Corsair SF850L

Serial Number 22304850000001500307

Lab ID CR85002091

Certification ID 252091

Test Result Report ID: 22PS2091A

Certificate Issue Date: Nov 23, 2022

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	SF850L
OEM/ODM	Great Wall
Serial Number	22304850000001500307
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5

Rated Frequency (Hz)	47-63
Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	SFX-L
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (NR1215)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CR85002091
Date of receipt	Nov 11, 2022
Testing Date	Nov 22, 2022
Report Issued Date	Nov 23, 2022
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	In Cable Capacitors
ATX connector 20+4 pin (300mm)	1	1	16-20AWG	No
4+4 pin EPS12V (400mm)	2	2	16AWG	No
12+2 pin PCIe (410mm) (600W)	1	1	16-24AWG	No
6+2 pin PCIe (410mm)	2	2	16AWG	No
6+2 pin PCIe (400mm+100mm)	1	2	16-18AWG	No
SATA (110mm+115mm+115mm+115mm)	2	8	18AWG	No
4 pin Molex (100mm+110mm+110mm)	1	3	18AWG	No

AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-	

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70.8	3	0
	Watts	150		850	15	0
Total Max. Power (W)		850				

Parts Description

General Data	
Manufacturer (OEM)	Great Wall
PCB Type	Double Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 3x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-056 (5 Ohm) & Relay
Bridge Rectifier(s)	2x Shindengen US30KB8R (800V, 10A @ 97°C)
APFC MOSFETs	1xVishay SiHG065N60E (600V, 25A @ 100°C, Rds(on): 0.065Ohm)
APFC Boost Diode	1x ROHM SCS310AH (650V, 10A @ 135°C)
Bulk Cap(s)	2x Rubycon (420V, 470uF & 330uF each or 800uf combined, 3,000h @ 105°C, MXK)
Main Switchers	2x On Semiconductor FCP104N60F (600V, 24A @ 100°C, Rds(on): 0.104Ohm)
Driver IC	1x NOVOSENSE NSi6602BD
APFC Controller	Champion CM6502UHHX
Resonant Controller	Champion CM6901X
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	6x 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), 2x Rubycon (4-10,000h @ 105°C, YXF), Polymer: 9x NIC, 3x United Chemi-Con, 20x FPCAP, 4x Nichicon
Supervisor IC	IN1S429I-SCG (OCP,OVP, UVP, SCP, PG)

Fan Controller	Microchip PIC16F1824
Fan Model	Corsair NR1215 (120mm, 12V, 0.55A, Fluid Dynamic Bearing Fan)

5VSB Circuit

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 v3.0 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.577%
Average Noise Output (>1450 Load Combinations)	36.09dBA
Average PF (>1450 Load Combinations)	0.984
Efficiency With 10W (≤500W) or 2% (>500W) Load	74.797%
Standby Power Consumption	0.0501W
Non-Accredited	
12V Ripple (Full Load)	16.44mV
5V Ripple (Full Load)	11.99mV
3.3V Ripple (Full Load)	12.50mV
5VSB Ripple (Full Load)	12.56mV
12V Load Regulation	0.06%
5V Load Regulation	0.34%
3.3V Load Regulation	0.54%
5VSB Load Regulation	2.31%
Inrush Current	32.390A

230V

Accredited	
Average Efficiency (>1450 load combinations)	92.333%