

Lab ID#: 248 Receipt Date: Dec 5, 2018 Test Date: Dec 12, 2018

EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Corsair HX750 (Sample #2)

Report: 19PS248A

Report Date: Dec 15, 2018

DUT INFORMATION				
Brand	Corsair			
Manufacturer (OEM)	Channel Well Technology			
Series	НХ			
Model Number				
Serial Number	17027124000027040196			
DUT Notes	CP-9020137			

DUT SPECIFICATIONS						
Rated Voltage (Vrms)	100-240					
Rated Current (Arms)	10-5					
Rated Frequency (Hz)	47-63					
Rated Power (W)	750					
Туре	ATX12V					
Cooling	135mm Fluid Dynamic Bearing Fan (NR135P)					
Semi-Passive Operation	1					
Cable Design	Fully Modular					

POWER SPECIFICATIONS							
Rail	3.3V	5V	12V	5VSB	-12V		
M. D	Amps	25	25	62.5	3	0.8	
Max. Power	Watts	150		750	15	9.6	
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 (600mm)	1	1	16-20AWG	Yes
4+4 pin EPS12V (650mm)	2	2	18AWG	Yes
6+2 pin PCIe (680mm+100mm)	2	4	16-18AWG	Yes
SATA (500mm+115mm+115mm+115mm)	2	8	18AWG	No
SATA (500mm+110mm+110mm+110mm)	2	8	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
FDD Adapter (+100mm)	1	1	20AWG	No
AC Power Cord (1420mm) - C13 coupler	1	1	16AWG	-

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EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Corsair HX750 (Sample #2)

General Data	
Manufacturer (OEM)	CWT
Platform Model	Custom made for Corsair
Primary Side	
Transient Filter	6x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Diode
Bridge Rectifier(s)	2x
APFC MOSFETS	2x Infineon IPA50R140CP (550V, 15A @ 100°C, 0.140hm)
APFC Boost Diode	1x CREE C3D08060A (600V, 8A @ 152°C)
Hold-up Cap(s)	2x Chemi-Con (400V, 470uF & 390uF, 2000h @ 105°C, KMW)
Main Switchers	2x Infineon IPA50R140CP (550V, 15A @ 100°C, 0.140hm)
APFC Controller	Texas Instruments UCC28070 & CM03X
LLC Resonant Controller	Infineon ICE2HS01G
Topology	Primary side: Half-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	6x Infineon BSC014N04LS (40V, 100A @ 100°C, 1.4mOhm)
5V & 3.3V	DC-DC Converters: 3x Ubiq QM3004D (30V, 40A @ 100°C, 8.5mOhm), 3x Ubiq QM3006D (30V, 50A @ 100°C, 5.5mC PWM Controller: 1x APW7159C
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (1-5,000 @ 105°C, KZE), Nippon Chemi-Con (4-10,000 @ 105°C, KY) Polymers: Nippon Chemi-Con, FPCAP
Supervisor IC	Weltrend WT7502 (OVP, UVP, PG, SCP), 2x Weltrend WT7518 (OCP, PG, SCP)
Fan Model	NR135P (135mm, 12V, 0.22A, Fluid Dynamic Bearing)
Fan Controller	Microchip PIC16F1503
5VSB Circuit	
Mosfet / Rectifier	1x ISD04N65A (650V, 4A, 2.50hm), 1x QM3004D (30V, 40A @ 100°C, 8.5m0hm), 1x MBRU2045CT SBR (45V, 20A @
Standby PWM Controller	On-Bright OB5269CP

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EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Corsair HX750 (Sample #2)

RESULTS	
Temperature Range (°C/°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	1
(EU) No 617/2013 Compliance	/

115V		230V	
Average Efficiency	89.376%	Average Efficiency	91.218%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000	Average Efficiency 5VSB	79.215%
Average Efficiency 5VSB	79.614%	Standby Power Consumption (W)	0.0915873
Standby Power Consumption (W)	0.0479377	Average PF	0.964
Average PF	0.993	Avg Noise Output	20.40 dB(A)
Avg Noise Output	20.35 dB(A)	Efficiency Rating (ETA)	PLATINUM
Efficiency Rating (ETA)	PLATINUM	Noise Rating (LAMBDA)	А
Noise Rating (LAMBDA)	А		

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				

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

Hold-Up Time (ms)	29.8
AC Loss to PWR_OK Hold Up Time (ms)	28.8
PWR_OK Inactive to DC Loss Delay (ms)	11.0

