



Corsair SF1000 Platinum (ATX v3.1)

A2MGD413A773B7

Lab ID CR10002505

Certification ID 252505

Test Result Report ID: 24PS2505A

Certificate Issue Date: Jul 19, 2024

Scheme: ETA-EMI PSU

115V



230V



115V



230V



Scheme: LAMBDA PSU



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	Corsair
Model	SF1000 Platinum (ATX v3.1)
OEM/ODM	Great Wall
Serial Number	A2MGD413A773B7
Product Specifications	
Manufacturer-Provided Information	
$\square\square\square$ (Vrms)	100-240
$\square\square\square$ (Arms)	12-6

□□□□ (Hz)	47-63
□□□□ (W)	1000
Operating Temperature (Continuous Full Load) (°C)	
□□	SFX
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	92mm Fluid Dynamic Bearing Fan (NR092P)
□□□□	✓
Cybenetics Testing Information	
Lab ID	CR10002505
Date of receipt	Jul 4, 2024
Testing Date	Jul 18, 2024
Report Issued Date	Jul 19, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ (Non-accredited measurements)

□□□□				
□□	□□□□	□□□□□	Gauge	In Cable Capacitors
ATX □□ 24 pin (300mm)	1	1	16-22AWG	□
4+4 pin EPS 12V □□ (400mm)	2	2	16AWG	□
6+2pin PCIe□□ (400mm)	4	4	16AWG	□
12+2 pin PCIe (410mm) (600W)	1	1	16-24AWG	□
SATA□□ (110mm+110mm+110mm+110mm)	2	8	18AWG	□
4-pin Molex (100mm+115mm+115mm)	1	3	18AWG	□
AC Power Cord (1350mm) - C13 coupler	1	1	16AWG	-

Protection Features(Manufacturer)

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

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	83.3	3	0
	□	130		1000	15	0
□□□□ (W)		1000				

Parts Description

General Data	
Manufacturer (OEM)	Great Wall
PCB Type	Double-Sided
Primary Side	
Transient Filter	2x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-056 (5 Ohm) & Relay
Bridge Rectifier(s)	2x Vishay GBUE2560 (600V, 25A @ 140°C)
APFC MOSFETs	2x ST STP50N60DM6 (600V, 23A @ 100°C, Rds(on): 0.008Ohm) & 1x Champion CM03X (reduce the no-load consumption)
APFC Boost Diode	1x CREE C3D16065 (650V, 16A @ 150°C)
Bulk Cap(s)	1x Rubycon (420V, 740uF, 3,000h @ 105°C, MXK)
Main Switchers	2x Infineon IPA60R060C7 (600V, 10A @ 100°C, Rds(on): 0.060Ohm)
APFC Controller	Champion CM6502UHHX
Resonant Controller	Champion CM6901X
IC Driver	1x Novosense NSi6602BD

Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	8x Infineon BSC014N04LS (40V, 125A @ 100°C, Rds(on): 1.4mOhm)
5V & 3.3V	DC-DC Converters: 4x Advanced Power AP4024GEMT (30V, 60A, Rds(on): 4.5mOhm) PWM Controller(s): ANPEC APW7159C
Filtering Capacitors	Electrolytic: 2x Rubycon (3-6,000h @ 105°C, YXG) Polymer: 3x United Chemi-Con, 43x FPCAP
Supervisor IC	IN1S429I-SCG (OCP,OVP, UVP, SCP, PG)
Fan Controller	Microchip PIC16F1824
Fan Model	Corsair NR092P (92mm, 12V, 0.22A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	1x Infineon ICE5QR1680AG (800V, 5.8A, Rds(on): 1.75Ohm) & 1x Diotec Semiconductor US1M (1000V, 30A)
Standby PWM Controller	Infineon ICE5QR1680AG

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	90.639%
Average Noise Output (>1450 Load Combinations)	26.53dBA
PF□□□ (>1450 Load Combinations)	0.984

Efficiency With 10W ($\leq 500\text{W}$) or 2% ($> 500\text{W}$) Load	73.744%
□□□□	0.0452W
Non-Accredited	
12V Ripple (Full Load)	31.46mV
5V Ripple (Full Load)	17.80mV
3.3V Ripple (Full Load)	17.96mV
5VSB Ripple (Full Load)	14.72mV
12V Load Regulation	0.10%
5V Load Regulation	0.32%
3.3V Load Regulation	0.36%
5VSB Load Regulation	1.81%
Inrush Current	32.710A

230V

Accredited	
□□□ (>1450 load combinations)	92.473%
Average Noise Output (>1450 Load Combinations)	24.97dBA
PF□□ (>1450 Load Combinations)	0.944
Efficiency With 10W ($\leq 500\text{W}$) or 2% ($> 500\text{W}$) Load	73.851%
□□□□	0.1073W
Non-Accredited	
12V Ripple (Full Load)	32.67mV
5V Ripple (Full Load)	18.01mV
3.3V Ripple (Full Load)	17.57mV
5VSB Ripple (Full Load)	16.27mV
12V Load Regulation	0.21%
5V Load Regulation	0.30%
3.3V Load Regulation	0.33%
5VSB Load Regulation	1.83%
Inrush Current	70.750A
12V Transient Response (200%)	11.76V
5V Transient Response (200%)	4.866V

