



## FSP Technology MEGA GM 1000W

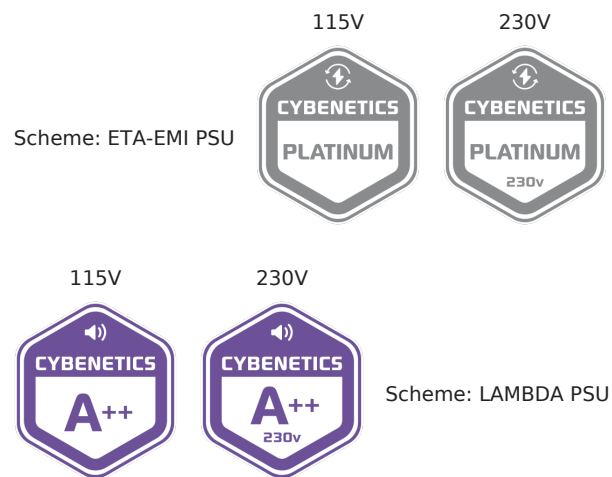
Serial Number S5020130027

Lab ID FS10002980

Certification ID 252980

Test Result Report ID: 25PS2980A

Certificate Issue Date: Sep 29, 2025



A handwritten signature in blue ink, appearing to read 'A. Bitziopoulos', is written over a faint, circular, dotted-line background.

Aristeidis Bitziopoulos, Certification Body General Manager

## 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   | Cybernetics PSU Test Protocol                                                       |

### DUT Information(Non-accredited measurements)

|                                   |                |
|-----------------------------------|----------------|
| Product Identification Details    |                |
| Brand                             | FSP Technology |
| Model                             | MEGA GM 1000W  |
| OEM/ODM                           | FSP            |
| Serial Number                     | S5020130027    |
| Product Specifications            |                |
| Manufacturer-Provided Information |                |
| Rated Voltage (Vrms)              | 100-240        |
| Rated Current (Arms)              | 6-12           |
| Rated Frequency (Hz)              | 50-60          |

|                                                   |                                                                                     |
|---------------------------------------------------|-------------------------------------------------------------------------------------|
| Rated Power (W)                                   | 1000                                                                                |
| Operating Temperature (Continuous Full Load) (°C) |                                                                                     |
| Type                                              | ATX12V                                                                              |
| Cable Design                                      | Fully Modular                                                                       |
| Warranty                                          | -                                                                                   |
| Cybenetics Measurements                           |                                                                                     |
| Dimensions (W x H x D)                            |                                                                                     |
| Weight                                            |                                                                                     |
| Cooling                                           | 135mm Hydro Dynamic Bearing Fan (PLA13525S12M)                                      |
| Semi-Passive Operation                            | ✓ (selectable)                                                                      |
| Cybenetics Testing Information                    |                                                                                     |
| Lab ID                                            | FS10002980                                                                          |
| Date of receipt                                   | Sep 8, 2025                                                                         |
| Testing Date                                      | Sep 22, 2025                                                                        |
| Report Issued Date                                | Sep 29, 2025                                                                        |
| DUT Notes                                         | Lower than 1ms "Power OK to DC Loss" delay.                                         |
| Engineer Name                                     | Ioannis Kalyviotis                                                                  |
| Authorized By the Laboratory Technical Manager    | Aristeidis Bitziopoulos                                                             |
| Signature                                         |  |

### Cables and Connectors(Non-accredited measurements)

| Modular Cables                                  |             |                         |          |               |
|-------------------------------------------------|-------------|-------------------------|----------|---------------|
| Description                                     | Cable Count | Connector Count (Total) | Gauge    | Cable Type    |
| ATX connector 20+4 pin (600mm)                  | 1           | 1                       | 16-22AWG | Tinned Copper |
| 4+4 pin ATX12V (700mm)                          | 2           | 2                       | 16AWG    | Tinned Copper |
| 6+2 pin PCIe (650mm)                            | 3           | 3                       | 16AWG    | Tinned Copper |
| 12+4 pin PCIe (700mm) (600W)                    | 1           | 1                       | 16-24AWG | Tinned Copper |
| SATA (500mm+155mm+155mm+155mm)                  | 2           | 8                       | 18AWG    | Tinned Copper |
| SATA (500mm+155mm) / 4-pin Molex (+155mm+155mm) | 1           | 2 / 2                   | 18AWG    | Tinned Copper |
| 4-pin Molex (500mm+155mm+155mm+155mm)           | 1           | 4                       | 18AWG    | Tinned Copper |

### Protection Features(Manufacturer)

|                                |   |
|--------------------------------|---|
| Over Voltage Protection        | ✓ |
| Under Voltage Protection       | ✓ |
| Over Power Protection          | ✓ |
| Over Current (+12V) Protection | ✓ |
| Over Temperature Protection    | ✓ |
| Short Circuit Protection       | ✓ |
| Surge Protection               | ✓ |

### Power Specifications

|                      |       |      |    |       |      |      |
|----------------------|-------|------|----|-------|------|------|
| Rail                 |       | 3.3V | 5V | 12V   | 5VSB | -12V |
| Max. Power           | Amps  | 20   | 20 | 83.33 | 3    | 0.3  |
|                      | Watts | 120  |    | 1000  | 15   | 3.6  |
| Total Max. Power (W) |       | 1000 |    |       |      |      |

### Parts Description

|                    |                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------|
|                    |                                                                                                          |
| Manufacturer (OEM) | FSP                                                                                                      |
| PCB Type           | Double-Sided                                                                                             |
|                    |                                                                                                          |
| Transient Filter   | 2x Y caps,3x X caps, 2x CM chokes, 1x MOV                                                                |
| Inrush Protection  | NTC Thermistor SCK-056 (5 Ohm @ 25°C) & Relay                                                            |
| Bridge Rectifier   | 2x HY Electronic GBJ2506 (600V, 25A @ 25°C)                                                              |
| APFC MOSFETs       | 2x Infineon IPA60R120P7 (650V, 16A @ 100°C, Rds(on): 0.120Ohm)                                           |
| APFC Boost Diode   | STMicroelectronics STPSC8H065 (650V, 8A @ 140°C)                                                         |
| Bulk Cap(s)        | Nippon Chemi-Con (420V, 470uF, 2000h @ 105°C, KMQ)<br>Nippon Chemi-Con (420V, 330uF, 2000h @ 105°C, KMR) |
| Main Switchers     | 2x STMicroelectronics STF33N60M2 (650V, 16A @ 100°C, Rds(on): 0.125Ohm)                                  |
| APFC Controller    | Infineon ICE2PCS02G                                                                                      |

|                        |                                                                                                                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Resonant Controller    | Champion CM6901T2X                                                                                                                              |
| IC Driver              | Novosense NSI6602                                                                                                                               |
| Topology               | Primary side: APFC, Half-Bridge & LLC Resonant Converter<br>Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters    |
|                        |                                                                                                                                                 |
| +12V MOSFETs           | 6x Toshiba TPHP8504PL (40V, 150A @ 25°C, Rds(on): 0.85mOhm)                                                                                     |
| 5V & 3.3V              | DC-DC Converters: 6x XSEMI XP3R303GMT (30V, 25A @ 70°C, Rds(on): 3.3mOhm)<br>PWM Controller(s): ANPEC APW7159C                                  |
| Filtering Capacitors   | Electrolytic:<br>4x Nippon Chemi-Con (2-5,000 @ 105°C, KZE)<br>6x Rubycon (6-10,000 @ 105°C, ZLH)<br>Polymer:<br>35x Nippon Chemi-Con, 3x FPCAP |
| Supervisor IC          | Weltrend WT7527RA (OVP, UVP, OCP, PG)                                                                                                           |
| Fan Controller         | ANPEC APW9010                                                                                                                                   |
| Fan Model              | Power Logic PLA13525S12M (135mm, 12V, 0.4A, Hydro Dynamic Bearing Fan)                                                                          |
|                        |                                                                                                                                                 |
| Rectifier              | PFC Device Corporation P15L50SP (50V, 15A)                                                                                                      |
| Standby PWM Controller | Nexperia PSMN2R4-30YLD (30V, 100A @ 25°C, Rds(on): 2.4mOhm)                                                                                     |

