Super Flower Combat SFP ATX3.1 1000W

Serial Number N2512CW001177

Lab ID SF10003212

Certification ID 263212

Test Result Report ID: 26PS3212A

Certificate Issue Date: Mar 26, 2026

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	Super Flower
Model	Combat SFP ATX3.1 1000W
OEM/ODM	CWT
Serial Number	N2512CW001177
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	6.5-13
Rated Frequency (Hz)	50-60
Rated Power (W)	1000
Operating Temperature (Continuous Full Load) (°C)	0 - 40
Type	SFX
Cable Design	Fully Modular
Warranty	No Info
Cybenetics Measurements	
Dimensions (W x H x D)	125 x 63.5 x 100mm
Weight	960g (2.12 lb)
Cooling	92mm Fluid Dynamic Bearing Fan (HA9215SH12FD-F00)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	SF10003212
Date of receipt	Feb 11, 2026
Testing Date	Mar 12, 2026
Report Issued Date	Mar 26, 2026
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 (350mm)	1	1	16-20AWG	Tinned Copper
4+4 pin ATX12V (450mm)	2	2	16AWG	Tinned Copper
6+2 pin PCIe (400mm+150mm)	2	4	16-18AWG	Tinned Copper
12+4 pin PCIe (400mm) (600W)	1	1	16-24AWG	Tinned Copper
SATA (300mm+150mm+150mm+150mm)	2	8	18AWG	Tinned Copper

Modular Cables				
4-pin Molex (300mm+150mm+150mm+150mm)	1	4	18AWG	Tinned Copper
AC Power Cord (1400mm) - C13 coupler	1	1	14AWG	-

Protection Features

Under Voltage Protection	✓
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	83.3	3	0.3
	Watts	100		999.6	15	3.6
Total Max. Power (W)		1000				

Parts Description

General Data	
Manufacturer (OEM)	CWT
PCB Type	Double-Sided
Primary Side	
Transient Filter	2x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x Sync Power SP687 (X2 Capacitor Discharge IC)
Inrush Protection	1x NTC Thermistor SCK-056 (5 Ohm @ 25°C) & Relay
Bridge Rectifier	2x Vishay GBUE2560 (600V, 25A @ 100°C)
APFC MOSFETs	2x Infineon IPW60R060P7 (650V, 30A @ 100°C, Rds(on): 0.06Ohm)
APFC Boost Diode	Infineon IDH16G65C6 (650V, 16A @ 135°C)
Bulk Cap(s)	1x Rubycon (420V, 820uF, 2000h @ 105°C, MXE)

Main Switchers	2x Infineon IPA60R099P6 (650V, 24A @ 100°C, Rds(on): 0.099Ohm)
APFC Controller	Champion CM6500UNX & Sync Power SPN5003 (reducing no load consumption)
Resonant Controller	Champion CM6901T2X
IC Driver	2x Silicon Labs Si8233BD
Topology	Primary side: APFC, Half-Bridge & LLC Resonant Converter Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters
Secondary Side	
+12V MOSFETs	8x Infineon BSC010N04LS (40V, 178A @ 100°C, Rds(on): 1.0mOhm)
5V & 3.3V	DC-DC Converters: 4x Excelliance MOS EMB04N03 (30V, 45A @ 100°C, Rds(on): 4.0mOhm) PWM Controller(s): Anpec APW7159C
Filtering Capacitors	Electrolytic: 1x Nichicon (4-10,000h @105°C, HE(M)) 1x Nippon Chemi-con (@105°C, W) 1x Rubycon (4-10,000h @105°C, YXJ) 1x Rubycon (2-10,000 @ 105°C, YXF) 2x Rubycon (6-10,000h @105°C, ZLH) Polymer: 12x Nichicon FPCAP, 2x Nippon Chemi-con
Supervisor IC	Weltrend WT7518 (OVP, UVP, OCP, PG)
Fan Model	Hong Hua HA9215SH12FD-F00 (92mm, 12V, 0.46A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	Infineon ISC0702NLS (60V, 95A @ 100°C, Rds(on): 2.8mOhm)
Standby PWM Controller	Power Integrations INN3164C

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	✓
Conducted Emissions EN 55032 & CISPR 32	Passed

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.212%
Average Noise Output (>1450 Load Combinations)	38.02dBA
Average PF (>1450 Load Combinations)	0.986
Efficiency With 10W (≤500W) or 2% (>500W) Load	64.314%
Standby Power Consumption	0.0532W
Non-Accredited	
12V Ripple (Full Load)	49.75mV
5V Ripple (Full Load)	37.56mV
3.3V Ripple (Full Load)	32.17mV
5VSB Ripple (Full Load)	38.71mV
12V Load Regulation	0.50%
5V Load Regulation	1.21%
3.3V Load Regulation	1.26%
5VSB Load Regulation	5.40%
Inrush Current	27.020A

230V

Accredited	
Average Efficiency (>1450 load combinations)	92.050%
Average Noise Output (>1450 Load Combinations)	37.81dBA
Average PF (>1450 Load Combinations)	0.952
Efficiency With 10W (≤500W) or 2% (>500W) Load	65.714%
Standby Power Consumption	0.0996W
Non-Accredited	

12V Ripple (Full Load)		50.68mV
5V Ripple (Full Load)		38.28mV
3.3V Ripple (Full Load)		32.58mV
5VSB Ripple (Full Load)		38.71mV
12V Load Regulation		0.56%
5V Load Regulation		1.19%
3.3V Load Regulation		1.26%
5VSB Load Regulation		5.36%
Inrush Current		68.780A
12V Transient Response (200%)		11.48V
5V Transient Response (200%)		4.905V
3.3V Transient Response (200%)		3.194V
5VSB Transient Response (200%)		4.916V
Hold-Up Time & PWR_OK Signal		13.40ms
AC Loss to PWR_OK Hold Up Time		11.60ms
PWR_OK Inactive to DC Loss Delay		1.80ms
PSU Timings: T1 (20% / 100%)	54.0ms	50.0ms
PSU Timings: T3 (20% / 100%)	130.0ms	129.0ms
12V OCP (29.5°C / 43.6°C)	108.00A (129.65%), 12.070V	108.40A (130.13%), 12.085V
5V OCP (29.5°C / 43.6°C)	24.9A (124.50%), 4.933V	24.9A (124.50%), 4.931V
3.3V OCP (29.5°C / 43.6°C)	29.2A (146.00%), 3.264V	29.3A (146.50%), 3.264V
5VSB OCP (29.5°C / 43.6°C)	4.8A (160.00%), 4.752V *Voltage Drop (4.593V@6.1A)	4.8A (160.00%), 4.751V *Voltage Drop (4.568V@6.1A)
OPP (30.07°C / 44.07°C)	129.25%	129.50%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	13.4
AC Loss to PWR_OK Hold Up Time (ms)	11.6
PWR_OK Inactive to DC Loss Delay (ms)	1.8

