

Anex

Corsair SF750 Platinum

Lab ID#: 551

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 Controller	Infineon 5QR1680AG
APFC Controller	Champion CM6502UHHX & CM03AX Green PFC controller
Resonant & PWM Controller	Champion CM6901X
Quasi-Resonant Controller	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 @ 70°C, 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	92.083
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	54.190
Average Efficiency 5VSB	81.962
Standby Power Consumption (W) -115V	0.0476897
Standby Power Consumption (W) -230V	0.0747045
Average PF	0.950
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	25.45
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A-

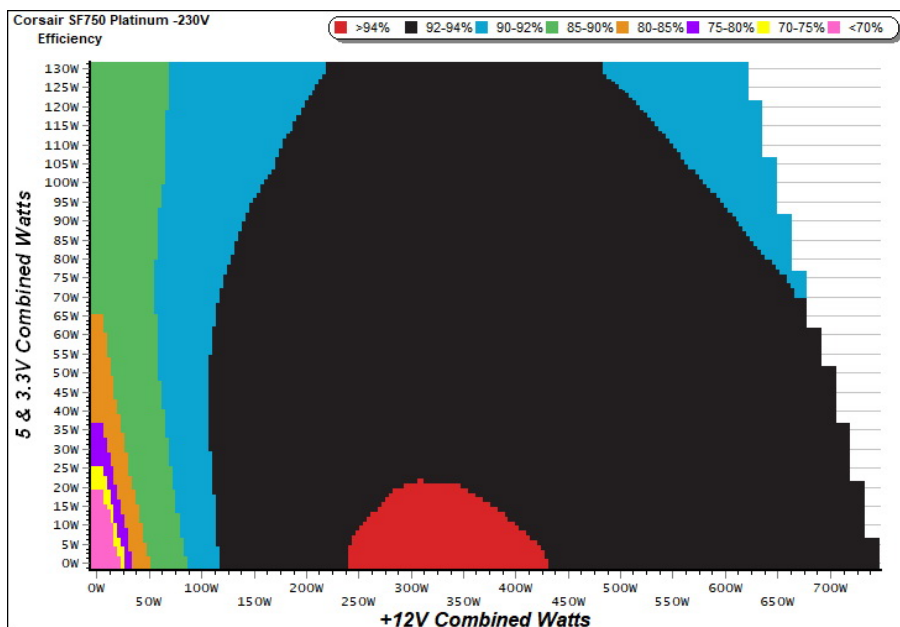
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol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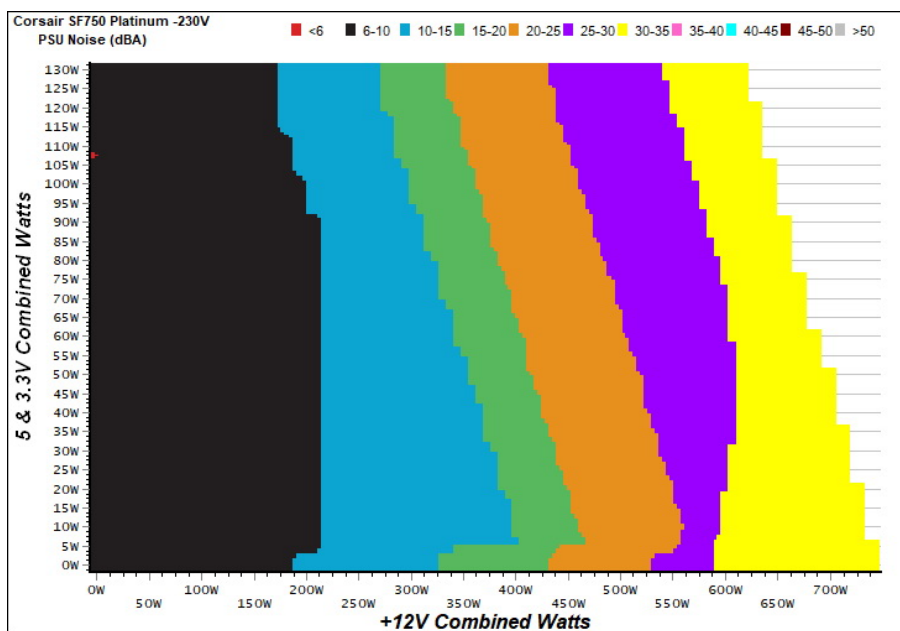
EFFICIENCY GRAPH



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)

