

Anex

Corsair SF750 Platinum

Lab ID#: 550

Receipt Date: -

Test Date: -

Report:

Report Date: Nov 27, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Great Wall
Series	SF Platinum
Model Number	SF750 Platinum
Serial Number	18414866000067140032
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	750
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	62.5	2.5	0.3
	Watts	130		750	12.5	3.6
Total Max. Power (W)		750				

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)	2	2	16AWG	No
6+2 pin PCIe (400mm+100mm)	2	4	16AWG	No
SATA (100mm+120mm+120mm+120mm)	2	8	18AWG	No
4 pin Molex (100mm+120mm+120mm)	1	3	18AWG	No
AC Power Cord (1380mm) - C13 coupler	1	1	16AWG	-

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General Data	
Manufacturer (OEM)	Great Wall
Model Number	RPS0115
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 3x CM chokes, 1x MOV, 1x CMD02X
Inrush Protection	NTC Thermistor & Diode
Bridge Rectifier(s)	1x
APFC MOSFET	Infineon IPZ60R060C7 (650V, 22A @ 100°C, 0.06Ohm)
APFC Boost Diode	ROHM SCS306AP (650V, 6A @ 135°C)
Hold-up Cap	Nippon Chemi-Con (420V, 470uF, 2000h @ 105°C, KMZ)
Main Switchers	2x 60F2094 (600V, 15.8A @ 150°C, 0.19Ohm) Driver IC: Silicon Labs Si8230BD
Quasi-Resonant Contoller	Infineon 5QR1680AG
APFC Controller	Champion CM6502UHHX & CM03AX Green PFC controller
Resonant & PWM Controller	Champion CM6901X
Quasi-Resonant Contoller	Infineon 5QR1680AG
Topology	Primary side: Half-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	6x APower 4N1R8C-A (45V, 32A @ 70C, 1.8mOhm)
5V & 3.3V	DC-DC Converters: 4x Infineon PSMN2R0-30YLE (30V, 100A @ 100°C, 2.8mOhm @ 100°C) PWM Controller: APW7159C
Filtering Capacitors	Electrolytics: 1x Nippon Chemi-Con (4-10,000 @ 105°C, KY), 2x Rubycon (3-6,000 @ 105°C, YXG) Polymers: Nippon Chemi-Con (G61B, G8, G84R, G84G, G85F), 6x Nichicon (LG)
Supervisor IC	Infinno IN1S429i-SCG
Fan Controller	PIC16F1824
Fan Model	Corsair NR092L (92mm, 12V, 0.22A, 3950 RPM, Rifle Bearing)
5VSB Circuit	
Rectifier	1x CSD18534 (60V, 13A @ 25°C, 9.8mOhm)
Step-Down Converter	Texas Instruments TPS54231 (3.5V-28V Input, 2A)

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	90.210
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	54.190
Average Efficiency 5VSB	83.081
Standby Power Consumption (W) -115V	0.0476897
Standby Power Consumption (W) -230V	0.0747045
Average PF	0.981
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	26.20
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A-

