HyperX PS-4851-2 850W

Serial Number -

Lab ID HX85002530

Certification ID 252530

Test Result Report ID: 24PS2530A

Certificate Issue Date: Aug 10, 2024

Scheme: ETA-EMI PSU

115V

230V

Scheme: LAMBDA PSU

115V

230V

Outside Validation Scope

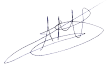
General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 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	HyperX
Model	PS-4851-2 850W
OEM/ODM	Lite-On
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	5.1-10

Rated Frequency (Hz)	50-60
Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	0 - 50
Type	ATX12V
Cable Design	Fully Modular
Warranty	No info
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 160mm
Weight	1.52 kg (3.35 lb)
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	HX85002530
Date of receipt	Aug 2, 2024
Testing Date	Aug 7, 2024
Report Issued Date	Aug 10, 2024
Engineer Name	Georgios Theodoros Sarimpalas
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	**Cable Count**	**Connector Count (Total)**	**Gauge**	In Cable Capacitors
ATX connector 20+4 pin (595mm)	1	1	18-22AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (650mm)	2	2	18AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-24AWG	No
SATA (465mm+115mm+115mm+115mm)	1	4	18AWG	No
SATA (455mm+115mm+115mm)	2	6	18AWG	No
4-pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No

Protection Features(Manufacturer)

Over Power Protection	✓
Over Current (+12V) Protection	✗
Over Temperature Protection	✓
Short Circuit Protection	✗
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✗

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70	3	0
	Watts	130		850	15	0
Total Max. Power (W)		850				

Parts Description

General Data	
Manufacturer (OEM)	Lite-On
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	2x NTC Thermistor SCK 105 (10 Ohm @25°C) & Relay
Bridge Rectifier(s)	2x GBU808 (800V, 8A @ 100°C)
APFC MOSFETs	2x Infineon IPA60R180P7 (650V, 11A @ 100°C, Rds(on): 0.180Ohm)
APFC Boost Diode	WeEn WNSC5D04650X (650V, 4A @ 93°C)
Bulk Cap(s)	2x Rubycon (450V, 390uF or 780uF combined, 3,000h @ 105°C,MXG)
Main Switchers	2x Toshiba TK16A60W (600V, 15.8A @ 100°C, Rds(on): 0.19Ohm)
PFC/LLC Controller	NXP TEA2017AAT
Topology	Primary side: APFC, Half-Bridge & LLC Resonant Converter Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters
Secondary Side	

+12V MOSFETs	6x Silan SVG042R1NL5 (40V, 81A @ 100°C, Rds(on): 2.1mOhm)
5V & 3.3V	DC-DC Converters: 2x XEMI XP3NA3R4MT (30V, 46A @ 100°C, Rds(on): 3.4mOhm) 2x UBIQ QN3106M6N (30V, 57A @ 100°C, Rds(on): 3.8mOhm) PWM Controller(s): uPI Semi uP3861P
Filtering Capacitors	Electrolytic: 2x Nippon Chemi-Con (2-5,000h @ 105°C, KZE) 4x Rubycon (10,000h @ 105°C, YXM) TK (105°C) Polymer: 29x Nippon Chemi-Con
Supervisor IC	IN1T703I-SDG
Synchronous Rectifier	MPS MP6924B
Fan Controller	Weltrend WT763001
Fan Model	Hong Hua HA13525H12F-Z (135mm, 12V, 0.50A, Fluid Dynamic Bearing Fan)
5VSB	
Rectifier	1x
Standby PWM Controller	Excellence MOS EM8569D

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)	89.028%
Average Noise Output (>1450 Load Combinations)	25.24dBA
Average PF (>1450 Load Combinations)	0.983
Efficiency With 10W (≤500W) or 2% (>500W) Load	81.141%
Standby Power Consumption	0.0477W
Non-Accredited	
12V Ripple (Full Load)	28.65mV
5V Ripple (Full Load)	24.75mV
3.3V Ripple (Full Load)	23.05mV
5VSB Ripple (Full Load)	16.81mV
12V Load Regulation	0.57%
5V Load Regulation	0.58%
3.3V Load Regulation	1.80%
5VSB Load Regulation	2.51%
Inrush Current	41.910A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.370%
Average Noise Output (>1450 Load Combinations)	24.88dBA
Average PF (>1450 Load Combinations)	0.959
Efficiency With 10W (≤500W) or 2% (>500W) Load	80.535%
Standby Power Consumption	0.1234W
Non-Accredited	
12V Ripple (Full Load)	27.17mV
5V Ripple (Full Load)	25.97mV
3.3V Ripple (Full Load)	23.68mV

