

Anex

SilverStone HELA 1300R Platinum

Lab ID#: SL13002079
Receipt Date: Oct 11, 2023
Test Date: Oct 18, 2023

Report: 22PS2079A
Report Date: Oct 19, 2023

DUT INFORMATION

Brand	SilverStone
Manufacturer (OEM)	High Power
Series	HELA
Model Number	SST-AX1300MCPT-A
Serial Number	
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-8
Rated Frequency (Hz)	50-60
Rated Power (W)	1300
Type	ATX12V
Cooling	120mm Fluid Dynamic Bearing Fan (S1202512MN)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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SilverStone HELA 1300R Platinum

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX 3.0 Ready	✓

115V

Average Efficiency	89.482%
Efficiency With 10W (≤500W) or 2% (>500W)	70.088
Average Efficiency 5VSB	78.424%
Standby Power Consumption (W)	0.1104000
Average PF	0.993
Avg Noise Output	42.06 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard

230V

Average Efficiency	91.705%
Average Efficiency 5VSB	77.602%
Standby Power Consumption (W)	0.1596000
Average PF	0.971
Avg Noise Output	41.50 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	24	108.3	3	0.5
	Watts	120		1300	15	6
Total Max. Power (W)		1300				

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

Hold-Up Time (ms)	27.4
AC Loss to PWR_OK Hold Up Time (ms)	21
PWR_OK Inactive to DC Loss Delay (ms)	6.4

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-18AWG	No
4+4 pin EPS12V (760mm)	2	2	16AWG	No
6+2 pin PCIe (550mm+150mm)	4	8	16-18AWG	No
12+4 pin PCIe (550mm) (600W)	1	1	16-24AWG	No
SATA (620mm+160mm+160mm+160mm)	2	8	18AWG	No
4-pin Molex (610mm+150mm+150mm) / FDD (+150mm)	2	6 / 2	18-22AWG	No

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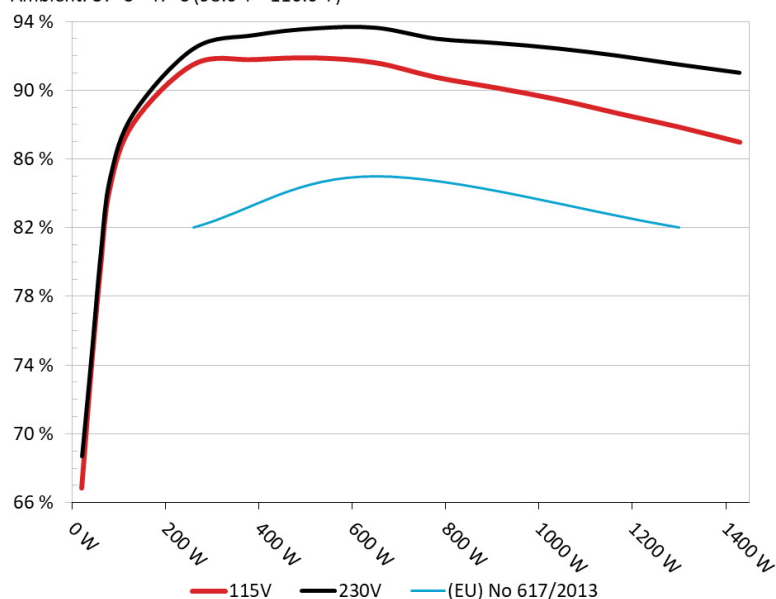
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone Hela 1300R Platinum

