

**GIGABYTE™**

## Gigabyte GP-AE850PM PG5 / PG5 ICE

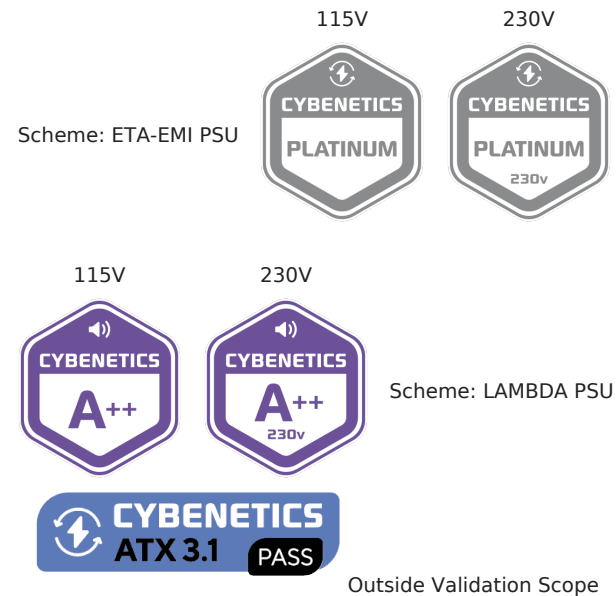
Serial Number -

Lab ID GB85003057

Certification ID 253057

Test Result Report ID: 25PS3057A

Certificate Issue Date: Dec 8, 2025



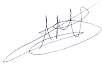
## General Information

### 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                             | Gigabyte                          |
| Model                             | GP-AE850PM PG5 / PG5 ICE          |
| OEM/ODM                           | XIAMEN CASTEC ELECTRONIC INDUSTRY |
| Serial Number                     | -                                 |
| Product Specifications            |                                   |
| Manufacturer-Provided Information |                                   |
| Rated Voltage (Vrms)              | 100-240                           |
| Rated Current (Arms)              | 6-12                              |

|                                                   |                                                                                                                                                                          |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Frequency (Hz)                              | 50-60                                                                                                                                                                    |
| Rated Power (W)                                   | 850                                                                                                                                                                      |
| Operating Temperature (Continuous Full Load) (°C) | 0 - 50                                                                                                                                                                   |
| Type                                              | ATX12V                                                                                                                                                                   |
| Cable Design                                      | Fully Modular                                                                                                                                                            |
| Warranty                                          | 10 years                                                                                                                                                                 |
| Cybenetics Measurements                           |                                                                                                                                                                          |
| Dimensions (W x H x D)                            | 150 x 85 x 140mm                                                                                                                                                         |
| Weight                                            | 1.61 kg (3.55 lbs)                                                                                                                                                       |
| Cooling                                           | 120mm Fluid Dynamic Bearing Fan (HA1225M12F-Z)                                                                                                                           |
| Semi-Passive Operation                            | ✓                                                                                                                                                                        |
| Cybenetics Testing Information                    |                                                                                                                                                                          |
| Lab ID                                            | GB85003057                                                                                                                                                               |
| Date of receipt                                   | Nov 7, 2025                                                                                                                                                              |
| Testing Date                                      | Dec 5, 2025                                                                                                                                                              |
| Report Issued Date                                | Dec 8, 2025                                                                                                                                                              |
| DUT Notes                                         | <ul style="list-style-type: none"> <li>• The results apply to the ICE models too, as they are identical.</li> <li>• Some protection features need adjustment.</li> </ul> |
| Engineer Name                                     | Okeke Ugochukwu Onyedikachukwu                                                                                                                                           |
| 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 (645mm) | 1           | 1                       | 16AWG    | Tinned Copper |
| 4+4 pin EPS12V (700mm)         | 2           | 2                       | 16AWG    | Tinned Copper |
| 6+2 pin PCIe (750mm)           | 2           | 2                       | 16AWG    | Tinned Copper |
| 6+2 pin PCIe (650mm+150mm)     | 2           | 4                       | 16AWG    | Tinned Copper |
| 12+4 pin PCIe (700mm) (600W)   | 1           | 1                       | 16-26AWG | Tinned Copper |

|                                       |   |   |       |               |
|---------------------------------------|---|---|-------|---------------|
| SATA (600mm+150mm+150mm+150mm)        | 2 | 8 | 18AWG | Tinned Copper |
| 4-pin Molex (500mm+145mm+145mm+150mm) | 1 | 4 | 18AWG | Tinned Copper |
| AC Power Cord (1370mm) - 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         | X |

### Power Specifications

|                      |       |      |    |       |      |      |
|----------------------|-------|------|----|-------|------|------|
| Rail                 |       | 3.3V | 5V | 12V   | 5VSB | -12V |
| Max. Power           | Amps  | 25   | 25 | 70.8  | 3    | 0.3  |
|                      | Watts | 125  |    | 849.6 | 15   | 3.6  |
| Total Max. Power (W) |       | 850  |    |       |      |      |

### Parts Description

|                     |                                                               |
|---------------------|---------------------------------------------------------------|
| <b>General Data</b> |                                                               |
| Manufacturer (OEM)  | Xiamen Castec Electronic Industry                             |
| PCB Type            | Double-Sided                                                  |
| <b>Primary Side</b> |                                                               |
| Transient Filter    | 4x Y caps, 2x X caps, 2x CM chokes, 1x MOV                    |
| Inrush Protection   | NTC Thermistor NTC 5D-15 (5 Ohm @ 25°C) & Relay               |
| Bridge Rectifier    | 2x GBU1506 (600V, 15A @ 100°C)                                |
| APFC MOSFETs        | 2x Infineon IPP60R099P7 (600V, 31A @ 25°C, Rds(on): 0.099Ohm) |
| APFC Boost Diode    | STMicroelectronics STPSC10H065 (650V, 10A @ 135°C)            |
| Bulk Cap(s)         | Nippon Chemi-Con (400V, 820uF, 2000h @ 105°C, KMW )           |

|                        |                                                                                                                                                                                                                                                   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Switchers         | 4x Infineon IPP60R180P7 (600V, 18A @ 25°C, Rds(on): 0.180Ohm)                                                                                                                                                                                     |
| APFC Controller        | Champion CM6500UNX &<br>Champion CM03X (reducing no load consumption)                                                                                                                                                                             |
| Resonant Controller    | Champion CU6901VACN                                                                                                                                                                                                                               |
| Topology               | Primary side: APFC, Full-Bridge & LLC Resonant Converter<br>Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters                                                                                                      |
| <b>Secondary Side</b>  |                                                                                                                                                                                                                                                   |
| +12V MOSFETs           | 4x Nexperia PSMN1R4-40YLD (40V, 240A @ 25°C, Rds(on): 1.4mOhm)                                                                                                                                                                                    |
| 5V & 3.3V              | DC-DC Converters: no info<br>PWM Controller(s): 2x UPI-Semi uP9303                                                                                                                                                                                |
| Filtering Capacitors   | Electrolytic:<br>2x Nippon Chemi-Con (@ 105°C, W)<br>Nippon Chemi-Con (6-10,000h @ 105°C, KY )<br>4x Rubycon (4-10,000 @ 105°C, YXJ )<br>Rubycon (6-10,000 @ 105°C, ZLH )<br>Rubycon (4-10,000 @ 105°C, YXF )<br>Polymer:<br>32x Nippon Chemi-Con |
| Supervisor IC          | Weltrend WT7502R (OVP, UVP, OCP, PG)                                                                                                                                                                                                              |
| Fan Model              | Hong Hua HA1225M12F-Z (120mm, 12V, 0.45A, Fluid Dynamic Bearing Fan)                                                                                                                                                                              |
| <b>5VSB Circuit</b>    |                                                                                                                                                                                                                                                   |
| Rectifier              | Rectron Semiconductor ES1J (600V, 1A)                                                                                                                                                                                                             |
| Standby PWM Controller | Dongke DK025G (650V, 0.8Ohm)                                                                                                                                                                                                                      |