5VSB Ripple (Full Load)		18.33mV
12V Load Regulation		0.83%
5V Load Regulation		0.58%
3.3V Load Regulation		1.86%
5VSB Load Regulation		2.68%
Inrush Current		79.970A
12V Transient Response (200%)		11.31V
5V Transient Response (200%)		4.975V
3.3V Transient Response (200%)		3.158V
5VSB Transient Response (200%)		4.968V
Hold-Up Time & PWR_OK Signal		23.50ms
AC Loss to PWR_OK Hold Up Time		21.60ms
PWR_OK Inactive to DC Loss Delay		1.90ms
PSU Timings: T1 (20% / 100%)	57.0ms	53.0ms
PSU Timings: T3 (20% / 100%)	111.0ms	110.0ms
12V OCP (30.9°C / 44.9°C)	91.40A (130.57%), 12.091V	88.80A (126.86%), 12.101V
5V OCP (30.9°C / 44.9°C)	24.8A (124.00%), 5.102V	24.7A (123.50%), 5.095V
3.3V OCP (30.9°C / 44.9°C)	25.1A (125.50%), 3.222V	25.1A (125.50%), 3.221V
5VSB OCP (30.9°C / 44.9°C)	5.6A (186.67%), 4.908V	5.4A (180.00%), 4.912V
OPP (27.31°C / 43.78°C)	134.90%	122.54%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	23.5
AC Loss to PWR_OK Hold Up Time (ms)	21.6
PWR_OK Inactive to DC Loss Delay (ms)	1.9

Stromverbrauch im Ruhezustand

Tables

115V

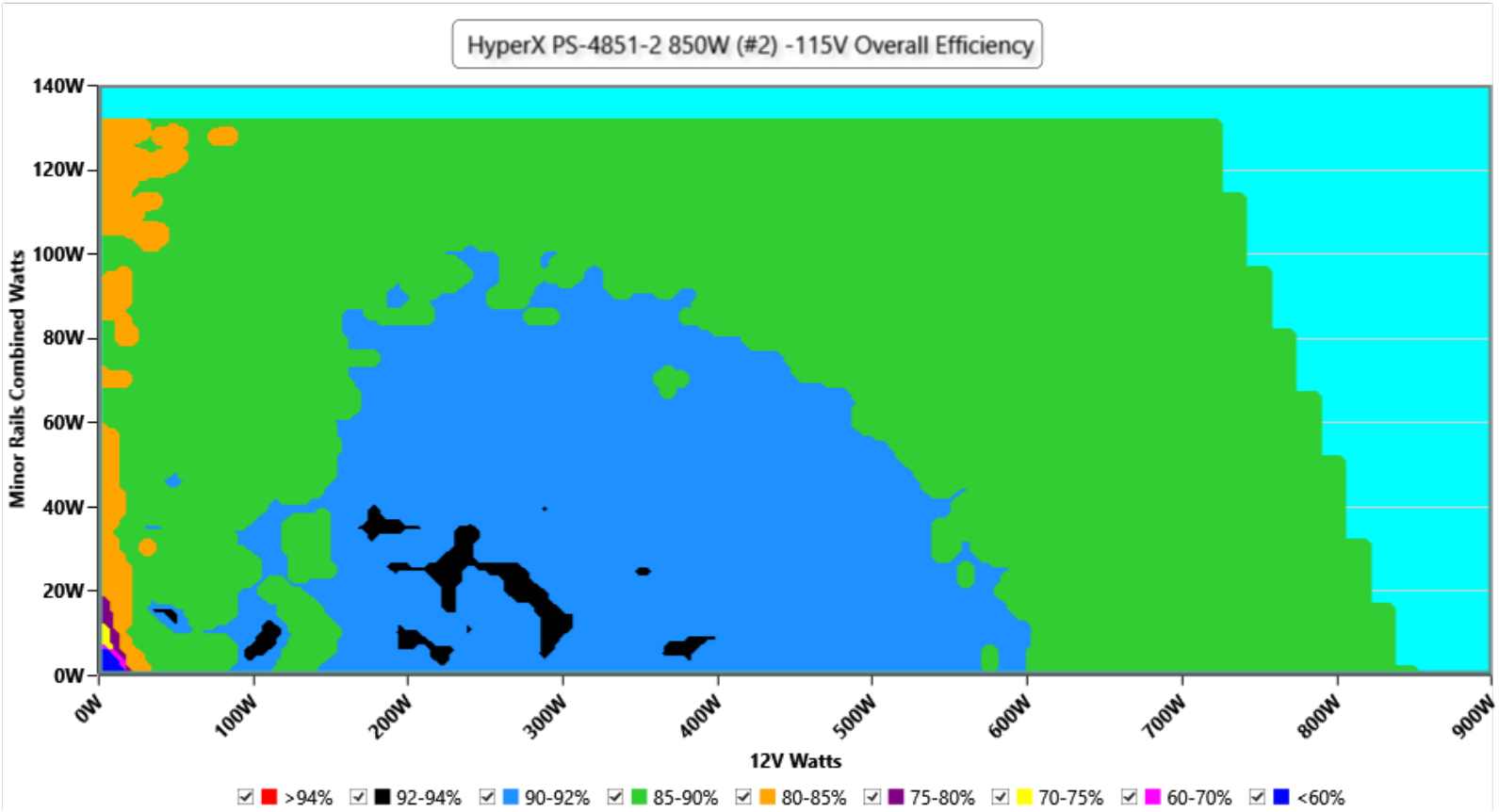
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.10 V	115.05 V	113.85 V	115.12 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.96 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.048 W	0.002 W	N/A	0.082 W	N/A	N/A
Apparent Power:	11.640 W	10.844 W	N/A	12.479 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.05 V	230.94 V	227.70 V	231.10 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.417	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.15 %	N/A	0.26 %	2.00 %	PASS
Real Power:	0.123 W	0.092 W	N/A	0.171 W	N/A	N/A
Apparent Power:	37.496 W	36.214 W	N/A	38.883 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

