29mV | 26.75mV | Pass |
| 30% Load | 31.52mV | 22.84mV | 27.27mV | 26.34mV | Pass |
| 40% Load | 35.86mV | 24.83mV | 31.41mV | 26.50mV | Pass |
| 50% Load | 37.04mV | 26.51mV | 31.41mV | 28.29mV | Pass |
| 60% Load | 41.39mV | 27.59mV | 32.48mV | 29.67mV | Pass |
| 70% Load | 45.64mV | 28.61mV | 33.25mV | 29.62mV | Pass |
| 80% Load | 48.19mV | 30.60mV | 36.99mV | 30.74mV | Pass |
| 90% Load | 51.77mV | 31.67mV | 38.16mV | 30.95mV | Pass |
| 100% Load | 63.95mV | 34.43mV | 40.21mV | 34.12mV | Pass |
| 110% Load | 85.69mV | 39.29mV | 40.44mV | 35.76mV | Pass |
| Crossload1 | 31.16mV | 21.51mV | 30.44mV | 22.40mV | Pass |
| Crossload2 | 27.93mV | 22.53mV | 25.83mV | 22.86mV | Pass |

| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| Crossload3 | 28.45mV | 21.66mV | 31.97mV | 20.87mV | Pass |
| Crossload4 | 68.71mV | 36.48mV | 39.54mV | 30.69mV | Pass |

The results above are not used in the certification process

**230V**

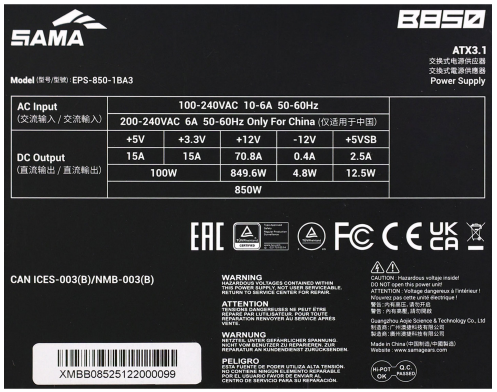
| Test | 12V | 5V | 3.3V | 5VSB | Pass/Fail |
|---|---|---|---|---|---|
| 10% Load | 25.07mV | 22.83mV | 26.09mV | 24.55mV | Pass |
| 20% Load | 28.91mV | 25.03mV | 26.70mV | 25.47mV | Pass |
| 30% Load | 31.92mV | 23.19mV | 27.57mV | 26.50mV | Pass |
| 40% Load | 36.17mV | 27.03mV | 29.87mV | 26.80mV | Pass |
| 50% Load | 36.94mV | 26.82mV | 32.28mV | 29.51mV | Pass |
| 60% Load | 41.54mV | 27.69mV | 33.56mV | 28.75mV | Pass |
| 70% Load | 45.59mV | 28.40mV | 34.02mV | 30.90mV | Pass |
| 80% Load | 49.17mV | 31.17mV | 35.91mV | 30.79mV | Pass |
| 90% Load | 53.77mV | 32.29mV | 36.68mV | 31.71mV | Pass |
| 100% Load | 65.38mV | 35.00mV | 43.74mV | 34.07mV | Pass |
| 110% Load | 85.39mV | 40.21mV | 49.93mV | 36.16mV | Pass |
| Crossload1 | 30.95mV | 22.22mV | 31.00mV | 22.76mV | Pass |
| Crossload2 | 28.65mV | 22.89mV | 26.65mV | 24.14mV | Pass |
| Crossload3 | 25.38mV | 21.61mV | 32.38mV | 20.36mV | Pass |
| Crossload4 | 70.45mV | 37.29mV | 40.51mV | 30.69mV | Pass |

The results above are not used in the certification process

## SAMA B850



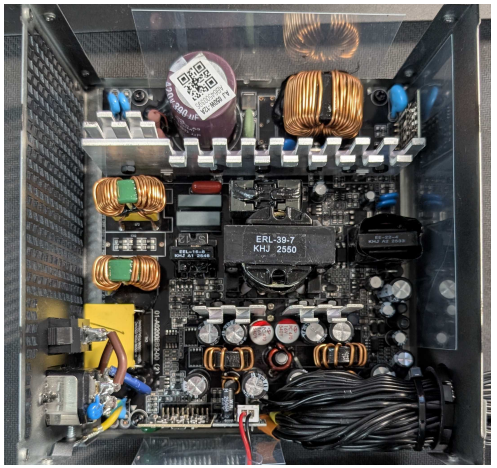
Top side




Power specifications label




Fan




PSU Internals

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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