

MICRONICS

Micronics Classic II Full Change 900W



Lab ID MI90002445

Certification ID 252445

Test Result Report ID: 24PS2445A

Certificate Issue Date: May 17, 2024

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU



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                             | Micronics                    |
| Model                             | Classic II Full Change 900W  |
| OEM/ODM                           | Sirfa (Dong Guan) Electronic |
| Serial Number                     |                              |
| Product Specifications            |                              |
| Manufacturer-Provided Information |                              |
| $V_{rms}$                         | 200-240                      |
| $I_{rms}$                         | 8                            |

|                                                   |                                                                                      |
|---------------------------------------------------|--------------------------------------------------------------------------------------|
| □□□□ (Hz)                                         | 50-60                                                                                |
| □□□□ (W)                                          | 900                                                                                  |
| Operating Temperature (Continuous Full Load) (°C) |                                                                                      |
| □□                                                | ATX12V                                                                               |
| □□□□                                              | Fixed cables                                                                         |
| Warranty                                          | -                                                                                    |
| Cybenetics Measurements                           |                                                                                      |
| Dimensions (W x H x D)                            |                                                                                      |
| Weight                                            |                                                                                      |
| □□                                                | 120mm Sleeve Bearing Fan<br>(PY-1225M12S)                                            |
| □□□□                                              | ✓                                                                                    |
| Cybenetics Testing Information                    |                                                                                      |
| Lab ID                                            | MI90002445                                                                           |
| Date of receipt                                   | Apr 30, 2024                                                                         |
| Testing Date                                      | May 16, 2024                                                                         |
| Report Issued Date                                | May 17, 2024                                                                         |
| □□□□                                              | We didn't test efficiency with a 2% load                                             |
| Engineer Name                                     | -                                                                                    |
| Authorized By the Laboratory Technical Manager    | Aristeidis Bitziopoulos                                                              |
| Signature                                         |  |

□□□□ (Non-accredited measurements)

|                                   |      |       |          |                     |
|-----------------------------------|------|-------|----------|---------------------|
| □□□□                              |      |       |          |                     |
| □□                                | □□□□ | □□□□□ | Gauge    | In Cable Capacitors |
| ATX □□ 20+4 pin (545mm)           | 1    | 1     | 18-22AWG | □                   |
| 4+4 pin EPS 12V □□ (680mm+155mm)  | 1    | 2     | 18AWG    | □                   |
| 6+2pin PCIe□□ (465mm+155mm)       | 2    | 4     | 18AWG    | □                   |
| 12+4 pin PCIe (585mm) (600W)      | 1    | 1     | 16-24AWG | □                   |
| SATA□□ (470mm+1560mm+160mm+160mm) | 2    | 8     | 18AWG    | □                   |
| 4-pin Molex (445mm+155mm+150mm)   | 1    | 3     | 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         | ✗ |

Table 1

|             |         |      |    |     |      |      |
|-------------|---------|------|----|-----|------|------|
| Table 1     |         | 3.3V | 5V | 12V | 5VSB | -12V |
| Table 1     | Table 1 | 22   | 22 | 75  | 3    | 0.3  |
|             | Table 1 | 120  |    | 900 | 15   | 3.6  |
| Table 1 (W) |         | 900  |    |     |      |      |

Test Results

Temperature & Compliance Info

|                                              |                   |
|----------------------------------------------|-------------------|
| Table 1 (°C /°F)                             | 28-32 / 82.4-89.6 |
| Table 1 ErP Lot3/6Table 1                    | ✓                 |
| Table 1 (EU) No 617/2013Table 1              | ✓                 |
| ALPM (Alternative Low Power Mode) compatible | ✓                 |
| ATX v3.1 PSU Power Excursion                 | ✓                 |