3.3V Transient Response (200%)	3.195V	
5VSB Transient Response (200%)	4.894V	
□□□□ & PG□□	19.50ms	
AC Loss to PWR_OK Hold Up Time	18.50ms	
PWR_OK Inactive to DC Loss Delay	1.00ms	
PSU Timings: T1 (20% / 100%)	51.0ms	50.0ms
PSU Timings: T3 (20% / 100%)	129.0ms	129.0ms
12V OCP (28.6°C / 39.2°C)	107.20A (128.69%), 12.227V	107.80A (129.41%), 12.235V
5V OCP (28.6°C / 39.2°C)	32.1A (160.50%), 4.94V	31.8A (159.00%), 4.941V
3.3V OCP (28.6°C / 39.2°C)	32A (160.00%), 3.313V	31.8A (159.00%), 3.32V
5VSB OCP (28.6°C / 39.2°C)	4.9A (163.33%), 5.002V	4.9A (163.33%), 5V
OPP (29.08°C / 41.66°C)	131.21%	131.81%

□□□□ & PG□□

Hold-Up Time (ms)	19.5
AC Loss to PWR_OK Hold Up Time (ms)	18.5
PWR_OK Inactive to DC Loss Delay (ms)	1

□□□□

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.04 V	113.85 V	115.12 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	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.045 W	0.010 W	N/A	0.079 W	N/A	N/A

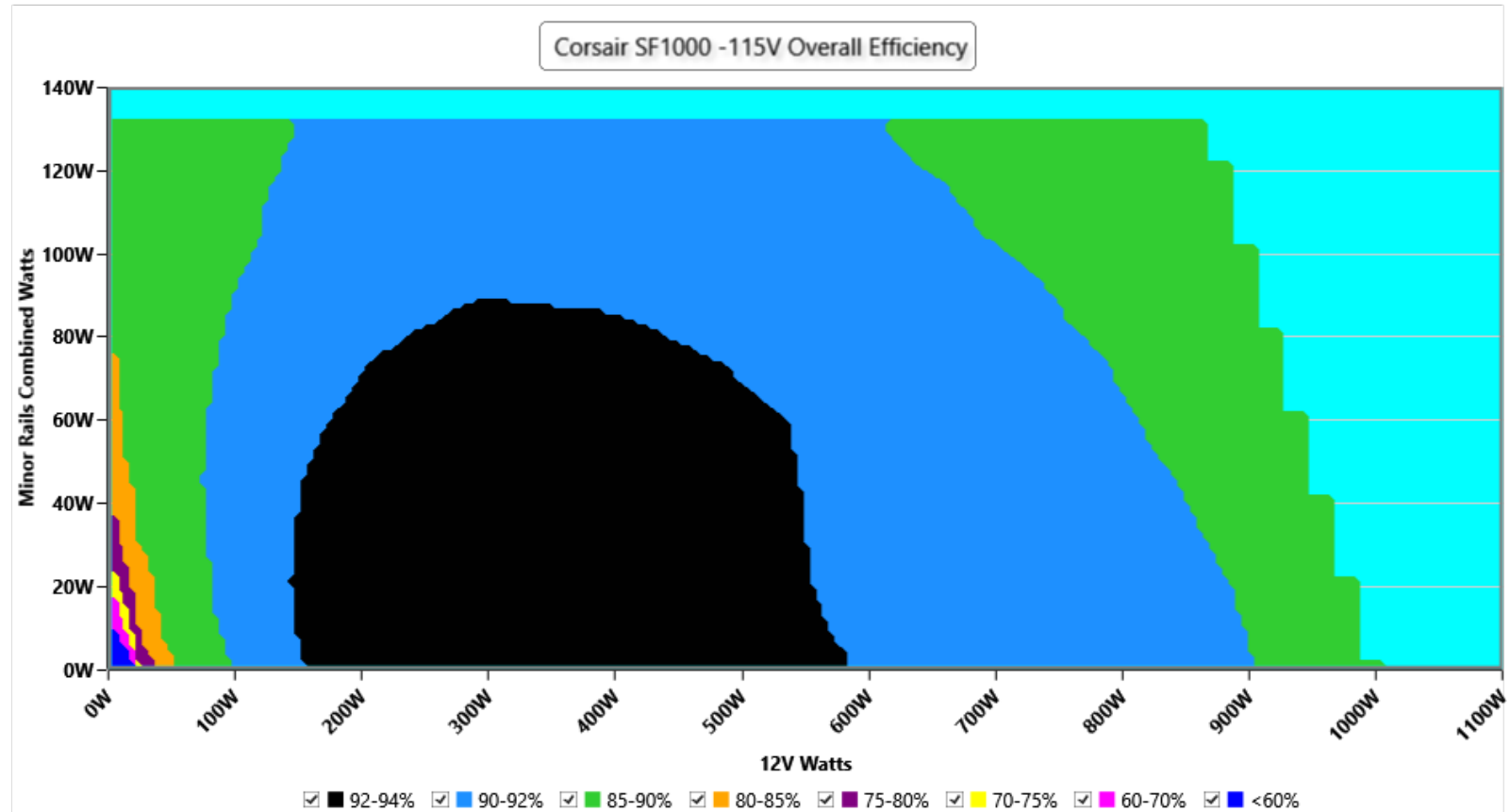
Apparent Power:	10.318 W	10.036 W	N/A	10.613 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