## 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)           | 89.980%  |
| Average Noise Output (>1450 Load Combinations)         | 12.66dBA |
| Average PF (>1450 Load Combinations)                   | 0.987    |
| Efficiency With 10W ( $\leq 500W$ ) or 2% (>500W) Load | 68.235%  |
| Standby Power Consumption                              | 0.0319W  |
| Non-Accredited                                         |          |
| 12V Ripple (Full Load)                                 | 26.19mV  |
| 5V Ripple (Full Load)                                  | 20.45mV  |
| 3.3V Ripple (Full Load)                                | 13.45mV  |
| 5VSB Ripple (Full Load)                                | 28.96mV  |
| 12V Load Regulation                                    | 0.25%    |
| 5V Load Regulation                                     | 0.64%    |
| 3.3V Load Regulation                                   | 1.03%    |
| 5VSB Load Regulation                                   | 1.77%    |
| Inrush Current                                         | 32.950A  |

### 230V

|                                                        |          |
|--------------------------------------------------------|----------|
| Accredited                                             |          |
| Average Efficiency (>1450 load combinations)           | 91.926%  |
| Average Noise Output (>1450 Load Combinations)         | 12.90dBA |
| Average PF (>1450 Load Combinations)                   | 0.959    |
| Efficiency With 10W ( $\leq 500W$ ) or 2% (>500W) Load | 69.202%  |
| Standby Power Consumption                              | 0.0479W  |
| Non-Accredited                                         |          |
| 12V Ripple (Full Load)                                 | 28.36mV  |
| 5V Ripple (Full Load)                                  | 13.45mV  |
| 3.3V Ripple (Full Load)                                | 12.78mV  |

|                                  |                                                |                                                       |
|----------------------------------|------------------------------------------------|-------------------------------------------------------|
| 5VSB Ripple (Full Load)          |                                                | 24.98mV                                               |
| 12V Load Regulation              |                                                | 0.24%                                                 |
| 5V Load Regulation               |                                                | 0.62%                                                 |
| 3.3V Load Regulation             |                                                | 1.03%                                                 |
| 5VSB Load Regulation             |                                                | 1.77%                                                 |
| Inrush Current                   |                                                | 65.580A                                               |
| 12V Transient Response (200%)    |                                                | 11.56V                                                |
| 5V Transient Response (200%)     |                                                | 4.955V                                                |
| 3.3V Transient Response (200%)   |                                                | 3.241V                                                |
| 5VSB Transient Response (200%)   |                                                | 4.983V                                                |
| Hold-Up Time & PWR_OK Signal     |                                                | 20.20ms                                               |
| AC Loss to PWR_OK Hold Up Time   |                                                | 16.50ms                                               |
| PWR_OK Inactive to DC Loss Delay |                                                | 3.70ms                                                |
| PSU Timings: T1 (20% / 100%)     | 70.0ms                                         | 69.0ms                                                |
| PSU Timings: T3 (20% / 100%)     | 127.0ms                                        | 128.0ms                                               |
| 12V OCP (28.6°C / 43.5°C)        | 92.80A (131.07%), 12.069V                      | 91.60A (129.38%), 12.077V                             |
| 5V OCP (28.6°C / 43.5°C)         | 31.5A (126.00%), 4.982V                        | 30.1A (120.40%), 4.829V *Voltage Drop(4.623V @ 30.4A) |
| 3.3V OCP (28.6°C / 43.5°C)       | 31.7A (126.80%), 3.292V                        | 30.6A (122.40%), 3.289V                               |
| 5VSB OCP (28.6°C / 43.5°C)       | 4.1A (136.67%), 4.985V *High Ripple (103.64mV) | 3.8A (126.67%), 4.988V *High Ripple (103.64mV)        |
| OPP (28.80°C / 43.40°C)          | 129.25%                                        | 126.91%                                               |

## Hold-Up Time & PWR\_OK Signal

|                                       |      |
|---------------------------------------|------|
| Hold-Up Time (ms)                     | 20.2 |
| AC Loss to PWR_OK Hold Up Time (ms)   | 16.5 |
| PWR_OK Inactive to DC Loss Delay (ms) | 3.7  |

## Vampire Power

### Tables

#### 115V

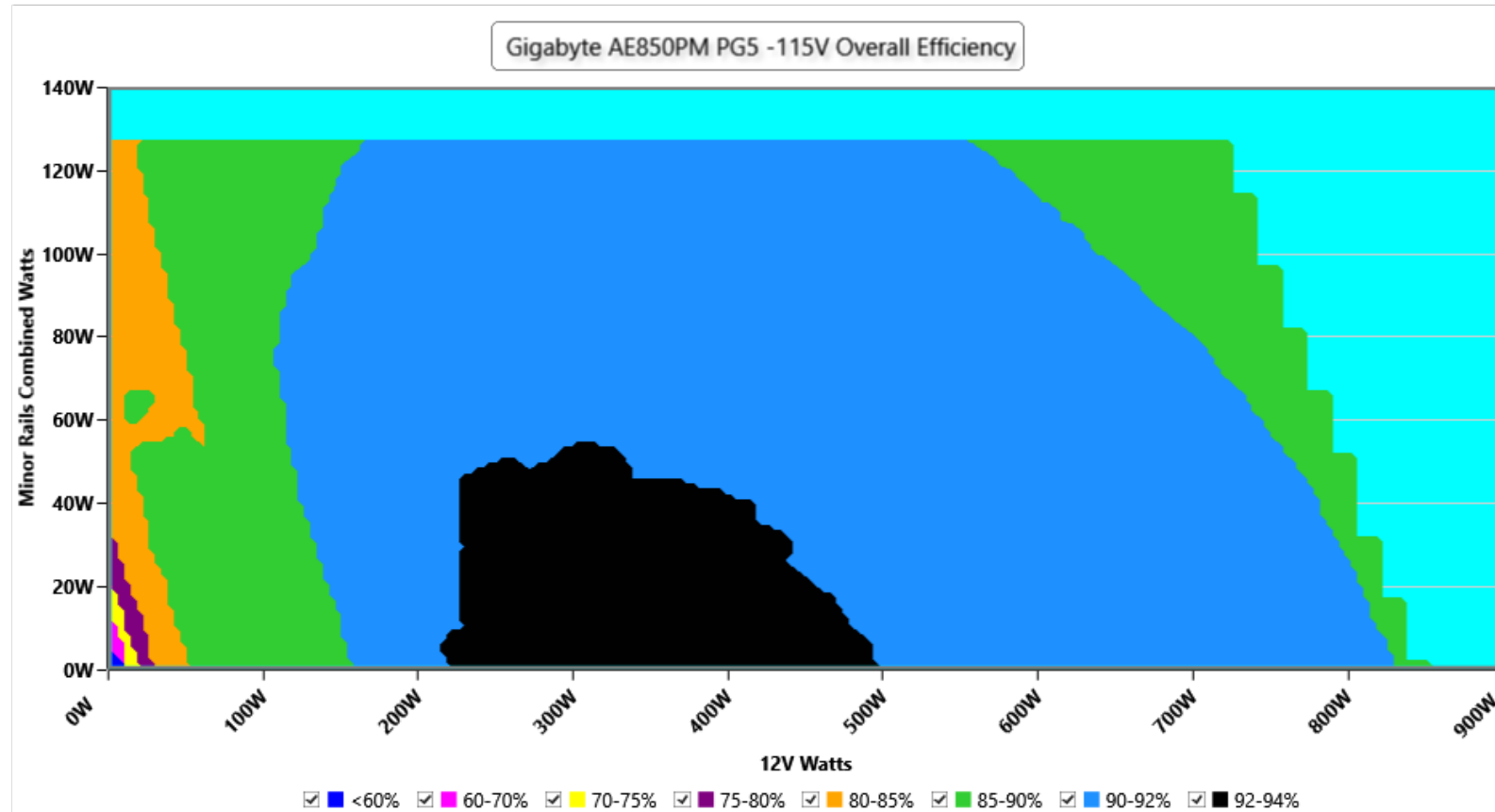
| Detailed Results   |          |          |           |          |           |        |
|--------------------|----------|----------|-----------|----------|-----------|--------|
|                    | Average  | Min      | Limit Min | Max      | Limit Max | Result |
| Mains Voltage RMS: | 115.01 V | 115.00 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     | 1.417    | 1.490     | PASS   |
| Mains Voltage THD: | 0.13 %   | 0.11 %   | N/A       | 0.16 %   | 2.00 %    | PASS   |
| Real Power:        | 0.032 W  | 0.015 W  | N/A       | 0.052 W  | N/A       | N/A    |
| Apparent Power:    | 8.832 W  | 8.807 W  | N/A       | 8.857 W  | N/A       | N/A    |
| Power Factor:      | 0.004    | N/A      | N/A       | N/A      | N/A       | N/A    |