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Anex

Corsair HX750 (Sample #2)



5VSB EFFICIENCY



INFO

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

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Anex

Corsair HX750 (Sample #2)

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)						
5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts			
0.045A	0.227	CO 4309/	0.024			
5.054V	0.327	69.419%	115.28V			
0.090A	0.455		0.045			
5.053V	0.603	75.450%	115.27V			
0.550A	2.773	00.4709/	0.224			
5.042V	3.446	80.470%	115.26V			
1.000A	5.031		0.339			
5.031V	6.261	80.355%	115.27V			
1.500A	7.527	00.12.49/	0.415			
5.018V	9.393	80.134%	115.26V			
3.000A	14.939		0.509			
4.980V	18.955	/8.813%	115.25V			
	SVSB 0.045A 5.054V 0.090A 5.053V 0.550A 5.042V 1.000A 5.031V 1.500A 5.018V 3.000A 4.980V	V -115V (ERP LOT 3/6 & CEC) 5VSB DC/AC (Watts) 0.045A 0.227 5.054V 0.327 0.090A 0.455 5.053V 0.603 0.550A 2.773 5.042V 3.446 1.000A 5.031 5.031V 6.261 1.500A 7.527 5.018V 9.393 3.000A 14.939 4.980V 18.955	SYSB DC/AC (Watts) Efficiency 0.045A 0.227			

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	c1 100%	0.009
l	5.053V	0.371	61.186%	230.83V
2	0.090A	0.455	co c70%	0.016
	5.053V	0.653	69.678%	230.83V
З	0.550A	2.773	70.0050/	0.085
3	5.042V	3.513	78.935%	230.82V
	1.000A	5.030	70.0550/	0.145
4	5.030V	6.291	/9.955%	230.82V
-	1.500A	7.527	00.12(%)	0.203
5	5.018V	9.394	80.126%	230.82V
<i>c</i>	3.000A	14.936	70 ((20) (0.325
b	4.979V	18.749	/9.003%	230.81V

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EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Corsair HX750 (Sample #2)

115V

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Anex

Corsair HX750 (Sample #2)

EFFICIENCY GRAPH 115V



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 115V



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 HX750 (Sample #2)

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VAMPIRE POWER -115V



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Anex

Corsair HX750 (Sample #2)

10-1	10-110% LOAD TESTS 115V									
Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.381A	1.984A	1.987A	0.996A	74.464	06.0700/	0	<6.0	45.36°C	0.960
T	12.065V	5.042V	3.323V	5.021V	86.213	80.372%			38.04°C	115.28V
2	9.825A	2.976A	2.980A	1.196A	149.351	00.400%	0		46.21°C	0.987
Ζ	12.056V	5.041V	3.322V	5.017V	165.211	90.400%	0	<0.0	38.66°C	115.17V
_	15.679A	3.473A	3.465A	1.397A	224.894		0		46.92°C	0.993
3	12.047V	5.040V	3.320V	5.012V	245.585	91.575%		<6.0	38.94°C	115.08V
	21.469A	3.970A	3.980A	1.598A	299.677	oz =o=o/			48.37°C	0.995
4	12.039V	5.039V	3.318V	5.007V	326.714	91.725%	0	<6.0	39.83°C	115.07V
_	26.942A	4.964A	4.975A	1.800A	374.602	oz ==oo/			49.59°C	0.997
5	12.029V	5.038V	3.317V	5.003V	408.196	91.770%	0	<6.0	40.95°C	114.96V
6	32.420A	5.956A	5.973A	2.001A	449.525	91.247%	730	13.1	41.04°C	0.997
	12.021V	5.037V	3.315V	4.999V	492.649				50.43°C	114.95V
	37.936A	6.952A	6.973A	2.203A	524.849		730	13.1	41.67°C	0.998
7	12.013V	5.036V	3.314V	4.995V	578.136	90.783%			51.50°C	114.83V
_	43.464A	7.947A	7.973A	2.405A	600.164				42.09°C	0.998
8	12.004V	5.035V	3.312V	4.991V	664.681	90.294%	870	20.2	52.30°C	114.73V
_	49.368A	8.446A	8.458A	2.405A	674.683				44.22°C	0.998
9	11.995V	5.034V	3.310V	4.990V	751.509	89.777%	990	25.0	54.84°C	114.71V
	55.078A	8.945A	8.980A	3.017A	749.888			28.0	45.50°C	0.998
10	11.986V	5.032V	3.308V	4.974V	841.671	89.095%	1130		56.29°C	114.58V
	61.410A	8.947A	8.982A	3.018A	825.107				47.25°C	0.998
11	11.975V	5.031V	3.307V	4.972V	932.029	88.528%	1240	30.5	59.07°C	114.47V
	0.737A	18.004A	18.001A	0.000A	159.314				44.93°C	0.989
CL1	12.028V	5.037V	3.320V	5.087V	189.429	84.102%	2% 870	20.2	54.14°C	115.14V
	62.512A	1.002A	1.001A	1.000A	763.200				45.60°C	0.998
CL2	11.995V	5.035V	3.310V	5.009V	851.100	89.672%	1140	28.6	56.33°C	114.59V