## 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 | ✓                 |

## Performance Summary

### 115V

|                                                        |          |
|--------------------------------------------------------|----------|
| Accredited                                             |          |
| Average Efficiency (>1450 load combinations)           | 90.023%  |
| Average Noise Output (>1450 Load Combinations)         | 11.88dBA |
| Average PF (>1450 Load Combinations)                   | 0.989    |
| Efficiency With 10W ( $\leq 500W$ ) or 2% (>500W) Load | 70.897%  |
| Standby Power Consumption                              | 0.0674W  |
| Non-Accredited                                         |          |
| 12V Ripple (Full Load)                                 | 34.79mV  |
| 5V Ripple (Full Load)                                  | 30.04mV  |
| 3.3V Ripple (Full Load)                                | 24.41mV  |
| 5VSB Ripple (Full Load)                                | 32.70mV  |
| 12V Load Regulation                                    | 0.62%    |
| 5V Load Regulation                                     | 0.47%    |
| 3.3V Load Regulation                                   | 0.45%    |
| 5VSB Load Regulation                                   | 3.22%    |
| Inrush Current                                         | 47.820A  |

### 230V

|                                                        |          |
|--------------------------------------------------------|----------|
| Accredited                                             |          |
| Average Efficiency (>1450 load combinations)           | 92.108%  |
| Average Noise Output (>1450 Load Combinations)         | 10.59dBA |
| Average PF (>1450 Load Combinations)                   | 0.963    |
| Efficiency With 10W ( $\leq 500W$ ) or 2% (>500W) Load | 72.070%  |
| Standby Power Consumption                              | 0.1075W  |
| Non-Accredited                                         |          |
| 12V Ripple (Full Load)                                 | 32.53mV  |
| 5V Ripple (Full Load)                                  | 29.25mV  |
| 3.3V Ripple (Full Load)                                | 22.77mV  |

|                                  |                                              |                            |
|----------------------------------|----------------------------------------------|----------------------------|
| 5VSB Ripple (Full Load)          | 30.64mV                                      |                            |
| 12V Load Regulation              | 0.61%                                        |                            |
| 5V Load Regulation               | 0.49%                                        |                            |
| 3.3V Load Regulation             | 0.48%                                        |                            |
| 5VSB Load Regulation             | 3.24%                                        |                            |
| Inrush Current                   | 69.790A                                      |                            |
| 12V Transient Response (200%)    | 11.51V                                       |                            |
| 5V Transient Response (200%)     | 5.000V                                       |                            |
| 3.3V Transient Response (200%)   | 3.209V                                       |                            |
| 5VSB Transient Response (200%)   | 5.023V                                       |                            |
| Hold-Up Time & PWR_OK Signal     | 16.10ms                                      |                            |
| AC Loss to PWR_OK Hold Up Time   | 15.70ms                                      |                            |
| PWR_OK Inactive to DC Loss Delay | 0.40ms                                       |                            |
| PSU Timings: T1 (20% / 100%)     | 83.0ms                                       | 45.0ms                     |
| PSU Timings: T3 (20% / 100%)     | 127.0ms                                      | 130.0ms                    |
| 12V OCP (29.8°C / 43.3°C)        | 119.80A (143.77%), 12.035V                   | 119.80A (143.77%), 66.258V |
| 5V OCP (29.8°C / 43.3°C)         | 24.3A (121.50%), 5.057V                      | 23.2A (116.00%), 5.067V    |
| 3.3V OCP (29.8°C / 43.3°C)       | 27.8A (139.00%), 3.333V                      | 27.1A (135.50%), 3.336V    |
| 5VSB OCP (29.8°C / 43.3°C)       | 3.6A (120.00%), 4.947* High Ripple (67.16mV) | 3.5A (116.67%), 4.951V     |
| OPP (30.26°C / 42.93°C)          | 141.11%                                      | 141.11%                    |

## Hold-Up Time & PWR\_OK Signal

|                                       |      |
|---------------------------------------|------|
| Hold-Up Time (ms)                     | 16.1 |
| AC Loss to PWR_OK Hold Up Time (ms)   | 15.7 |
| PWR_OK Inactive to DC Loss Delay (ms) | 0.4  |

## Vampire Power

### Tables

#### 115V

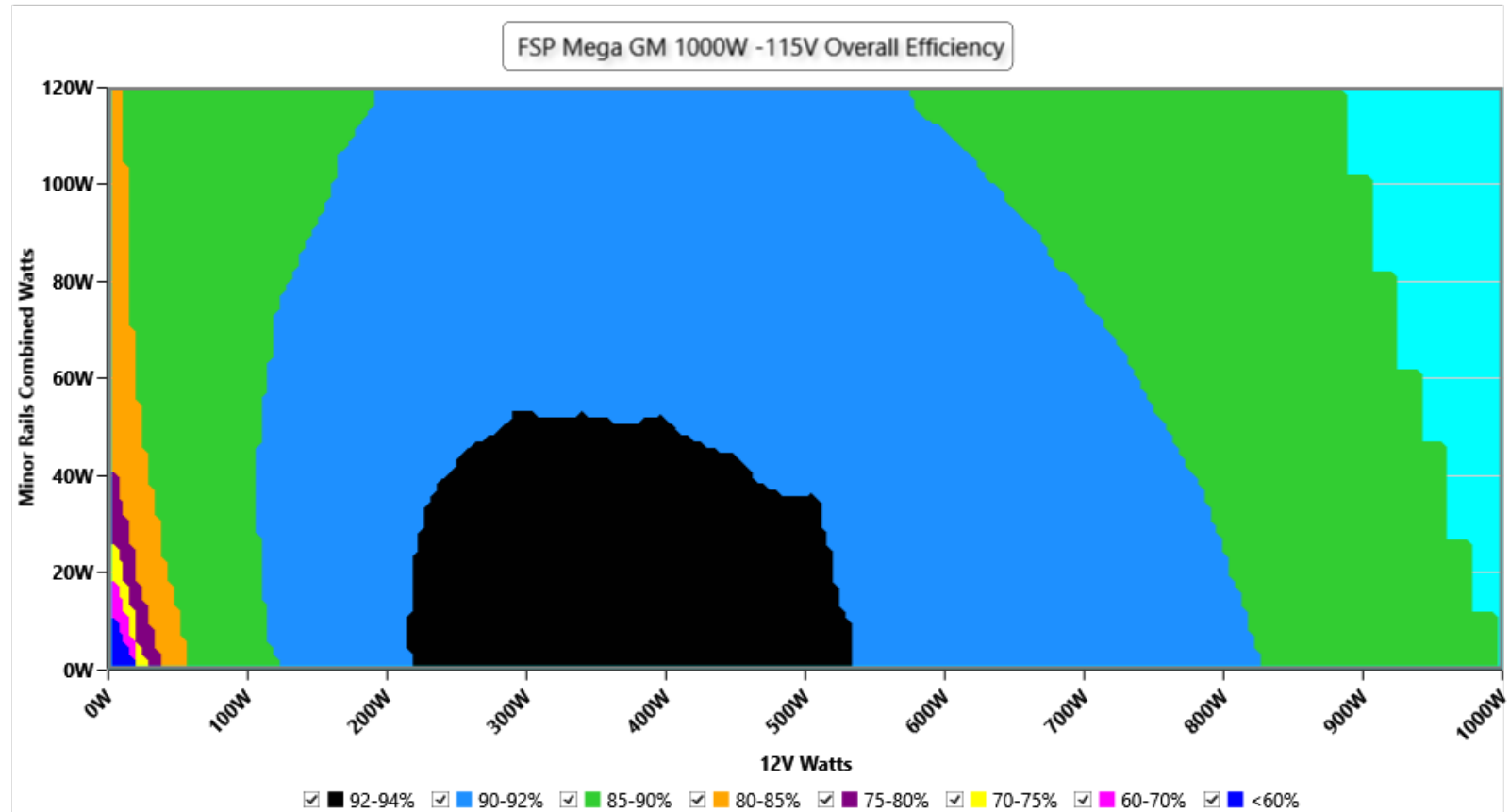
| Detailed Results   |          |          |           |          |           |        |
|--------------------|----------|----------|-----------|----------|-----------|--------|
|                    | Average  | Min      | Limit Min | Max      | Limit Max | Result |
| Mains Voltage RMS: | 115.01 V | 114.96 V | 113.85 V  | 115.05 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 %   | 0.10 %   | N/A       | 0.17 %   | 2.00 %    | PASS   |
| Real Power:        | 0.067 W  | 0.043 W  | N/A       | 0.104 W  | N/A       | N/A    |
| Apparent Power:    | 8.490 W  | 8.463 W  | N/A       | 8.522 W  | N/A       | N/A    |
| Power Factor:      | 0.009    | N/A      | N/A       | N/A      | N/A       | N/A    |