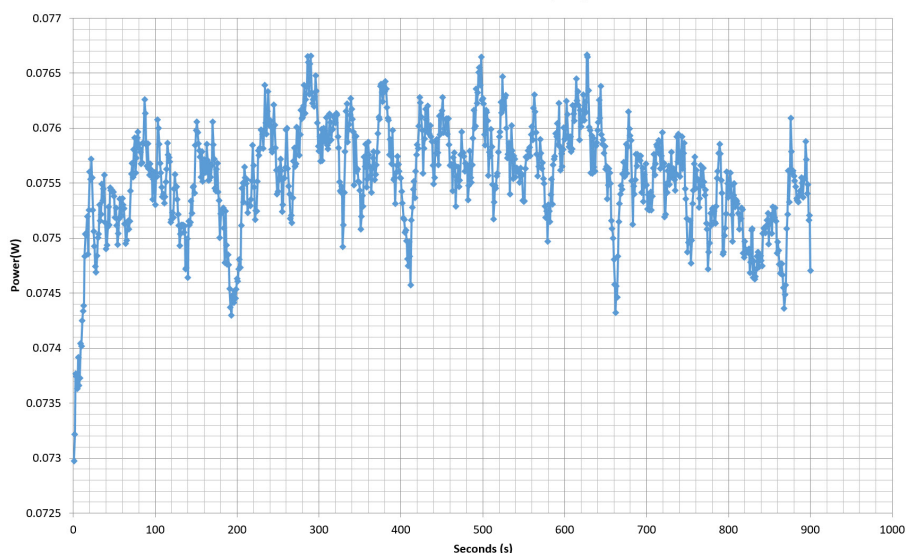
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.418%	0.049
	5.045V	0.347		115.06V
2	0.090A	0.455	70.872%	0.088
	5.044V	0.642		115.06V
3	0.550A	2.772	84.926%	0.304
	5.038V	3.264		115.06V
4	1.000A	5.033	84.674%	0.387
	5.033V	5.944		115.06V
5	1.500A	7.540	83.379%	0.432
	5.026V	9.043		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 -230V

Power - 1841486600067140032 - 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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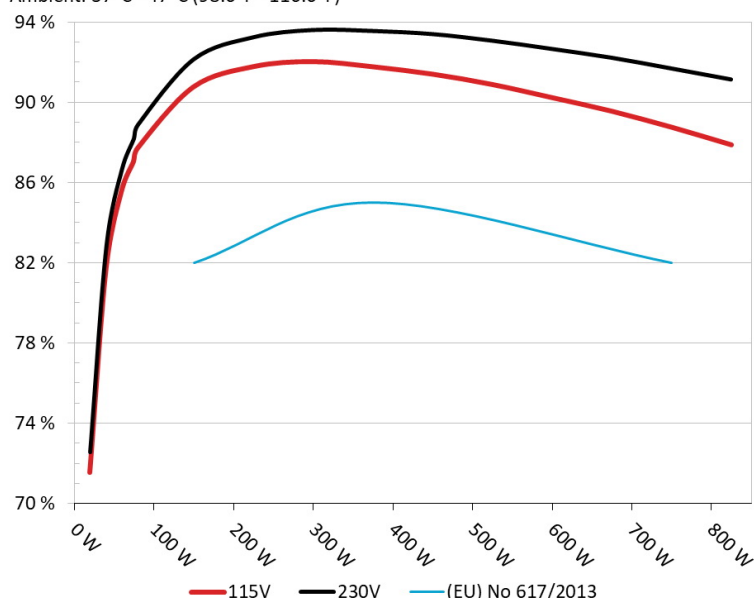
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair SF750 Platinum