Stromverbrauch im Ruhezustand

Tables

115V

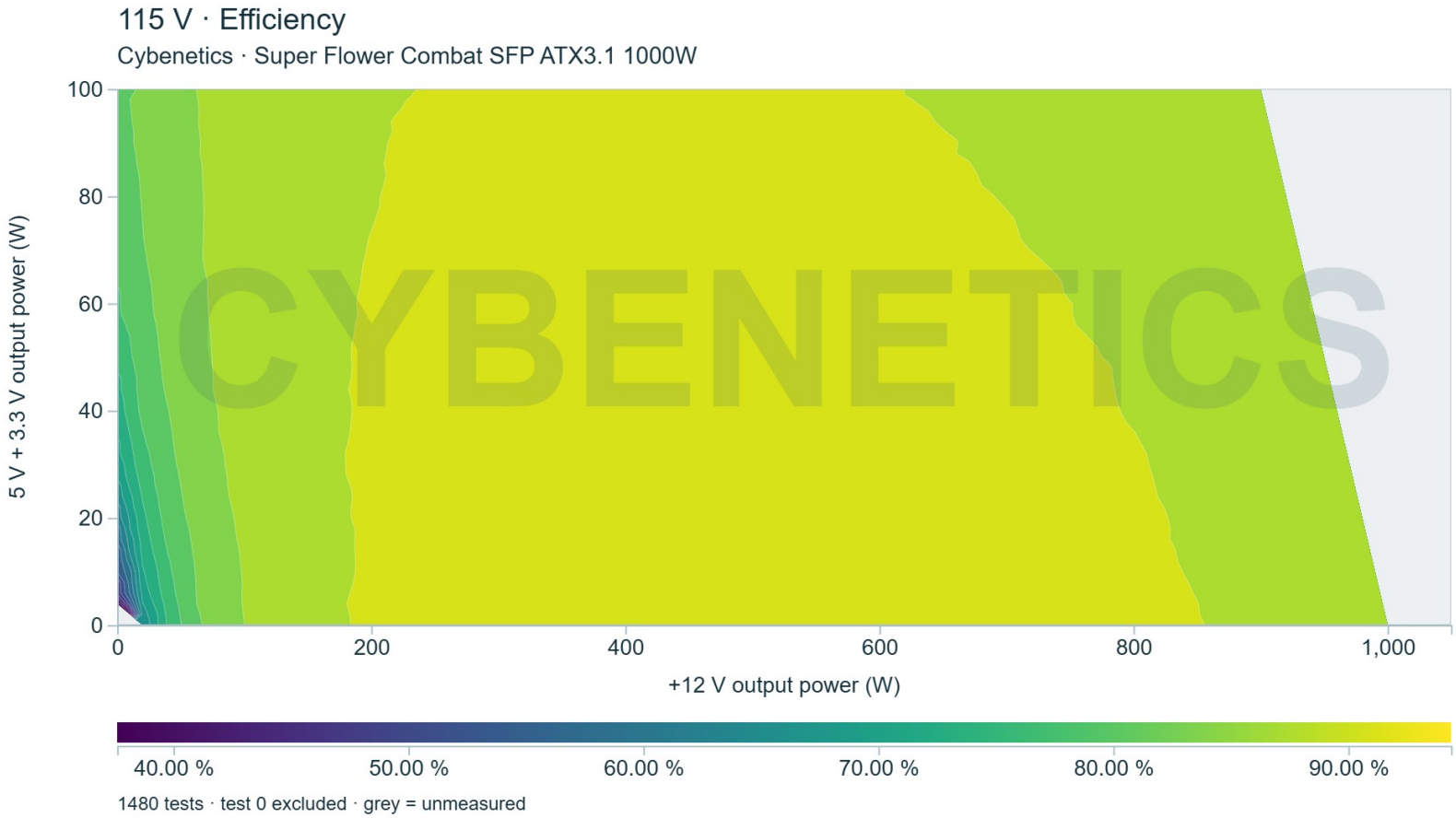
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.02 V	115.00 V	113.85 V	115.05 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.13 %	0.11 %	N/A	0.16 %	2.00 %	PASS
Real Power:	0.053 W	-0.003 W	N/A	0.100 W	N/A	N/A
Apparent Power:	11.316 W	11.296 W	N/A	11.338 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:	230.10 V	230.07 V	227.70 V	230.11 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 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:	0.100 W	0.052 W	N/A	0.176 W	N/A	N/A
Apparent Power:	37.292 W	37.260 W	N/A	37.327 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