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



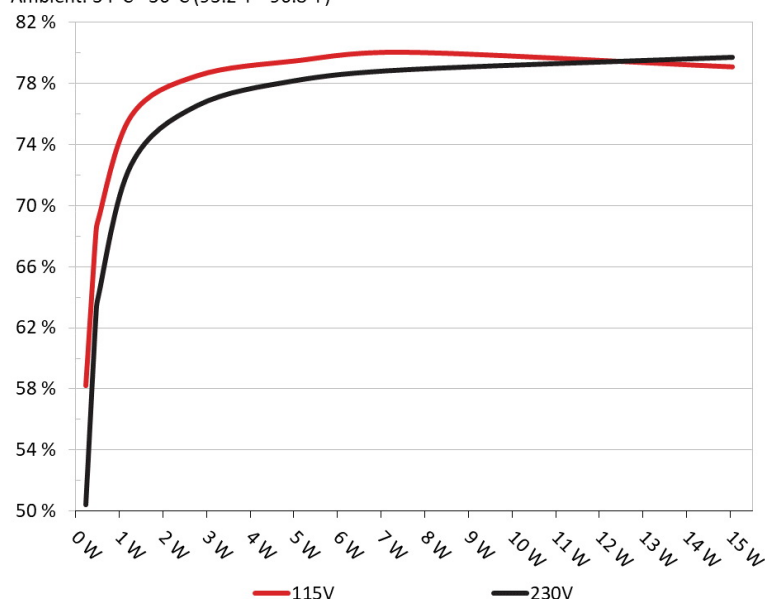
INFO

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: SilverStone Hela 1300R 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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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228W	58.235%	0.036
	5.062V	0.392W		114.94V
2	0.09A	0.456W	68.128%	0.061
	5.062V	0.67W		114.93V
3	0.55A	2.781W	78.523%	0.254
	5.055V	3.541W		114.92V
4	1A	5.048W	79.502%	0.34
	5.048V	6.349W		114.93V
5	1.5A	7.561W	80.059%	0.396
	5.04V	9.444W		114.92V
6	3.001A	15.047W	79.107%	0.47
	5.015V	19.022W		114.92V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228W	50.4%	0.012
	5.062V	0.454W		229.89V
2	0.09A	0.456W	62.621%	0.019
	5.062V	0.729W		229.89V
3	0.55A	2.781W	76.519%	0.093
	5.055V	3.636W		229.89V
4	1A	5.048W	78.163%	0.156
	5.048V	6.458W		229.89V
5	1.5A	7.561W	78.869%	0.203
	5.04V	9.586W		229.89V
6	3.001A	15.05W	79.681%	0.311
	5.016V	18.889W		229.89V

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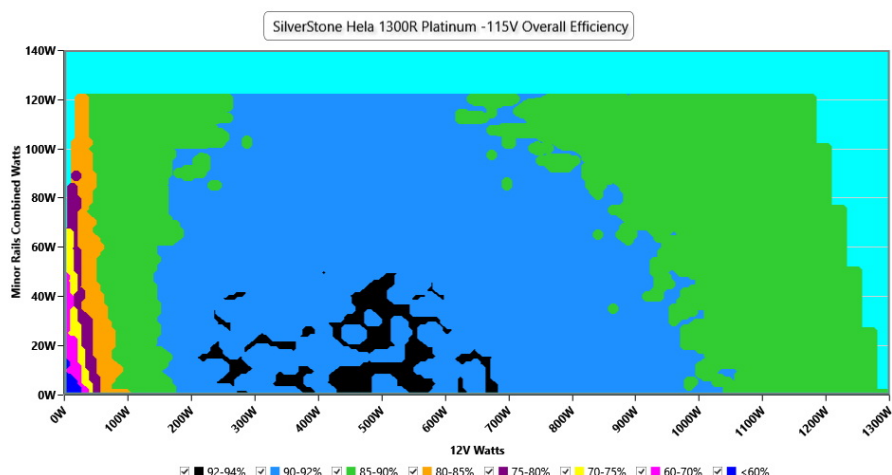
115V

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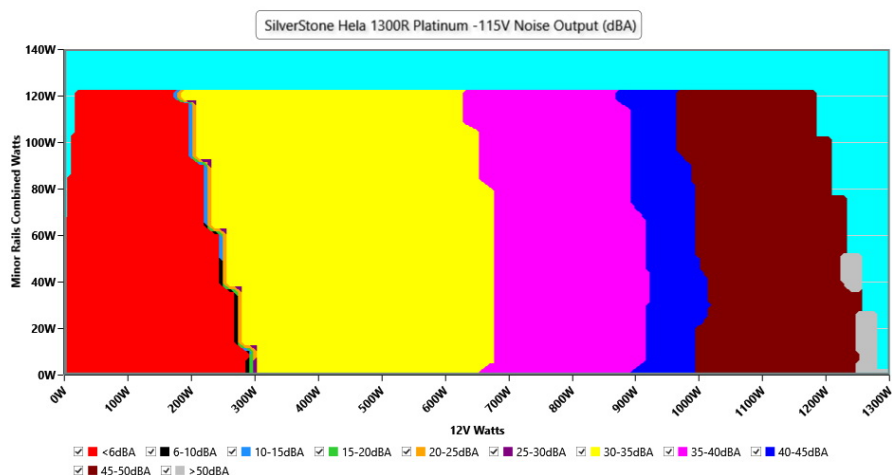
EFFICIENCY GRAPH 115V



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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VAMPIRE POWER -115V

Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.93 V	114.88 V	113.85 V	114.97 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.97 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.15 %	0.12 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.110 W	0.095 W	N/A	0.125 W	N/A	N/A
Apparent Power:	10.833 W	10.813 W	N/A	10.854 W	N/A	N/A
Power Factor:	0.010	N/A	N/A	N/A	N/A	N/A