#### 230V

| Detailed Results   |          |          |           |          |           |        |
|--------------------|----------|----------|-----------|----------|-----------|--------|
|                    | Average  | Min      | Limit Min | Max      | Limit Max | Result |
| Mains Voltage RMS: | 230.01 V | 230.01 V | 227.70 V  | 230.05 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:        | 0.048 W  | 0.014 W  | N/A       | 0.100 W  | N/A       | N/A    |
| Apparent Power:    | 28.733 W | 28.693 W | N/A       | 28.767 W | N/A       | N/A    |
| Power Factor:      | 0.001    | N/A      | N/A       | N/A      | N/A       | N/A    |

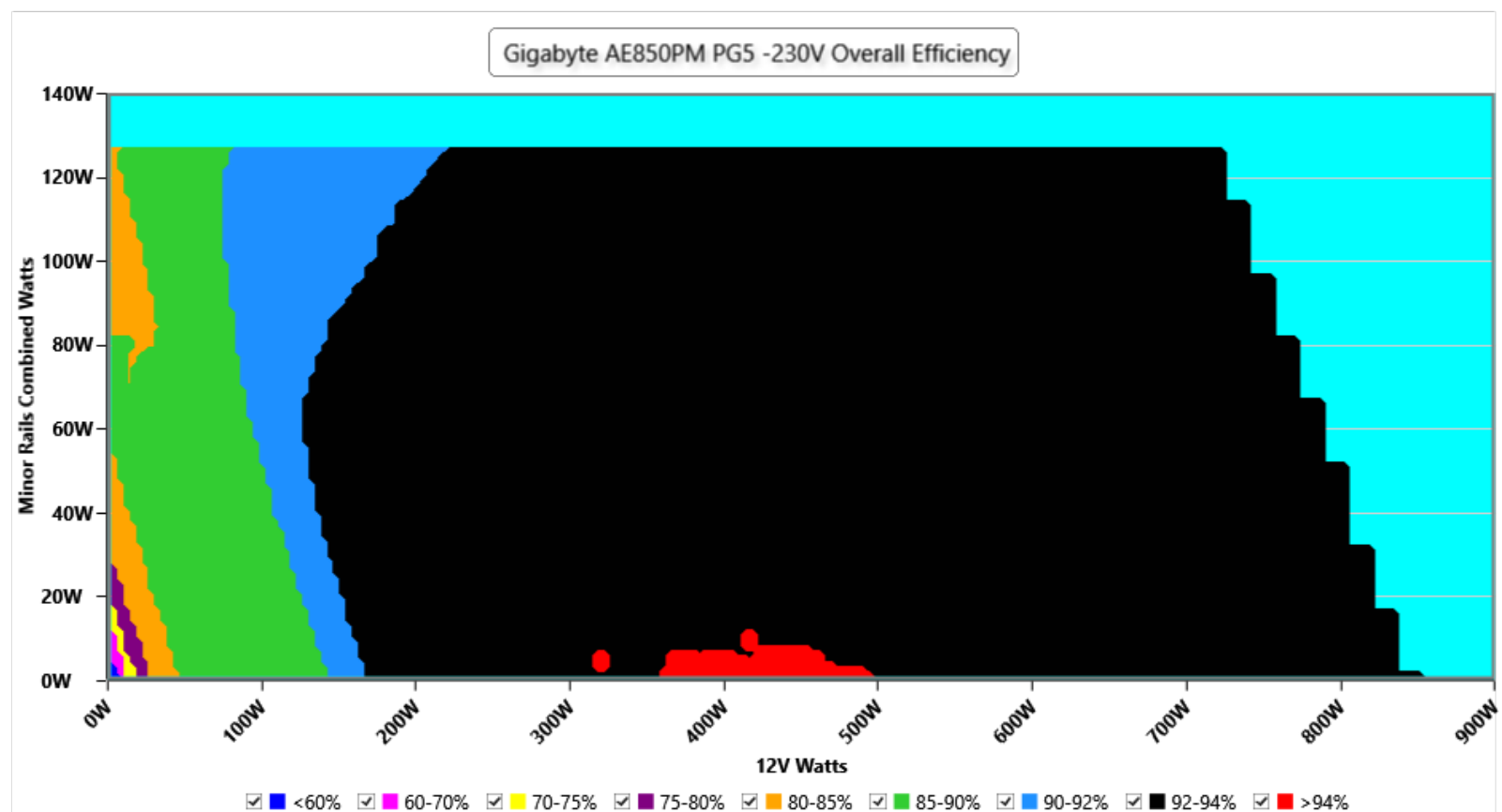
## Efficiency Graph

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

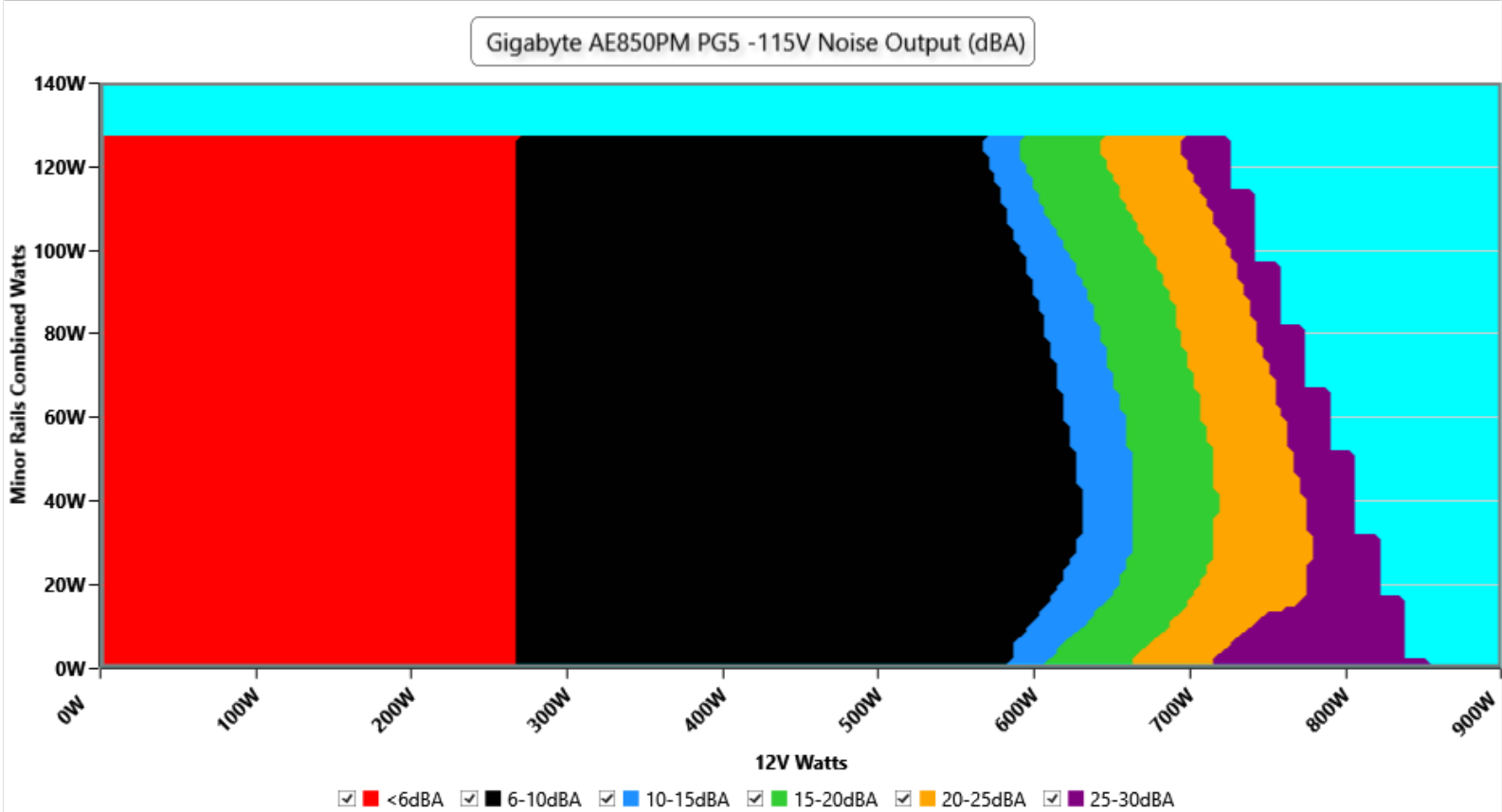