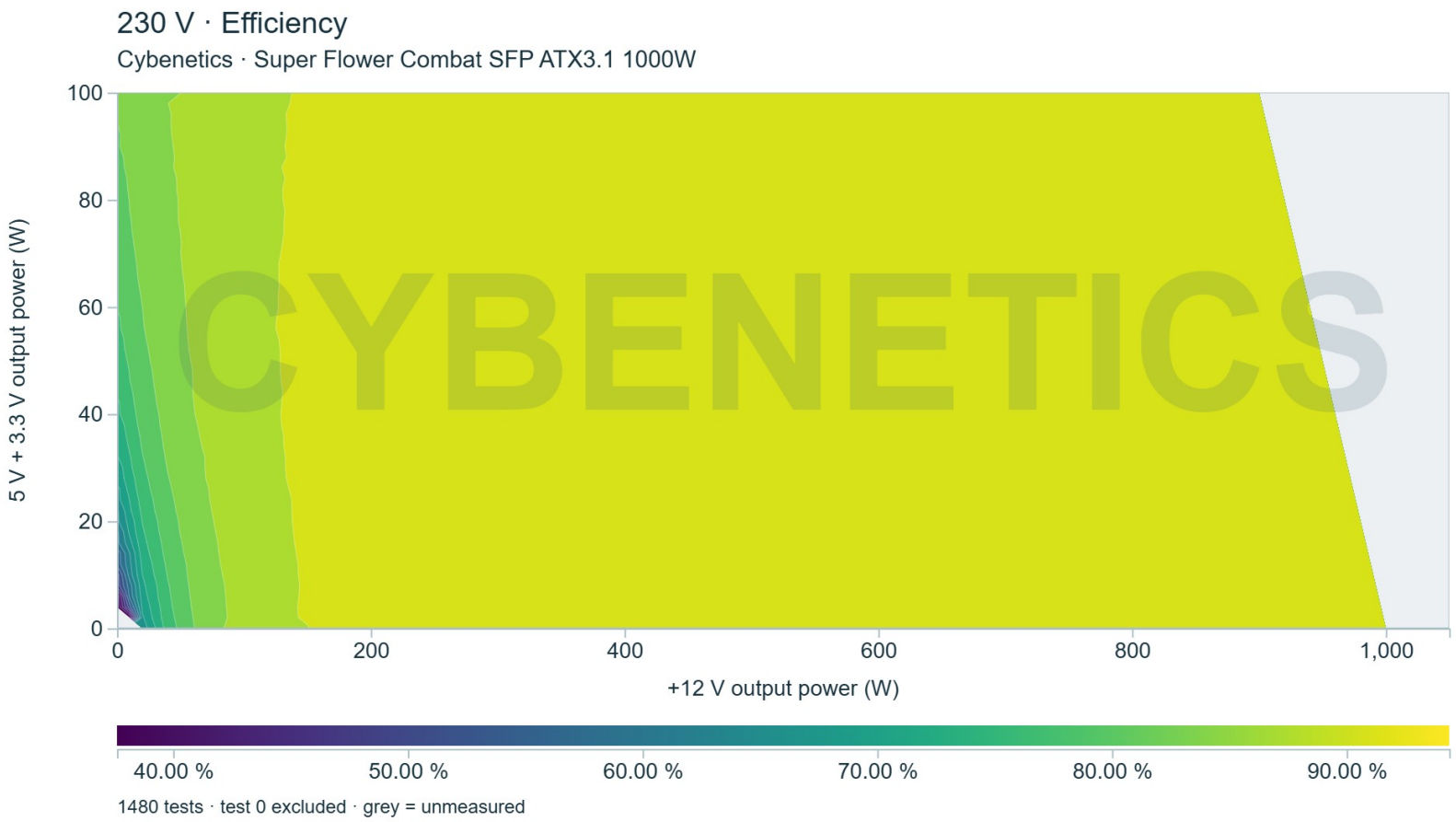
115V



INFO

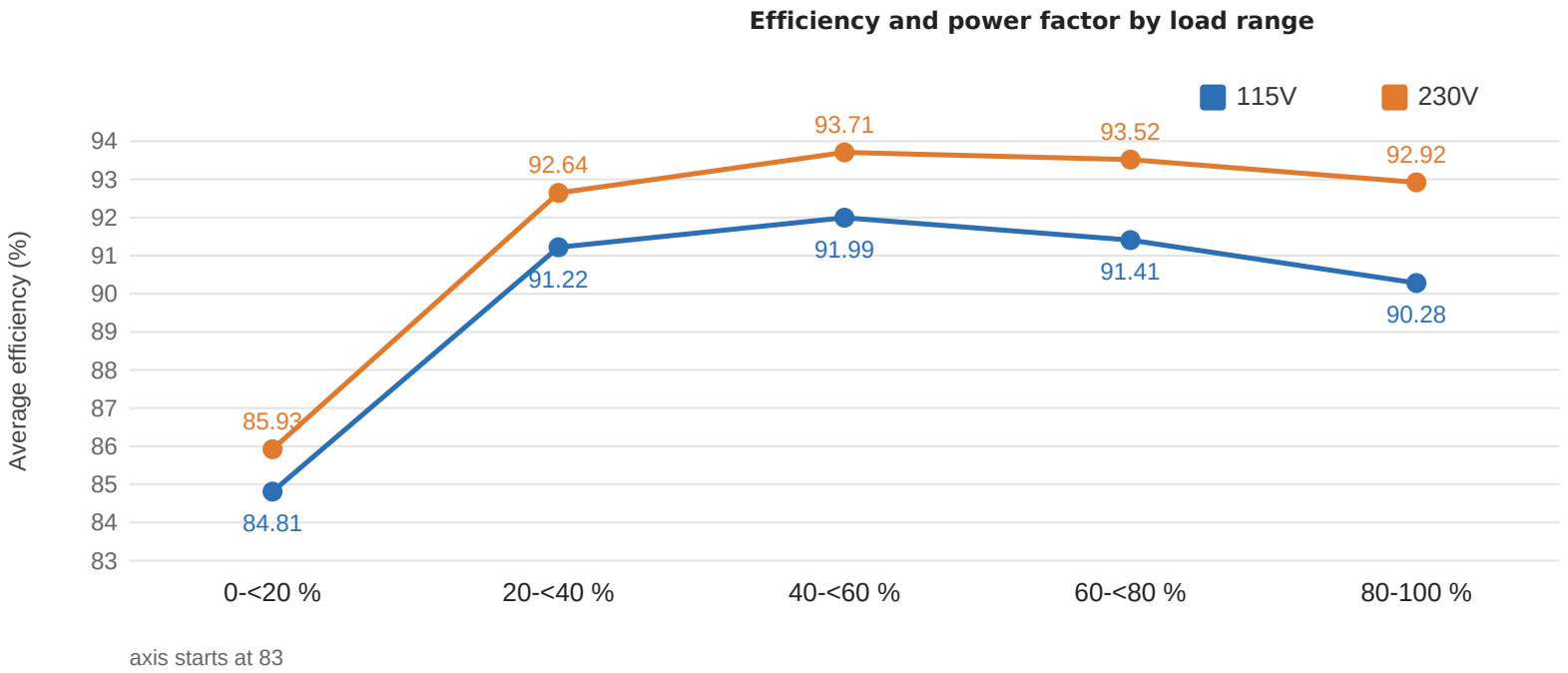
This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

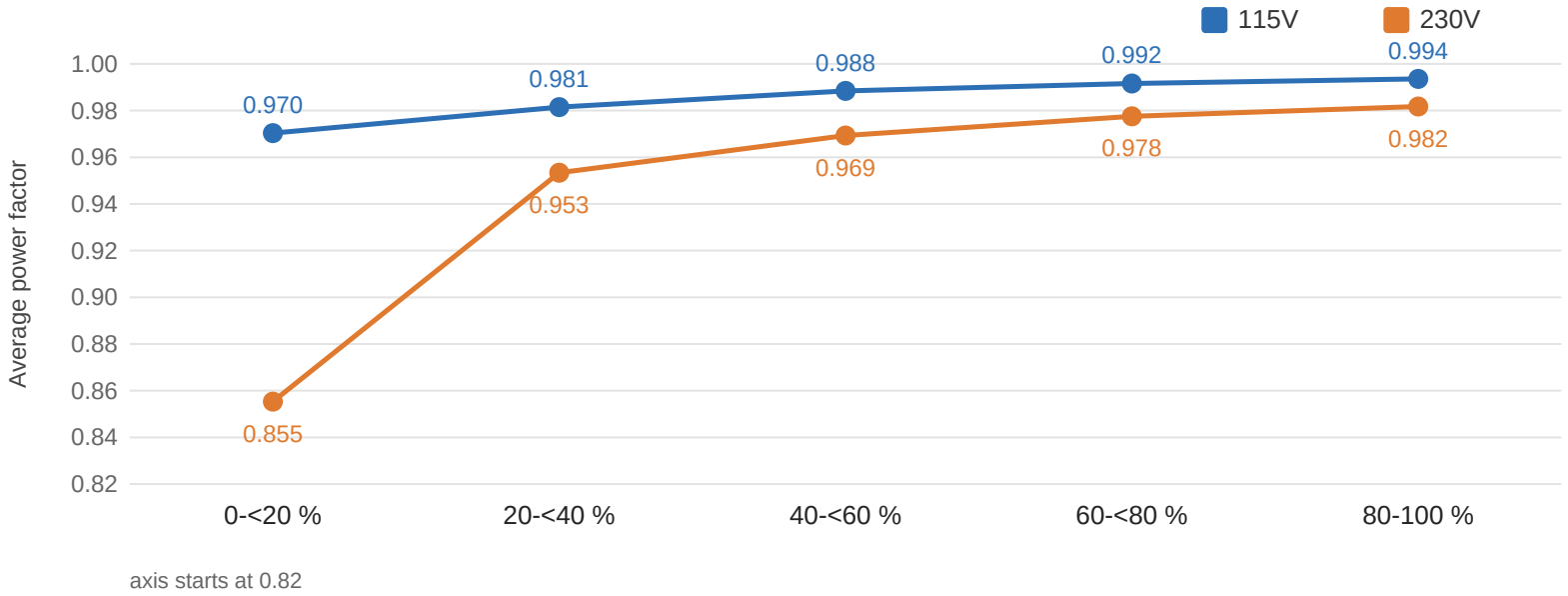


INFO

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



axis starts at 83



axis starts at 0.82

Load range	Points	Efficiency 115V	Efficiency 230V	PF 115V	PF 230V
0-<20 %	233 / 233	84.81%	85.93%	0.970	0.855
20-<40 %	310 / 310	91.22%	92.64%	0.981	0.953
40-<60 %	310 / 310	91.99%	93.71%	0.988	0.969
60-<80 %	310 / 310	91.41%	93.52%	0.992	0.978
80-100 %	317 / 317	90.28%	92.92%	0.994	0.982
70-100 % (High-Load)	472 / 472	90.55%	93.05%	0.993	0.981
All (published average)	1480 / 1480	90.21%	92.05%	0.986	0.952