230V

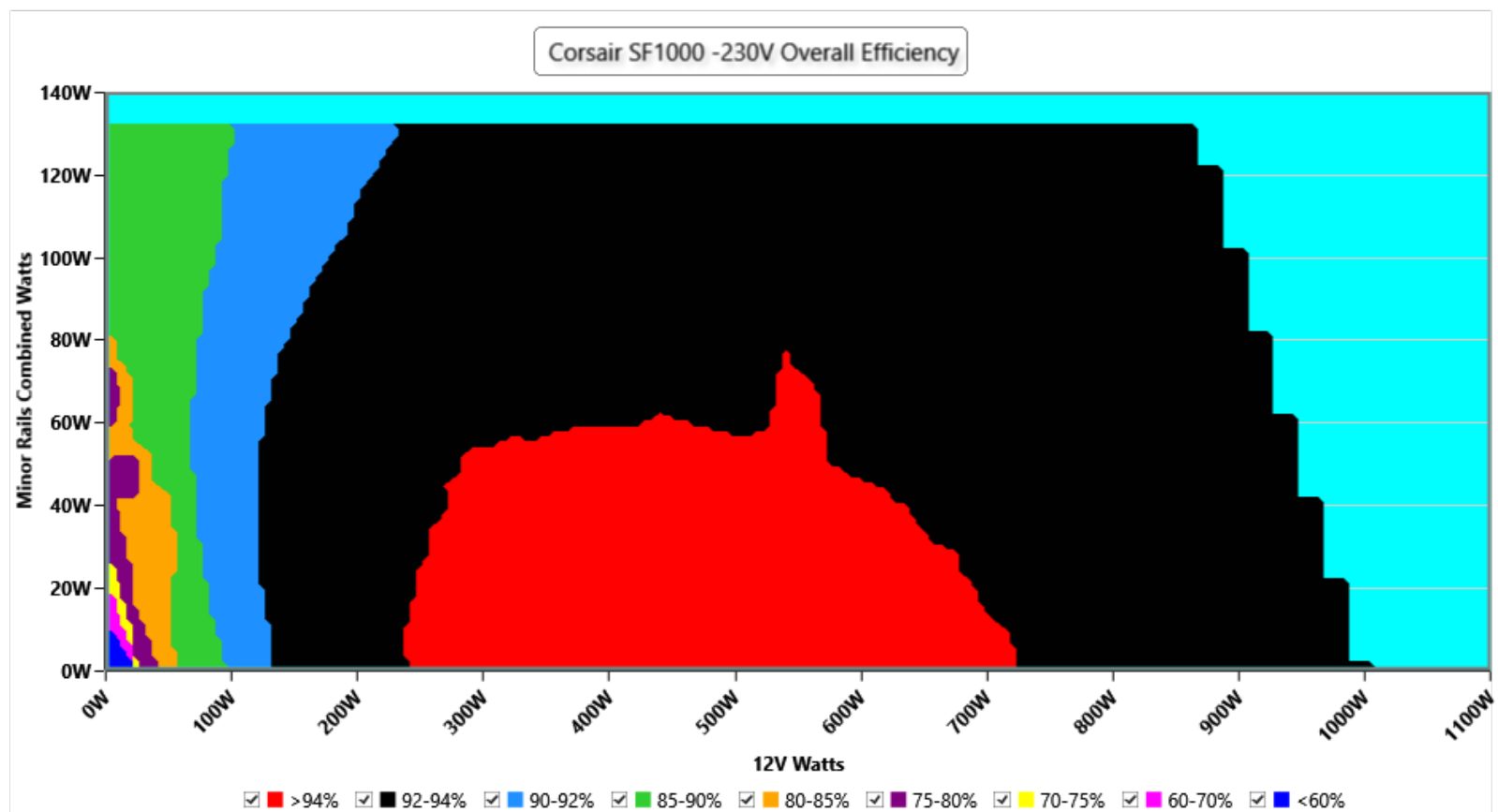
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.04 V	230.93 V	227.70 V	231.10 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.417	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.15 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.107 W	0.083 W	N/A	0.153 W	N/A	N/A
Apparent Power:	34.717 W	34.163 W	N/A	35.339 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A