Performance Summary 230V

|                                                |          |
|------------------------------------------------|----------|
| Accredited                                     |          |
| Table 1 (>1450 load combinations)              | 87.617%  |
| Average Noise Output (>1450 Load Combinations) | 43.17dBA |
| PFTable 1 (>1450 Load Combinations)            | 0.941    |

|                                                |         |         |         |
|------------------------------------------------|---------|---------|---------|
| Efficiency With 10W (≤500W) or 2% (>500W) Load |         |         | -       |
| □□□□                                           |         |         | 0.1998W |
| Non-Accredited                                 |         |         |         |
| 12V Ripple (Full Load)                         |         |         | 35.35mV |
| 5V Ripple (Full Load)                          |         |         | 19.91mV |
| 3.3V Ripple (Full Load)                        |         |         | 26.87mV |
| 5VSB Ripple (Full Load)                        |         |         | 22.59mV |
| 12V Load Regulation                            |         |         | 1.33%   |
| 5V Load Regulation                             |         |         | 0.70%   |
| 3.3V Load Regulation                           |         |         | 0.79%   |
| 5VSB Load Regulation                           |         |         | 4.16%   |
| Inrush Current                                 |         |         | 84.920A |
| 12V Transient Response (200%)                  |         |         | 11.09V  |
| 5V Transient Response (200%)                   |         |         | 4.958V  |
| 3.3V Transient Response (200%)                 |         |         | 3.180V  |
| 5VSB Transient Response (200%)                 |         |         | 4.930V  |
| □□□□ & PG□□                                    |         |         | 19.90ms |
| AC Loss to PWR_OK Hold Up Time                 |         |         | 15.20ms |
| PWR_OK Inactive to DC Loss Delay               |         |         | 4.70ms  |
| PSU Timings: T1 (20% / 100%)                   | 49.0ms  | 82.0ms  |         |
| PSU Timings: T3 (20% / 100%)                   | 125.0ms | 123.0ms |         |
| OPP (27.61°C / 0.00°C)                         | 138.68% | -       |         |

## □□□ & PG□

|                                       |      |
|---------------------------------------|------|
| Hold-Up Time (ms)                     | 19.9 |
| AC Loss to PWR_OK Hold Up Time (ms)   | 15.2 |
| PWR_OK Inactive to DC Loss Delay (ms) | 4.7  |