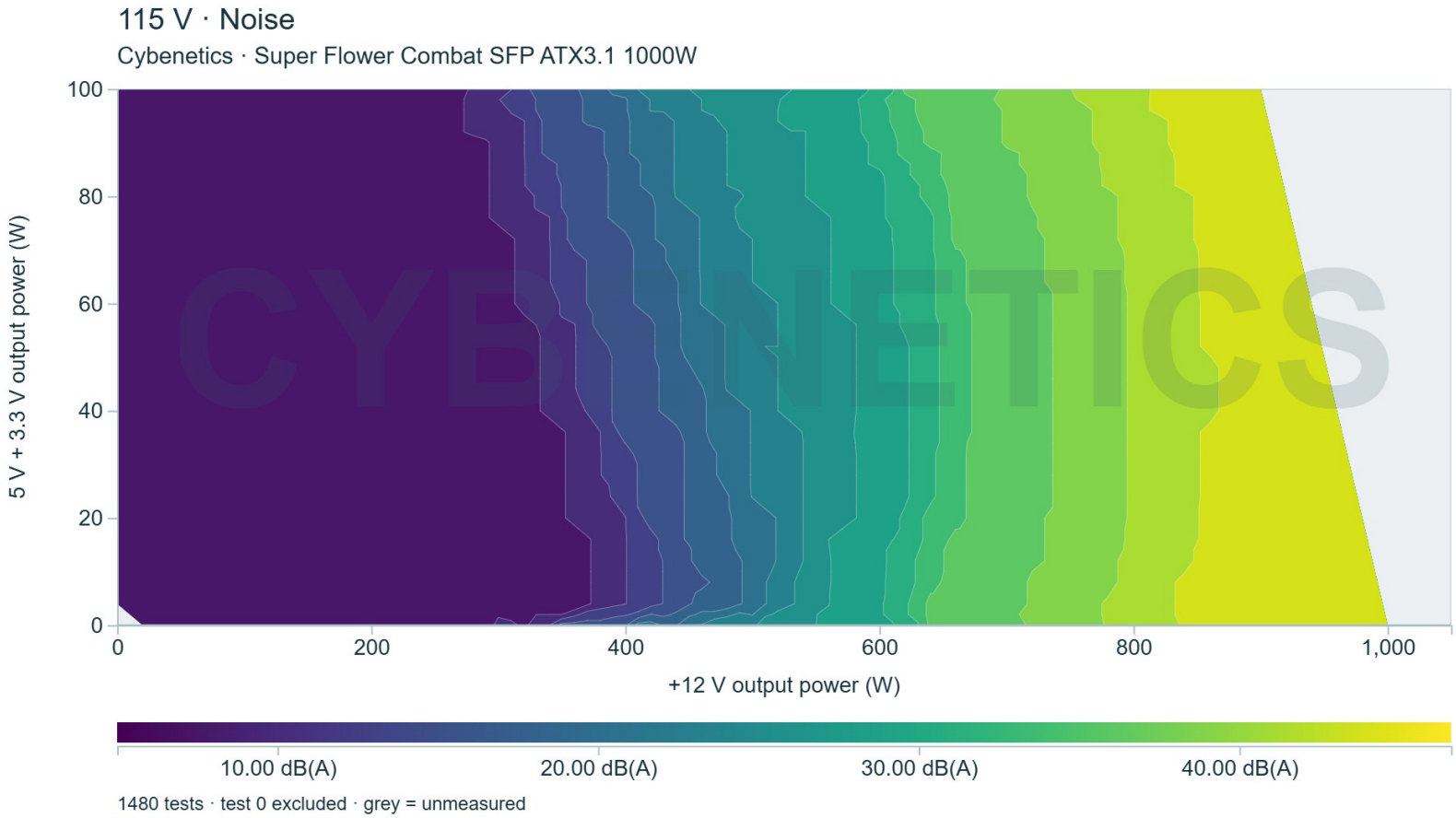
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1480 (115V) and 1480 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1000 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

