# Thermaltake Smart Pro RGB Bronze 850W

Serial Number PSSPR0850FPCBEURMU000014

Lab ID 106

Certification ID 25106

Test Result Report ID:

Certificate Issue Date: Sep 5, 2018

115V

Scheme: ETA-EMI PSU




115V




Scheme: LAMBDA PSU



Aristeidis Bitziopoulos, Certification Body General Manager

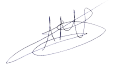
# General Information

## 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 | Cybenetics PSU Test Protocol |

## DUT Information(Non-accredited measurements)

| | |
|---|---|
| Product Identification Details | |
| Brand | Thermaltake |
| Model | Smart Pro RGB Bronze 850W |
| OEM/ODM | Sirfa |
| Serial Number | PSSPR0850FPCBEURMU000014 |
| Product Specifications | |
| Manufacturer-Provided Information | |
| Rated Voltage (Vrms) | 100-240 |
| Rated Current (Arms) | 15 |
| Rated Frequency (Hz) | 50-60 |

| | |
|---|---|
| Rated Power (W) | 850 |
| Operating Temperature (Continuous Full Load) (°C) | |
| Type | ATX12V |
| Cable Design | Fully Modular |
| Warranty | - |
| Cybenetics Measurements | |
| Dimensions (W x H x D) | |
| Weight | |
| Cooling | 140mm HDB RGB Fan<br>(TT-1425/A1425H12S) |
| Semi-Passive Operation | ✗ |
| Cybenetics Testing Information | |
| Lab ID | 106 |
| Date of receipt | Aug 29, 2018 |
| Testing Date | Sep 2, 2018 |
| Report Issued Date | Sep 5, 2018 |
| Engineer Name | - |
| Authorized By the Laboratory Technical Manager | Aristeidis Bitziopoulos |
| Signature |  |

## Cables and Connectors(Non-accredited measurements)

| Modular Cables | | | |
|---|---|---|---|
| Description | Cable Count | Connector Count (Total) | Gauge |
| ATX connector 20+4 pin (600mm) | 1 | 1 | 18AWG |
| 4+4 pin EPS12V (650mm) | 1 | 1 | 18AWG |
| 6+2 pin PCIe (500mm+150mm) | 2 | 4 | 18AWG |
| SATA (500mm+150mm+150mm) | 3 | 9 | 18AWG |
| 4 pin Molex (500mm+150mm+150mm) | 2 | 6 | 18AWG |
| FDD Adapter (+150mm) | 1 | 1 | 22AWG |

## Power Specifications

| Rail | | 3.3V | 5V | 12V | 5VSB | -12V |
|---|---|---|---|---|---|---|
| Max. Power | Amps | 22 | 22 | 70.5 | 3 | 0.5 |
| | Watts | 140 | | 846 | 15 | 6 |
| Total Max. Power (W) | | 850 | | | | |

## Parts Description

| General Data | |
|---|---|
| Manufacturer (OEM) | Sirfa |
| Platform Model | - |
| Primary Side | |
| Transient Filter | 4x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x CM02X |
| Inrush Protection | NTC Thermistor |
| Bridge Rectifier(s) | 2x GBU805 (600V, 8A @ 125°C) |
| APFC MOSFETS | 2x Infineon SPW20N60C3 (650V, 13.1A @ 100°C, 0.19Ohm) |
| APFC Boost Diode | 1x UnisonicBYC15-600 (600V, 15A @ 98°C) |
| Hold-up Cap(s) | 1x Rubycon (400V, 680uF, 2000h @ 105°C, MXH) |
| Main Switchers | 2x Infineon IPA50R140CP<br>(550V, 15A @ 100°C, 0.14Ohm) |
| Combo APFC/PWM Controller | Champion CM6806 & CM03AX Green PFC controller |
| Topology | Primary side: Double-Forward<br>Secondary side: Synchronous Rectification & DC-DC converters |
| Secondary Side | |
| +12V MOSFETS | 4x Infineon IPP052NE7N3 G (75V, 80A @ 100°C, 5.2mOhm) |
| 5V & 3.3V | DC-DC Converters: 8x Infineon IPD060N03L G (30V, 50A @ 100°C, 6mOhm)<br>PWM Controller: Anpec APW7159C |
| Filtering Capacitors | Electrolytics: Teapo (1-3,000h @ 105°C, SC)<br>Polymers: Teapo |
| Supervisor IC | SITI PS224 (OVP, UVP, OCP, SCP, PG) |
| Fan Model | A1425H12S (140mm, 9 - 13.8V, 0.39A, 1800RPM, 97.2CFM, 36.2dBA) |
| 5VSB Circuit | |

| | |
|---|---|
| Switching FET | 1x UTC 2N60L (600V, 2A @ 25°C, |

## 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 | ✓ |

### Performance Summary 115V

| | |
|---|---|
| Accredited | |
| Average Efficiency (>1450 load combinations) | 84.746% |
| Average Noise Output (>1450 Load Combinations) | 39.42dBA |
| Average PF (>1450 Load Combinations) | 0.986 |
| Efficiency With 10W (≤500W) or 2% (>500W) Load | - |
| Standby Power Consumption | 0.0567W |
| Non-Accredited | |
| 12V Ripple (Full Load) | 25.70mV |
| 5V Ripple (Full Load) | 11.77mV |
| 3.3V Ripple (Full Load) | 17.54mV |
| 5VSB Ripple (Full Load) | 19.17mV |
| 12V Load Regulation | 1.94% |
| 5V Load Regulation | 2.19% |
| 3.3V Load Regulation | 4.52% |
| 5VSB Load Regulation | 5.80% |
| Inrush Current | 33.450A |

## Hold-Up Time & PWR_OK Signal

| | |
|---|---|
| Hold-Up Time (ms) | 13.6 |
| AC Loss to PWR_OK Hold Up Time (ms) | 11.7 |
| PWR_OK Inactive to DC Loss Delay (ms) | 1.9 |

## Vampire Power