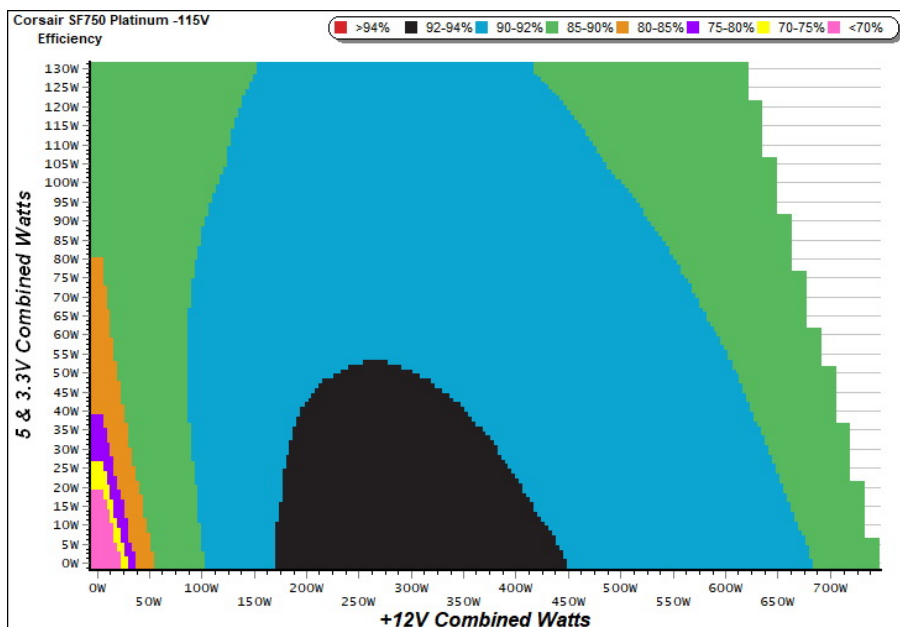
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol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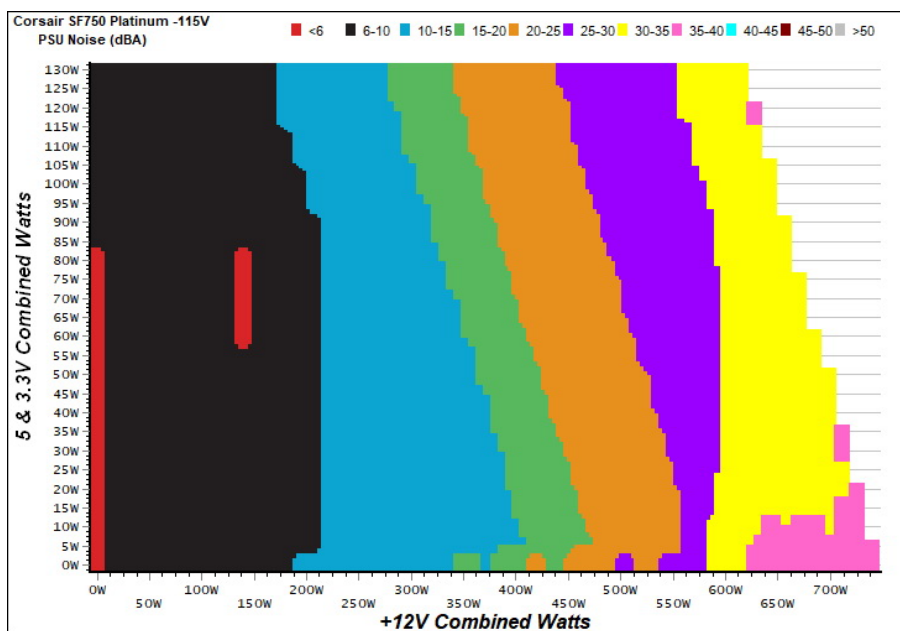
EFFICIENCY GRAPH



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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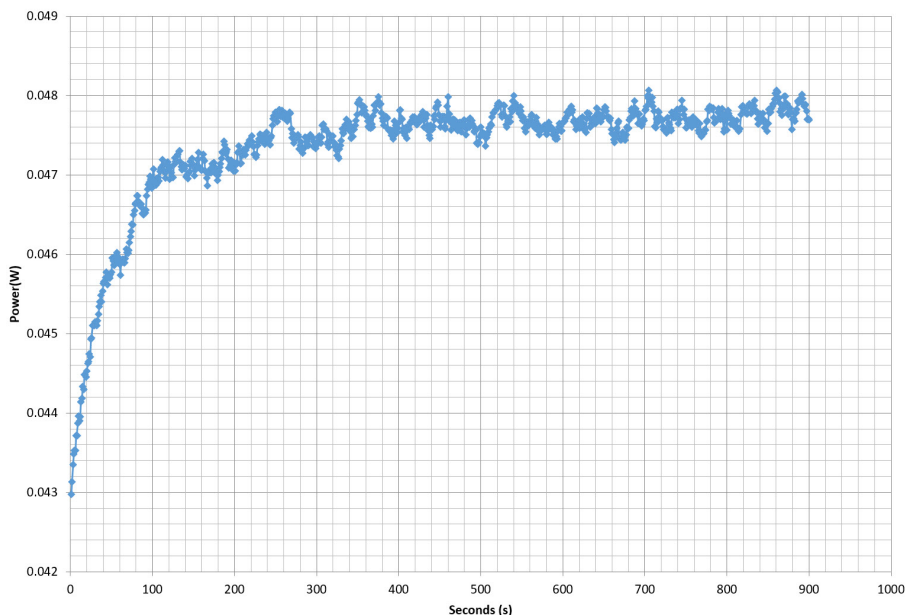
Corsair SF750 Platinum

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.418%	0.049
	5.045V	0.347		115.06V
2	0.090A	0.455	70.872%	0.088
	5.044V	0.642		115.06V
3	0.550A	2.772	84.926%	0.304
	5.038V	3.264		115.06V
4	1.000A	5.033	84.674%	0.387
	5.033V	5.944		115.06V
5	1.500A	7.540	83.379%	0.432
	5.026V	9.043		115.07V
6	2.500A	12.535	83.439%	0.472
	5.013V	15.023		115.06V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	57.868%	0.017
	5.045V	0.394		230.03V
2	0.090A	0.455	65.280%	0.030
	5.044V	0.697		230.21V
3	0.550A	2.772	82.746%	0.132
	5.038V	3.350		230.20V
4	1.000A	5.033	84.277%	0.208
	5.032V	5.972		230.21V
5	1.500A	7.540	83.974%	0.269
	5.026V	8.979		230.21V
6	2.500A	12.534	84.047%	0.338
	5.013V	14.913		230.21V