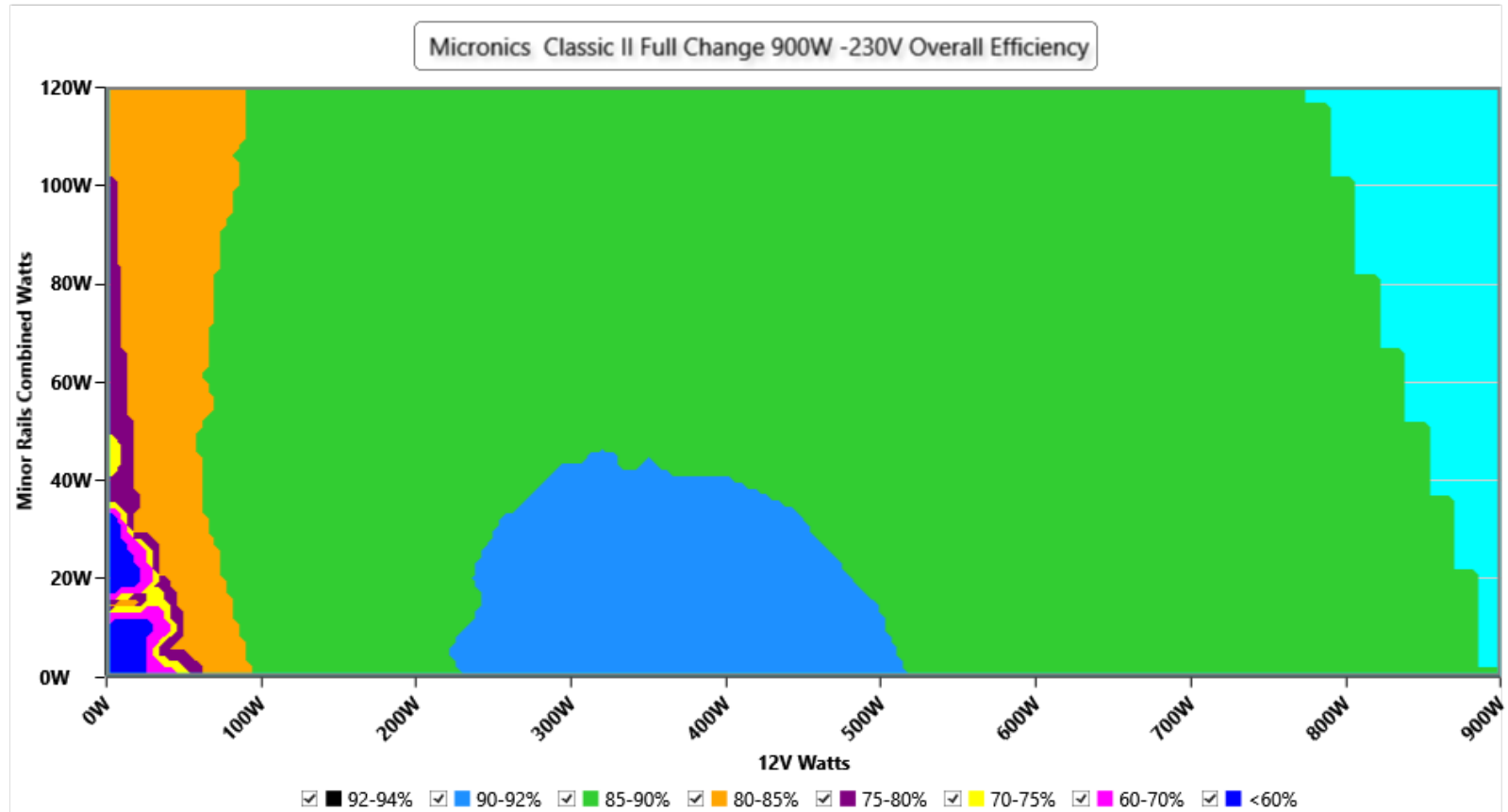


### Tables 230V

| Detailed Results   |          |          |           |          |           |        |
|--------------------|----------|----------|-----------|----------|-----------|--------|
|                    | Average  | Min      | Limit Min | Max      | Limit Max | Result |
| Mains Voltage RMS: | 231.00 V | 230.89 V | 227.70 V  | 231.06 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:        | 0.200 W  | 0.186 W  | N/A       | 0.223 W  | N/A       | N/A    |
| Apparent Power:    | 29.509 W | 29.244 W | N/A       | 29.771 W | N/A       | N/A    |
| Power Factor:      | 0.007    | N/A      | N/A       | N/A      | N/A       | N/A    |