Noise Graph

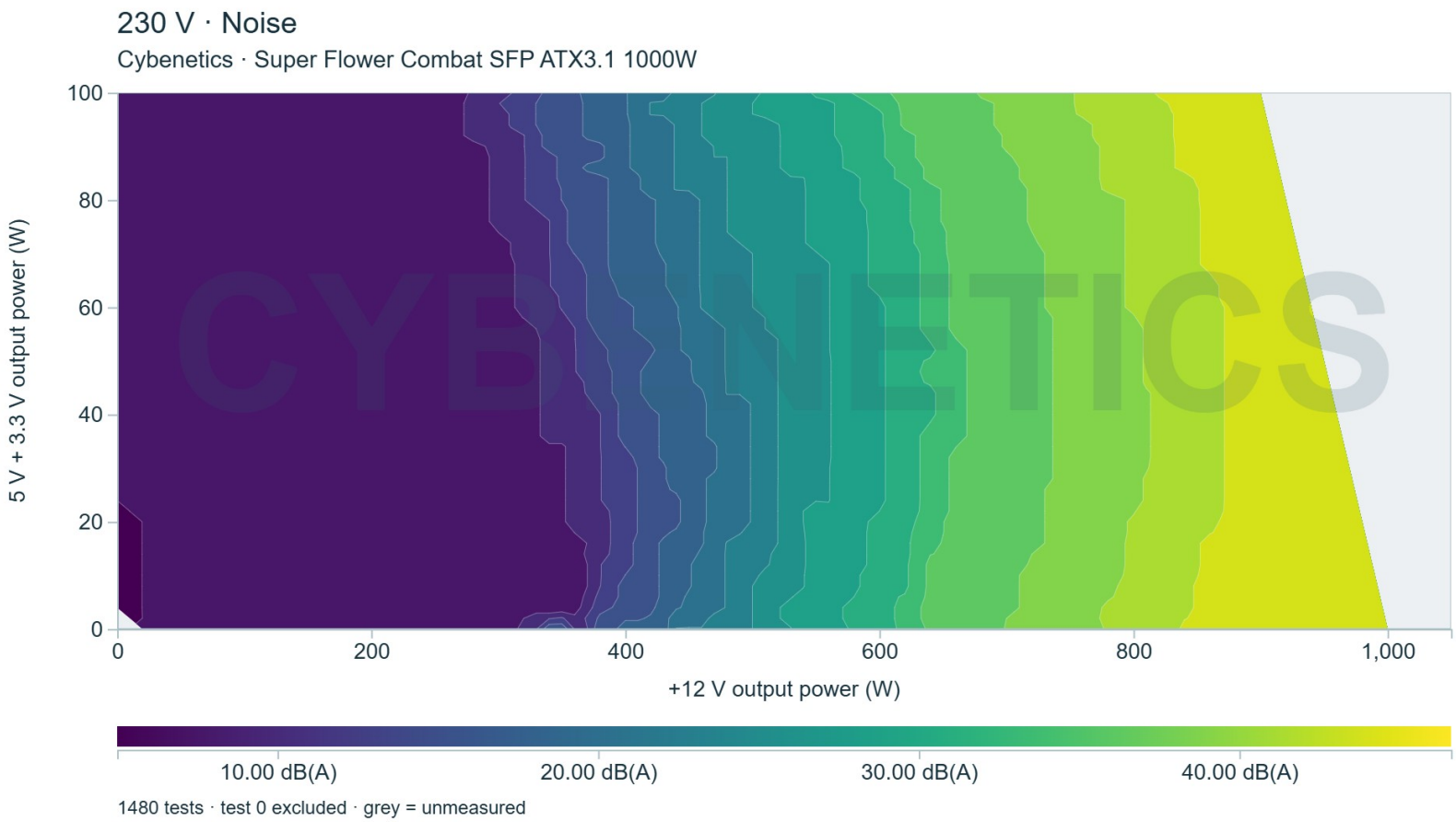
115V



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

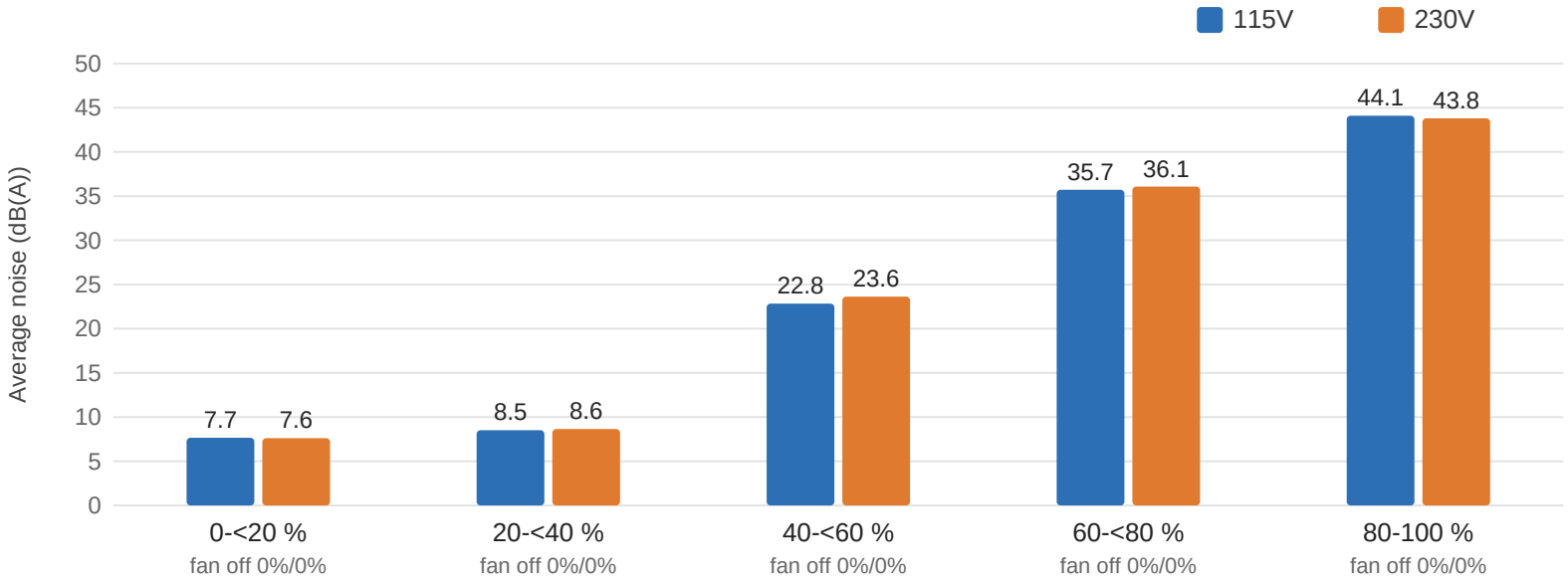
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Noise by load range

High-Load Index (70-100 % load)

Noise **42.8 dB(A)** at 115V and **42.6 dB(A)** at 230V · loudest point 46.6 dB(A)

Efficiency 90.55% / 93.05% · power factor 0.993 / 0.981 (115V / 230V)



Load range	Noise 115V avg (loudest)	Noise 230V avg (loudest)	Fan off 115V / 230V
0-<20 %	7.7 (7.7)	7.6 (7.7)	0% / 0%
20-<40 %	8.5 (16.4)	8.6 (17.5)	0% / 0%
40-<60 %	22.8 (30.5)	23.6 (31.4)	0% / 0%
60-<80 %	35.7 (41.7)	36.1 (41.7)	0% / 0%
80-100 %	44.1 (46.6)	43.8 (46.3)	0% / 0%
70-100 % (High-Load)	42.8 (46.6)	42.6 (46.3)	0% / 0%
All (published average)	38.0 (46.6)	37.8 (46.3)	0% / 0%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1480 (115V) and 1480 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1000 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads are under "Noise under high ambient temperature". Below 6 dB(A), the floor of our sound meter, the table and the chart show <6.0. In the averages a stopped fan counts as 5 dB(A),

as in the published average.

Informational. Not part of the ETA or LAMBDA rating.

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	790 RPM · 7.3 dB(A) · 30.2 °C	845 RPM · 8.6 dB(A) · 40.1 °C	**+1.3 dB(A)**
20%	799 RPM · 7.6 dB(A) · 30.2 °C	846 RPM · 8.7 dB(A) · 40.7 °C	**+1.1 dB(A)**
50%	1202 RPM · 20.3 dB(A) · 30.4 °C	1726 RPM · 30.7 dB(A) · 42.1 °C	**+10.4 dB(A)**
100%	2911 RPM · 45.3 dB(A) · 30.6 °C	3612 RPM · 49.5 dB(A) · 46.0 °C	**+4.2 dB(A)**

230V

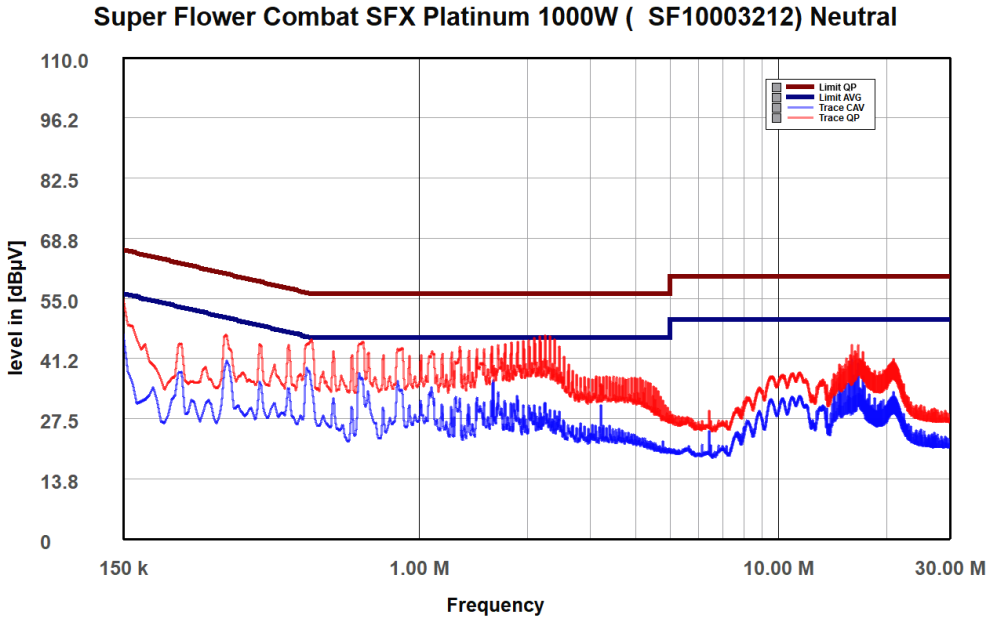
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	801 RPM · 7.6 dB(A) · 30.2 °C	848 RPM · 8.7 dB(A) · 40.1 °C	**+1.1 dB(A)**
20%	808 RPM · 7.6 dB(A) · 30.2 °C	1181 RPM · 20.0 dB(A) · 40.6 °C	**+12.4 dB(A)**
50%	1204 RPM · 20.3 dB(A) · 30.1 °C	2036 RPM · 37.1 dB(A) · 42.3 °C	**+16.8 dB(A)**
100%	2895 RPM · 45.1 dB(A) · 30.2 °C	3617 RPM · 49.6 dB(A) · 45.4 °C	**+4.5 dB(A)**

INFO

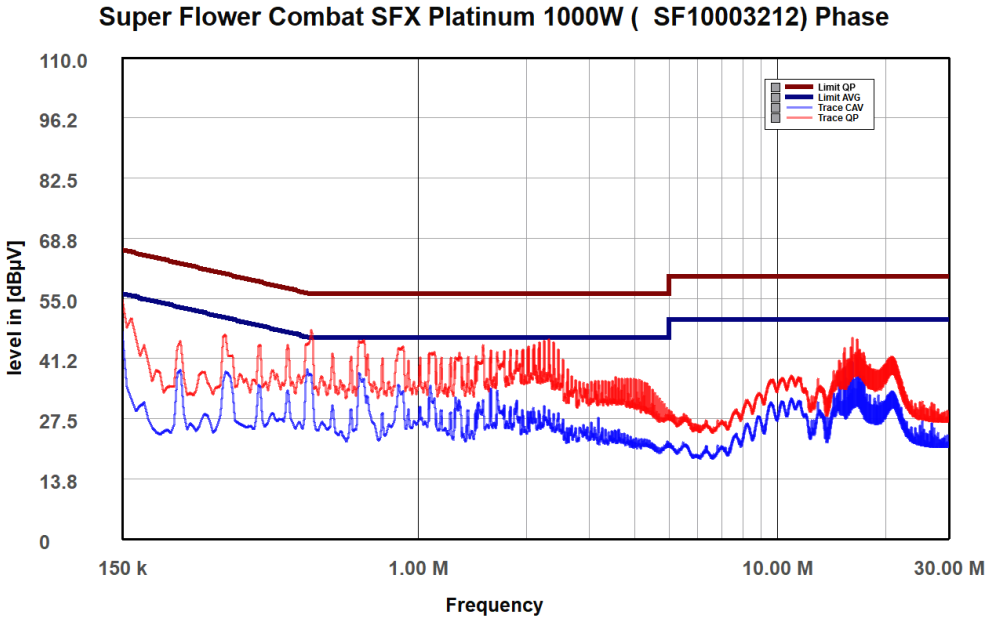
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

Informational. Not part of the ETA or LAMBDA rating.