### INFO

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

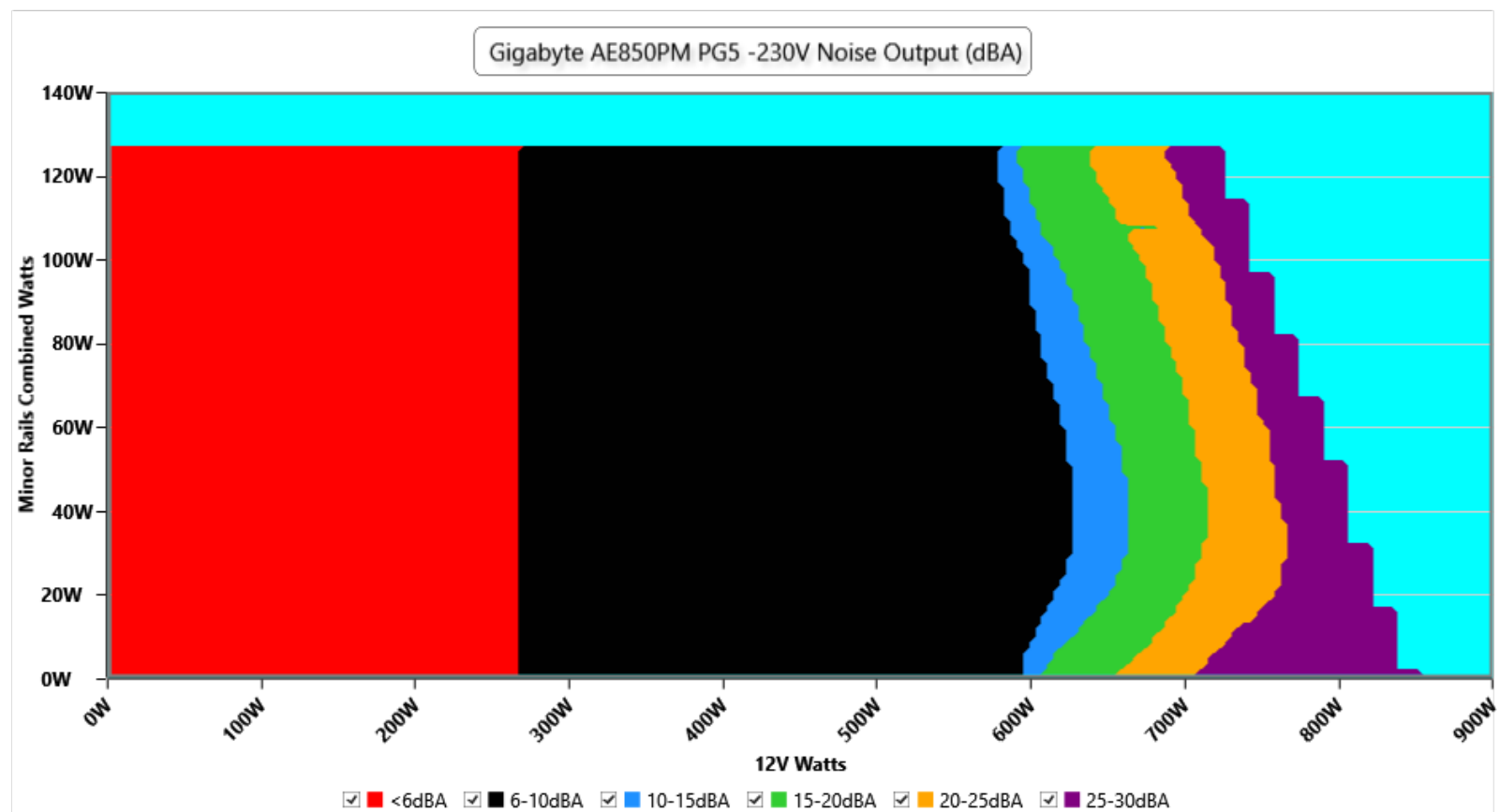
# Noise Graph

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

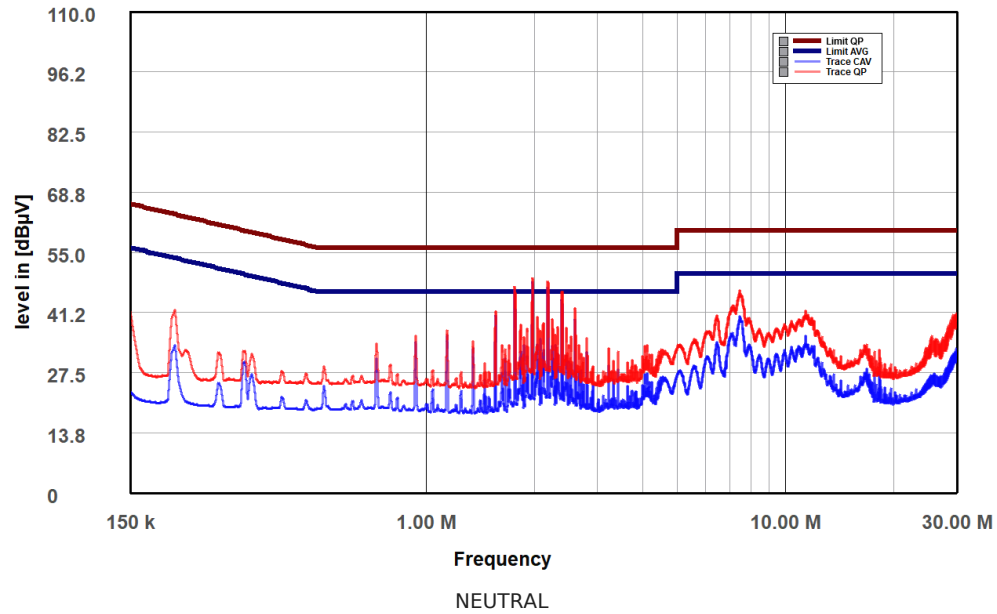


### INFO

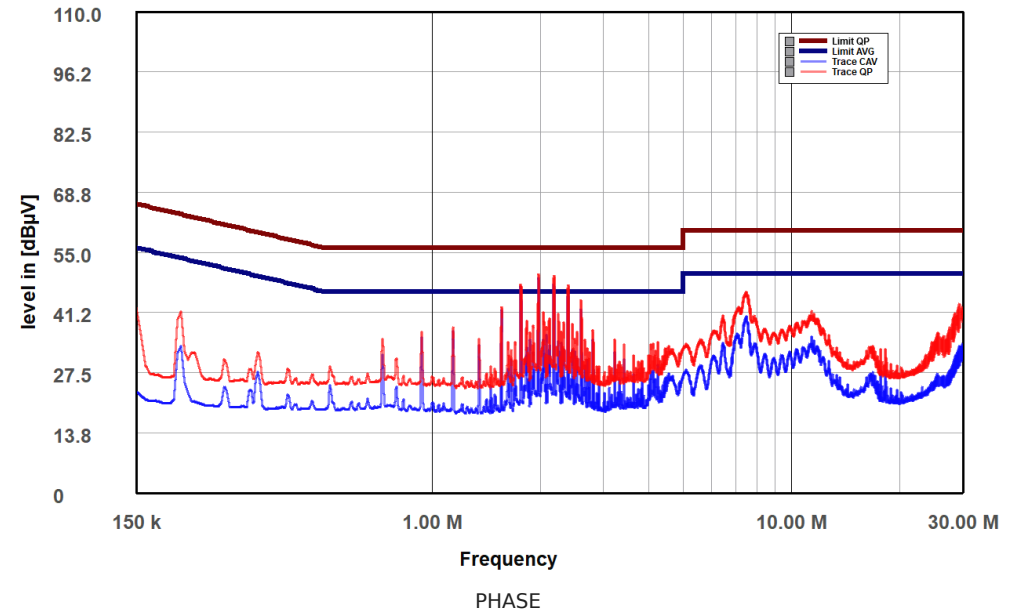
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

## Conducted Emissions EN 55032 & CISPR 32

Gigabyte AE850PM PG5 (GB85003057) Neutral



Gigabyte AE850PM PG5 (GB85003057) Phase

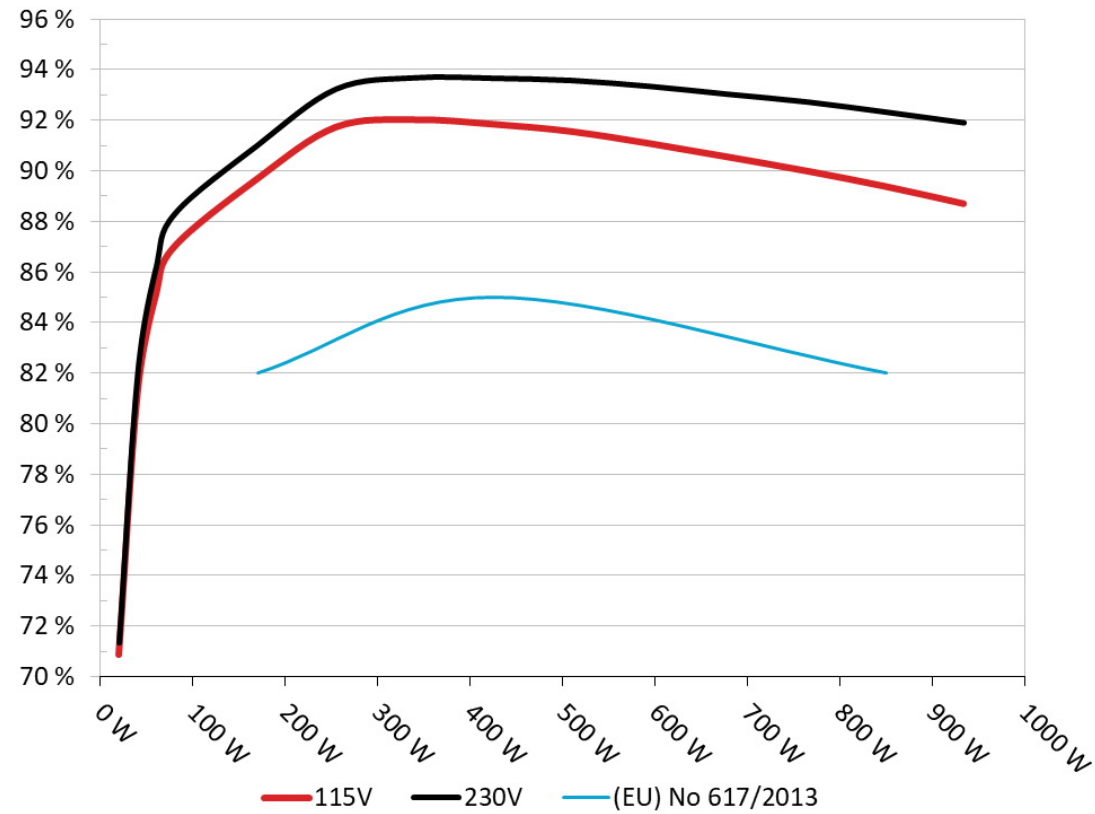


## Indicative Performance

### Efficiency under high ambient temperature

Efficiency: Gigabyte AE850PM PG5

Ambient: 36°C - 46°C (96.8°F - 114.8°F)



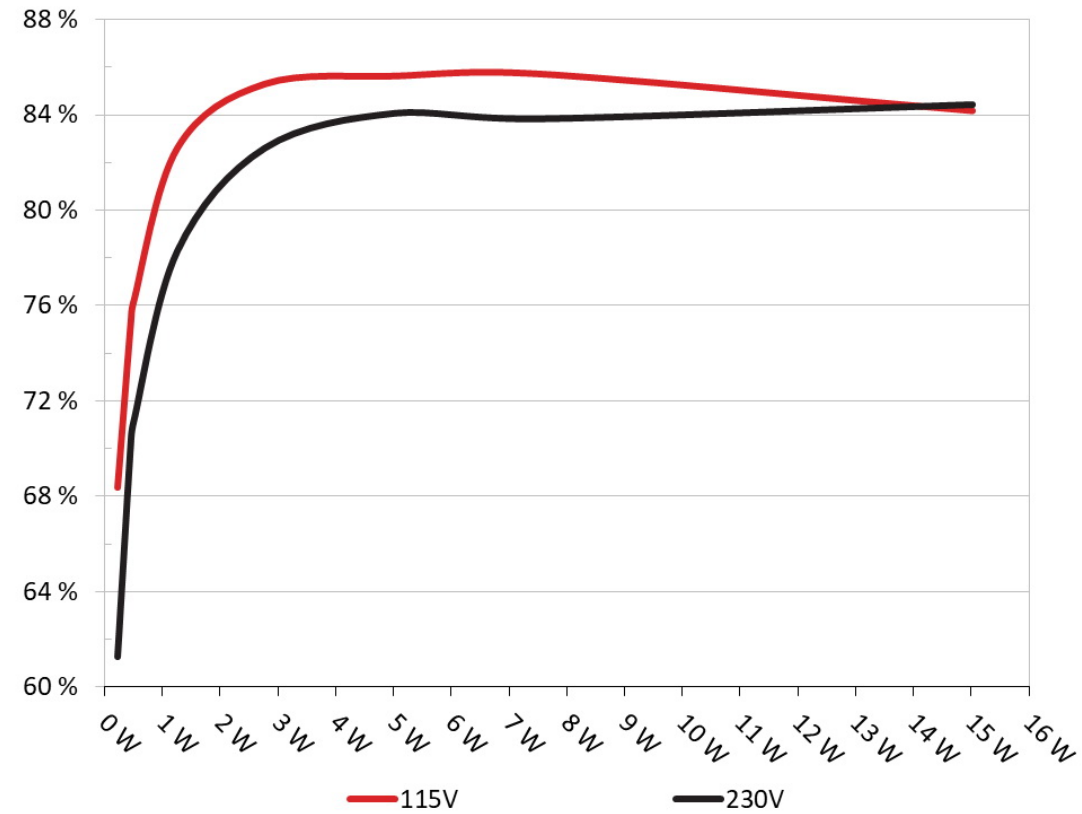
### INFO

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: Gigabyte AE850PM PG5

Ambient: 25°C - 30°C (77°F - 86°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 | 0.228W        | 68.378%    | 0.038       |
|        | 5.056V | 0.334W        |            | 115.08V     |
| 2      | 0.09A  | 0.455W        | 75.287%    | 0.069       |
|        | 5.055V | 0.605W        |            | 115.08V     |
| 3      | 0.55A  | 2.776W        | 85.32%     | 0.276       |
|        | 5.048V | 3.253W        |            | 115.08V     |
| 4      | 1A     | 5.04W         | 85.653%    | 0.37        |
|        | 5.04V  | 5.885W        |            | 115.08V     |
| 5      | 1.5A   | 7.548W        | 85.737%    | 0.415       |
|        | 5.032V | 8.805W        |            | 115.07V     |
| 6      | 3A     | 15.02W        | 84.193%    | 0.477       |
|        | 5.006V | 17.84W        |            | 115.07V     |