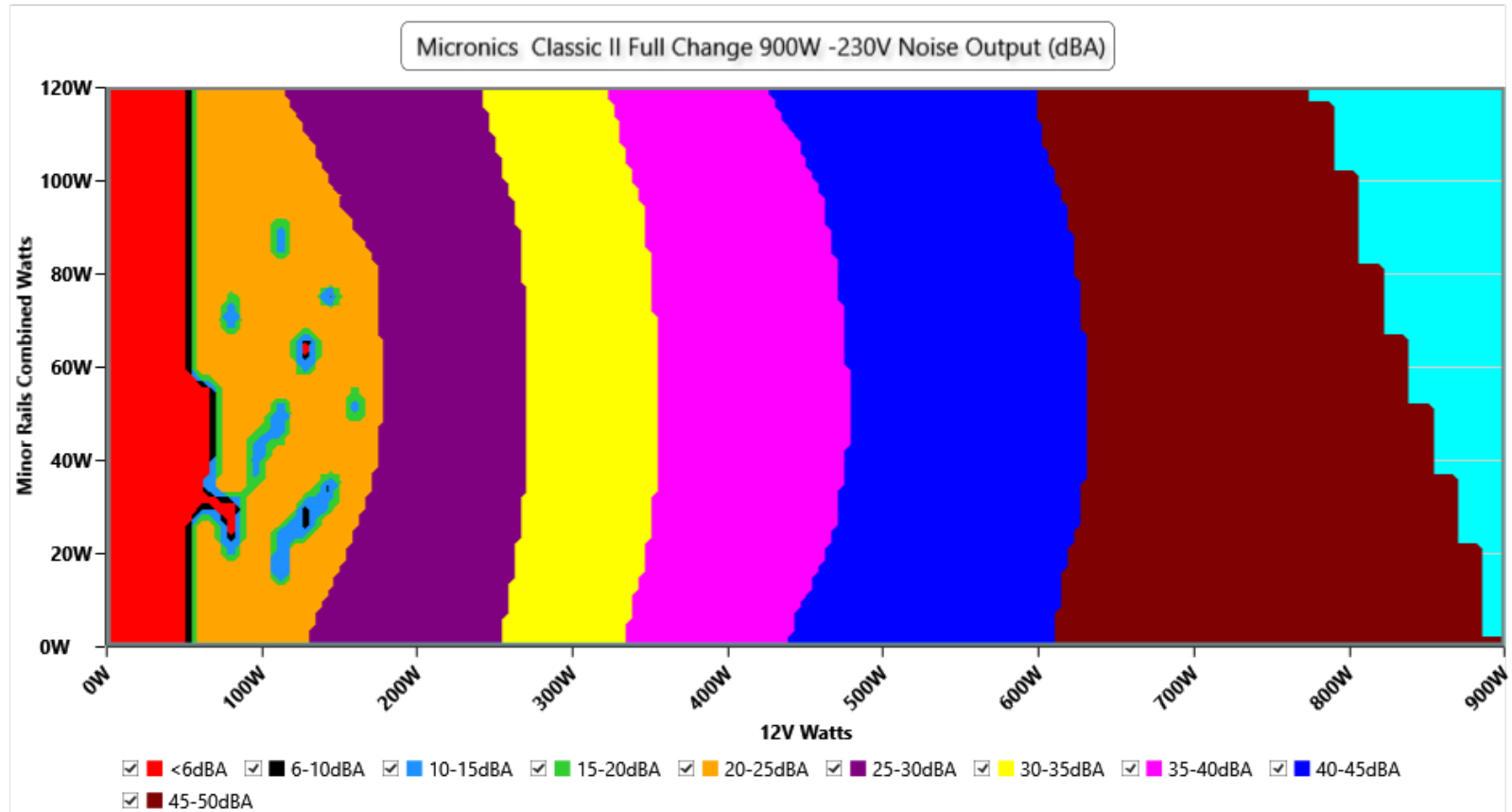
230V



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

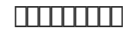


230V



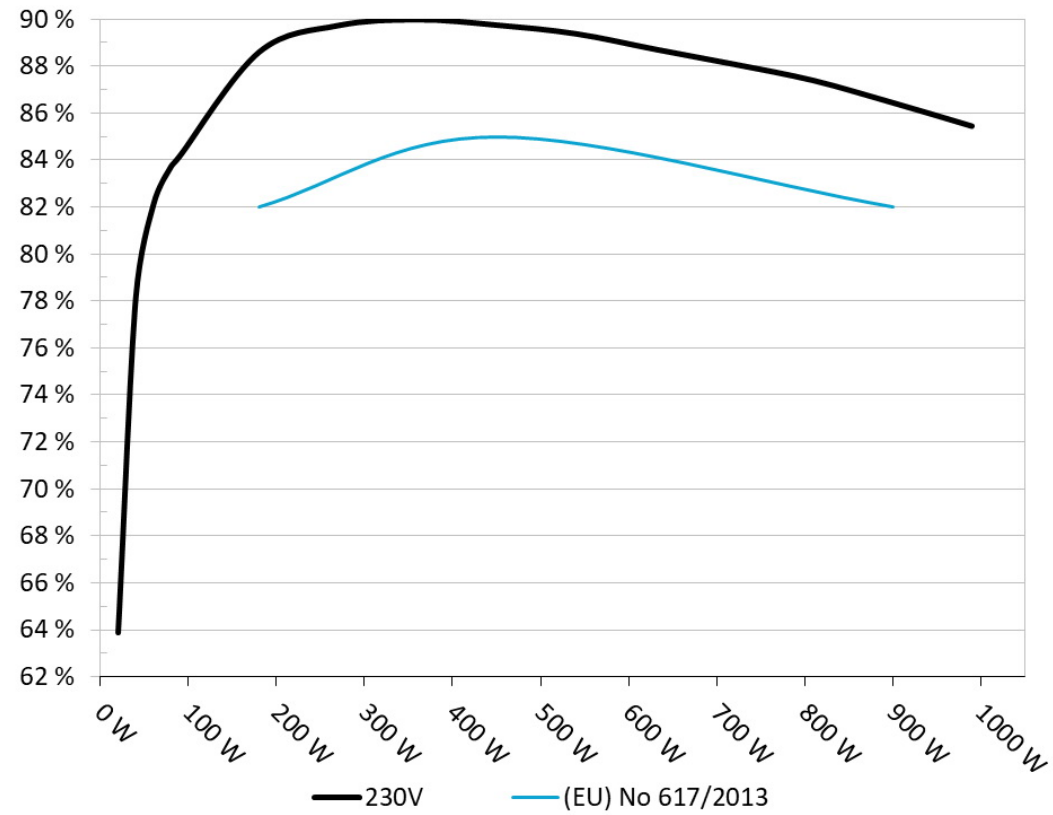
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

## Indicative Performance



### Efficiency: Micronics Classic II Full Change 900W

Ambient: 37°C - 47°C (98.6°F - 116.6°F)