Conducted Emissions EN 55032 & CISPR 32



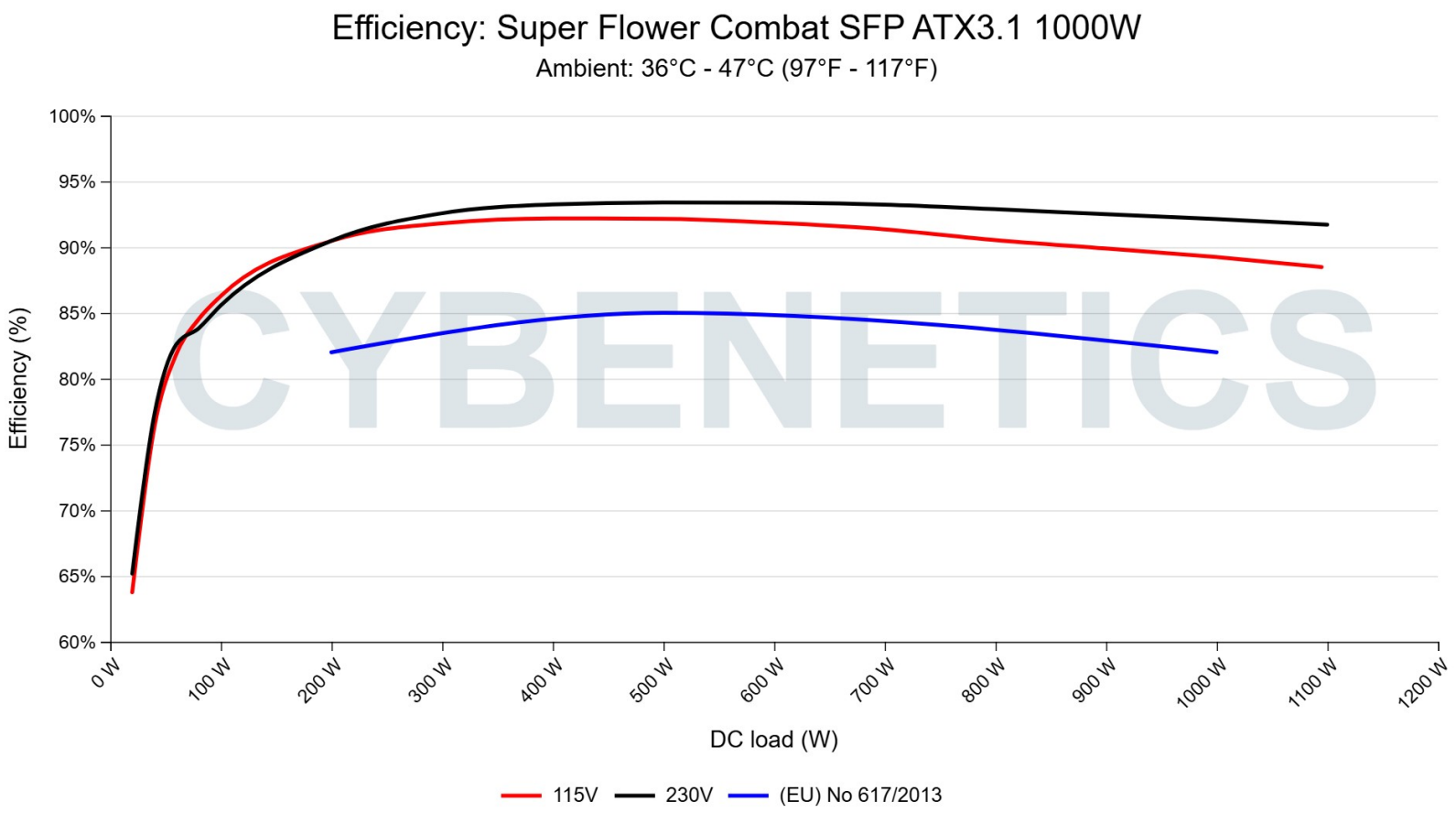
NEUTRAL



PHASE

Indicative Performance

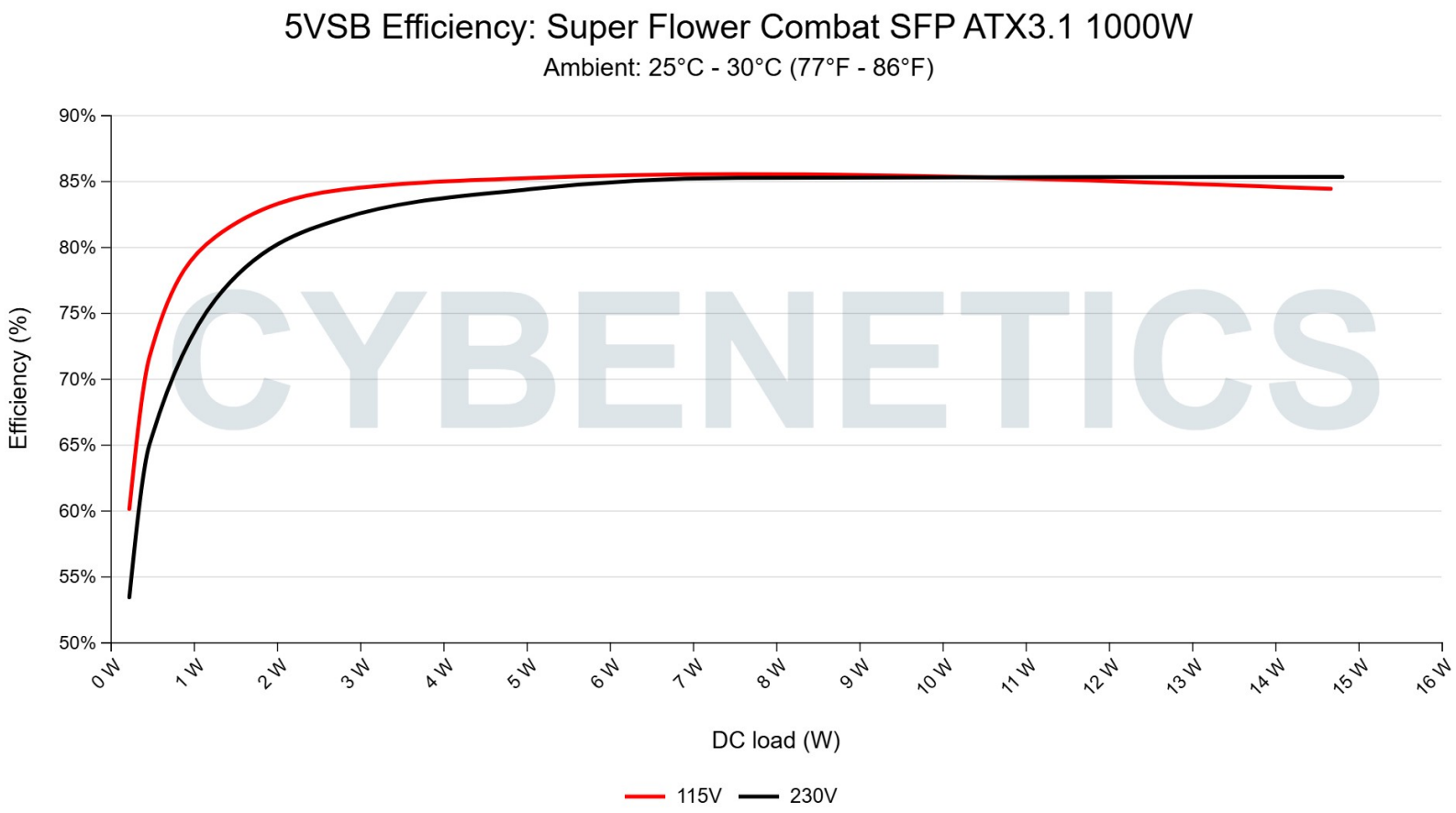
Efficiency under high ambient temperature