#### 230V

| Test # | 5VSB   | DC/AC (Watts) | Efficiency | PF/AC Volts |
|--------|--------|---------------|------------|-------------|
| 1      | 0.045A | 0.228W        | 61.269%    | 0.013       |
|        | 5.056V | 0.372W        |            | 230.25V     |
| 2      | 0.09A  | 0.455W        | 70.213%    | 0.023       |
|        | 5.055V | 0.648W        |            | 230.24V     |
| 3      | 0.55A  | 2.776W        | 82.602%    | 0.112       |
|        | 5.048V | 3.36W         |            | 230.22V     |
| 4      | 1A     | 5.04W         | 84.065%    | 0.182       |
|        | 5.04V  | 5.995W        |            | 230.21V     |
| 5      | 1.5A   | 7.548W        | 83.829%    | 0.244       |
|        | 5.031V | 9.004W        |            | 230.21V     |
| 6      | 3A     | 15.02W        | 84.421%    | 0.34        |
|        | 5.006V | 17.795W       |            | 230.21V     |

## Protection Features

|                                        |                                                                                                                                                                                      |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCP (Normal @ 28.6°C)                  | 12V: 92.80A (131.07%), 12.069V<br>5V: 31.5A (126.00%), 4.982V<br>3.3V: 31.7A (126.80%), 3.292V<br>5VSB: 4.1A (136.67%), 4.985V *High Ripple (103.64mV)                               |
| OCP (Hot @ 43.5°C)                     | 12V: 91.60A (129.38%), 12.077V<br>5V: 30.1A (120.40%), 4.829V *Voltage Drop(4.623V @ 30.4A)<br>3.3V: 30.6A (122.40%), 3.289V<br>5VSB: 3.8A (126.67%), 4.988V *High Ripple (103.64mV) |
| OPP (Normal @ 28.8°C)                  | 1098.61W (129.25%)                                                                                                                                                                   |
| OPP (Hot @ 43.4°C)                     | 1078.70W (126.91%)                                                                                                                                                                   |
| OTP                                    | ✓ (110°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 & Bypass Relay                                                                                                                                             |

## Supplementary Tests (For Reference)

### Typical Load Tests

115V

| Test | 12V     | 5V     | 3.3V   | 5VSB   | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|------|---------|--------|--------|--------|---------------|------------|-----------------|-------------------|----------------|-------------|
| 10%  | 5.242A  | 1.985A | 1.986A | 0.993A | 85.011        | 86.886%    | 0               | <6.0              | 52.91°C        | 0.964       |
|      | 12.095V | 5.039V | 3.324V | 5.035V | 97.843        |            |                 |                   | 40.27°C        | 115.04V     |
| 20%  | 11.500A | 2.981A | 2.982A | 1.194A | 169.961       | 89.707%    | 0               | <6.0              | 54.15°C        | 0.981       |
|      | 12.092V | 5.033V | 3.32V  | 5.027V | 189.464       |            |                 |                   | 40.87°C        | 115V        |
| 30%  | 18.111A | 3.482A | 3.482A | 1.395A | 254.974       | 91.75%     | 0               | <6.0              | 55.62°C        | 0.987       |
|      | 12.087V | 5.027V | 3.317V | 5.02V  | 277.907       |            |                 |                   | 41.24°C        | 114.97V     |
| 40%  | 24.730A | 3.985A | 3.984A | 1.596A | 340.069       | 92.041%    | 0               | <6.0              | 58.71°C        | 0.989       |
|      | 12.085V | 5.021V | 3.314V | 5.012V | 369.475       |            |                 |                   | 41.78°C        | 114.94V     |
| 50%  | 30.991A | 4.985A | 4.985A | 1.799A | 424.929       | 91.864%    | 605             | 6.9               | 42.03°C        | 0.991       |
|      | 12.081V | 5.017V | 3.31V  | 5.005V | 462.564       |            |                 |                   | 66.75°C        | 114.91V     |
| 60%  | 37.228A | 5.985A | 5.988A | 2A     | 509.455       | 91.577%    | 628             | 7.5               | 42.75°C        | 0.991       |
|      | 12.078V | 5.014V | 3.307V | 4.997V | 556.314       |            |                 |                   | 69.98°C        | 114.87V     |
| 70%  | 43.530A | 6.985A | 6.993A | 2.205A | 594.764       | 91.098%    | 1031            | 22.6              | 43.43°C        | 0.992       |
|      | 12.075V | 5.012V | 3.304V | 4.989V | 652.884       |            |                 |                   | 72.66°C        | 114.84V     |
| 80%  | 49.841A | 7.984A | 7.998A | 2.308A | 679.576       | 90.565%    | 1369            | 31.1              | 43.77°C        | 0.993       |
|      | 12.072V | 5.01V  | 3.3V   | 4.984V | 750.38        |            |                 |                   | 72.48°C        | 114.81V     |
| 90%  | 56.549A | 8.486A | 8.49A  | 2.411A | 764.991       | 90.01%     | 1616            | 35.8              | 44.86°C        | 0.994       |
|      | 12.069V | 5.009V | 3.298V | 4.978V | 849.898       |            |                 |                   | 72.7°C         | 114.77V     |

| 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>62.995A</b> | <b>8.988A</b>  | <b>9.014A</b>  | <b>3.023A</b> | 849.785       | 89.403%    | 1840            | 40.2              | 45.87°C        | 0.994       |
|             | 12.065V        | 5.007V         | 3.294V         | 4.964V        | 950.524       |            |                 |                   | 72.94°C        | 114.74V     |
| <b>110%</b> | <b>69.307A</b> | <b>9.991A</b>  | <b>10.117A</b> | <b>3.025A</b> | 934.321       | 88.721%    | 1975            | 42.0              | 46.28°C        | 0.995       |
|             | 12.063V        | 5.004V         | 3.291V         | 4.96V         | 1053.092      |            |                 |                   | 74.81°C        | 114.71V     |
| <b>CL1</b>  | <b>0.116A</b>  | <b>15.032A</b> | <b>14.984A</b> | <b>0A</b>     | 126.296       | 82.043%    | 210             | <6.0              | 51.02°C        | 0.979       |
|             | 12.098V        | 5.009V         | 3.31V          | 5.042V        | 153.939       |            |                 |                   | 40.79°C        | 115.02V     |
| <b>CL2</b>  | <b>0.116A</b>  | <b>25.148A</b> | <b>0A</b>      | <b>0A</b>     | 126.258       | 80.144%    | 0               | <6.0              | 56.69°C        | 0.98        |
|             | 12.104V        | 4.967V         | 3.321V         | 5.048V        | 157.544       |            |                 |                   | 40.54°C        | 115.02V     |
| <b>CL3</b>  | <b>0.114A</b>  | <b>0A</b>      | <b>25.069A</b> | <b>0A</b>     | 83.88         | 77.086%    | 0               | <6.0              | 60.98°C        | 0.97        |
|             | 12.102V        | 5.012V         | 3.29V          | 5.04V         | 108.814       |            |                 |                   | 39.88°C        | 115.03V     |
| <b>CL4</b>  | <b>70.401A</b> | <b>0A</b>      | <b>0A</b>      | <b>0A</b>     | 849.522       | 89.969%    | 1788            | 39.2              | 46.66°C        | 0.994       |
|             | 12.067V        | 5.018V         | 3.307V         | 5.022V        | 944.237       |            |                 |                   | 73.33°C        | 114.75V     |

