

Anex

Corsair SF600 Platinum

Lab ID#: 346

Receipt Date: -

Test Date: -

Report:

Report Date: Oct 4, 2018

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	Corsair	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	Great Wall	Rated Current (Arms)	10-5
Series	SF Platinum	Rated Frequency (Hz)	47-63
Model Number	SF600 Platinum	Rated Power (W)	600
Serial Number		Type	SFX
DUT Notes	RPS0112	Cooling	92mm Rifle Bearing Fan (NR092L)
		Semi-Passive Operation	✓
		Cable Design	Fully Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	50	2.5	0.3
	Watts	120		600	12.5	3.6
Total Max. Power (W)		600				

CABLES AND CONNECTORS				
Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (300mm)	1	1	16-18AWG	No
4+4 pin EPS12V (400mm)	1	1	16AWG	No
6+2 pin PCIe (700mm)	2	2	16AWG	No
SATA (100mm+105mm+105mm+105mm)	1	4	18AWG	No
4 pin Molex (100mm+105mm+105mm)	1	3	18AWG	No
AC Power Cord (1400mm)	1	1	18AWG	-

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General Data	
Manufacturer (OEM)	Great Wall
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 3x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	1x GBU25KH (800V, 25A @ 125 °C)
APFC MOSFET	1x Infineon IPZ60R099C7 (650V, 14A @ 100°C, 0.099Ohm)
APFC Boost Diode	1x Infineon IDH06G65C6 (600V, 6A @ 145°C)
Hold-up Cap(s)	1x Nippon Chemi-Con (420V, 470uF, 2000h @ 105 °C, KMZ)
Main Switchers	2x 60F2094
Driver IC	Silicon Labs Si8230BD
APFC Controller	Champion CM6502 & CM03X Green PFC controller
Resonant Controller	Champion CM6901X
Topology	Primary side: Half-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	4x Alpha & Omega AON6590 (40V, 100A @ 100°C, 1.55mOhm)
5V & 3.3V	DC-DC Converters: 4x Nexperia PSMN2R0-30YL (30V, 100A @ 25°C, 2mOhm) PWM Controller: Anpec APW7159C
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (4-10,000h @ 105°C, KY), Rubycon (3-6,000h @ 105°C, YXJ) Polymers: Nippon Chemi-Con
Supervisor IC	IN1S429I -SCG
Fan Control MCU	PIC16F1824
Fan Model	Corsair NR092L (92mm, 12V, 0.22A, 3950 RPM, rifle bearing)
5VSB Circuit	
Rectifier	1x CSD18534 FET (60V, 69A @ 25 °C, 7.8mOhm)
Standby PWM Controller	Infineon ICE5QR1680AG