115V



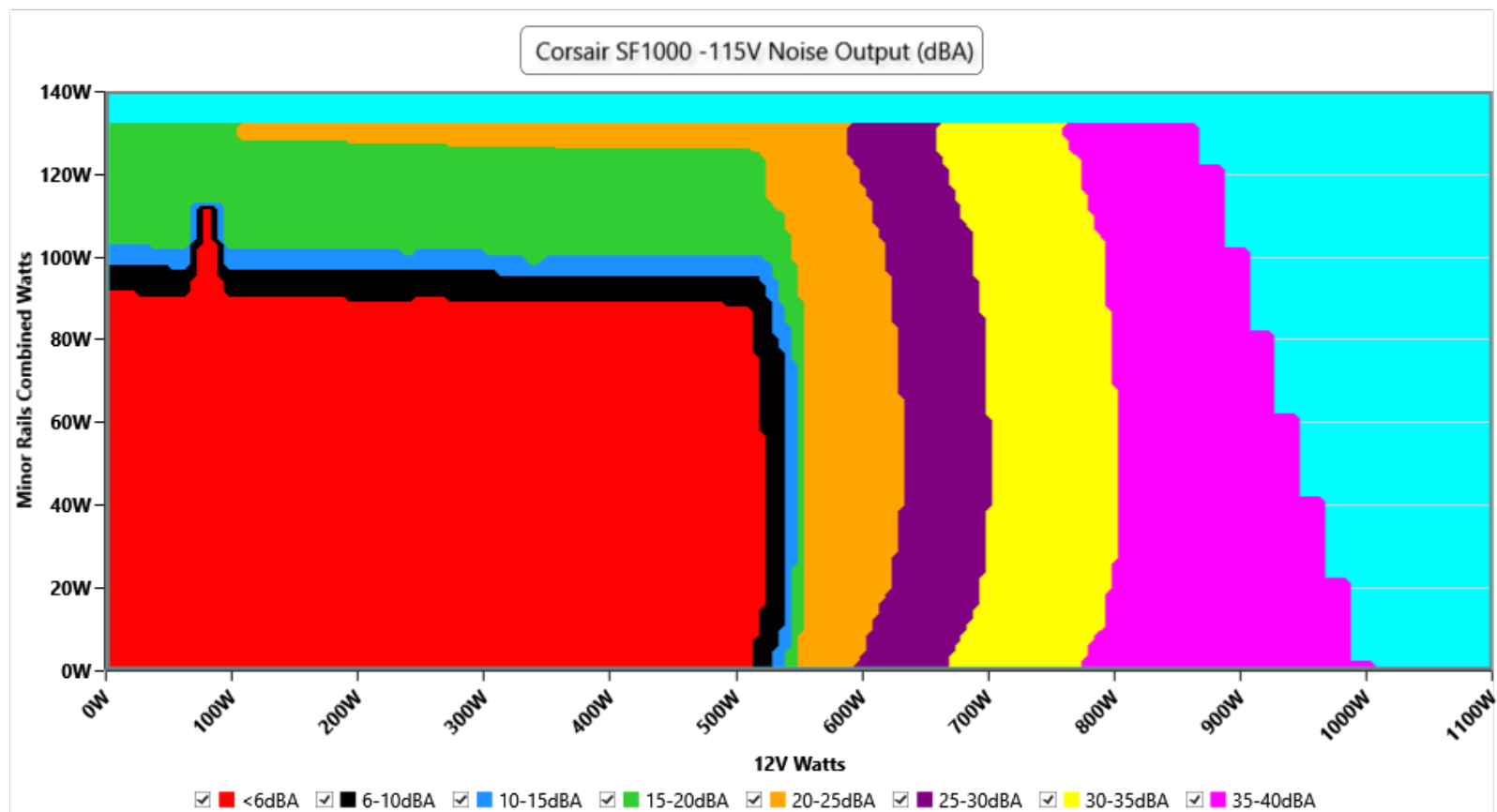
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



