

Anex

Corsair SF600 Platinum (Sample #3)

Lab ID#: 426

Receipt Date: -

Test Date: -

Report:

Report Date: May 7, 2018

DUT INFORMATION	
Brand	Corsair
Manufacturer (OEM)	Great Wall
Series	SF Platinum
Model Number	SF600 Platinum (Sample #3)
Serial Number	
DUT Notes	RPS0112

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	600
Type	SFX
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	90.188
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	62.038
Average Efficiency 5VSB	82.697
Standby Power Consumption (W) -115V	0.0457496
Standby Power Consumption (W) -230V	0.0695232
Average PF	0.984
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	23.49
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

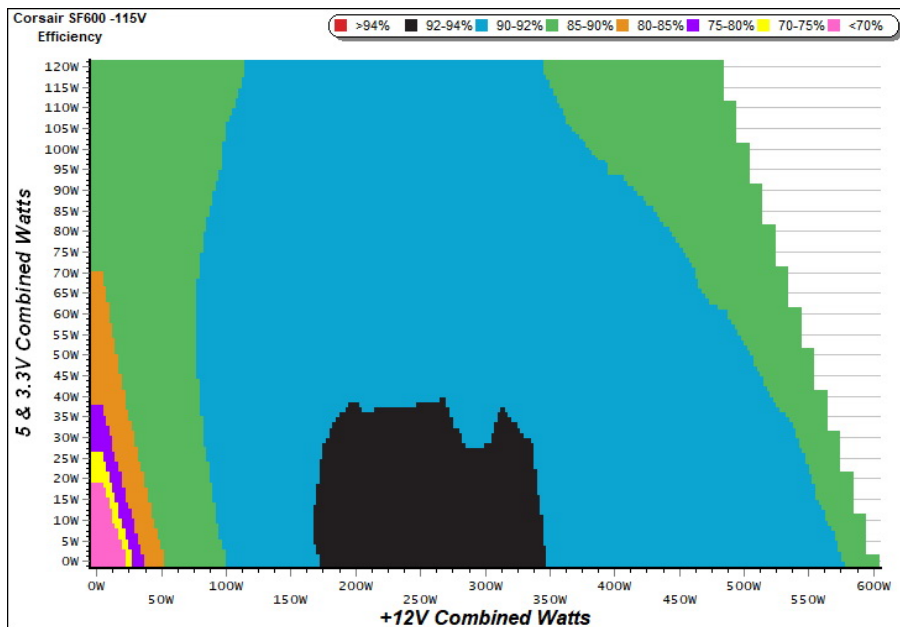
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol 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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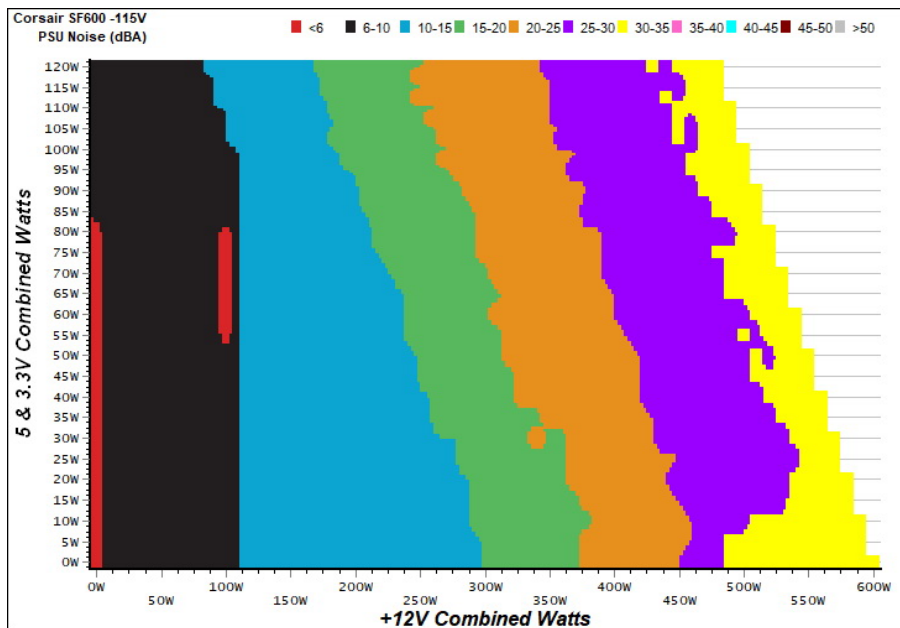
EFFICIENCY GRAPH