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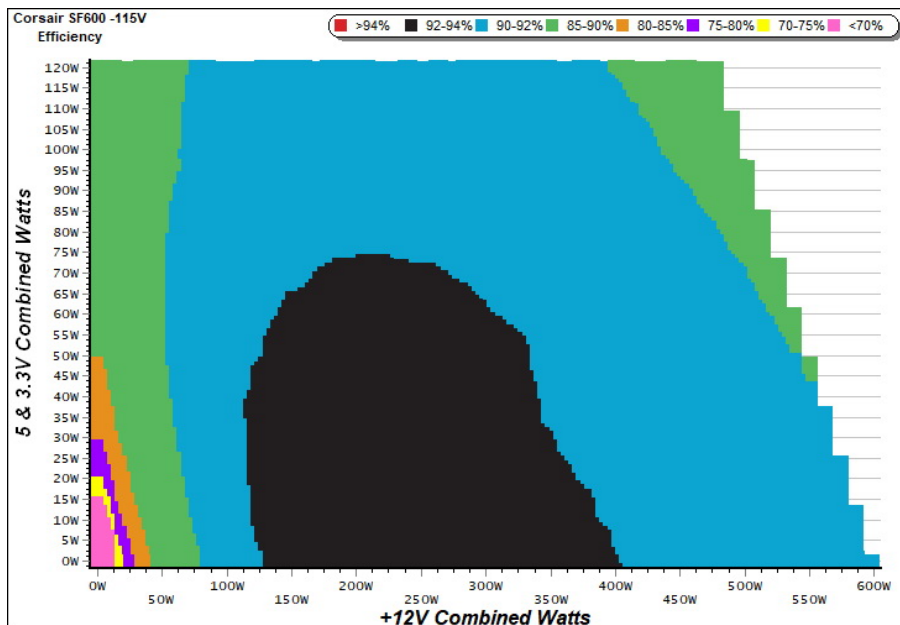
RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	90.847
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	82.338
Standby Power Consumption (W) -115V	0.0451727
Standby Power Consumption (W) -230V	0.0684637
Average PF	0.981
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	22.18
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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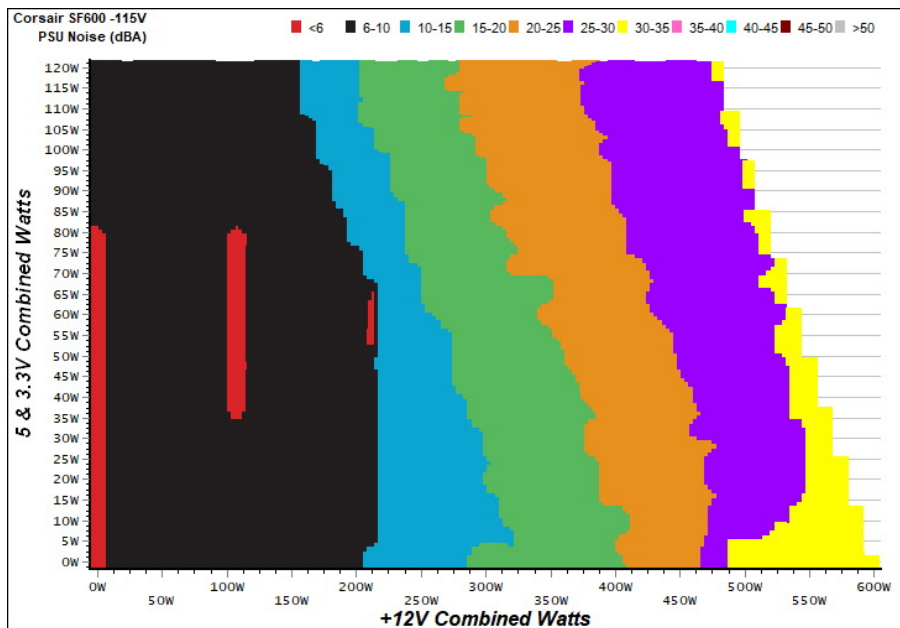
EFFICIENCY GRAPH