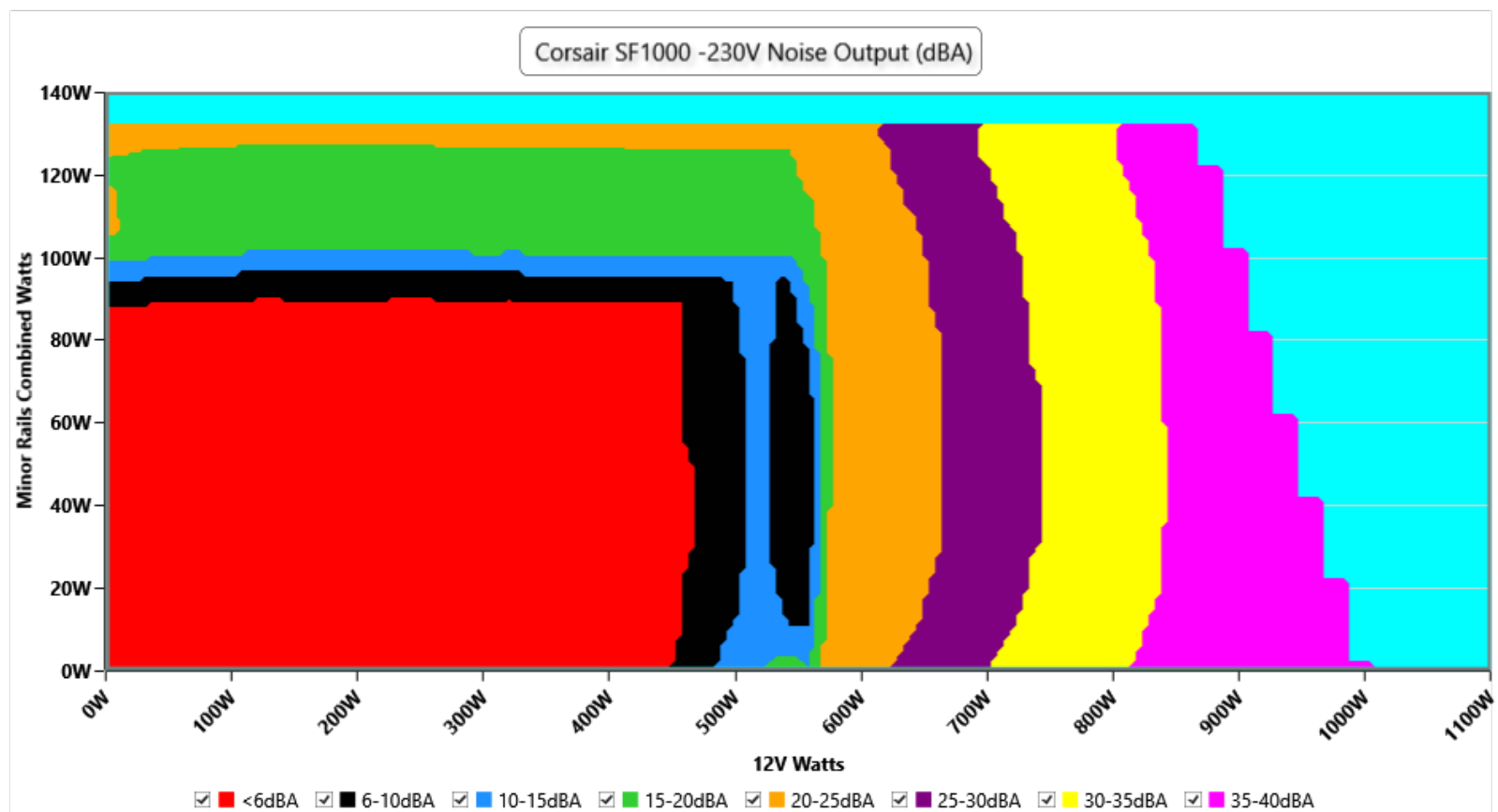
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115V

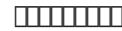


The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails



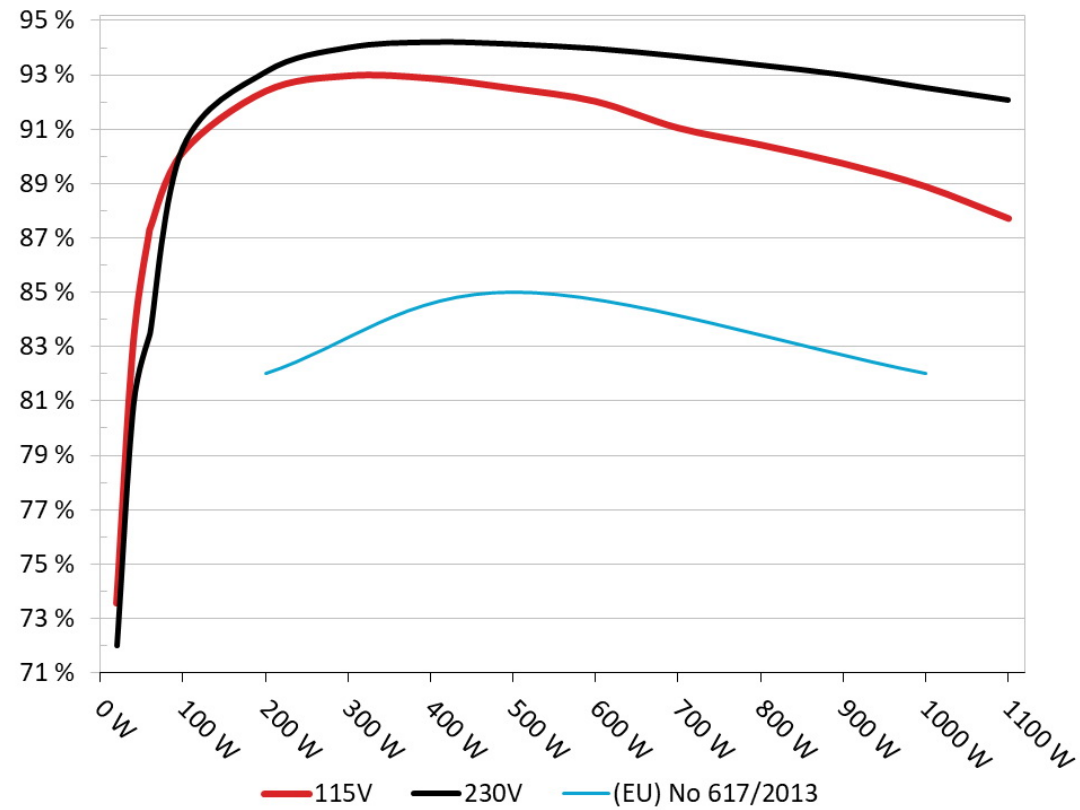
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance



Efficiency: Corsair SF1000

Ambient: 36°C - 47°C (96.8°F - 116.6°F)