#### 230V

| Detailed Results   |          |          |           |          |           |        |
|--------------------|----------|----------|-----------|----------|-----------|--------|
|                    | Average  | Min      | Limit Min | Max      | Limit Max | Result |
| Mains Voltage RMS: | 229.95 V | 229.92 V | 227.70 V  | 229.97 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: | 0.15 %   | 0.13 %   | N/A       | 0.16 %   | 2.00 %    | PASS   |
| Real Power:        | 0.107 W  | 0.061 W  | N/A       | 0.222 W  | N/A       | N/A    |
| Apparent Power:    | 27.616 W | 27.578 W | N/A       | 27.657 W | N/A       | N/A    |
| Power Factor:      | 0.003    | N/A      | N/A       | N/A      | N/A       | N/A    |

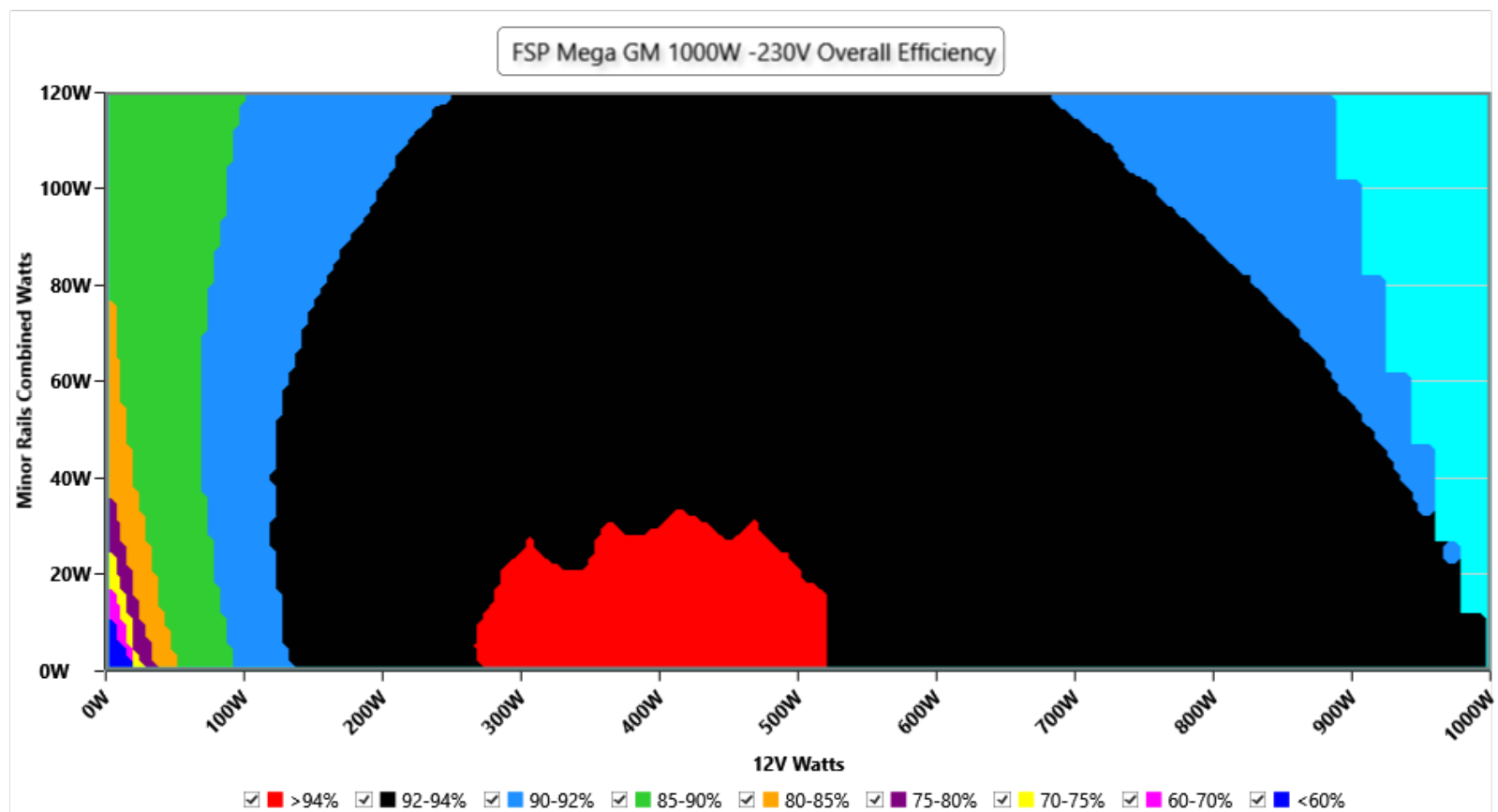
## Efficiency Graph

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

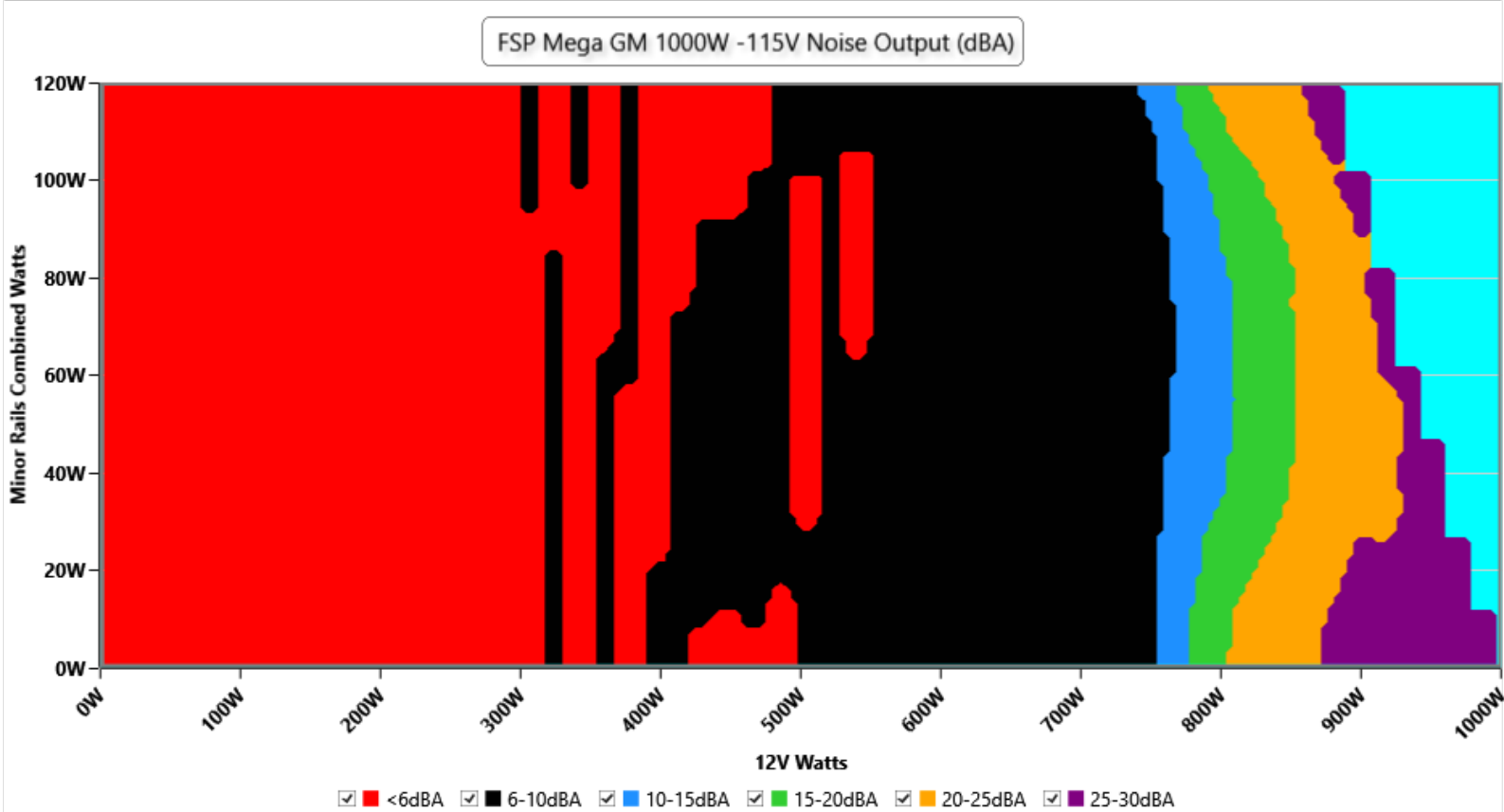


### INFO

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

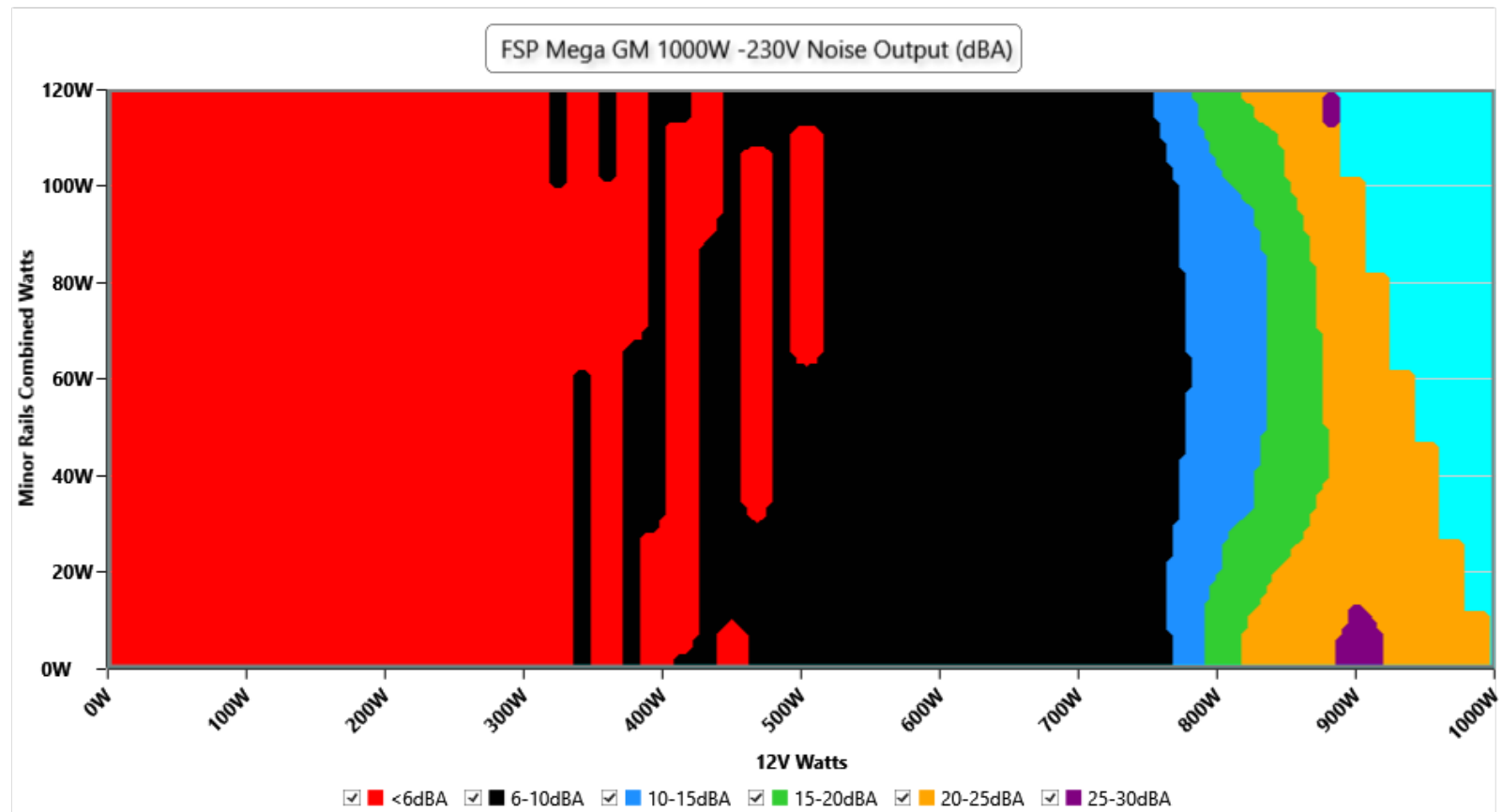
# Noise Graph

115V



## INFO

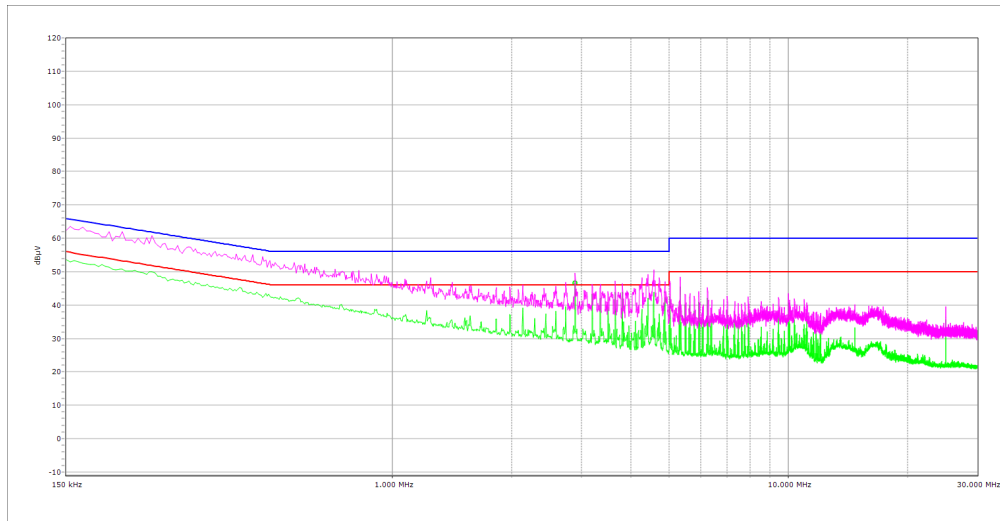
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails