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



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

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Corsair SF600 Platinum

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

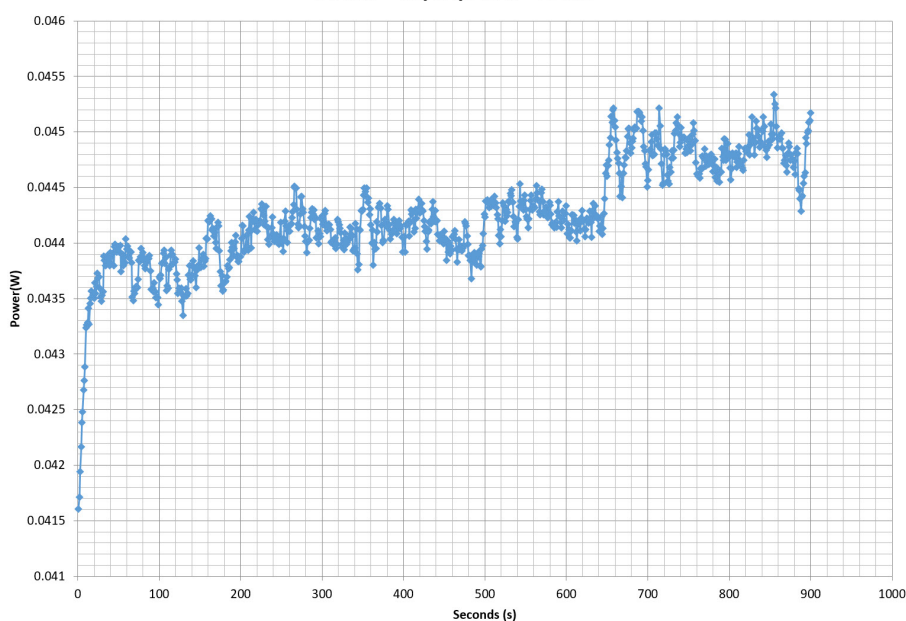
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	65.325%	0.047
	5.039V	0.323		115.11V
2	0.088A	0.441	71.591%	0.087
	5.040V	0.616		115.11V
3	0.543A	2.731	84.551%	0.299
	5.034V	3.230		115.10V
4	1.002A	5.041	84.552%	0.377
	5.029V	5.962		115.10V
5	1.502A	7.546	83.280%	0.419
	5.024V	9.061		115.10V
6	2.501A	12.537	83.497%	0.459
	5.012V	15.015		115.11V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	58.564%	0.016
	5.040V	0.362		230.26V
2	0.088A	0.442	67.071%	0.029
	5.040V	0.659		230.27V
3	0.542A	2.731	82.012%	0.132
	5.035V	3.330		230.29V
4	1.003A	5.042	83.726%	0.208
	5.029V	6.022		230.29V
5	1.502A	7.546	83.501%	0.267
	5.024V	9.037		230.29V
6	2.502A	12.538	83.816%	0.332
	5.012V	14.959		230.27V

VAMPIRE POWER -115V

Power - 05/04/2018 - 11:05



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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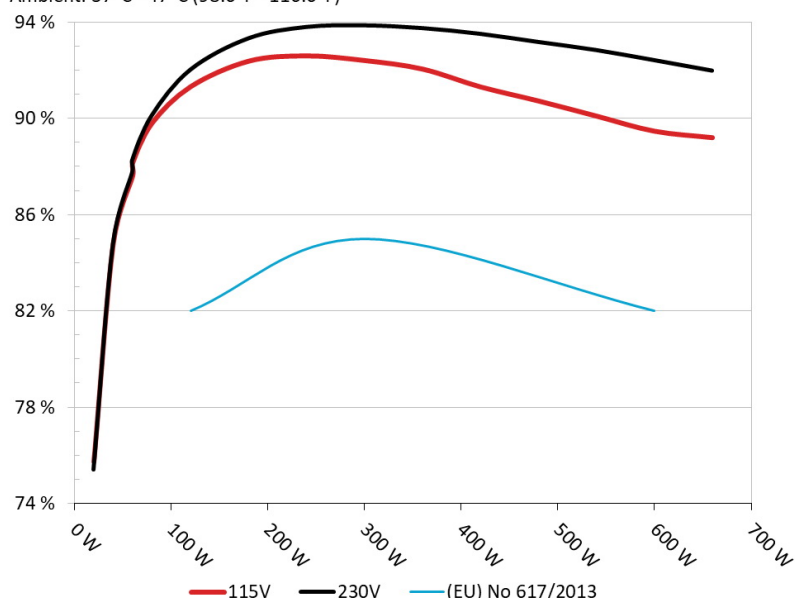
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair SF600 Platinum