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	60.102%	0.034
	5.063V	0.379W		115.12V
2	**0.09A**	0.456W	71.294%	0.057
	5.061V	0.64W		115.12V
3	**0.55A**	2.777W	84.318%	0.242
	5.049V	3.293W		115.12V
4	**1A**	5.045W	85.203%	0.347
	5.045V	5.921W		115.12V
5	**1.5A**	7.518W	85.496%	0.407
	5.012V	8.794W		115.12V
6	**3A**	14.669W	84.387%	0.486
	4.89V	17.382W		115.11V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.228W	53.408%	0.012
	5.063V	0.428W		230.36V
2	**0.09A**	0.456W	64.678%	0.019
	5.063V	0.706W		230.36V
3	**0.55A**	2.778W	82.128%	0.088
	5.051V	3.383W		230.35V
4	**1A**	5.043W	84.358%	0.148
	5.043V	5.978W		230.35V
5	**1.5A**	7.533W	85.225%	0.204
	5.022V	8.841W		230.34V
6	**3A**	14.811W	85.297%	0.313
	4.937V	17.365W		230.34V

Protection Features

OCP (Normal @ 29.5°C)	12V: 108A (129.65%), 12.07V 5V: 24.9A (124.5%), 4.933V 3.3V: 29.2A (146%), 3.264V 5VSB: 4.8A (160%), 4.752V *Voltage Drop (4.593V@6.1A)
OCP (Hot @ 43.6°C)	12V: 108.4A (130.13%), 12.085V 5V: 24.9A (124.5%), 4.931V 3.3V: 29.3A (146.5%), 3.264V 5VSB: 4.8A (160%), 4.751V *Voltage Drop (4.568V@6.1A)
OPP (Normal @ 30.1°C)	1292.54W (129.25%)
OPP (Hot @ 44.1°C)	1295.04W (129.5%)
OTP	✓ (175°C @ Primary Heatsink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -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 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%	**6.459A**	**1.988A**	**2.002A**	**0.996A**	99.985	86.276%	845	8.6	40.13°C	0.979
	12.136V	5.029V	3.296V	5.019V	115.89				42.03°C	115.07V
20%	**13.936A**	**2.986A**	**3.007A**	**1.2A**	199.931	90.467%	846	8.7	40.72°C	0.977
	12.129V	5.023V	3.292V	4.999V	221				40.51°C	115.03V
30%	**21.771A**	**3.487A**	**3.512A**	**1.406A**	299.981	91.809%	848	8.7	41.08°C	0.982
	12.123V	5.019V	3.289V	4.979V	326.74				40.84°C	115V
40%	**29.572A**	**3.989A**	**4.018A**	**1.613A**	399.51	92.176%	1246	21.6	41.65°C	0.986
	12.116V	5.014V	3.285V	4.959V	433.421				43.31°C	114.96V
50%	**37.060A**	**4.993A**	**5.029A**	**1.822A**	499.229	92.149%	1726	30.7	42.11°C	0.989
	12.108V	5.008V	3.281V	4.939V	541.765				48.2°C	114.93V
60%	**44.621A**	**6A**	**6.043A**	**2A**	599.609	91.842%	2438	40.4	42.52°C	0.991
	12.101V	5.001V	3.277V	4.925V	652.872				49.67°C	114.89V
70%	**52.126A**	**7.009A**	**7.06A**	**2.244A**	699.502	91.348%	2868	44.7	43.15°C	0.992
	12.093V	4.995V	3.272V	4.902V	765.754				50.21°C	114.85V
80%	**59.681A**	**8.019A**	**8.078A**	**2.358A**	799.504	90.534%	3254	47.7	43.64°C	0.993
	12.091V	4.988V	3.268V	4.877V	883.1				50.99°C	114.81V
90%	**67.599A**	**8.527A**	**8.577A**	**2.466A**	899.303	89.89%	3605	49.5	44.26°C	0.994
	12.084V	4.984V	3.264V	4.866V	1000.448				51.3°C	114.77V
100%	**75.324A**	**9.038A**	**9.11A**	**3.131A**	999.323	89.241%	3612	49.5	45.96°C	0.994
	12.077V	4.979V	3.26V	4.792V	1119.802				52.98°C	114.73V
110%	**82.979A**	**9.043A**	**10.227A**	**3.137A**	1094.919	88.481%	3613	49.6	46.15°C	0.995
	12.070V	4.976V	3.256V	4.783V	1237.464				55.86°C	114.69V
CL1	**0.116A**	**12.083A**	**12.086A**	**0A**	101.298	82.019%	1436	25.7	40.4°C	0.983
	12.142V	4.982V	3.284V	5.031V	123.522				47.52°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
CL2	**0.118A**	**20.203A**	**0A**	**0A**	101.408	81.58%	848	8.7	40.32°C	0.982
	12.142V	4.948V	3.295V	5.037V	124.305				45.23°C	115.06V
CL3	**0.116A**	**0A**	**20.141A**	**0.001A**	67.406	76.453%	983	13.8	40.35°C	0.968
	12.140V	5.027V	3.277V	5.032V	88.169				45.22°C	115.07V
CL4	**82.782A**	**0.004A**	**0.003A**	**0.002A**	999.94	90.042%	3622	49.6	45.15°C	0.994
	12.078V	5.02V	3.271V	4.99V	1110.526				47.97°C	114.72V

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%	**6.456A**	**1.989A**	**2.003A**	**0.997A**	100.005	85.565%	848	8.7	40.11°C	0.875
	12.144V	5.029V	3.296V	5.017V	116.877				43.53°C	230.26V
20%	**13.926A**	**2.987A**	**3.008A**	**1.202A**	199.957	90.475%	1181	20	40.61°C	0.945
	12.139V	5.022V	3.292V	4.994V	221.008				44.24°C	230.25V
30%	**21.753A**	**3.488A**	**3.513A**	**1.406A**	300.012	92.568%	1290	22.7	41.41°C	0.962
	12.135V	5.018V	3.288V	4.978V	324.098				45.39°C	230.23V
40%	**29.561A**	**3.99A**	**4.019A**	**1.613A**	399.588	93.233%	1650	30.4	41.63°C	0.97
	12.124V	5.014V	3.285V	4.96V	428.593				46.55°C	230.21V
50%	**37.046A**	**4.994A**	**5.031A**	**1.823A**	499.32	93.387%	2036	37.1	42.28°C	0.975
	12.115V	5.007V	3.28V	4.938V	534.68				46.04°C	230.2V
60%	**44.606A**	**6A**	**6.044A**	**2A**	599.676	93.372%	2375	39.6	42.53°C	0.979
	12.106V	5.001V	3.276V	4.925V	642.24				46.76°C	230.17V
70%	**52.113A**	**7.01A**	**7.062A**	**2.244A**	699.557	93.219%	2734	43.1	43.39°C	0.981
	12.098V	4.995V	3.272V	4.903V	750.444				47.46°C	230.16V
80%	**59.688A**	**8.02A**	**8.08A**	**2.359A**	799.555	92.878%	3207	47.6	43.84°C	0.982
	12.091V	4.987V	3.267V	4.876V	860.868				47.93°C	230.13V
90%	**67.604A**	**8.528A**	**8.579A**	**2.467A**	899.343	92.5%	3619	49.6	44.52°C	0.983
	12.084V	4.983V	3.263V	4.866V	972.266				49.04°C	230.11V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	**75.328A**	**9.039A**	**9.112A**	**3.131A**	999.358	92.125%	3617	49.6	45.44°C	0.985
	12.076V	4.978V	3.259V	4.792V	1084.781				51.43°C	230.1V
110%	**82.980A**	**10.057A**	**10.229A**	**3.138A**	1099.947	91.7%	3616	49.6	47.22°C	0.986
	12.071V	4.971V	3.255V	4.781V	1199.51				53.1°C	230.07V
CL1	**0.116A**	**12.084A**	**12.087A**	**0A**	101.304	81.968%	1642	30.3	41.8°C	0.879
	12.145V	4.982V	3.284V	5.031V	123.647				48.05°C	230.24V
CL2	**0.118A**	**20.202A**	**0A**	**0A**	101.414	82.626%	1086	16.9	41.49°C	0.874
	12.142V	4.949V	3.295V	5.037V	122.738				47.25°C	230.25V
CL3	**0.116A**	**0A**	**20.141A**	**0.001A**	67.408	77.365%	882	11	40.54°C	0.807
	12.140V	5.028V	3.277V	5.033V	87.131				45.01°C	230.25V
CL4	**82.781A**	**0.004A**	**0.003A**	**0.002A**	999.955	92.877%	3634	49.7	45.22°C	0.984
	12.079V	5.02V	3.271V	4.99V	1076.646				49.39°C	230.1V