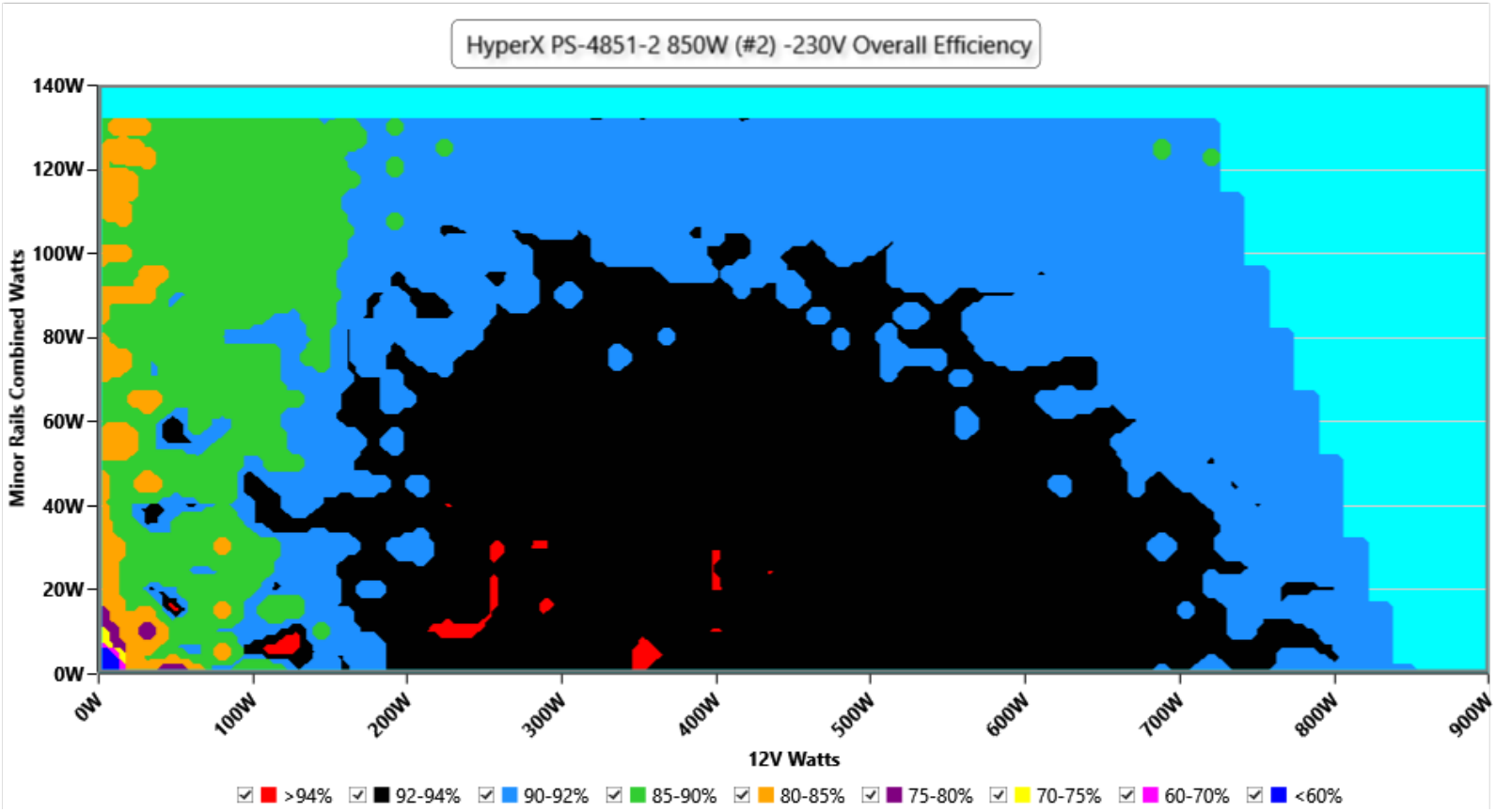
115V



INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

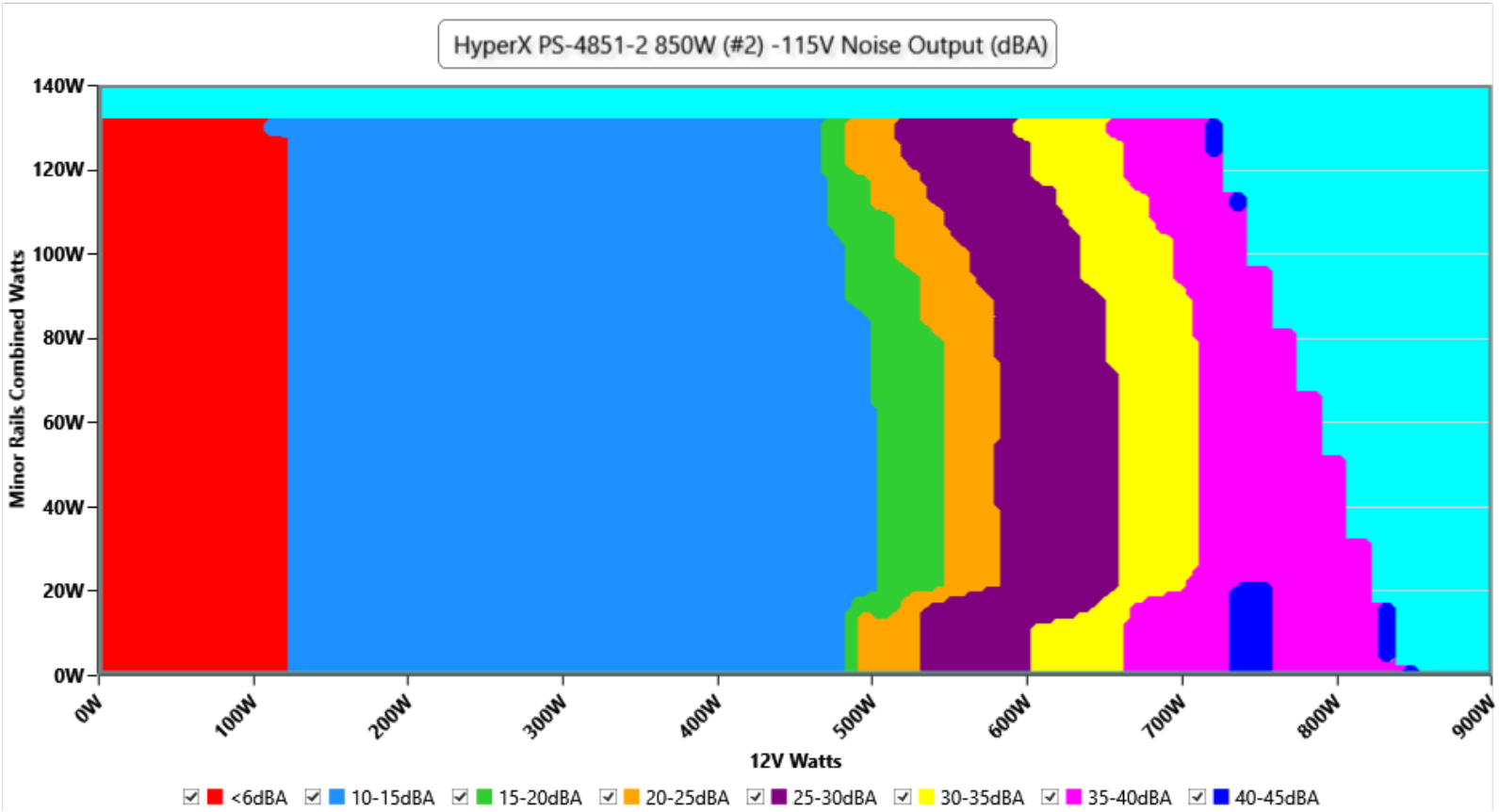


INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

Noise Graph

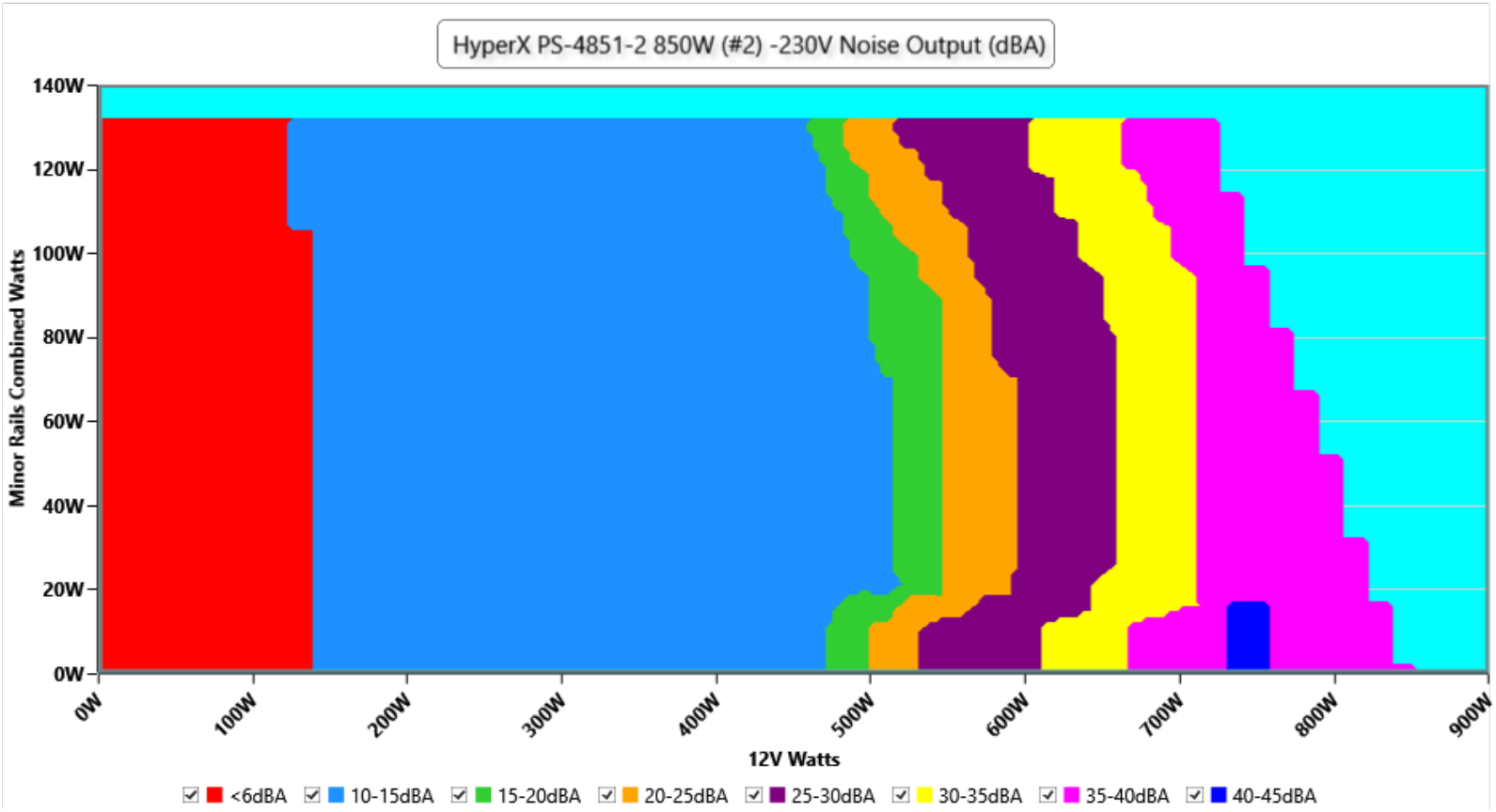
115V



INFO

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

230V

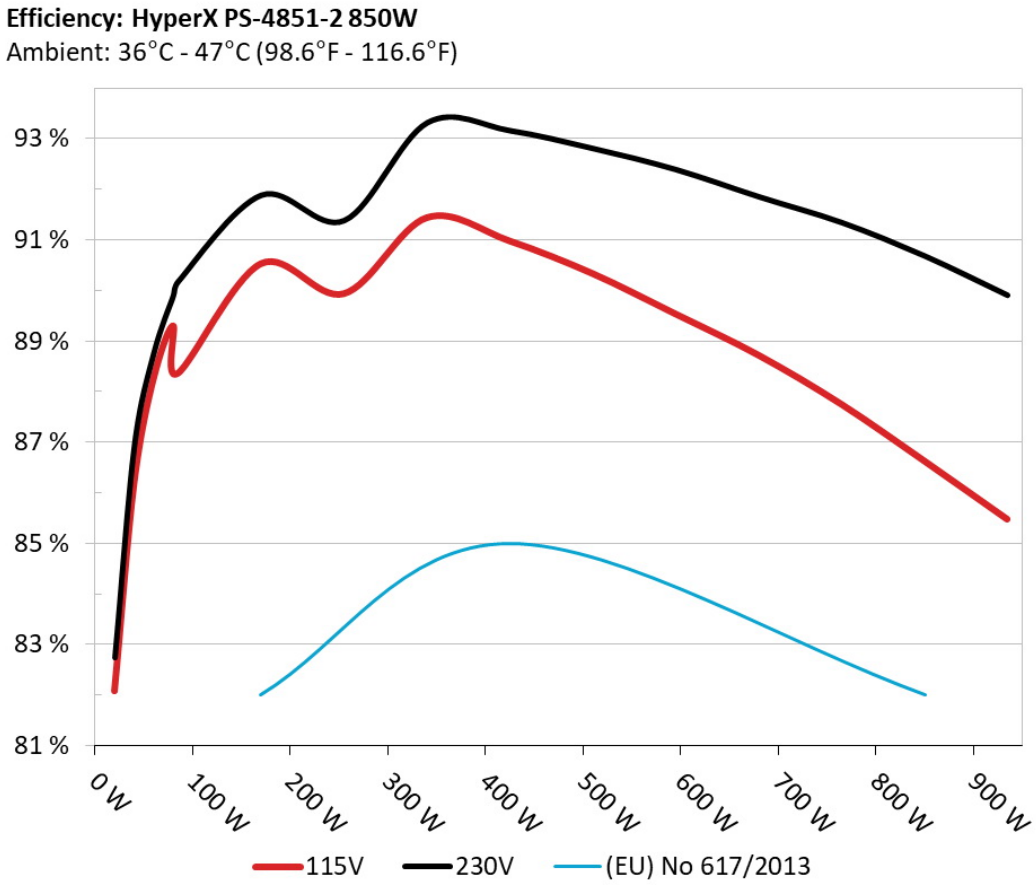