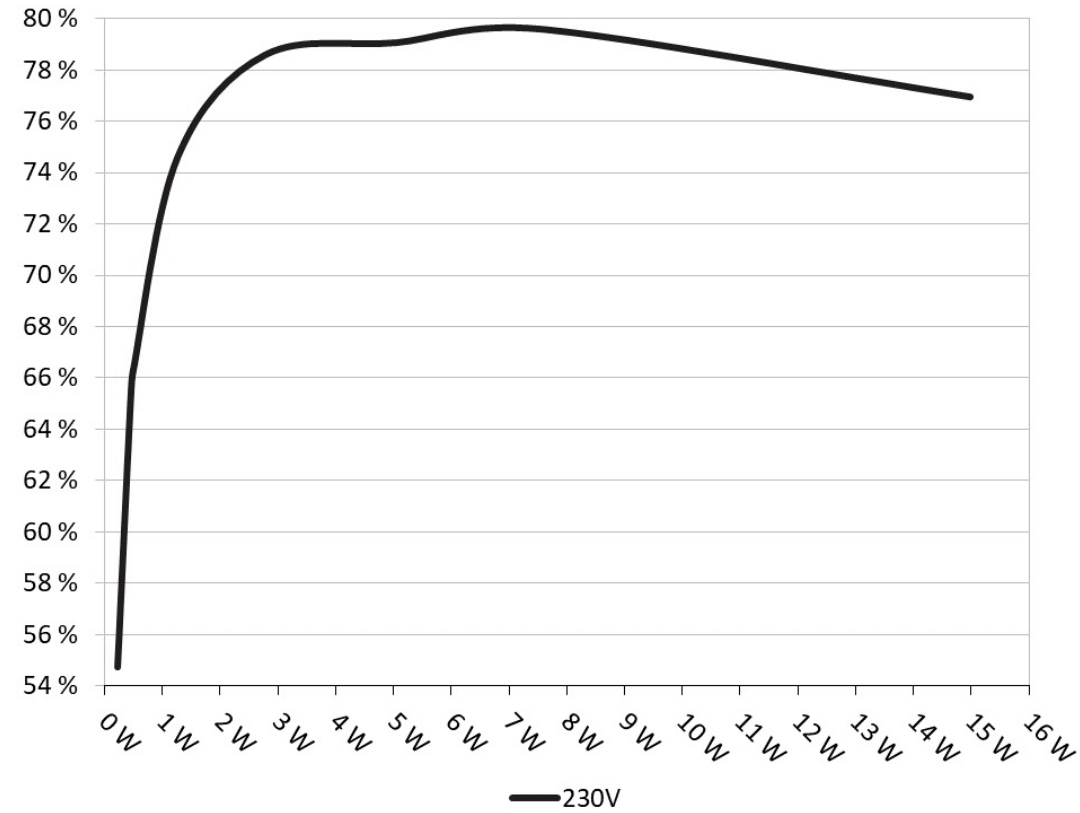


The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

### 5Vsb

#### 5VSB Efficiency: Micronics Classic II Full Change 900W

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



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

#### 5Vsb (ErP Lot3/6 & CEC) 230V

| # | 5VSB   | DC/AC ( ) |         | PF/AC   |
|---|--------|-----------|---------|---------|
| 1 | 0.045A | 0.229W    | 54.738% | 0.014   |
|   | 5.084V | 0.419W    |         | 229.91V |

|   |        |         |         |         |
|---|--------|---------|---------|---------|
| 2 | 0.09A  | 0.457W  | 65.251% | 0.023   |
|   | 5.082V | 0.701W  |         | 229.9V  |
| 3 | 0.55A  | 2.787W  | 78.59%  | 0.113   |
|   | 5.068V | 3.546W  |         | 229.89V |
| 4 | 1A     | 5.055W  | 79.062% | 0.186   |
|   | 5.055V | 6.393W  |         | 229.89V |
| 5 | 1.5A   | 7.56W   | 79.587% | 0.24    |
|   | 5.04V  | 9.499W  |         | 229.88V |
| 6 | 3A     | 14.98W  | 76.949% | 0.351   |
|   | 4.994V | 19.469W |         | 229.88V |

## Protection Features

| Protection Features    |                                      |
|------------------------|--------------------------------------|
| OCP (Cold)             | -                                    |
| OCP (Hot)              | -                                    |
| OPP (Cold @ 28°C)      | 1248.1W (138.68%)                    |
| OPP (Hot)              | -                                    |
| OTP                    | -                                    |
| SCP                    | -                                    |
| PWR_OK                 | Accurate but lower than 16ms         |
| NLO                    | ✓                                    |
| Fan Failure Protection | ✗                                    |
| SIP                    | Surge: MOV<br>Inrush: NTC Thermistor |