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

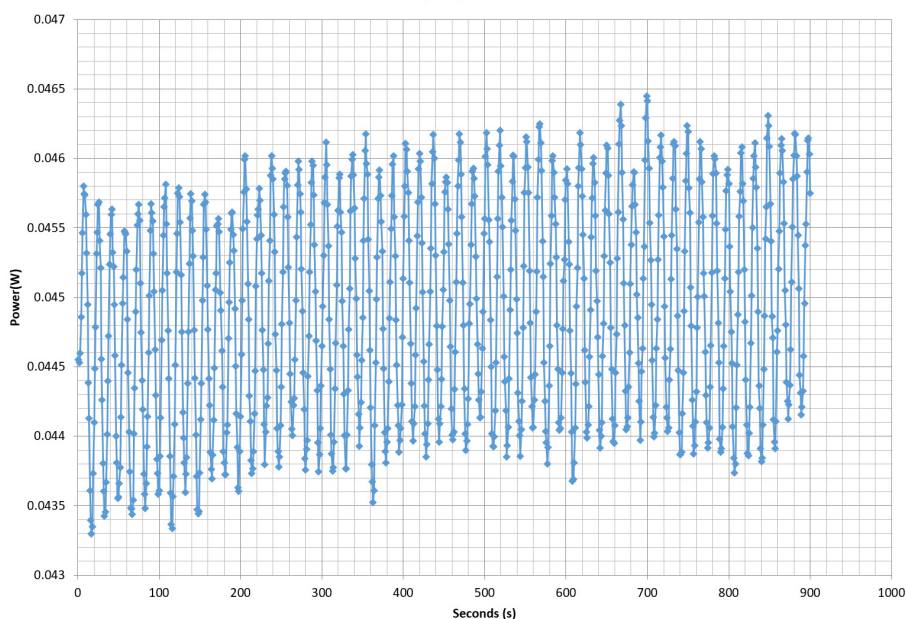
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	66.862%	0.044
	5.048V	0.341		115.38V
2	0.090A	0.455	72.222%	0.079
	5.047V	0.630		115.37V
3	0.550A	2.774	84.599%	0.289
	5.042V	3.279		115.37V
4	1.000A	5.038	84.389%	0.375
	5.037V	5.970		115.38V
5	1.500A	7.549	83.618%	0.423
	5.032V	9.028		115.37V
6	2.500A	12.555	83.328%	0.468
	5.021V	15.067		115.36V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	59.530%	0.016
	5.048V	0.383		230.93V
2	0.090A	0.455	65.942%	0.028
	5.047V	0.690		230.94V
3	0.550A	2.774	82.363%	0.125
	5.042V	3.368		230.93V
4	1.000A	5.038	83.799%	0.201
	5.037V	6.012		230.93V
5	1.500A	7.549	83.673%	0.262
	5.032V	9.022		230.93V
6	2.500A	12.554	83.895%	0.336
	5.021V	14.964		230.92V