The results above are not used in the certification process

## 230V

| est        | 12V            | 5V            | 3.3V          | 5VSB          | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|------------|----------------|---------------|---------------|---------------|---------------|------------|-----------------|-------------------|----------------|-------------|
| <b>10%</b> | <b>5.242A</b>  | <b>1.985A</b> | <b>1.986A</b> | <b>0.993A</b> | 85.008        | 88.108%    | 0               | <6.0              | 47.15°C        | 0.855       |
|            | 12.095V        | 5.038V        | 3.324V        | 5.035V        | 96.481        |            |                 |                   | 40.31°C        | 230.22V     |
| <b>20%</b> | <b>11.498A</b> | <b>2.982A</b> | <b>2.982A</b> | <b>1.194A</b> | 169.951       | 91.016%    | 0               | <6.0              | 48°C           | 0.928       |
|            | 12.092V        | 5.032V        | 3.32V         | 5.027V        | 186.727       |            |                 |                   | 40.67°C        | 230.21V     |
| <b>30%</b> | <b>18.110A</b> | <b>3.483A</b> | <b>3.482A</b> | <b>1.395A</b> | 254.96        | 93.234%    | 0               | <6.0              | 49.8°C         | 0.953       |
|            | 12.088V        | 5.026V        | 3.317V        | 5.02V         | 273.464       |            |                 |                   | 41.24°C        | 230.2V      |
| <b>40%</b> | <b>24.727A</b> | <b>3.985A</b> | <b>3.983A</b> | <b>1.596A</b> | 340.048       | 93.676%    | 0               | <6.0              | 51.03°C        | 0.966       |
|            | 12.086V        | 5.02V         | 3.314V        | 5.012V        | 363.004       |            |                 |                   | 41.86°C        | 230.19V     |

|      |         |         |         |        |          |         |      |      |         |         |
|------|---------|---------|---------|--------|----------|---------|------|------|---------|---------|
| 50%  | 30.984A | 4.984A  | 4.984A  | 1.798A | 424.861  | 93.657% | 605  | 6.9  | 42.37°C | 0.973   |
|      | 12.081V | 5.017V  | 3.311V  | 5.005V | 453.633  |         |      |      | 58.05°C | 230.18V |
| 60%  | 37.223A | 5.983A  | 5.987A  | 2A     | 509.389  | 93.568% | 612  | 7    | 42.65°C | 0.978   |
|      | 12.078V | 5.016V  | 3.308V  | 4.998V | 544.405  |         |      |      | 59.5°C  | 230.17V |
| 70%  | 43.525A | 6.983A  | 6.992A  | 2.205A | 594.697  | 93.336% | 852  | 16.3 | 43.45°C | 0.981   |
|      | 12.075V | 5.013V  | 3.304V  | 4.99V  | 637.157  |         |      |      | 62.28°C | 230.15V |
| 80%  | 49.835A | 7.982A  | 7.997A  | 2.307A | 679.513  | 93.024% | 1180 | 26.3 | 43.21°C | 0.983   |
|      | 12.072V | 5.011V  | 3.301V  | 4.984V | 730.474  |         |      |      | 62.39°C | 230.14V |
| 90%  | 56.547A | 8.484A  | 8.488A  | 2.41A  | 764.933  | 92.72%  | 1483 | 33.3 | 44.67°C | 0.985   |
|      | 12.069V | 5.009V  | 3.298V  | 4.979V | 824.988  |         |      |      | 62.29°C | 230.12V |
| 100% | 62.991A | 8.987A  | 9.013A  | 3.022A | 849.74   | 92.32%  | 1838 | 40.2 | 45.61°C | 0.986   |
|      | 12.066V | 5.007V  | 3.295V  | 4.964V | 920.428  |         |      |      | 63.19°C | 230.1V  |
| 110% | 69.302A | 9.99A   | 10.114A | 3.024A | 934.31   | 91.898% | 1973 | 42   | 46.28°C | 0.987   |
|      | 12.064V | 5.005V  | 3.292V  | 4.96V  | 1016.681 |         |      |      | 64.91°C | 230.09V |
| CL1  | 0.114A  | 15.028A | 14.978A | 0A     | 126.278  | 83.639% | 0    | <6.0 | 56.8°C  | 0.909   |
|      | 12.092V | 5.01V   | 3.311V  | 5.043V | 150.981  |         |      |      | 41.17°C | 230.24V |
| CL2  | 0.114A  | 25.011A | 0A      | 0A     | 126.243  | 81.665% | 0    | <6.0 | 50.04°C | 0.911   |
|      | 12.098V | 4.992V  | 3.323V  | 5.049V | 154.586  |         |      |      | 40.36°C | 230.24V |
| CL3  | 0.114A  | 0A      | 25.041A | 0A     | 83.875   | 78.246% | 0    | <6.0 | 45.13°C | 0.87    |
|      | 12.095V | 5.015V  | 3.294V  | 5.041V | 107.195  |         |      |      | 41.12°C | 230.25V |
| CL4  | 70.379A | 0A      | 0A      | 0A     | 849.462  | 92.971% | 1702 | 37.9 | 45.7°C  | 0.986   |
|      | 12.070V | 5.016V  | 3.304V  | 5.022V | 913.694  |         |      |      | 60.09°C | 230.11V |

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  | 1.228A  | 0.497A | 0.496A | 0.198A | 20.005        | 70.878%    | 0               | <6.0              | 50.26°C        | 0.875       |
|      | 12.095V | 5.029V | 3.328V | 5.052V | 28.225        |            |                 |                   | 36.28°C        | 115.07V     |

| Test       | 12V           | 5V            | 3.3V          | 5VSB          | DC/AC (Watts) | Efficiency | Fan Speed (RPM) | PSU Noise (dB[A]) | Temps (In/Out) | PF/AC Volts |
|------------|---------------|---------------|---------------|---------------|---------------|------------|-----------------|-------------------|----------------|-------------|
| <b>40W</b> | <b>2.703A</b> | <b>0.696A</b> | <b>0.694A</b> | <b>0.297A</b> | 40.005        | 81.163%    | 0               | <6.0              | 49.56°C        | 0.929       |
|            | 12.095V       | 5.028V        | 3.327V        | 5.049V        | 49.293        |            |                 |                   | 37.14°C        | 115.06V     |
| <b>60W</b> | <b>4.178A</b> | <b>0.895A</b> | <b>0.893A</b> | <b>0.396A</b> | 60.005        | 85.103%    | 0               | <6.0              | 50.93°C        | 0.949       |
|            | 12.094V       | 5.027V        | 3.326V        | 5.047V        | 70.512        |            |                 |                   | 38.28°C        | 115.05V     |
| <b>80W</b> | <b>5.649A</b> | <b>1.094A</b> | <b>1.092A</b> | <b>0.496A</b> | 79.956        | 87.008%    | 0               | <6.0              | 52.85°C        | 0.962       |
|            | 12.094V       | 5.027V        | 3.325V        | 5.044V        | 91.891        |            |                 |                   | 39.49°C        | 115.04V     |