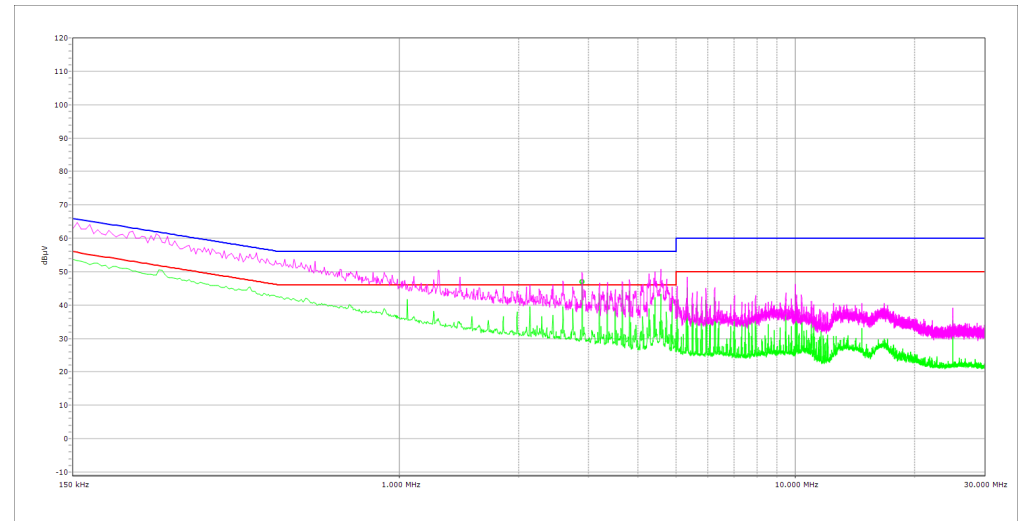
### INFO

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



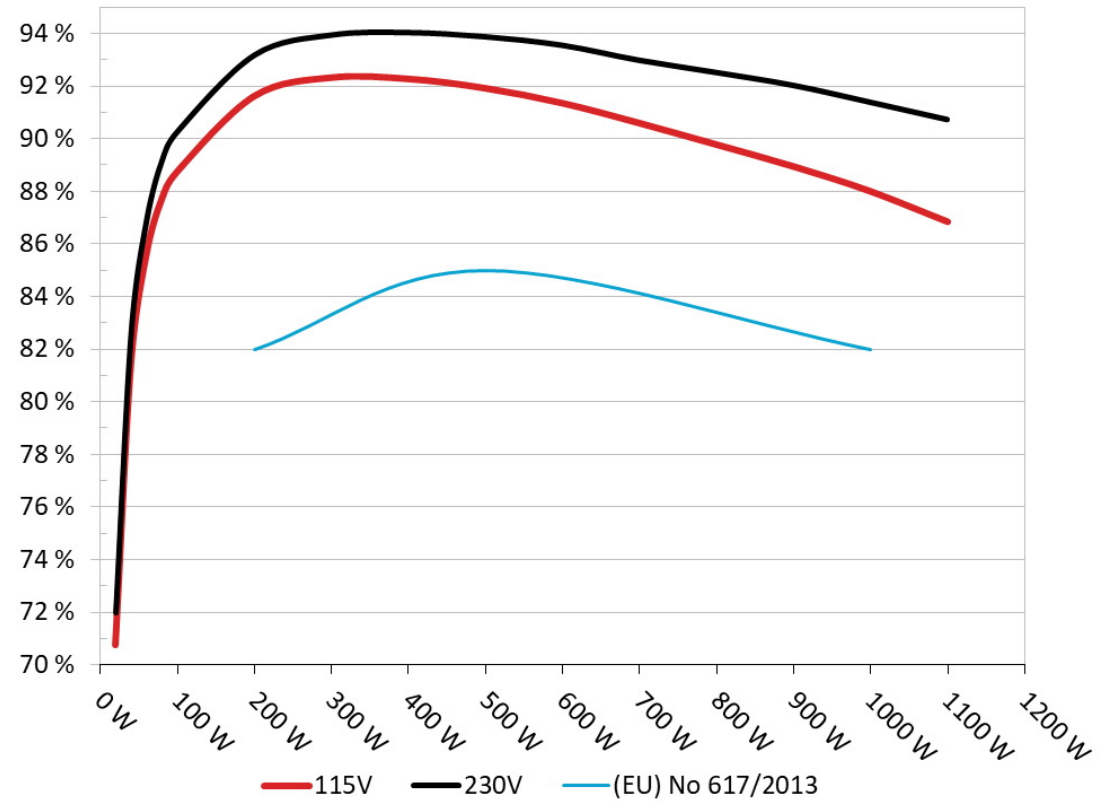
PHASE

## Indicative Performance

### Efficiency under high ambient temperature

Efficiency: FSP Mega GM 1000W

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



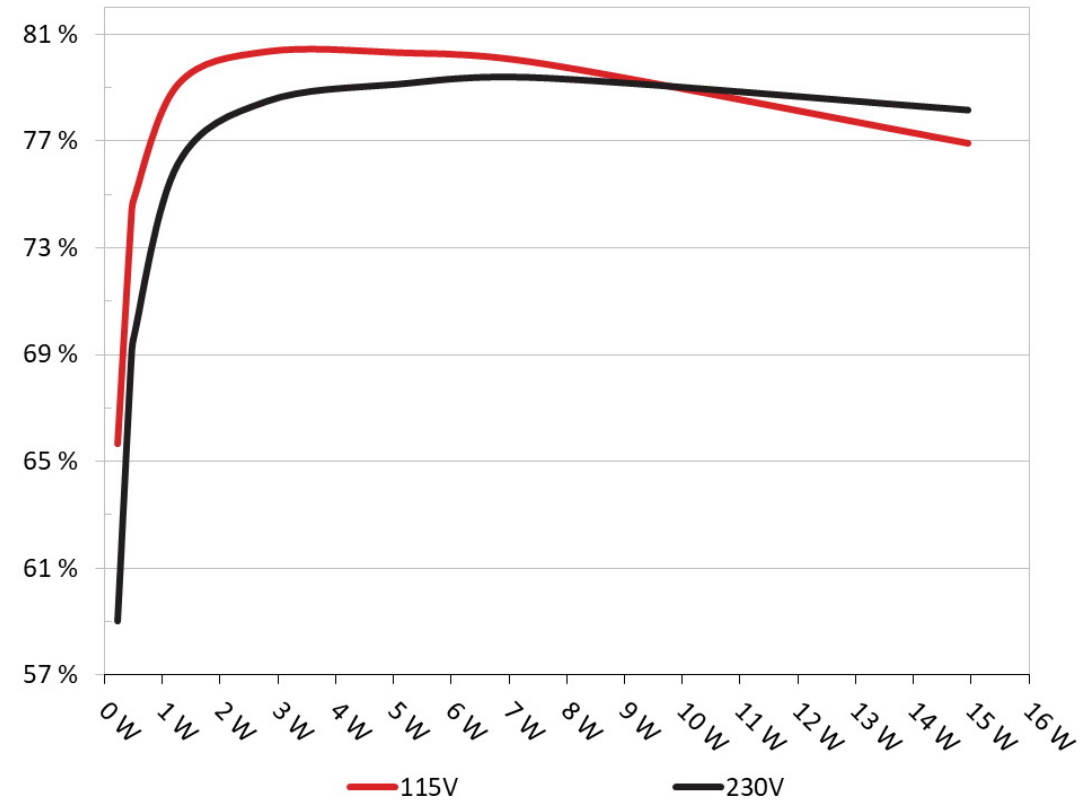
### INFO

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

5VSB Efficiency: FSP Mega GM 1000W

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



### 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        | 65.654%    | 0.043       |
|        | 5.12V  | 0.352W        |            | 115.04V     |
| 2      | 0.09A  | 0.461W        | 73.928%    | 0.074       |
|        | 5.118V | 0.624W        |            | 115.03V     |
| 3      | 0.55A  | 2.803W        | 80.353%    | 0.253       |
|        | 5.097V | 3.488W        |            | 115.04V     |
| 4      | 1A     | 5.076W        | 80.315%    | 0.31        |
|        | 5.076V | 6.32W         |            | 115.04V     |
| 5      | 1.5A   | 7.581W        | 79.904%    | 0.34        |
|        | 5.053V | 9.487W        |            | 115.03V     |
| 6      | 3A     | 14.945W       | 76.92%     | 0.377       |
|        | 4.982V | 19.429W       |            | 115.03V     |

#### 230V

| Test # | 5VSB   | DC/AC (Watts) | Efficiency | PF/AC Volts |
|--------|--------|---------------|------------|-------------|
| 1      | 0.045A | 0.231W        | 59.011%    | 0.015       |
|        | 5.124V | 0.392W        |            | 230V        |
| 2      | 0.09A  | 0.461W        | 68.586%    | 0.025       |
|        | 5.12V  | 0.673W        |            | 230V        |
| 3      | 0.55A  | 2.803W        | 78.478%    | 0.118       |
|        | 5.096V | 3.572W        |            | 230V        |
| 4      | 1A     | 5.075W        | 79.123%    | 0.18        |
|        | 5.075V | 6.415W        |            | 230V        |
| 5      | 1.5A   | 7.579W        | 79.36%     | 0.224       |
|        | 5.052V | 9.55W         |            | 230V        |
| 6      | 3A     | 14.944W       | 78.155%    | 0.288       |
|        | 4.982V | 19.12W        |            | 229.99V     |

## Protection Features

|                                        |                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCP (Normal @ 29.8°C)                  | 12V: 119.80A (143.77%), 12.035V<br>5V: 24.3A (121.50%), 5.057V<br>3.3V: 27.8A (139.00%), 3.333V<br>5VSB: 3.6A (120.00%), 4.947* High Ripple (67.16mV) |
| OCP (Hot @ 43.3°C)                     | 12V: 119.80A (143.77%), 66.258V<br>5V: 23.2A (116.00%), 5.067V<br>3.3V: 27.1A (135.50%), 3.336V<br>5VSB: 3.5A (116.67%), 4.951V                       |
| OPP (Normal @ 30.3°C)                  | 1411.09W (141.11%)                                                                                                                                    |
| OPP (Hot @ 42.9°C)                     | 1411.09W (141.11%)                                                                                                                                    |
| OTP                                    | ✓ (103°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                                 | Accurate but short                                                                                                                                    |
| UVP (Full Load @ 90V)                  | ✓                                                                                                                                                     |
| UVP (No Damage @ 80V)                  | ✓                                                                                                                                                     |