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



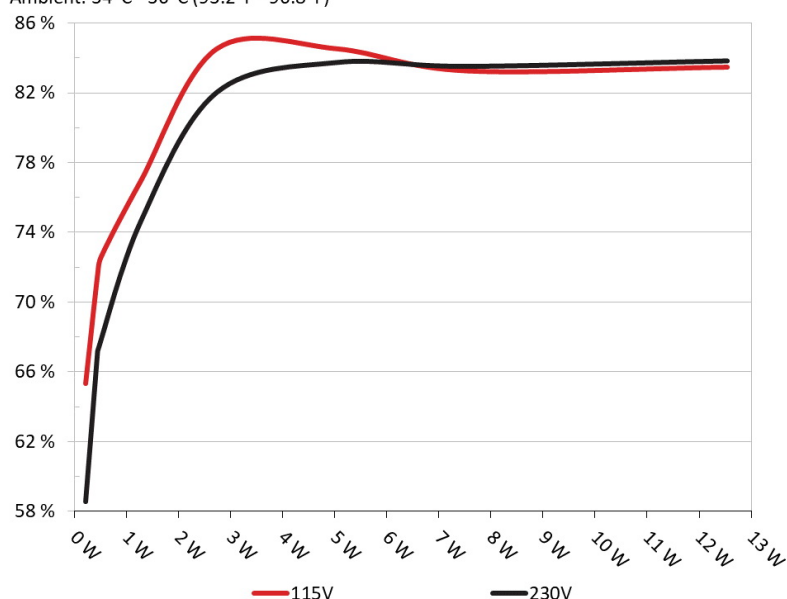
INFO

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

5VSB Efficiency: Corsair SF600 Platinum

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



INFO

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

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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.189A	1.968A	1.958A	0.996A	59.798	87.610%	0	<6.0	44.55°C	0.969
	11.983V	5.076V	3.367V	5.022V	68.255				39.41°C	115.11V
2	7.420A	2.949A	2.937A	1.196A	119.762	91.304%	0	<6.0	45.33°C	0.963
	11.982V	5.076V	3.366V	5.017V	131.168				39.97°C	115.10V
3	12.003A	3.446A	3.444A	1.396A	179.884	92.363%	0	<6.0	46.58°C	0.971
	11.982V	5.074V	3.364V	5.010V	194.757				40.37°C	115.10V
4	16.573A	3.942A	3.923A	1.596A	239.781	92.581%	0	<6.0	48.15°C	0.979
	11.983V	5.074V	3.364V	5.005V	258.997				41.02°C	115.10V
5	20.812A	4.932A	4.904A	1.800A	299.797	92.389%	1380	15.9	42.29°C	0.984
	11.979V	5.071V	3.361V	4.999V	324.495				49.80°C	115.10V
6	25.046A	5.914A	5.890A	2.000A	359.738	92.034%	1448	16.7	42.85°C	0.987
	11.977V	5.070V	3.360V	4.994V	390.875				51.04°C	115.10V
7	29.266A	6.908A	6.875A	2.201A	419.666	91.295%	1981	25.9	43.20°C	0.989
	11.979V	5.069V	3.359V	4.988V	459.681				52.14°C	115.09V
8	33.499A	7.895A	7.862A	2.406A	479.619	90.712%	2488	32.7	43.74°C	0.991
	11.977V	5.068V	3.358V	4.983V	528.726				52.90°C	115.09V
9	38.177A	8.393A	8.368A	2.406A	539.732	90.084%	2938	37.5	44.91°C	0.992
	11.974V	5.068V	3.356V	4.980V	599.146				54.55°C	115.09V
10	42.799A	8.889A	8.849A	2.511A	599.603	89.457%	3431	41.0	45.24°C	0.994
	11.972V	5.066V	3.355V	4.976V	670.273				55.58°C	115.09V
11	47.838A	8.891A	8.855A	2.510A	659.546	89.191%	3570	41.8	46.77°C	0.994
	11.964V	5.064V	3.354V	4.976V	739.476				57.38°C	115.09V
CL1	0.099A	14.027A	14.005A	0.005A	119.568	87.767%	1368	14.3	43.38°C	0.966
	11.993V	5.077V	3.366V	5.025V	136.234				51.75°C	115.11V
CL2	49.954A	1.002A	1.004A	1.002A	611.456	89.898%	3313	39.8	45.65°C	0.993