VAMPIRE POWER -115V

Power - 29/06/2018 - 12:03



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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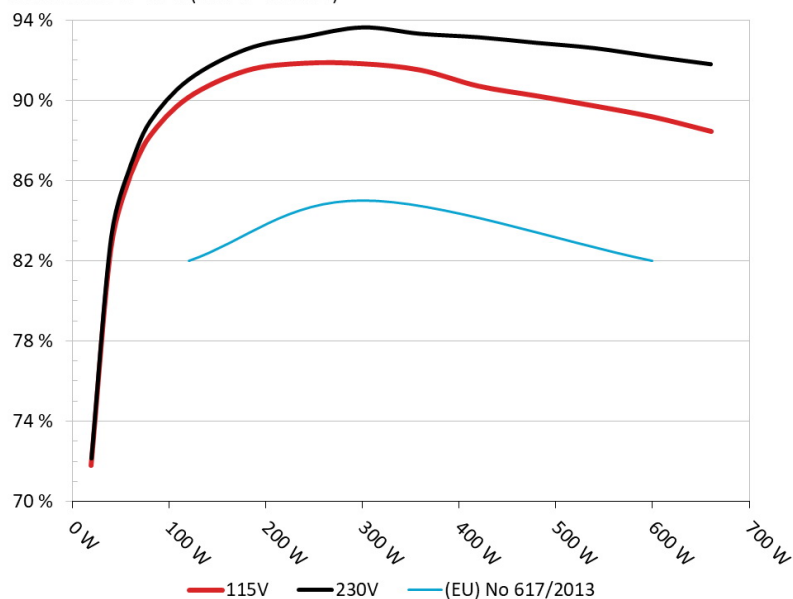
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Corsair SF600 Platinum (Sample #3)

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair SF600 Platinum

Ambient: 36°C - 46°C (96.8°F - 114.8°F)



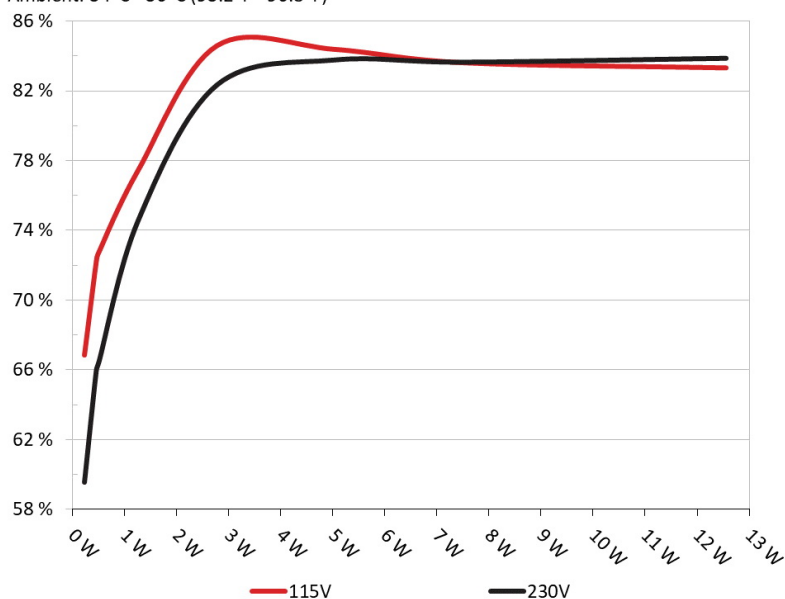
INFO

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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Corsair SF600 Platinum (Sample #3)