## Supplementary Tests (For Reference)

10-110% 230V

| □    | 12V     | 5V      | 3.3V    | 5VSB   | DC/AC ( ) | □       | □□□ (RPM) | □□□□□ (dB[A]) | □ (□ /□ ) | PF/AC □ |
|------|---------|---------|---------|--------|-----------|---------|-----------|---------------|-----------|---------|
| 10%  | 5.676A  | 1.978A  | 1.988A  | 0.991A | 89.998    | 84.166% | 904       | 28.7          | 40.05°C   | 0.718   |
|      | 12.050V | 5.054V  | 3.319V  | 5.044V | 106.929   |         |           |               | 44.33°C   | 229.87V |
| 20%  | 12.384A | 2.97A   | 2.985A  | 1.193A | 179.94    | 88.588% | 1015      | 32.1          | 40.82°C   | 0.922   |
|      | 12.035V | 5.051V  | 3.317V  | 5.028V | 203.125   |         |           |               | 45.34°C   | 229.86V |
| 30%  | 19.460A | 3.466A  | 3.484A  | 1.397A | 269.983   | 89.721% | 1171      | 36.2          | 41.22°C   | 0.963   |
|      | 12.021V | 5.049V  | 3.315V  | 5.011V | 300.905   |         |           |               | 46.28°C   | 229.84V |
| 40%  | 26.557A | 3.964A  | 3.984A  | 1.602A | 360.031   | 89.973% | 1412      | 41.3          | 41.74°C   | 0.967   |
|      | 12.006V | 5.046V  | 3.313V  | 4.994V | 400.157   |         |           |               | 47.26°C   | 229.83V |
| 50%  | 33.287A | 4.958A  | 4.985A  | 1.809A | 449.624   | 89.741% | 1591      | 44.2          | 42.24°C   | 0.97    |
|      | 11.991V | 5.042V  | 3.31V   | 4.977V | 501.022   |         |           |               | 48.26°C   | 229.81V |
| 60%  | 40.077A | 5.954A  | 5.987A  | 2A     | 539.669   | 89.372% | 1761      | 46.5          | 42.79°C   | 0.972   |
|      | 11.975V | 5.039V  | 3.307V  | 4.959V | 603.849   |         |           |               | 49.37°C   | 229.79V |
| 70%  | 46.888A | 6.952A  | 6.992A  | 2.227A | 629.859   | 88.708% | 1920      | 48.6          | 43°C      | 0.974   |
|      | 11.959V | 5.035V  | 3.304V  | 4.94V  | 710.037   |         |           |               | 50.14°C   | 229.78V |
| 80%  | 53.725A | 7.949A  | 7.997A  | 2.335A | 719.472   | 88.072% | 1958      | 49.0          | 43.97°C   | 0.976   |
|      | 11.942V | 5.031V  | 3.301V  | 4.924V | 816.915   |         |           |               | 51.97°C   | 229.76V |
| 90%  | 60.984A | 8.451A  | 8.487A  | 2.445A | 809.694   | 87.378% | 1956      | 49.0          | 44.1°C    | 0.977   |
|      | 11.924V | 5.028V  | 3.299V  | 4.908V | 926.659   |         |           |               | 53.18°C   | 229.74V |
| 100% | 68.011A | 8.955A  | 9.01A   | 3.078A | 899.299   | 86.436% | 1959      | 49.1          | 45.7°C    | 0.978   |
|      | 11.904V | 5.024V  | 3.296V  | 4.874V | 1040.428  |         |           |               | 55.8°C    | 229.73V |
| 110% | 74.994A | 9.96A   | 10.114A | 3.087A | 989.512   | 85.435% | 1965      | 49.1          | 47.41°C   | 0.979   |
|      | 11.884V | 5.019V  | 3.293V  | 4.859V | 1158.203  |         |           |               | 58.32°C   | 229.71V |
| CL1  | 0.116A  | 14.366A | 14.484A | 0A     | 121.291   | 79.183% | 1608      | 44.4          | 40.25°C   | 0.832   |
|      | 12.036V | 5.025V  | 3.294V  | 5.063V | 153.175   |         |           |               | 51.11°C   | 229.87V |
| CL2  | 0.115A  | 21.898A | 0A      | 0A     | 111.308   | 77.465% | 1326      | 39.5          | 40.32°C   | 0.819   |
|      | 12.042V | 5.019V  | 3.306V  | 5.068V | 143.688   |         |           |               | 48.81°C   | 229.87V |

|     |         |        |         |        |         |         |      |      |         |         |
|-----|---------|--------|---------|--------|---------|---------|------|------|---------|---------|
| CL3 | 0.115A  | 0A     | 22.073A | 0A     | 73.998  | 71.274% | 1175 | 36.3 | 41.62°C | 0.706   |
|     | 12.044V | 5.037V | 3.29V   | 5.069V | 103.823 |         |      |      | 48.35°C | 229.88V |
| CL4 | 75.522A | 0A     | 0A      | 0A     | 899.935 | 87.262% | 1967 | 49.1 | 45.3°C  | 0.979   |
|     | 11.917V | 5.046V | 3.309V  | 4.983V | 1031.31 |         |      |      | 55.51°C | 229.73V |