| Conducted Emissions EN55032 & CISPR 32 | ✓                                                                                                                                                     |
| 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%  | 6.466A  | 1.959A  | 1.968A | 0.991A | 100.02        | 88.759%    | 0               | <6.0              | 42.57°C        | 0.974       |
|      | 12.127V | 5.106V  | 3.354V | 5.046V | 112.687       |            |                 |                   | 40.46°C        | 115V        |
| 20%  | 13.951A | 2.939A  | 2.953A | 1.193A | 199.986       | 91.633%    | 0               | <6.0              | 46.61°C        | 0.993       |
|      | 12.119V | 5.104V  | 3.353V | 5.032V | 218.247       |            |                 |                   | 40.75°C        | 114.96V     |
| 30%  | 21.796A | 3.43A   | 3.446A | 1.395A | 300.056       | 92.339%    | 0               | <6.0              | 52.02°C        | 0.992       |
|      | 12.112V | 5.103V  | 3.352V | 5.018V | 324.954       |            |                 |                   | 41.12°C        | 114.93V     |
| 40%  | 29.614A | 3.921A  | 3.94A  | 1.599A | 399.695       | 92.293%    | 0               | <6.0              | 57.82°C        | 0.993       |
|      | 12.105V | 5.102V  | 3.351V | 5.003V | 433.072       |            |                 |                   | 41.58°C        | 114.9V      |
| 50%  | 37.105A | 4.903A  | 4.927A | 1.805A | 499.416       | 91.939%    | 0               | <6.0              | 62.18°C        | 0.993       |
|      | 12.098V | 5.1V    | 3.35V  | 4.988V | 543.205       |            |                 |                   | 42.26°C        | 114.86V     |
| 60%  | 44.678A | 5.888A  | 5.916A | 2.001A | 599.883       | 91.37%     | 611             | 9.1               | 42.63°C        | 0.993       |
|      | 12.089V | 5.096V  | 3.348V | 4.973V | 656.537       |            |                 |                   | 61.9°C         | 114.82V     |
| 70%  | 52.199A | 6.875A  | 6.907A | 2.221A | 699.633       | 90.613%    | 618             | 9.8               | 43.19°C        | 0.992       |
|      | 12.079V | 5.092V  | 3.346V | 4.955V | 772.118       |            |                 |                   | 64.74°C        | 114.79V     |
| 80%  | 59.783A | 7.858A  | 7.895A | 2.325A | 799.587       | 89.798%    | 854             | 21                | 43.7°C         | 0.99        |
|      | 12.072V | 5.089V  | 3.344V | 4.947V | 890.43        |            |                 |                   | 63.73°C        | 114.75V     |
| 90%  | 67.732A | 8.355A  | 8.378A | 2.431A | 899.361       | 88.966%    | 1106            | 29.4              | 44.12°C        | 0.988       |
|      | 12.061V | 5.086V  | 3.342V | 4.937V | 1010.908      |            |                 |                   | 62.76°C        | 114.71V     |
| 100% | 75.465A | 8.85A   | 8.893A | 3.04A  | 999.383       | 88.022%    | 1269            | 33.7              | 45.88°C        | 0.985       |
|      | 12.055V | 5.084V  | 3.34V  | 4.935V | 1135.375      |            |                 |                   | 61.84°C        | 114.67V     |
| 110% | 83.158A | 9.84A   | 9.977A | 3.043A | 1099.961      | 86.861%    | 1700            | 41.7              | 43.65°C        | 0.982       |
|      | 12.045V | 5.081V  | 3.338V | 4.93V  | 1266.375      |            |                 |                   | 61.33°C        | 114.63V     |
| CL1  | 0.116A  | 14.208A | 14.27A | 0A     | 121.296       | 83.921%    | 612             | 9.1               | 41.05°C        | 0.981       |
|      | 12.126V | 5.081V  | 3.343V | 5.133V | 144.537       |            |                 |                   | 57.08°C        | 114.99V     |