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Anex

Corsair HX750 (Sample #2)

20-80W LOAD TESTS 115V										
Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts	
1	1.188A	0.495A	0.478A	0.199A	19.438	CO 2050/	0	<6.0	0.811	
	12.079V	5.044V	3.325V	5.039V	28.420	68.395%			115.35V	
2	2.450A	0.992A	0.991A	0.397A	39.877	01 7020/	0	<6.0	0.923	
	12.074V	5.043V	3.324V	5.034V	48.808	81.702%			115.33V	
3	3.643A	1.487A	1.474A	0.597A	59.371	04 5200/	0	<6.0	0.949	
	12.070V	5.043V	3.324V	5.030V	70.229	84.539%			115.29V	
4	4.910A	1.983A	1.987A	0.796A	79.841	06.00.49/	0	<6.0	0.965	
	12.065V	5.042V	3.323V	5.026V	91.873	86.904%			115.27V	

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	2.4 mV	3.4 mV	3.0 mV	2.5 mV	Pass
20% Load	3.3 mV	3.7 mV	3.7 mV	3.1 mV	Pass
30% Load	4.1 mV	4.2 mV	4.0 mV	4.0 mV	Pass
40% Load	5.0 mV	4.6 mV	4.3 mV	4.7 mV	Pass
50% Load	6.3 mV	5.5 mV	4.9 mV	5.6 mV	Pass
60% Load	6.8 mV	6.3 mV	7.2 mV	6.7 mV	Pass
70% Load	5.7 mV	6.4 mV	7.6 mV	6.9 mV	Pass
80% Load	6.5 mV	7.6 mV	8.8 mV	8.0 mV	Pass
90% Load	6.8 mV	7.2 mV	9.2 mV	8.6 mV	Pass
100% Load	7.4 mV	8.5 mV	10.7 mV	10.1 mV	Pass
110% Load	7.6 mV	9.9 mV	10.1 mV	12.4 mV	Pass
Crossload 1	4.6 mV	7.5 mV	9.1 mV	5.5 mV	Pass
Crossload 2	7.3 mV	6.7 mV	7.9 mV	9.3 mV	Pass

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EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Corsair HX750 (Sample #2)

230V

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Anex

Corsair HX750 (Sample #2)

EFFICIENCY GRAPH 230V



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 230V



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 HX750 (Sample #2)



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Corsair HX750 (Sample #2)