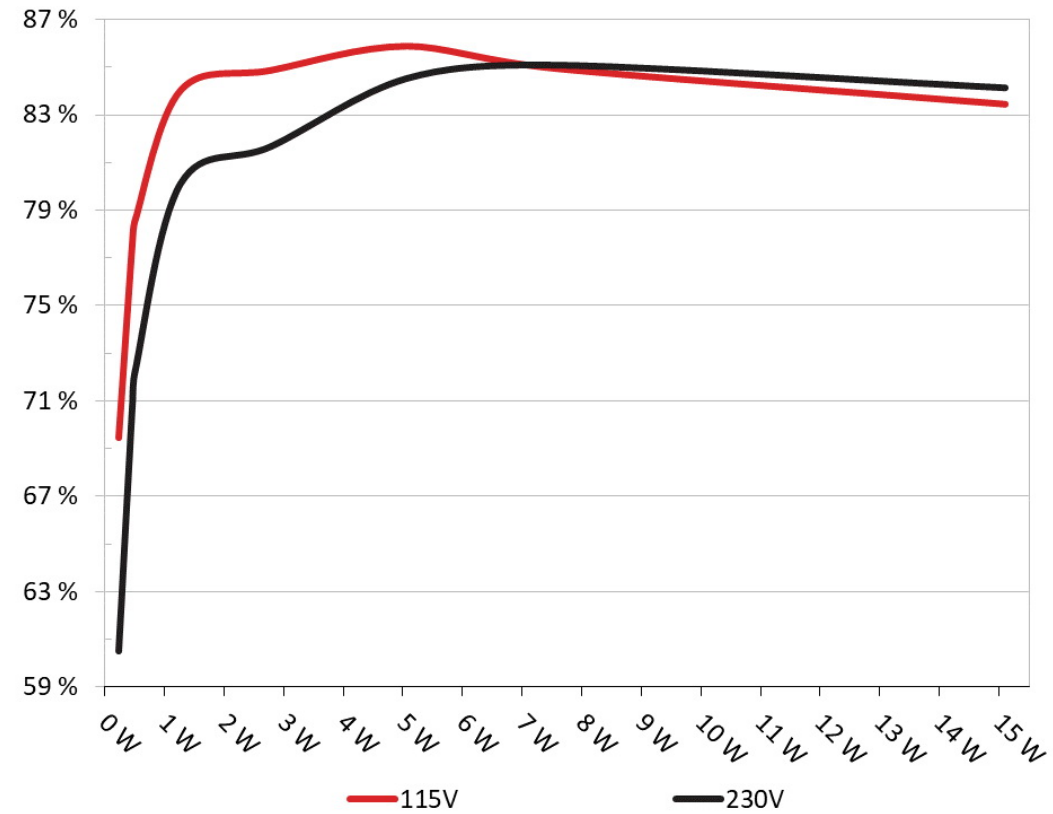


The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5Vsb

5VSB Efficiency: Corsair SF1000

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



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

5Vsb (ErP Lot3/6 & CEC)

115V

#	5VSB	DC/AC (%)		PF/AC (%)
1	0.045A	0.229W	69.469%	0.032
	5.08V	0.33W		114.93V
2	0.09A	0.457W	77.643%	0.056
	5.079V	0.589W		114.93V
3	0.55A	2.788W	84.893%	0.25
	5.07V	3.284W		114.92V
4	1A	5.064W	85.905%	0.337
	5.064V	5.894W		114.91V
5	1.5A	7.586W	84.96%	0.397
	5.057V	8.929W		114.91V
6	3A	15.104W	83.469%	0.472
	5.035V	18.095W		114.9V

230V

#	5VSB	DC/AC (%)		PF/AC (%)
1	0.045A	0.229W	60.488%	0.011
	5.079V	0.38W		229.88V
2	0.09A	0.457W	70.781%	0.019
	5.079V	0.647W		229.89V
3	0.55A	2.788W	81.682%	0.094
	5.069V	3.416W		229.89V
4	1A	5.063W	84.536%	0.155
	5.063V	5.989W		229.89V
5	1.5A	7.585W	85.088%	0.201
	5.056V	8.916W		229.88V
6	3A	15.093W	84.137%	0.313
	5.031V	17.939W		229.88V

Protection Features

OCP (Cold @ 28.6°C)	12V: 107.20A (128.69%), 12.227V 5V: 32.1A (160.50%), 4.94V 3.3V: 32A (160.00%), 3.313V 5VSB: 4.9A (163.33%), 5.002V
OCP (Hot) @ 39.2°C	12V: 107.80A (129.41%), 12.235V 5V: 31.8A (159.00%), 4.941V 3.3V: 31.8A (159.00%), 3.32V 5VSB: 4.9A (163.33%), 5V
OPP (Cold @ 29.1°C)	1312.10W (131.21%)
OPP (Hot @ 41.7°C)	1318.10W (131.81%)
OTP	✓ (135°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □
10%	6.410A	2.014A	1.981A	0.989A	99.992	90.127%	0	<6.0	42.42°C	0.973
	12.229V	4.966V	3.332V	5.055V	110.947				40.29°C	114.88V