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>1.228A</b> | <b>0.497A</b> | <b>0.496A</b> | <b>0.198A</b> | 20.003        | 71.352%    | 0               | <6.0              | 40.1°C         | 0.573       |
|            | 12.095V       | 5.03V         | 3.329V        | 5.052V        | 28.036        |            |                 |                   | 36.24°C        | 230.22V     |
| <b>40W</b> | <b>2.704A</b> | <b>0.696A</b> | <b>0.694A</b> | <b>0.297A</b> | 40.004        | 81.991%    | 0               | <6.0              | 41.25°C        | 0.721       |
|            | 12.094V       | 5.029V        | 3.327V        | 5.049V        | 48.789        |            |                 |                   | 37.46°C        | 230.22V     |
| <b>60W</b> | <b>4.178A</b> | <b>0.895A</b> | <b>0.893A</b> | <b>0.396A</b> | 60.004        | 86.189%    | 0               | <6.0              | 43.27°C        | 0.799       |
|            | 12.094V       | 5.028V        | 3.326V        | 5.047V        | 69.621        |            |                 |                   | 38.74°C        | 230.22V     |
| <b>80W</b> | <b>5.649A</b> | <b>1.094A</b> | <b>1.092A</b> | <b>0.496A</b> | 79.952        | 88.292%    | 0               | <6.0              | 45.48°C        | 0.845       |
|            | 12.094V       | 5.027V        | 3.325V        | 5.044V        | 90.555        |            |                 |                   | 39.14°C        | 230.22V     |

The results above are not used in the certification process

## Ripple Measurements

## 115V

| Test     | 12V     | 5V      | 3.3V   | 5VSB    | Pass/Fail |
|----------|---------|---------|--------|---------|-----------|
| 10% Load | 13.61mV | 10.97mV | 9.15mV | 7.90mV  | Pass      |
| 20% Load | 30.01mV | 12.57mV | 9.67mV | 8.15mV  | Pass      |
| 30% Load | 22.43mV | 12.26mV | 9.78mV | 11.25mV | Pass      |
| 40% Load | 24.54mV | 13.14mV | 9.78mV | 9.03mV  | Pass      |

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| 50% Load   | 27.07mV | 13.34mV | 11.01mV | 8.93mV  | Pass      |
| 60% Load   | 27.99mV | 13.09mV | 10.70mV | 13.93mV | Pass      |
| 70% Load   | 28.51mV | 12.62mV | 11.01mV | 15.23mV | Pass      |
| 80% Load   | 28.25mV | 13.65mV | 11.94mV | 18.94mV | Pass      |
| 90% Load   | 28.15mV | 13.86mV | 13.50mV | 28.44mV | Pass      |
| 100% Load  | 26.19mV | 20.45mV | 13.45mV | 28.96mV | Pass      |
| 110% Load  | 26.91mV | 11.23mV | 13.34mV | 31.07mV | Pass      |
| Crossload1 | 21.07mV | 15.97mV | 13.06mV | 13.97mV | Pass      |
| Crossload2 | 23.87mV | 21.79mV | 11.94mV | 13.94mV | Pass      |
| Crossload3 | 14.28mV | 22.41mV | 16.29mV | 14.92mV | Pass      |
| Crossload4 | 26.92mV | 10.45mV | 10.69mV | 20.72mV | Pass      |

The results above are not used in the certification process

## 230V

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| 10% Load   | 16.03mV | 11.90mV | 11.64mV | 9.24mV  | Pass      |
| 20% Load   | 33.05mV | 13.86mV | 11.79mV | 9.91mV  | Pass      |
| 30% Load   | 25.16mV | 13.45mV | 11.90mV | 11.61mV | Pass      |
| 40% Load   | 27.27mV | 14.11mV | 12.36mV | 10.79mV | Pass      |
| 50% Load   | 29.95mV | 14.58mV | 12.46mV | 15.07mV | Pass      |
| 60% Load   | 32.64mV | 15.15mV | 12.82mV | 10.48mV | Pass      |
| 70% Load   | 31.24mV | 14.27mV | 12.72mV | 24.26mV | Pass      |
| 80% Load   | 31.66mV | 15.09mV | 14.48mV | 25.39mV | Pass      |
| 90% Load   | 31.40mV | 15.66mV | 13.96mV | 25.03mV | Pass      |
| 100% Load  | 28.36mV | 13.45mV | 12.78mV | 24.98mV | Pass      |
| 110% Load  | 27.79mV | 12.98mV | 13.75mV | 25.86mV | Pass      |
| Crossload1 | 27.06mV | 18.41mV | 15.51mV | 15.61mV | Pass      |
| Crossload2 | 24.08mV | 23.95mV | 13.39mV | 16.16mV | Pass      |
| Crossload3 | 16.35mV | 23.39mV | 17.84mV | 17.04mV | Pass      |

| Test       | 12V     | 5V      | 3.3V    | 5VSB    | Pass/Fail |
|------------|---------|---------|---------|---------|-----------|
| Crossload4 | 31.09mV | 11.45mV | 12.27mV | 15.42mV | Pass      |

The results above are not used in the certification process

Gigabyte GP-AE850PM PG5 / PG5 ICE



Top side

# AE850PM PG5

POWER SUPPLY / 電源供應器 / 电源供应器 / 파워 서플라이

|                                                    |                                                                                                                                                                                                   |     |        |      |       |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|------|-------|
| MODEL NAME / 型號 / 型号 / 모델명                         | GP-AE850PM PG5                                                                                                                                                                                    |     |        |      |       |
| AC INPUT / 交流輸入 / 交流輸入 / 입력                        | Input Voltage 輸入電壓/輸入電壓: 100-240V~<br>Input Current 輸入電流/輸入電流: 10-6A Frequency 頻率/頻率: 60-50Hz<br>輸入電壓: 200-240V, 輸入電流: 10-6A 頻率: 60-50Hz (只適用於中國地區)<br>200-240V, 10-6A 60-50Hz For Korea Use Only |     |        |      |       |
| PFC                                                | ACTIVE PFC                                                                                                                                                                                        |     |        |      |       |
| DC OUTPUT / 直流輸出 / 直流輸出 / 출력                       | +3.3V                                                                                                                                                                                             | +5V | +12V   | -12V | +5Vsb |
| MAX LOAD<br>最大電流 / 最大電流 / 최대 로드                    | 25A                                                                                                                                                                                               | 25A | 70.8A  | 0.3A | 3A    |
| MAXIMUM COMBINED WATTAGE<br>最大瓦特數 / 最大瓦特數 / 최대 와트수 | 125W                                                                                                                                                                                              |     | 849.6W | 3.6W | 15W   |
|                                                    | 850W                                                                                                                                                                                              |     |        |      |       |

Caution! Hazardous  
-Hazardous Voltage inside.  
-Do not open the power supply cover.  
-Trained personnel only.  
-No serviceable components inside.

製造商: 技嘉科技股份有限公司  
Giga-Byte Technology Co., Ltd.  
No. 5, Secung Rd., Taipei City, 20144 New Taipei City, TAIWAN

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警告: 內有高壓電路。請勿打開外殼。避免發生危險。

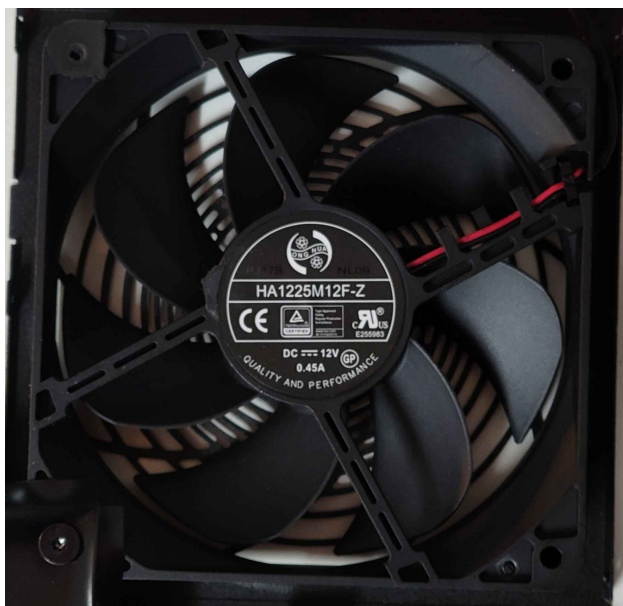
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Power specifications label

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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 Internals

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

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