VAMPIRE POWER -115V

Power - 18414866000067140032 - 20/11/2018 - 16:52



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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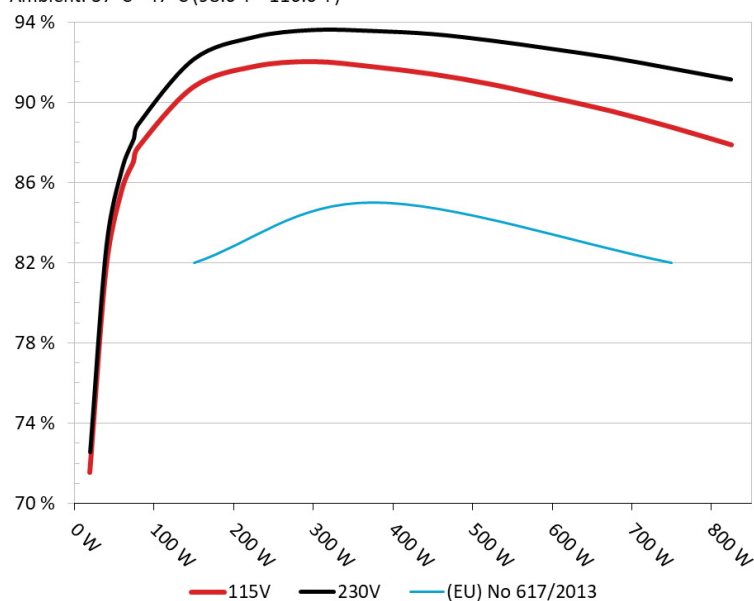
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair SF750 Platinum