INFO

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

Indicative Performance

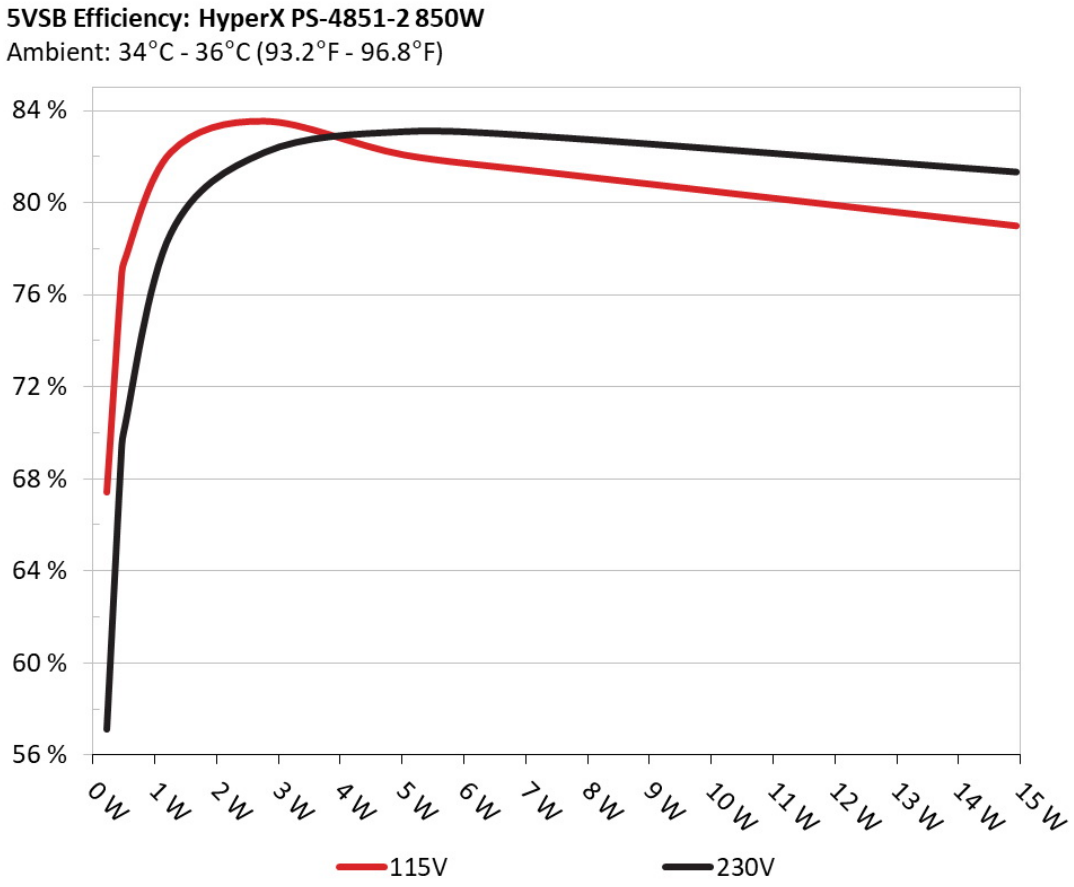
Efficiency under high ambient temperature



INFO

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

5VSB Efficiency



INFO

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

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.228W	67.415%	0.031
	5.063V	0.338W		114.88V
2	**0.09A**	0.456W	76.426%	0.055
	5.061V	0.597W		114.88V
3	**0.55A**	2.777W	83.556%	0.262
	5.049V	3.324W		114.87V
4	**1A**	5.036W	82.087%	0.391
	5.036V	6.135W		114.87V
5	**1.5A**	7.533W	81.276%	0.473
	5.022V	9.268W		114.87V
6	**3A**	14.939W	79.003%	0.566
	4.98V	18.91W		114.86V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.228W	57.1%	0.011
	5.063V	0.399W		229.93V
2	**0.09A**	0.456W	68.732%	0.018
	5.062V	0.663W		229.94V
3	**0.55A**	2.777W	82.159%	0.09
	5.049V	3.38W		229.93V
4	**1A**	5.036W	83.062%	0.156
	5.036V	6.063W		229.94V
5	**1.5A**	7.533W	82.807%	0.22
	5.022V	9.097W		229.93V
6	**3A**	14.94W	81.309%	0.341
	4.98V	18.374W		229.93V