	11.971V	5.067V	3.357V	4.999V	680.169				55.37°C	115.09V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.218A	0.491A	0.475A	0.196A	19.669	75.752%	0	<6.0	0.922
	11.979V	5.075V	3.367V	5.034V	25.965				115.11V
2	2.461A	0.980A	0.979A	0.396A	39.741	84.810%	0	<6.0	0.950
	11.978V	5.075V	3.367V	5.030V	46.859				115.11V
3	3.708A	1.467A	1.483A	0.596A	59.848	88.149%	0	<6.0	0.968
	11.978V	5.074V	3.367V	5.028V	67.894				115.11V
4	4.944A	1.972A	1.960A	0.796A	79.836	89.794%	0	<6.0	0.965
	11.980V	5.075V	3.367V	5.024V	88.910				115.11V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.1 mV	7.9 mV	9.1 mV	11.1 mV	Pass
20% Load	11.3 mV	8.7 mV	9.6 mV	12.3 mV	Pass
30% Load	13.8 mV	9.2 mV	11.4 mV	13.4 mV	Pass
40% Load	15.6 mV	10.0 mV	11.2 mV	13.8 mV	Pass
50% Load	18.1 mV	10.3 mV	10.8 mV	14.5 mV	Pass
60% Load	21.6 mV	9.1 mV	11.2 mV	15.5 mV	Pass
70% Load	19.5 mV	9.8 mV	10.4 mV	14.3 mV	Pass
80% Load	21.9 mV	11.7 mV	11.9 mV	16.6 mV	Pass
90% Load	23.6 mV	15.9 mV	18.0 mV	17.9 mV	Pass
100% Load	27.9 mV	17.2 mV	23.3 mV	20.8 mV	Pass
110% Load	29.6 mV	18.3 mV	26.1 mV	22.1 mV	Pass
Crossload 1	15.0 mV	11.1 mV	16.2 mV	18.9 mV	Pass
Crossload 2	26.0 mV	16.1 mV	23.1 mV	21.5 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	15.70
AC Loss to PWR_OK Hold Up Time (ms)	13.20
PWR_OK Inactive to DC Loss Delay (ms)	2.50

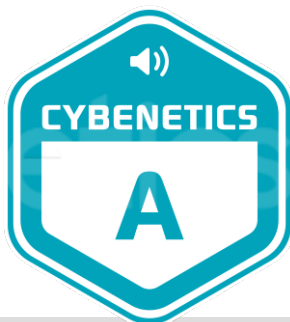


Top side

 CORSAIR		SF600				
MODEL / 型号 / 型號 / 모델 : RPS0112						
POWER SUPPLY / 电源 / 電源 / 전원 공급 장치						
PART NUMBER: CP-9020182 / 75-003563						
交流輸入 交流輸入	AC INPUT AC 입력	100V ~ 240V • 10A ~ 5A • 47Hz ~ 63Hz				
直流輸出 直流輸出	DC OUTPUT DC 출력	+3.3V	+5V	+12V	-12V	+5Vsb
最大電流 最大電流	MAX LOAD 최대 부하	20A	20A	50A	0.3A	2.5A
最大瓦特數 最大瓦特數	MAX POWER 최대 곱셈 외트	120W	600W	3.6W	12.5W	
		TOTAL POWER / 总功率 / 總功率 / 총출력 : 600W				
<div></div>						
CORSAIR MEMORY, INC. • MADE IN CHINA • 中國製造 / 中國製造						
						 R39708 RoHS Hi-P

Power specifications table

CERTIFICATIONS



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