10-110% LOAD TESTS 230V											
Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts	
1	4.381A	1.982A	1.984A	0.996A	74.451		•	<6.0	44.83°C	0.784	
	12.066V	5.043V	3.324V	5.021V	85.158	87.427%	0		38.32°C	230.80V	
2	9.822A	2.976A	2.978A	1.196A	149.322	01 6 410/	0	<6.0	45.50°C	0.921	
	12.057V	5.042V	3.322V	5.017V	162.943	91.641%			38.70°C	230.68V	
2	15.673A	3.471A	3.464A	1.397A	224.847	92.878%	0	<6.0	46.55°C	0.958	
3	12.049V	5.041V	3.321V	5.012V	242.089				38.85°C	230.78V	
	21.462A	3.968A	3.976A	1.598A	299.599	00 40 7 0/		<6.0	47.08°C	0.972	
4	12.040V	5.040V	3.319V	5.007V	320.479	93.485%	0		39.01°C	230.55V	
_	26.932A	4.962A	4.972A	1.799A	374.520	02 4270/	0	<6.0	48.22°C	0.979	
5	12.031V	5.039V	3.318V	5.003V	400.828	93.437%			39.46°C	230.66V	
6	32.406A	5.954A	5.971A	2.001A	449.443	93.244%	730	13.1	40.28°C	0.986	
	12.024V	5.037V	3.316V	4.999V	482.009				49.23°C	230.70V	
7	37.924A	6.951A	6.971A	2.203A	524.769	93.040%	750	14.4	41.37°C	0.989	
	12.015V	5.036V	3.314V	4.995V	564.026				50.53°C	230.48V	
0	43.451A	7.946A	7.971A	2.405A	600.083	02 6909/	OFF	20.1	42.36°C	0.991	
8	12.006V	5.035V	3.312V	4.991V	647.480	92.680%	855		51.86°C	230.58V	
0	49.354A	8.445A	8.461A	2.405A	674.618	02.2000/	1020	25.4	43.36°C	0.993	
9	11.997V	5.034V	3.310V	4.990V	730.266	92.380%	1030		53.26°C	230.36V	
10	55.065A	8.944A	8.978A	3.017A	749.832	01.0000/	1140	28.6	45.29°C	0.994	
10	11.988V	5.032V	3.308V	4.974V	815.048	91.999%			55.37°C	230.47V	
11	61.391A	8.946A	8.982A	3.017A	825.056	01 (000)	1280	32.2	46.35°C	0.995	
11	11.978V	5.031V	3.307V	4.973V	900.683	91.003%			56.60°C	230.51V	
	0.736A	18.004A	17.998A	0.000A	159.293	04.005%	900	20.7	44.70°C	0.936	
CL1	12.029V	5.037V	3.320V	5.086V	187.614	84.905%			52.09°C	230.90V	
CL2	62.509A	1.000A	1.000A	1.000A	763.212	02.4630/	11.05	20.4	45.86°C	0.994	
	11.996V	5.035V	3.310V	5.009V	825.445	92.461%	1165	29.4	55.00°C	230.46V	

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Anex

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20-80W LOAD TESTS 230V										
Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts	
1	1.194A	0.496A	0.480A	0.199A	19.521	co 2020/	0	<6.0	0.452	
	12.077V	5.044V	3.325V	5.039V	28.168	69.302%			230.85V	
2	2.454A	0.992A	0.991A	0.397A	39.927	00 76 40/	0	<6.0	0.615	
	12.074V	5.043V	3.325V	5.035V	49.683	80.364%			230.65V	
3	3.646A	1.487A	1.472A	0.597A	59.404	05 2200/	0	<6.0	0.725	
	12.070V	5.043V	3.324V	5.031V	69.700	85.228%			230.63V	
4	4.909A	1.983A	1.985A	0.796A	79.836	00.0200/	0	<6.0	0.804	
	12.067V	5.043V	3.324V	5.026V	90.684	88.038%			230.79V	

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	3.4 mV	3.4 mV	3.0 mV	2.3 mV	Pass
20% Load	4.3 mV	3.9 mV	3.5 mV	2.7 mV	Pass
30% Load	5.3 mV	6.5 mV	6.8 mV	5.5 mV	Pass
40% Load	5.1 mV	4.7 mV	6.1 mV	4.2 mV	Pass
50% Load	5.1 mV	5.2 mV	5.1 mV	4.9 mV	Pass
60% Load	5.7 mV	6.2 mV	7.5 mV	6.7 mV	Pass
70% Load	6.2 mV	6.4 mV	7.7 mV	6.9 mV	Pass
80% Load	6.8 mV	7.1 mV	8.5 mV	7.6 mV	Pass
90% Load	7.3 mV	7.1 mV	9.0 mV	8.5 mV	Pass
100% Load	8.3 mV	8.2 mV	10.2 mV	9.6 mV	Pass
110% Load	9.1 mV	9.7 mV	10.3 mV	11.7 mV	Pass
Crossload 1	5.6 mV	7.3 mV	8.9 mV	5.0 mV	Pass
Crossload 2	8.0 mV	7.1 mV	8.6 mV	9.6 mV	Pass

All data and graphs included in this test report can be used by any individual on the following conditions:

> It should be mentioned that the test results are provided by Cybenetics

> The link to the original test results document should be provided in any case

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Cybenetics offers the ETA and Lambda voluntary certification programs, through which the efficient and silent power supplies are promoted



Anex

Corsair HX750 (Sample #2)



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