20%	13.824A	3.022A	2.972A	1.189A	199.941	92.38%	0	<6.0	42.62°C	0.967
	12.228V	4.964V	3.331V	5.048V	216.434				40.86°C	114.85V
30%	21.583A	3.526A	3.468A	1.389A	299.992	92.949%	0	<6.0	42.81°C	0.979
	12.229V	4.963V	3.33V	5.04V	322.747				41.01°C	114.81V
40%	29.298A	4.031A	3.965A	1.59A	399.555	92.863%	0	<6.0	43.86°C	0.986
	12.231V	4.962V	3.329V	5.032V	430.261				41.93°C	114.79V
50%	36.670A	5.039A	4.957A	1.792A	499.265	92.487%	868	7.1	42.01°C	0.991
	12.238V	4.961V	3.329V	5.022V	539.82				64.87°C	114.75V
60%	44.134A	6.05A	5.951A	1.994A	599.81	92.011%	1280	18.1	42.98°C	0.993
	12.236V	4.959V	3.327V	5.014V	651.888				61.79°C	114.71V
70%	51.527A	7.061A	6.947A	2.197A	699.524	91.036%	2040	33	43.48°C	0.993
	12.235V	4.958V	3.326V	5.007V	768.402				59.97°C	114.67V
80%	58.989A	8.07A	7.942A	2.299A	799.534	90.413%	2431	37.3	43.91°C	0.994
	12.234V	4.955V	3.324V	5.001V	884.306				60.57°C	114.64V
90%	66.783A	8.577A	8.426A	2.402A	899.323	89.727%	2830	41	44.6°C	0.995
	12.232V	4.954V	3.323V	4.995V	1002.296				61.73°C	114.59V
100%	74.379A	9.084A	8.94A	3.012A	999.327	88.878%	3234	44.2	45.91°C	0.996
	12.230V	4.953V	3.322V	4.981V	1124.375				64.65°C	114.56V
110%	82.137A	10.097A	10.028A	3.015A	1100.001	87.701%	3596	46.5	46.59°C	0.996
	12.197V	4.951V	3.321V	4.976V	1254.281				67.42°C	114.51V
CL1	0.114A	15.816A	15.529A	0A	131.296	85.065%	1568	24.7	40.49°C	0.962
	12.250V	4.95V	3.323V	5.064V	154.351				55°C	114.86V
CL2	0.113A	20.172A	0A	0A	101.317	84.088%	2367	36.7	40.83°C	0.971
	12.249V	4.954V	3.329V	5.069V	120.492				47.89°C	114.88V
CL3	0.113A	0A	19.845A	0A	67.395	79.343%	2056	33.2	40.01°C	0.946
	12.241V	4.962V	3.326V	5.07V	84.941				44.88°C	114.89V
CL4	81.824A	0A	0A	0A	999.902	89.738%	2578	39	46.34°C	0.995
	12.220V	4.965V	3.33V	5.031V	1114.25				61.75°C	114.57V

The results above are not used in the certification process

230V

項目	12V	5V	3.3V	5VSB	DC/AC (V)	項目	回転数 (RPM)	騒音レベル (dB[A])	温度 (中心 / 周囲)	PF/AC 項目
10%	6.406A	2.013A	1.98A	0.989A	99.989	90.071%	0	<6.0	42.2°C	0.826
	12.238V	4.966V	3.332V	5.056V	111.014				40°C	229.87V
20%	13.815A	3.021A	2.972A	1.188A	199.935	93.114%	0	<6.0	42.95°C	0.915
	12.236V	4.964V	3.331V	5.049V	214.722				40.52°C	229.85V
30%	21.572A	3.526A	3.468A	1.389A	299.985	94.01%	0	<6.0	43.18°C	0.942
	12.235V	4.963V	3.33V	5.041V	319.101				41°C	229.83V
40%	29.285A	4.03A	3.964A	1.59A	399.536	94.212%	0	<6.0	44.41°C	0.953
	12.236V	4.963V	3.33V	5.033V	424.081				41.71°C	229.82V
50%	36.671A	5.04A	4.957A	1.792A	499.242	94.139%	997	9.5	42.15°C	0.963
	12.237V	4.961V	3.329V	5.024V	530.325				55.81°C	229.8V
60%	44.135A	6.05A	5.952A	1.994A	599.798	93.974%	1384	21.2	42.68°C	0.968
	12.235V	4.959V	3.327V	5.016V	638.261				54.28°C	229.78V
70%	51.529A	7.061A	6.947A	2.196A	699.512	93.698%	1829	29.7	43.07°C	0.971
	12.234V	4.957V	3.326V	5.009V	746.557				54.23°C	229.76V
80%	58.992A	8.07A	7.941A	2.299A	799.516	93.367%	2267	34.8	43.82°C	0.974
	12.232V	4.956V	3.324V	5.003V	856.317				54.79°C	229.75V
90%	66.781A	8.578A	8.426A	2.402A	899.304	93.012%	2674	39.8	44.36°C	0.976
	12.231V	4.954V	3.323V	4.996V	966.871				55.21°C	229.73V
100%	74.365A	9.084A	8.94A	3.011A	999.321	92.534%	3081	43	45.88°C	0.979
	12.232V	4.953V	3.322V	4.982V	1079.954				56.77°C	229.71V
110%	81.887A	10.097A	10.027A	3.014A	1099.934	92.083%	3475	45.7	46.91°C	0.981
	12.232V	4.951V	3.321V	4.977V	1194.506				58.4°C	229.69V
CL1	0.114A	15.816A	15.529A	0A	131.295	85.485%	1562	24.6	40.47°C	0.88
	12.260V	4.95V	3.323V	5.065V	153.585				51.42°C	229.86V
CL2	0.113A	20.179A	0A	0A	101.342	84.204%	2353	36.6	40.89°C	0.841
	12.251V	4.953V	3.329V	5.07V	120.351				46.25°C	229.87V
CL3	0.113A	0A	19.839A	0A	67.395	79.415%	2057	33.2	40.03°C	0.775
	12.244V	4.962V	3.327V	5.071V	84.864				44.21°C	229.87V