The results above are not used in the certification process

20-80 230V

| □□  | 12V     | 5V     | 3.3V   | 5VSB   | DC/AC (□ ) | □□      | □□□ (RPM) | □□□□□ (dB[A]) | □□ (□□ /□□ ) | PF/AC □□ |
|-----|---------|--------|--------|--------|------------|---------|-----------|---------------|--------------|----------|
| 20W | 1.231A  | 0.494A | 0.497A | 0.197A | 19.998     | 63.864% | 0         | <6.0          | 39.89°C      | 0.339    |
|     | 12.062V | 5.059V | 3.322V | 5.077V | 30.161     |         |           |               | 36.76°C      | 229.88V  |
| 40W | 2.711A  | 0.692A | 0.696A | 0.296A | 39.999     | 78.122% | 0         | <6.0          | 40.83°C      | 0.488    |
|     | 12.058V | 5.058V | 3.321V | 5.072V | 51.498     |         |           |               | 37.46°C      | 229.88V  |
| 60W | 4.192A  | 0.89A  | 0.894A | 0.395A | 60         | 82.089% | 813       | 25.3          | 38.79°C      | 0.584    |
|     | 12.055V | 5.057V | 3.321V | 5.067V | 73.089     |         |           |               | 42.34°C      | 229.88V  |
| 80W | 5.668A  | 1.088A | 1.093A | 0.494A | 79.951     | 83.707% | 853       | 26.8          | 39.03°C      | 0.677    |
|     | 12.052V | 5.057V | 3.32V  | 5.061V | 95.514     |         |           |               | 42.73°C      | 229.88V  |

The results above are not used in the certification process

230V

| Test      | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|-----------|---------|---------|---------|---------|-----------|
| 10% Load  | 18.57mV | 13.49mV | 11.82mV | 13.71mV | Pass      |
| 20% Load  | 19.90mV | 13.69mV | 13.20mV | 14.12mV | Pass      |
| 30% Load  | 19.18mV | 13.03mV | 12.43mV | 12.94mV | Pass      |
| 40% Load  | 21.33mV | 14.10mV | 14.88mV | 13.76mV | Pass      |
| 50% Load  | 22.87mV | 14.97mV | 15.55mV | 14.07mV | Pass      |
| 60% Load  | 31.36mV | 19.11mV | 17.39mV | 29.05mV | Pass      |
| 70% Load  | 25.38mV | 14.71mV | 16.98mV | 16.27mV | Pass      |
| 80% Load  | 27.63mV | 16.61mV | 19.90mV | 17.59mV | Pass      |
| 90% Load  | 28.65mV | 17.58mV | 22.00mV | 17.70mV | Pass      |
| 100% Load | 35.35mV | 19.91mV | 26.87mV | 22.59mV | Pass      |

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| 110% Load  | 37.99mV | 20.67mV | 29.26mV | 22.92mV | Pass      |
| Crossload1 | 21.74mV | 18.20mV | 16.08mV | 19.45mV | Pass      |
| Crossload2 | 22.87mV | 25.90mV | 11.00mV | 18.52mV | Pass      |
| Crossload3 | 19.95mV | 13.18mV | 16.68mV | 18.26mV | Pass      |
| Crossload4 | 33.04mV | 18.58mV | 27.20mV | 20.48mV | Pass      |

The results above are not used in the certification process

Micronics Classic II Full Change 900W



Top side



Power specifications label

XXXXXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Cybenetics

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

Cybenetics XXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX

ETA  
DELTA

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PHI

SAFE

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