Protection Features

OCP (Normal @ 30.9°C)	12V: 91.40A (130.57%), 12.091V 5V: 24.8A (124.00%), 5.102V 3.3V: 25.1A (125.50%), 3.222V 5VSB: 5.6A (186.67%), 4.908V
OCP (Hot) @ 44.9°C)	12V: 88.80A (126.86%), 12.101V 5V: 24.7A (123.50%), 5.095V 3.3V: 25.1A (125.50%), 3.221V 5VSB: 5.4A (180.00%), 4.912V
OPP (Normal @ 27.3°C)	1146.63W (134.90%)
OPP (Hot @ 43.8°C)	1041.63W (122.54%)
OTP	✓ (170°C @ Secondary Side)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV 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%	**5.224A**	**1.938A**	**1.986A**	**0.992A**	85.006	88.369%	0	<6.0	45.93°C	0.943
	12.135V	5.161V	3.324V	5.041V	95.264				40.06°C	114.84V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	**11.464A**	**2.908A**	**2.984A**	**1.193A**	169.945	90.536%	0	<6.0	46.56°C	0.972
	12.129V	5.158V	3.318V	5.03V	187.773				40.64°C	114.82V
30%	**18.051A**	**3.394A**	**3.485A**	**1.394A**	254.924	89.943%	662	13.4	41.44°C	0.985
	12.126V	5.156V	3.314V	5.02V	283.469				51.3°C	114.79V
40%	**24.651A**	**3.881A**	**3.987A**	**1.597A**	339.985	91.449%	662	13.4	41.65°C	0.989
	12.121V	5.154V	3.31V	5.009V	371.786				51.77°C	114.77V
50%	**30.893A**	**4.854A**	**4.994A**	**1.801A**	424.744	90.986%	662	13.4	42.08°C	0.993
	12.114V	5.151V	3.304V	4.999V	466.795				53.86°C	114.73V
60%	**37.119A**	**5.829A**	**6.005A**	**2A**	509.271	90.345%	869	23	42.77°C	0.994
	12.109V	5.148V	3.297V	4.988V	563.714				54.9°C	114.7V
70%	**43.422A**	**6.804A**	**7.019A**	**2.21A**	594.634	89.542%	1101	29.6	43.08°C	0.995
	12.102V	5.145V	3.291V	4.977V	664.096				55.4°C	114.67V
80%	**49.729A**	**7.779A**	**8.036A**	**2.314A**	679.453	88.727%	1350	36.2	43.7°C	0.996
	12.097V	5.141V	3.285V	4.969V	765.761				56.33°C	114.64V
90%	**56.434A**	**8.269A**	**8.534A**	**2.418A**	764.87	87.75%	1593	43.4	44.18°C	0.996
	12.092V	5.139V	3.281V	4.962V	871.658				56.84°C	114.6V
100%	**62.898A**	**8.76A**	**9.065A**	**3.037A**	849.665	86.628%	1807	48.4	45.85°C	0.996
	12.083V	5.137V	3.276V	4.939V	980.767				59.17°C	114.58V
110%	**69.203A**	**9.741A**	**10.189A**	**3.04A**	934.251	85.48%	1813	48.8	46.23°C	0.996
	12.080V	5.133V	3.268V	4.934V	1092.962				62.06°C	114.54V
CL1	**0.117A**	**15.251A**	**15.826A**	**0A**	131.317	83.278%	663	13.5	40.89°C	0.964
	12.143V	5.134V	3.26V	5.06V	157.721				55.44°C	114.83V
CL2	**0.115A**	**19.492A**	**0A**	**0A**	101.39	83.616%	661	13.4	40.39°C	0.953
	12.146V	5.13V	3.325V	5.066V	121.263				51.74°C	114.84V
CL3	**0.114A**	**0A**	**20.341A**	**0A**	67.377	77.584%	659	13.4	40.46°C	0.938
	12.140V	5.159V	3.245V	5.062V	86.901				48.78°C	114.84V
CL4	**70.151A**	**0A**	**0A**	**0A**	849.428	87.61%	1766	44.5	45.78°C	0.996
	12.109V	5.153V	3.314V	5.032V	969.588				56.27°C	114.59V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	**5.228A**	**1.939A**	**1.985A**	**0.993A**	85.002	90.184%	0	<6.0	45.62°C	0.904
	12.127V	5.158V	3.324V	5.037V	94.124				40.13°C	229.92V
20%	**11.470A**	**2.911A**	**2.985A**	**1.194A**	169.934	91.888%	0	<6.0	50.32°C	0.926
	12.122V	5.154V	3.317V	5.027V	184.928				40.51°C	229.91V
30%	**18.066A**	**3.397A**	**3.487A**	**1.395A**	254.935	91.388%	664	13.5	41.39°C	0.947
	12.116V	5.152V	3.313V	5.017V	278.924				46.05°C	229.9V
40%	**24.678A**	**3.884A**	**3.989A**	**1.599A**	340.022	93.322%	662	13.4	41.76°C	0.96
	12.108V	5.15V	3.309V	5.004V	364.335				45.96°C	229.89V
50%	**30.935A**	**4.859A**	**4.997A**	**1.803A**	424.825	93.163%	663	13.5	42.3°C	0.971
	12.100V	5.146V	3.302V	4.993V	455.964				48.29°C	229.87V
60%	**37.177A**	**5.834A**	**6.009A**	**2A**	509.343	92.813%	871	23	42.72°C	0.978
	12.093V	5.143V	3.295V	4.982V	548.731				48.46°C	229.87V
70%	**43.495A**	**6.811A**	**7.024A**	**2.213A**	594.679	92.395%	1104	29.6	43.15°C	0.983
	12.084V	5.14V	3.289V	4.97V	643.673				48.62°C	229.85V
80%	**49.825A**	**7.786A**	**8.043A**	**2.318A**	679.501	91.857%	1313	36.7	43.74°C	0.987
	12.074V	5.137V	3.282V	4.962V	739.688				48.91°C	229.84V
90%	**56.559A**	**8.277A**	**8.542A**	**2.423A**	764.922	91.343%	1593	43.4	44.92°C	0.99
	12.065V	5.134V	3.278V	4.953V	837.48				49.93°C	229.82V
100%	**63.054A**	**8.768A**	**9.074A**	**3.043A**	849.721	90.683%	1810	48.8	45.8°C	0.992
	12.054V	5.132V	3.273V	4.93V	937.018				51.45°C	229.81V
110%	**69.395A**	**9.751A**	**10.199A**	**3.046A**	934.3	89.908%	1812	48.9	46.52°C	0.994
	12.048V	5.128V	3.265V	4.924V	1039.091				52.27°C	229.8V
CL1	**0.117A**	**15.262A**	**15.831A**	**0A**	131.325	84.393%	664	13.5	41.01°C	0.923
	12.137V	5.13V	3.259V	5.056V	155.656				47.42°C	229.93V
CL2	**0.115A**	**19.506A**	**0A**	**0A**	101.394	84.781%	662	13.4	40.83°C	0.923
	12.141V	5.127V	3.325V	5.063V	119.777				46.51°C	229.93V
CL3	**0.114A**	**0A**	**20.351A**	**0A**	67.38	78.52%	660	13.5	40.21°C	0.892
	12.135V	5.153V	3.243V	5.058V	85.908				44.76°C	229.93V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	**70.336A**	**0A**	**0A**	**0A**	849.489	91.405%	1765	44.5	45.27°C	0.992
	12.078V	5.146V	3.312V	5.024V	929.327				49.09°C	229.81V