| Test | 12V     | 5V      | 3.3V   | 5VSB   | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|------|---------|---------|--------|--------|---------------|------------|-----------------|-------------------|----------------|-------------|
| CL2  | 0.115A  | 19.702A | 0A     | 0A     | 101.354       | 82.571%    | 608             | 8.6               | 40.87°C        | 0.977       |
|      | 12.130V | 5.073V  | 3.355V | 5.142V | 122.746       |            |                 |                   | 53.49°C        | 115V        |
| CL3  | 0.114A  | 0A      | 19.75A | 0A     | 67.4          | 77.732%    | 604             | 8.4               | 40.87°C        | 0.964       |
|      | 12.129V | 5.111V  | 3.342V | 5.115V | 86.707        |            |                 |                   | 50.37°C        | 115.01V     |
| CL4  | 82.939A | 0A      | 0A     | 0.003A | 999.95        | 88.856%    | 1093            | 29                | 45.63°C        | 0.986       |
|      | 12.056V | 5.106V  | 3.35V  | 5.097V | 1125.368      |            |                 |                   | 63.14°C        | 114.68V     |

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%  | 6.464A  | 1.958A | 1.967A | 0.991A | 100.01        | 90.26%     | 0               | <6.0              | 46.16°C        | 0.875       |
|      | 12.129V | 5.107V | 3.355V | 5.047V | 110.804       |            |                 |                   | 40.11°C        | 229.98V     |
| 20%  | 13.948A | 2.939A | 2.952A | 1.192A | 199.968       | 93.162%    | 0               | <6.0              | 46.99°C        | 0.945       |
|      | 12.121V | 5.105V | 3.354V | 5.033V | 214.646       |            |                 |                   | 40.53°C        | 229.96V     |
| 30%  | 21.793A | 3.429A | 3.445A | 1.395A | 300.026       | 93.927%    | 0               | <6.0              | 48.49°C        | 0.966       |
|      | 12.113V | 5.104V | 3.353V | 5.018V | 319.423       |            |                 |                   | 41.14°C        | 229.94V     |
| 40%  | 29.606A | 3.92A  | 3.939A | 1.599A | 399.605       | 94.019%    | 0               | <6.0              | 53.76°C        | 0.976       |
|      | 12.106V | 5.102V | 3.352V | 5.004V | 425.024       |            |                 |                   | 41.67°C        | 229.93V     |
| 50%  | 37.098A | 4.903A | 4.925A | 1.804A | 499.326       | 93.861%    | 0               | <6.0              | 56.25°C        | 0.981       |
|      | 12.098V | 5.1V   | 3.351V | 4.989V | 531.983       |            |                 |                   | 42.14°C        | 229.91V     |
| 60%  | 44.671A | 5.887A | 5.914A | 2A     | 599.794       | 93.537%    | 609             | 9.1               | 42.63°C        | 0.981       |
|      | 12.089V | 5.097V | 3.349V | 4.974V | 641.234       |            |                 |                   | 56.27°C        | 229.89V     |
| 70%  | 52.197A | 6.875A | 6.906A | 2.22A  | 699.573       | 92.969%    | 614             | 9.2               | 43.19°C        | 0.984       |
|      | 12.078V | 5.092V | 3.346V | 4.956V | 752.484       |            |                 |                   | 58.4°C         | 229.87V     |
| 80%  | 59.786A | 7.859A | 7.895A | 2.325A | 799.567       | 92.505%    | 838             | 20.5              | 43.6°C         | 0.983       |
|      | 12.071V | 5.089V | 3.344V | 4.947V | 864.348       |            |                 |                   | 60.25°C        | 229.86V     |
| 90%  | 67.724A | 8.354A | 8.378A | 2.431A | 899.362       | 92.018%    | 1192            | 31.6              | 44.37°C        | 0.981       |
|      | 12.062V | 5.086V | 3.342V | 4.937V | 977.378       |            |                 |                   | 59.58°C        | 229.84V     |

| Test        | 12V            | 5V             | 3.3V           | 5VSB          | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|-------------|----------------|----------------|----------------|---------------|---------------|------------|-----------------|-------------------|----------------|-------------|
| <b>100%</b> | <b>75.459A</b> | <b>8.85A</b>   | <b>8.892A</b>  | <b>3.04A</b>  | 999.391       | 91.379%    | 1398            | 36.3              | 45.16°C        | 0.979       |
|             | 12.056V        | 5.084V         | 3.34V          | 4.935V        | 1093.76       |            |                 |                   | 59.24°C        | 229.76V     |
| <b>110%</b> | <b>83.149A</b> | <b>9.84A</b>   | <b>9.976A</b>  | <b>3.043A</b> | 1099.959      | 90.719%    | 1766            | 43.2              | 45.72°C        | 0.977       |
|             | 12.047V        | 5.08V          | 3.338V         | 4.93V         | 1212.6        |            |                 |                   | 59.28°C        | 229.82V     |
| <b>CL1</b>  | <b>0.116A</b>  | <b>14.209A</b> | <b>14.269A</b> | <b>0A</b>     | 121.298       | 85.406%    | 615             | 9.2               | 41.54°C        | 0.91        |
|             | 12.127V        | 5.08V          | 3.343V         | 5.133V        | 142.026       |            |                 |                   | 55.27°C        | 229.97V     |
| <b>CL2</b>  | <b>0.116A</b>  | <b>19.715A</b> | <b>0A</b>      | <b>0A</b>     | 101.358       | 84.21%     | 610             | 9.1               | 41.65°C        | 0.888       |
|             | 12.132V        | 5.07V          | 3.353V         | 5.139V        | 120.355       |            |                 |                   | 57.74°C        | 229.94V     |
| <b>CL3</b>  | <b>0.114A</b>  | <b>0A</b>      | <b>19.749A</b> | <b>0A</b>     | 67.402        | 79.143%    | 605             | 8.4               | 40.52°C        | 0.829       |
|             | 12.130V        | 5.111V         | 3.342V         | 5.116V        | 85.165        |            |                 |                   | 49.57°C        | 229.98V     |
| <b>CL4</b>  | <b>82.939A</b> | <b>0A</b>      | <b>0A</b>      | <b>0.003A</b> | 999.96        | 92.176%    | 0               | <6.0              | 45.83°C        | 0.979       |
|             | 12.056V        | 5.105V         | 3.35V          | 5.096V        | 1084.842      |            |                 |                   | 57.81°C        | 229.82V     |