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	3.160A	1.970A	1.953A	0.993A	60.123	85.790%	0	<6.0	47.48°C	0.976
	12.191V	5.077V	3.379V	5.034V	70.082				39.28°C	115.29V
2	7.295A	2.955A	2.931A	1.193A	119.829	90.149%	0	<6.0	49.22°C	0.969
	12.190V	5.077V	3.378V	5.029V	132.924				40.27°C	115.22V
3	11.791A	3.448A	3.406A	1.393A	179.731	91.489%	0	<6.0	50.81°C	0.976
	12.189V	5.077V	3.378V	5.025V	196.451				41.22°C	115.14V
4	16.292A	3.943A	3.912A	1.594A	239.754	91.860%	1319	14.0	41.80°C	0.983
	12.186V	5.075V	3.376V	5.020V	260.998				51.80°C	115.16V
5	20.463A	4.928A	4.889A	1.795A	299.853	91.835%	1334	14.3	42.03°C	0.987
	12.185V	5.075V	3.375V	5.015V	326.514				52.93°C	115.07V
6	24.632A	5.914A	5.868A	1.996A	359.948	91.516%	1544	18.9	42.80°C	0.990
	12.185V	5.074V	3.374V	5.010V	393.319				54.23°C	115.00V
7	28.762A	6.900A	6.847A	2.198A	419.635	90.720%	1812	23.0	43.23°C	0.992
	12.187V	5.074V	3.374V	5.005V	462.562				55.16°C	114.90V
8	32.969A	7.886A	7.826A	2.400A	480.138	90.230%	2410	32.1	43.71°C	0.993
	12.185V	5.074V	3.373V	5.000V	532.128				56.12°C	114.91V
9	37.504A	8.380A	8.304A	2.401A	539.423	89.731%	2931	37.1	44.51°C	0.994
	12.183V	5.073V	3.372V	4.998V	601.156				57.46°C	114.82V
10	42.136A	8.876A	8.814A	2.504A	600.275	89.180%	3021	37.6	45.23°C	0.995
	12.176V	5.072V	3.370V	4.994V	673.104				58.69°C	114.73V
11	47.056A	8.878A	8.818A	2.505A	660.338	88.459%	3839	44.3	46.16°C	0.996
	12.179V	5.072V	3.369V	4.992V	746.489				60.34°C	114.73V
CL1	0.151A	14.006A	14.000A	0.000A	120.341	86.334%	904	7.1	43.40°C	0.970
	12.201V	5.081V	3.381V	5.037V	139.390				55.07°C	115.30V
CL2	50.024A	1.003A	1.000A	1.000A	622.662	89.514%	3459	41.2	45.72°C	0.995
	12.178V	5.072V	3.369V	5.014V	695.602				59.51°C	114.80V

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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	1.180A	0.493A	0.473A	0.198A	19.482	71.802%	0	<6.0	0.894
	12.189V	5.076V	3.380V	5.045V	27.133				115.34V
2	2.430A	0.986A	0.976A	0.397A	39.926	82.625%	0	<6.0	0.952
	12.189V	5.077V	3.379V	5.042V	48.322				115.32V
3	3.613A	1.478A	1.449A	0.596A	59.441	86.295%	0	<6.0	0.975
	12.189V	5.076V	3.379V	5.039V	68.881				115.29V
4	4.862A	1.970A	1.952A	0.794A	79.856	88.207%	0	<6.0	0.974
	12.189V	5.076V	3.379V	5.036V	90.533				115.27V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.7 mV	6.2 mV	4.1 mV	5.6 mV	Pass
20% Load	8.5 mV	6.3 mV	4.8 mV	7.2 mV	Pass
30% Load	11.2 mV	6.6 mV	5.0 mV	7.6 mV	Pass
40% Load	13.5 mV	7.1 mV	5.5 mV	9.0 mV	Pass
50% Load	17.7 mV	7.7 mV	6.3 mV	9.1 mV	Pass
60% Load	21.2 mV	8.1 mV	6.9 mV	11.5 mV	Pass
70% Load	18.2 mV	11.0 mV	8.1 mV	11.2 mV	Pass
80% Load	20.4 mV	10.6 mV	9.0 mV	13.0 mV	Pass
90% Load	23.1 mV	10.9 mV	9.1 mV	14.4 mV	Pass
100% Load	25.2 mV	10.7 mV	9.7 mV	16.4 mV	Pass
110% Load	27.9 mV	11.0 mV	10.3 mV	17.9 mV	Pass
Crossload 1	10.7 mV	11.9 mV	9.8 mV	5.9 mV	Pass
Crossload 2	25.6 mV	8.5 mV	6.4 mV	18.7 mV	Pass

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

Hold-Up Time (ms)	17.70
AC Loss to PWR_OK Hold Up Time (ms)	13.80
PWR_OK Inactive to DC Loss Delay (ms)	3.90



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						
交流输入 交流輸入	AC INPUT AC 입력	100V ~ 240V • 10A • 5A • 47Hz ~ 63Hz				
直流输出 直流輸出	DC OUTPUT DC 출력	+3.3V	+5V	+12V	-12V	+5Vsb
最大电流 最大電流	MAX LOAD 최대 부하	20A	20A	50A	0.3A	2.5A
最大瓦特数 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>		<div> R39708 RoHS Hi-P</div>				
CORSAIR MEMORY, INC. • MADE IN CHINA • 中國製造 / 中國製造						

Power specifications table

CERTIFICATIONS



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