CL4	81.834A	0A	0A	0A	999.899	93.241%	2470	37.7	45.13°C	0.978
	12.219V	4.964V	3.329V	5.032V	1072.389				53.64°C	229.72V

The results above are not used in the certification process

20-80

115V										
	12V	5V	3.3V	5VSB	DC/AC ()		(RPM)	(dB[A])	(/)	PF/AC
20W	1.214A	0.503A	0.495A	0.197A	19.996	73.543%	0	<6.0	37.9°C	0.811
	12.225V	4.969V	3.334V	5.071V	27.189				36.21°C	114.91V
40W	2.674A	0.704A	0.693A	0.296A	39.996	83.025%	0	<6.0	38.85°C	0.909
	12.226V	4.968V	3.334V	5.068V	48.173				37.01°C	114.89V
60W	4.132A	0.906A	0.891A	0.395A	59.996	87.289%	0	<6.0	40.19°C	0.942
	12.227V	4.968V	3.334V	5.066V	68.732				38.22°C	114.89V
80W	5.586A	1.107A	1.089A	0.494A	79.939	89.04%	0	<6.0	41.41°C	0.95
	12.228V	4.968V	3.333V	5.063V	89.777				39.41°C	114.89V

The results above are not used in the certification process

230V										
	12V	5V	3.3V	5VSB	DC/AC ()		(RPM)	(dB[A])	(/)	PF/AC
20W	1.216A	0.503A	0.495A	0.197A	19.994	72.014%	0	<6.0	37.68°C	0.439
	12.212V	4.968V	3.333V	5.073V	27.765				36.41°C	229.91V
40W	2.676A	0.705A	0.693A	0.296A	39.994	80.88%	0	<6.0	38.89°C	0.622
	12.215V	4.968V	3.333V	5.07V	49.449				37.25°C	229.89V
60W	4.134A	0.906A	0.891A	0.395A	59.994	83.502%	0	<6.0	39.69°C	0.726
	12.219V	4.967V	3.333V	5.067V	71.846				38.3°C	229.88V
80W	5.588A	1.107A	1.089A	0.494A	79.936	82.536%	0	<6.0	41.02°C	0.8
	12.224V	4.968V	3.333V	5.064V	96.851				39.5°C	229.87V

The results above are not used in the certification process



115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.4 mV	15.6 mV	13.6 mV	14.1 mV	Pass
20% Load	14.8 mV	14.8 mV	12.7 mV	13.3 mV	Pass
30% Load	15.1 mV	14.6 mV	14.2 mV	13.4 mV	Pass
40% Load	16.9 mV	15.2 mV	13.6 mV	13.9 mV	Pass
50% Load	19.6 mV	15.0 mV	15.1 mV	13.4 mV	Pass
60% Load	20.4 mV	14.6 mV	15.3 mV	13.2 mV	Pass
70% Load	20.5 mV	15.8 mV	15.7 mV	13.1 mV	Pass
80% Load	23.3 mV	15.4 mV	16.4 mV	13.9 mV	Pass
90% Load	24.5 mV	15.8 mV	16.5 mV	13.4 mV	Pass
100% Load	31.5 mV	17.8 mV	18.0 mV	14.7 mV	Pass
110% Load	33.5 mV	17.2 mV	18.7 mV	15.7 mV	Pass
Crossload 1	19.6 mV	17.4 mV	17.4 mV	15.2 mV	Pass
Crossload 2	15.5 mV	19.1 mV	13.7 mV	27.8 mV	Pass
Crossload 3	14.4 mV	16.3 mV	15.7 mV	24.8 mV	Pass
Crossload 4	31.6 mV	16.1 mV	17.5 mV	27.9 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.5 mV	14.5 mV	12.6 mV	13.6 mV	Pass
20% Load	16.2 mV	15.1 mV	13.6 mV	13.5 mV	Pass
30% Load	16.2 mV	14.6 mV	14.0 mV	13.7 mV	Pass
40% Load	16.5 mV	15.6 mV	14.4 mV	14.0 mV	Pass
50% Load	16.9 mV	17.3 mV	16.9 mV	14.1 mV	Pass
60% Load	19.0 mV	15.5 mV	15.3 mV	14.3 mV	Pass