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 |
|------------|---------------|---------------|---------------|---------------|---------------|------------|-----------------|-------------------|----------------|-------------|
| <b>20W</b> | <b>1.224A</b> | <b>0.49A</b>  | <b>0.492A</b> | <b>0.196A</b> | 20.001        | 70.777%    | 0               | <6.0              | 38.8°C         | 0.859       |
|            | 12.128V       | 5.105V        | 3.354V        | 5.094V        | 28.258        |            |                 |                   | 36.56°C        | 115.03V     |
| <b>40W</b> | <b>2.696A</b> | <b>0.685A</b> | <b>0.689A</b> | <b>0.295A</b> | 40.004        | 81.425%    | 0               | <6.0              | 39.63°C        | 0.93        |
|            | 12.129V       | 5.107V        | 3.355V        | 5.09V         | 49.129        |            |                 |                   | 37.53°C        | 115.02V     |
| <b>60W</b> | <b>4.166A</b> | <b>0.881A</b> | <b>0.885A</b> | <b>0.393A</b> | 60.006        | 85.605%    | 0               | <6.0              | 40.56°C        | 0.954       |
|            | 12.128V       | 5.108V        | 3.355V        | 5.085V        | 70.096        |            |                 |                   | 38.62°C        | 115.01V     |
| <b>80W</b> | <b>5.634A</b> | <b>1.077A</b> | <b>1.082A</b> | <b>0.492A</b> | 79.963        | 87.706%    | 0               | <6.0              | 41.12°C        | 0.967       |
|            | 12.128V       | 5.108V        | 3.355V        | 5.079V        | 91.173        |            |                 |                   | 39.11°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 |
|------------|---------------|---------------|---------------|---------------|---------------|------------|-----------------|-------------------|----------------|-------------|
| <b>20W</b> | <b>1.224A</b> | <b>0.49A</b>  | <b>0.492A</b> | <b>0.196A</b> | 20.003        | 71.988%    | 0               | <6.0              | 38.67°C        | 0.507       |
|            | 12.128V       | 5.106V        | 3.354V        | 5.095V        | 27.786        |            |                 |                   | 36.72°C        | 229.99V     |
| <b>40W</b> | <b>2.696A</b> | <b>0.685A</b> | <b>0.689A</b> | <b>0.295A</b> | 40.003        | 82.666%    | 0               | <6.0              | 37.59°C        | 0.677       |
|            | 12.130V       | 5.108V        | 3.355V        | 5.091V        | 48.393        |            |                 |                   | 37.42°C        | 229.99V     |
| <b>60W</b> | <b>4.166A</b> | <b>0.881A</b> | <b>0.885A</b> | <b>0.393A</b> | 60.004        | 86.895%    | 0               | <6.0              | 37.79°C        | 0.779       |
|            | 12.129V       | 5.108V        | 3.355V        | 5.085V        | 69.052        |            |                 |                   | 38.86°C        | 229.98V     |
| <b>80W</b> | <b>5.633A</b> | <b>1.077A</b> | <b>1.082A</b> | <b>0.492A</b> | 79.956        | 89.157%    | 0               | <6.0              | 42.27°C        | 0.839       |
|            | 12.129V       | 5.109V        | 3.356V        | 5.08V         | 89.68         |            |                 |                   | 39.21°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   | 25.58mV | 18.85mV | 17.44mV | 16.88mV | Pass      |
| 20% Load   | 25.73mV | 19.67mV | 17.70mV | 17.85mV | Pass      |
| 30% Load   | 51.26mV | 26.31mV | 43.33mV | 28.64mV | Pass      |
| 40% Load   | 27.52mV | 20.84mV | 18.98mV | 20.92mV | Pass      |
| 50% Load   | 28.60mV | 20.79mV | 20.00mV | 22.20mV | Pass      |
| 60% Load   | 29.78mV | 22.79mV | 20.46mV | 25.06mV | Pass      |
| 70% Load   | 38.01mV | 28.82mV | 37.24mV | 34.17mV | Pass      |
| 80% Load   | 30.59mV | 25.80mV | 23.89mV | 27.37mV | Pass      |
| 90% Load   | 31.72mV | 26.77mV | 24.09mV | 31.41mV | Pass      |
| 100% Load  | 34.79mV | 30.04mV | 24.41mV | 32.70mV | Pass      |
| 110% Load  | 34.96mV | 50.84mV | 28.42mV | 35.38mV | Fail      |
| Crossload1 | 25.86mV | 20.64mV | 17.69mV | 15.26mV | Pass      |
| Crossload2 | 24.45mV | 20.69mV | 16.93mV | 17.03mV | Pass      |

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| Crossload3 | 23.23mV | 18.49mV | 20.10mV | 16.32mV | Pass      |
| Crossload4 | 33.21mV | 29.60mV | 24.33mV | 32.12mV | Pass      |

The results above are not used in the certification process

## 230V

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| 10% Load   | 24.00mV | 18.19mV | 17.85mV | 15.96mV | Pass      |
| 20% Load   | 24.71mV | 18.75mV | 17.08mV | 17.29mV | Pass      |
| 30% Load   | 24.76mV | 19.21mV | 17.85mV | 18.67mV | Pass      |
| 40% Load   | 26.45mV | 20.39mV | 18.52mV | 20.87mV | Pass      |
| 50% Load   | 26.96mV | 21.00mV | 18.82mV | 21.53mV | Pass      |
| 60% Load   | 29.57mV | 22.07mV | 19.49mV | 23.73mV | Pass      |
| 70% Load   | 29.98mV | 22.74mV | 20.05mV | 25.37mV | Pass      |
| 80% Load   | 29.26mV | 23.76mV | 21.89mV | 26.50mV | Pass      |
| 90% Load   | 30.44mV | 24.88mV | 22.25mV | 28.39mV | Pass      |
| 100% Load  | 32.53mV | 29.25mV | 22.77mV | 30.64mV | Pass      |
| 110% Load  | 34.07mV | 31.14mV | 25.05mV | 31.28mV | Pass      |
| Crossload1 | 25.70mV | 19.97mV | 18.77mV | 15.46mV | Pass      |
| Crossload2 | 23.18mV | 18.39mV | 15.24mV | 14.99mV | Pass      |
| Crossload3 | 23.69mV | 18.44mV | 20.41mV | 16.21mV | Pass      |
| Crossload4 | 31.94mV | 25.64mV | 21.15mV | 29.14mV | Pass      |

The results above are not used in the certification process

## FSP Technology MEGA GM 1000W



Top side



### Power specifications label



Fan

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 LTD Syrou 6, Latsia, 2231, Nicosia Cyprus



PSU Inside

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

[www.cybenetics.com](http://www.cybenetics.com) - [info@cybenetics.com](mailto:info@cybenetics.com)