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
	1.224A	**0.496A**	**0.5A**	**0.198A**	19.994	63.759%	817	7.8	36.14°C	0.874
	12.135V	5.039V	3.301V	5.051V	31.36				37.2°C	115.13V
	2.694A	**0.695A**	**0.7A**	**0.297A**	39.994	76.301%	838	8.2	37.94°C	0.943
	12.136V	5.037V	3.3V	5.047V	52.417				38.14°C	115.11V
	4.163A	**0.894A**	**0.9A**	**0.396A**	59.994	81.89%	841	8.4	38.62°C	0.96
	12.137V	5.036V	3.299V	5.045V	73.261				39.58°C	115.09V
	5.628A	**1.092A**	**1.101A**	**0.496A**	79.932	84.505%	844	8.6	39.02°C	0.97
	12.136V	5.034V	3.298V	5.04V	94.585				39.63°C	115.08V

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	**1.224A**	**0.496A**	**0.5A**	**0.198A**	20.004	65.167%	836	8.2	36.47°C	0.466
	12.139V	5.037V	3.3V	5.049V	30.698				40.34°C	230.28V
40W	**2.693A**	**0.695A**	**0.7A**	**0.297A**	40.004	77.261%	840	8.4	37.36°C	0.639
	12.140V	5.036V	3.299V	5.045V	51.776				40.68°C	230.27V
60W	**4.162A**	**0.894A**	**0.9A**	**0.397A**	60.003	82.62%	842	8.6	38.1°C	0.754
	12.140V	5.035V	3.298V	5.042V	72.629				40.42°C	230.27V
80W	**5.626A**	**1.093A**	**1.101A**	**0.496A**	79.951	83.816%	841	8.4	39.22°C	0.838
	12.142V	5.033V	3.297V	5.039V	95.389				40.96°C	230.27V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	20.37mV	13.91mV	13.24mV	25.34mV	Pass
20% Load	22.32mV	16.13mV	15.25mV	25.29mV	Pass
30% Load	24.59mV	19.11mV	16.96mV	23.33mV	Pass
40% Load	28.10mV	21.27mV	19.50mV	28.75mV	Pass
50% Load	31.60mV	24.11mV	21.56mV	29.42mV	Pass
60% Load	35.47mV	28.13mV	24.05mV	34.38mV	Pass
70% Load	40.32mV	29.78mV	25.60mV	38.56mV	Pass
80% Load	41.97mV	31.79mV	26.58mV	31.64mV	Pass
90% Load	46.20mV	34.72mV	29.42mV	42.02mV	Pass
100% Load	49.75mV	37.56mV	32.17mV	38.71mV	Pass
110% Load	53.57mV	40.50mV	34.44mV	40.72mV	Pass
Crossload1	26.09mV	14.84mV	13.91mV	15.12mV	Pass
Crossload2	38.51mV	16.69mV	15.26mV	17.24mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	32.12mV	14.94mV	13.34mV	18.48mV	Pass
Crossload4	47.02mV	36.37mV	31.34mV	21.52mV	Pass

The results above are not used in the certification process

230V

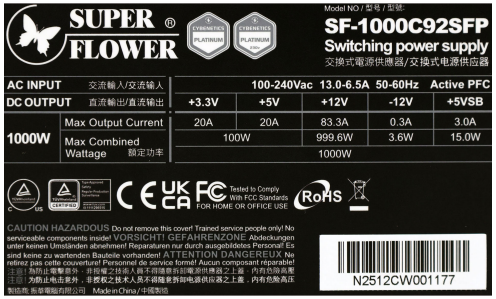
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	23.20mV	14.17mV	13.50mV	23.12mV	Pass
20% Load	30.16mV	14.89mV	13.39mV	25.50mV	Pass
30% Load	28.56mV	17.05mV	14.53mV	27.41mV	Pass
40% Load	29.23mV	19.78mV	16.70mV	31.69mV	Pass
50% Load	30.93mV	22.36mV	18.41mV	29.11mV	Pass
60% Load	34.85mV	25.19mV	21.62mV	34.43mV	Pass
70% Load	38.72mV	30.09mV	24.35mV	36.44mV	Pass
80% Load	42.43mV	32.46mV	27.67mV	37.06mV	Pass
90% Load	46.35mV	34.72mV	30.25mV	42.58mV	Pass
100% Load	50.68mV	38.28mV	32.58mV	38.71mV	Pass
110% Load	55.84mV	40.96mV	35.37mV	40.83mV	Pass
Crossload1	26.91mV	15.04mV	15.10mV	14.56mV	Pass
Crossload2	39.96mV	16.54mV	15.77mV	16.21mV	Pass
Crossload3	33.15mV	15.81mV	13.65mV	18.94mV	Pass
Crossload4	46.97mV	36.99mV	32.01mV	21.11mV	Pass

The results above are not used in the certification process

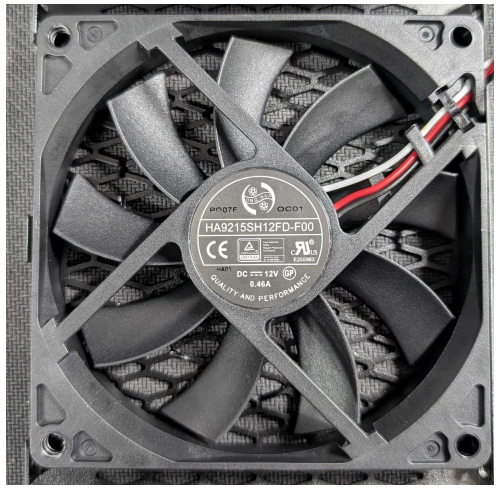
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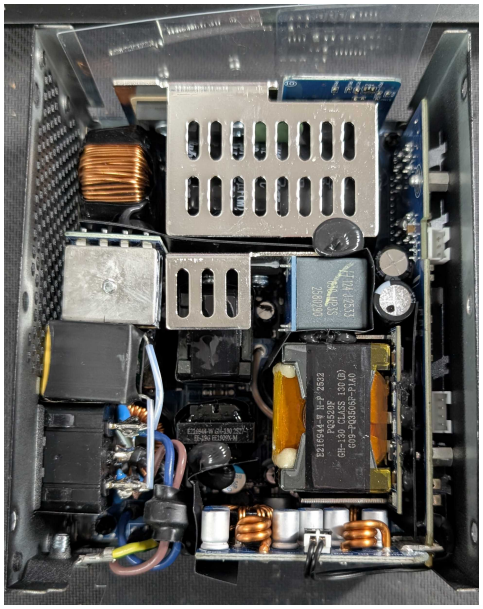
Top side



Power specifications label



Fan



PSU Internals

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

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