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



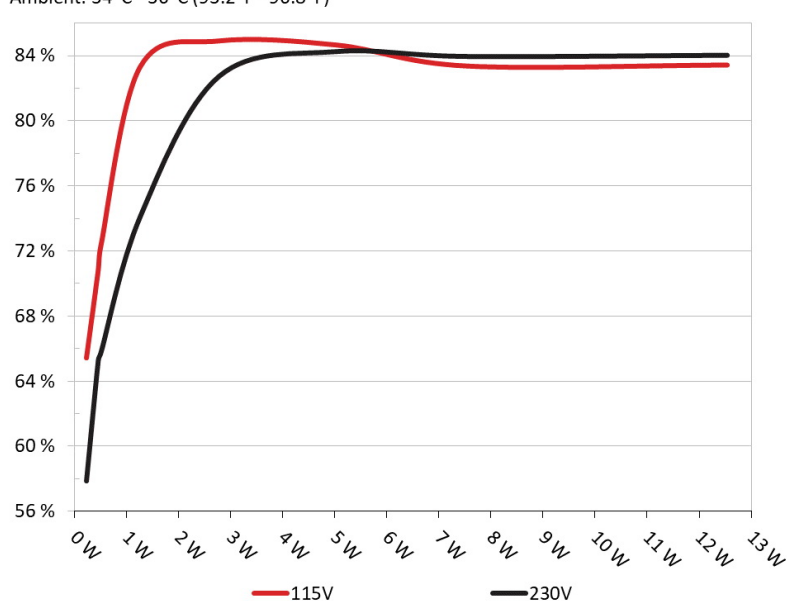
INFO

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 SF750 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	4.387A	1.973A	1.961A	0.994A	74.402	87.060%	0	<6.0	40.36°C	0.941
	12.038V	5.069V	3.361V	5.029V	85.461				46.52°C	115.05V
2	9.839A	2.959A	2.947A	1.195A	149.290	90.769%	0	<6.0	40.67°C	0.965
	12.033V	5.067V	3.360V	5.023V	164.473				47.57°C	115.04V
3	15.693A	3.454A	3.424A	1.395A	224.798	91.788%	0	<6.0	41.48°C	0.973
	12.031V	5.066V	3.358V	5.017V	244.911				49.44°C	115.04V
4	21.482A	3.948A	3.933A	1.596A	299.577	92.039%	0	<6.0	41.93°C	0.980
	12.028V	5.064V	3.356V	5.012V	325.488				50.47°C	115.04V
5	26.935A	4.938A	4.915A	1.799A	374.556	91.783%	1363	13.2	42.23°C	0.985
	12.031V	5.064V	3.355V	5.005V	408.090				52.15°C	115.05V
6	32.388A	5.927A	5.901A	2.001A	449.464	91.415%	1516	18.1	42.84°C	0.989
	12.031V	5.063V	3.354V	4.999V	491.674				53.78°C	115.04V
7	37.878A	6.917A	6.893A	2.204A	524.787	90.898%	2033	27.5	43.44°C	0.991
	12.030V	5.061V	3.352V	4.992V	577.337				54.73°C	115.04V
8	43.375A	7.906A	7.880A	2.407A	600.118	90.240%	2691	35.2	43.70°C	0.992
	12.028V	5.060V	3.350V	4.986V	665.024				56.06°C	115.04V
9	49.237A	8.404A	8.362A	2.409A	674.640	89.567%	3210	40.0	44.59°C	0.993
	12.026V	5.059V	3.348V	4.983V	753.228				58.12°C	115.04V
10	55.100A	8.901A	8.875A	2.511A	749.785	88.769%	3723	44.3	45.98°C	0.994
	12.025V	5.057V	3.346V	4.978V	844.649				60.26°C	115.03V
11	61.359A	8.903A	8.881A	2.513A	825.003	87.888%	3879	44.7	46.74°C	0.995
	12.024V	5.056V	3.345V	4.975V	938.701				62.50°C	115.03V
CL1	0.141A	16.005A	16.000A	0.000A	136.603	85.739%	1744	21.9	42.00°C	0.965
	12.043V	5.067V	3.363V	5.032V	159.324				52.82°C	115.06V
CL2	62.514A	1.000A	1.000A	1.000A	765.140	89.163%	3678	43.8	45.16°C	0.994
	12.025V	5.060V	3.346V	5.003V	858.132				60.64°C	115.03V

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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	1.195A	0.492A	0.475A	0.198A	19.459	71.556%	0	<6.0	0.865
	12.025V	5.069V	3.361V	5.042V	27.194				115.04V
2	2.458A	0.985A	0.983A	0.397A	39.857	81.721%	0	<6.0	0.911
	12.026V	5.069V	3.360V	5.039V	48.772				115.05V
3	3.655A	1.479A	1.455A	0.596A	59.355	85.602%	0	<6.0	0.936
	12.030V	5.068V	3.360V	5.035V	69.338				115.04V
4	4.918A	1.973A	1.963A	0.795A	79.788	87.741%	0	<6.0	0.949
	12.036V	5.068V	3.360V	5.031V	90.936				115.05V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.3 mV	11.3 mV	5.4 mV	7.0 mV	Pass
20% Load	11.4 mV	11.4 mV	6.3 mV	8.1 mV	Pass
30% Load	8.7 mV	13.4 mV	8.5 mV	8.9 mV	Pass
40% Load	11.5 mV	13.3 mV	8.4 mV	9.6 mV	Pass
50% Load	13.4 mV	15.5 mV	9.8 mV	10.5 mV	Pass
60% Load	15.5 mV	15.1 mV	10.9 mV	12.1 mV	Pass
70% Load	17.6 mV	17.1 mV	11.9 mV	14.4 mV	Pass
80% Load	20.5 mV	17.5 mV	13.5 mV	16.6 mV	Pass
90% Load	22.4 mV	17.9 mV	14.5 mV	18.8 mV	Pass
100% Load	29.5 mV	20.2 mV	16.7 mV	20.9 mV	Pass
110% Load	32.5 mV	21.3 mV	17.7 mV	23.3 mV	Pass
Crossload 1	17.3 mV	18.0 mV	15.5 mV	16.7 mV	Pass
Crossload 2	29.4 mV	18.5 mV	11.6 mV	21.6 mV	Pass

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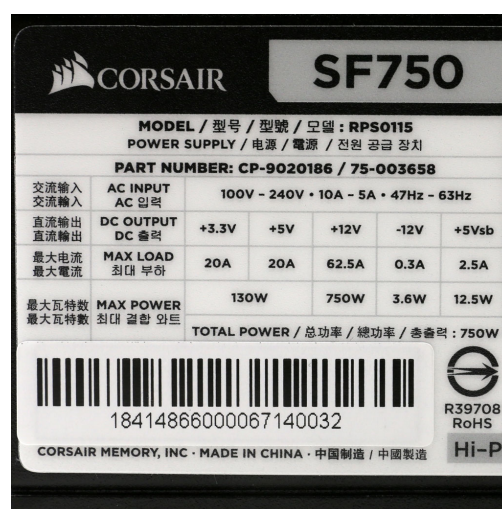
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HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	11.60
AC Loss to PWR_OK Hold Up Time (ms)	8.80
PWR_OK Inactive to DC Loss Delay (ms)	2.80



Top side



Power specifications label

CERTIFICATIONS



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