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



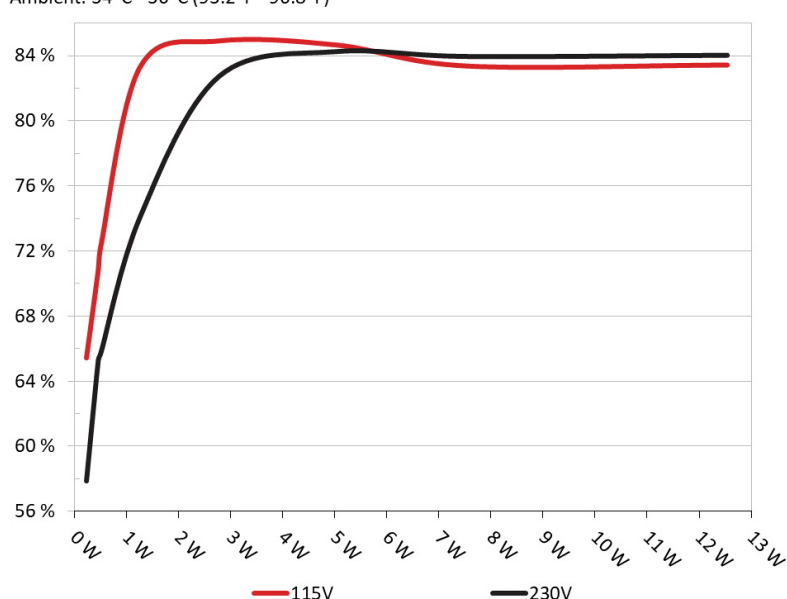
INFO

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	1.962A	0.994A	74.410	88.198%	0	<6.0	39.72°C	0.835
	12.039V	5.069V	3.361V	5.029V	84.367				46.23°C	230.20V
2	9.840A	2.960A	2.946A	1.195A	149.302	92.153%	0	<6.0	40.82°C	0.913
	12.033V	5.067V	3.359V	5.023V	162.015				48.13°C	230.20V
3	15.694A	3.454A	3.422A	1.395A	224.802	93.264%	0	<6.0	41.33°C	0.941
	12.031V	5.066V	3.358V	5.017V	241.039				50.14°C	230.20V
4	21.481A	3.949A	3.932A	1.597A	299.594	93.625%	0	<6.0	41.85°C	0.954
	12.029V	5.065V	3.356V	5.011V	319.992				51.59°C	230.20V
5	26.935A	4.939A	4.917A	1.798A	374.508	93.574%	1363	13.2	42.15°C	0.963
	12.029V	5.064V	3.355V	5.005V	400.226				52.45°C	230.20V
6	32.398A	5.926A	5.905A	2.001A	449.388	93.421%	1510	18.1	42.63°C	0.968
	12.025V	5.062V	3.353V	5.000V	481.037				54.22°C	230.20V
7	37.885A	6.918A	6.891A	2.204A	524.751	93.090%	1855	24.6	43.24°C	0.973
	12.027V	5.061V	3.351V	4.993V	563.703				56.19°C	230.20V
8	43.378A	7.906A	7.883A	2.407A	600.078	92.677%	2545	33.8	43.84°C	0.976
	12.026V	5.060V	3.350V	4.986V	647.495				57.32°C	230.20V
9	49.238A	8.404A	8.364A	2.409A	674.601	92.241%	3120	39.3	44.58°C	0.979
	12.025V	5.058V	3.348V	4.983V	731.343				59.36°C	230.21V
10	55.099A	8.902A	8.875A	2.512A	749.728	91.707%	3684	43.9	45.63°C	0.981
	12.024V	5.057V	3.346V	4.978V	817.521				60.84°C	230.19V
11	61.362A	8.902A	8.881A	2.513A	824.964	91.157%	3885	44.8	46.61°C	0.982
	12.023V	5.056V	3.344V	4.975V	904.991				62.46°C	230.20V
CL1	0.142A	16.003A	15.999A	0.000A	136.570	87.009%	1631	21.1	42.78°C	0.911
	12.042V	5.066V	3.362V	5.032V	156.961				52.39°C	230.20V
CL2	62.513A	1.001A	1.001A	1.000A	765.011	92.171%	3537	42.4	45.91°C	0.981
	12.023V	5.059V	3.346V	5.003V	829.989				60.71°C	230.20V

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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	1.198A	0.492A	0.476A	0.198A	19.503	72.559%	0	<6.0	0.580
	12.029V	5.069V	3.361V	5.042V	26.879				230.19V
2	2.461A	0.986A	0.980A	0.397A	39.896	82.830%	0	<6.0	0.729
	12.029V	5.069V	3.361V	5.038V	48.166				230.20V
3	3.657A	1.478A	1.457A	0.596A	59.386	86.658%	0	<6.0	0.805
	12.031V	5.069V	3.360V	5.035V	68.529				230.20V
4	4.919A	1.973A	1.962A	0.795A	79.806	88.907%	0	<6.0	0.844
	12.038V	5.068V	3.360V	5.031V	89.763				230.20V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.9 mV	11.0 mV	5.4 mV	6.8 mV	Pass
20% Load	12.6 mV	11.5 mV	6.4 mV	8.1 mV	Pass
30% Load	9.4 mV	14.1 mV	8.4 mV	8.7 mV	Pass
40% Load	11.6 mV	13.2 mV	8.4 mV	9.4 mV	Pass
50% Load	13.5 mV	15.2 mV	9.6 mV	10.8 mV	Pass
60% Load	15.7 mV	15.3 mV	10.8 mV	12.6 mV	Pass
70% Load	18.1 mV	16.5 mV	12.0 mV	14.5 mV	Pass
80% Load	21.0 mV	18.5 mV	14.4 mV	16.6 mV	Pass
90% Load	23.1 mV	18.3 mV	14.7 mV	19.1 mV	Pass
100% Load	30.8 mV	19.2 mV	16.2 mV	20.9 mV	Pass
110% Load	33.9 mV	20.8 mV	16.9 mV	23.4 mV	Pass
Crossload 1	18.2 mV	19.3 mV	15.2 mV	16.8 mV	Pass
Crossload 2	30.4 mV	18.3 mV	11.7 mV	21.7 mV	Pass

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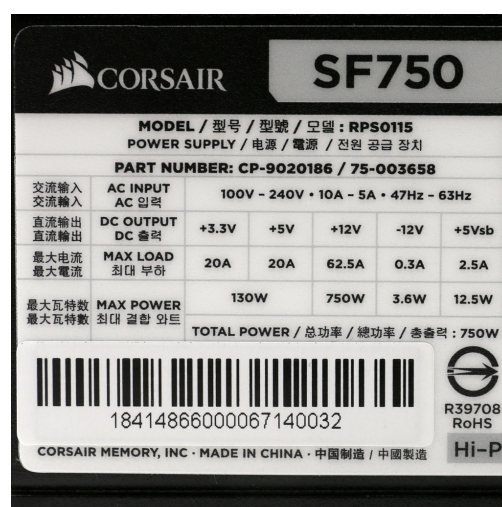
Corsair SF750 Platinum

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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