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	**1.222A**	**0.484A**	**0.495A**	**0.198A**	19.994	82.079%	0	<6.0	43.3°C	0.491
	12.151V	5.167V	3.335V	5.063V	24.372				36.41°C	114.87V
40W	**2.690A**	**0.678A**	**0.693A**	**0.296A**	39.994	86.185%	0	<6.0	43.28°C	0.664
	12.150V	5.166V	3.333V	5.059V	46.4				37.42°C	114.86V
60W	**4.160A**	**0.871A**	**0.891A**	**0.396A**	59.997	88.265%	0	<6.0	44.86°C	0.926
	12.147V	5.165V	3.332V	5.056V	68.085				38.6°C	114.86V
80W	**5.633A**	**1.065A**	**1.09A**	**0.495A**	79.947	89.308%	0	<6.0	45.84°C	0.94
	12.128V	5.164V	3.33V	5.053V	89.656				39.25°C	114.85V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	**1.222A**	**0.484A**	**0.495A**	**0.198A**	19.995	82.742%	0	<6.0	43.77°C	0.356
	12.154V	5.162V	3.334V	5.062V	24.176				36.97°C	229.94V
40W	**2.690A**	**0.678A**	**0.693A**	**0.296A**	39.996	86.94%	0	<6.0	46.12°C	0.501
	12.152V	5.161V	3.333V	5.058V	46.015				37.67°C	229.93V
60W	**4.160A**	**0.872A**	**0.891A**	**0.396A**	59.996	88.775%	0	<6.0	45.61°C	0.836
	12.147V	5.161V	3.331V	5.055V	67.363				38.05°C	229.93V
80W	**5.632A**	**1.066A**	**1.09A**	**0.495A**	79.938	89.909%	0	<6.0	46.5°C	0.896
	12.127V	5.16V	3.329V	5.051V	88.788				39.18°C	229.93V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	23.40mV	17.67mV	16.75mV	13.16mV	Pass
20% Load	38.25mV	19.89mV	18.46mV	14.55mV	Pass
30% Load	51.97mV	23.13mV	23.89mV	14.92mV	Pass
40% Load	17.11mV	18.80mV	18.05mV	15.07mV	Pass
50% Load	20.73mV	19.11mV	19.13mV	14.30mV	Pass
60% Load	19.39mV	19.42mV	18.05mV	15.17mV	Pass
70% Load	21.45mV	19.78mV	20.17mV	14.97mV	Pass
80% Load	19.18mV	20.51mV	19.96mV	14.50mV	Pass
90% Load	20.00mV	21.43mV	21.25mV	14.55mV	Pass
100% Load	28.65mV	24.75mV	23.05mV	16.81mV	Pass
110% Load	31.03mV	25.23mV	22.16mV	17.05mV	Pass
Crossload1	37.01mV	26.61mV	23.52mV	17.57mV	Pass
Crossload2	34.08mV	33.02mV	32.47mV	21.73mV	Pass
Crossload3	25.57mV	19.06mV	21.87mV	17.29mV	Pass
Crossload4	24.75mV	21.88mV	21.23mV	18.63mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	26.65mV	18.08mV	17.79mV	14.50mV	Pass
20% Load	38.25mV	18.08mV	18.62mV	14.61mV	Pass
30% Load	54.24mV	22.05mV	24.35mV	15.33mV	Pass
40% Load	16.55mV	19.21mV	17.94mV	14.87mV	Pass
50% Load	17.33mV	18.03mV	20.22mV	14.81mV	Pass
60% Load	17.27mV	18.49mV	18.15mV	15.69mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	18.77mV	19.27mV	19.24mV	15.23mV	Pass
80% Load	19.85mV	20.76mV	19.60mV	16.62mV	Pass
90% Load	21.29mV	21.43mV	22.60mV	15.43mV	Pass
100% Load	27.17mV	25.97mV	23.68mV	18.33mV	Pass
110% Load	28.98mV	26.83mV	24.42mV	18.96mV	Pass
Crossload1	40.26mV	27.88mV	24.31mV	19.24mV	Pass
Crossload2	31.97mV	23.91mV	19.75mV	17.34mV	Pass
Crossload3	26.09mV	19.89mV	21.20mV	17.34mV	Pass
Crossload4	27.10mV	21.91mV	21.98mV	20.78mV	Pass

The results above are not used in the certification process

HyperX PS-4851-2 850W

Top side

Power specifications label

Cybenetics bietet freiwillige Zertifizierungsprogramme für Netzteile – ETA für Effizienz, LAMBDA für Lautstärke und SAFE für Sicherheit und korrekten Betrieb – sowie für Kühlprodukte mit DELTA für die Schalldämmung von Gehäusen und PHI für Luftstrom und statischen Druck von Lüftern