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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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
10%	8.978A	1.986A	1.965A	0.993A	130.039	88.061%	0	<6.0	44.35°C	0.982
	12.078V	5.035V	3.358V	5.036V	147.677				40.03°C	114.9V
20%	18.979A	2.981A	2.951A	1.194A	260.017	91.509%	0	<6.0	45.68°C	0.994
	12.072V	5.033V	3.355V	5.024V	284.172				40.95°C	114.88V
30%	29.352A	3.481A	3.45A	1.396A	389.86	91.784%	968	31.9	41.5°C	0.996
	12.054V	5.028V	3.349V	5.015V	424.746				46.86°C	114.84V
40%	39.746A	3.982A	3.948A	1.599A	519.827	91.883%	968	31.9	41.95°C	0.997
	12.042V	5.024V	3.344V	5.005V	565.783				47.87°C	114.81V
50%	49.817A	4.981A	4.942A	1.803A	649.963	91.599%	1257	39.1	42.11°C	0.997
	12.033V	5.021V	3.339V	4.993V	709.505				48.58°C	114.77V
60%	59.901A	5.98A	5.937A	2A	780.067	90.748%	1270	39.7	42.77°C	0.998
	12.025V	5.018V	3.335V	4.981V	859.634				49.81°C	114.74V
70%	69.981A	6.98A	6.935A	2.214A	910.194	90.13%	1616	45.6	43.51°C	0.998
	12.019V	5.016V	3.332V	4.969V	1009.772				51.15°C	114.7V
80%	80.089A	7.984A	7.935A	2.32A	1039.806	89.46%	1832	48.4	44.13°C	0.998
	12.010V	5.013V	3.327V	4.959V	1162.291				52.19°C	114.67V
90%	90.608A	8.487A	8.426A	2.425A	1170.064	88.643%	2133	52.0	44.83°C	0.998
	12.003V	5.01V	3.323V	4.949V	1319.991				53.89°C	114.63V
100%	100.873A	8.99A	8.949A	3.043A	1299.665	87.855%	2401	54.8	45.47°C	0.998
	11.995V	5.008V	3.319V	4.931V	1479.312				55.5°C	114.59V
110%	111.072A	9.993A	10.045A	3.049A	1429.863	86.974%	2405	54.7	46.84°C	0.999
	11.988V	5.005V	3.315V	4.921V	1644.065				57.75°C	114.55V
CL1	0.117A	14.39A	14.211A	0A	121.341	81.618%	981	32.2	42.11°C	0.982
	12.067V	5.019V	3.357V	5.044V	148.662				48.55°C	114.89V
CL2	0.116A	23.964A	0A	0A	121.445	79.856%	981	32.2	43.93°C	0.982
	12.069V	5.01V	3.363V	5.05V	152.067				50.94°C	114.9V
CL3	0.116A	0A	23.603A	0A	80.59	74.418%	962	32.0	44.14°C	0.969
	12.061V	5.039V	3.355V	5.045V	108.345				52.19°C	114.92V
CL4	108.309A	0A	0A	0A	1300.113	88.488%	2132	52.0	45.61°C	0.998
	12.003V	5.021V	3.323V	4.985V	1469.045				55.57°C	114.6V

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SilverStone HELA 1300R Platinum

20-80W 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
20W	1.238A	0.497A	0.491A	0.198A	20.018	66.831%	0	<6.0	40.3°C	0.827
	12.013V	5.036V	3.36V	5.058V	30.002				37.18°C	114.93V
40W	2.728A	0.695A	0.688A	0.297A	40.015	73.591%	0	<6.0	41.18°C	0.926
	11.985V	5.036V	3.36V	5.054V	54.456				37.88°C	114.92V
60W	4.264A	0.894A	0.884A	0.396A	60.015	79.568%	0	<6.0	42.01°C	0.952
	11.851V	5.036V	3.36V	5.051V	75.468				38.24°C	114.92V
80W	5.658A	1.092A	1.081A	0.495A	79.981	84.26%	0	<6.0	43.59°C	0.967
	12.081V	5.037V	3.36V	5.047V	94.92				39.68°C	114.91V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.41mV	5.57mV	7.62mV	10.49mV	Pass
20% Load	9.80mV	5.67mV	6.70mV	11.00mV	Pass
30% Load	10.41mV	5.77mV	7.01mV	10.85mV	Pass
40% Load	11.41mV	5.57mV	7.11mV	11.82mV	Pass
50% Load	12.49mV	7.10mV	9.10mV	11.51mV	Pass
60% Load	14.22mV	6.95mV	8.18mV	11.51mV	Pass
70% Load	15.45mV	7.40mV	8.29mV	11.77mV	Pass
80% Load	15.40mV	7.71mV	9.51mV	11.98mV	Pass
90% Load	17.09mV	8.12mV	8.90mV	12.44mV	Pass
100% Load	23.48mV	10.21mV	10.48mV	14.93mV	Pass
110% Load	24.63mV	10.27mV	11.54mV	14.98mV	Pass
Crossload1	11.43mV	7.92mV	9.52mV	11.88mV	Pass
Crossload2	7.83mV	9.70mV	7.57mV	10.08mV	Pass
Crossload3	7.47mV	6.33mV	11.45mV	10.80mV	Pass
Crossload4	22.79mV	8.08mV	8.70mV	14.22mV	Pass

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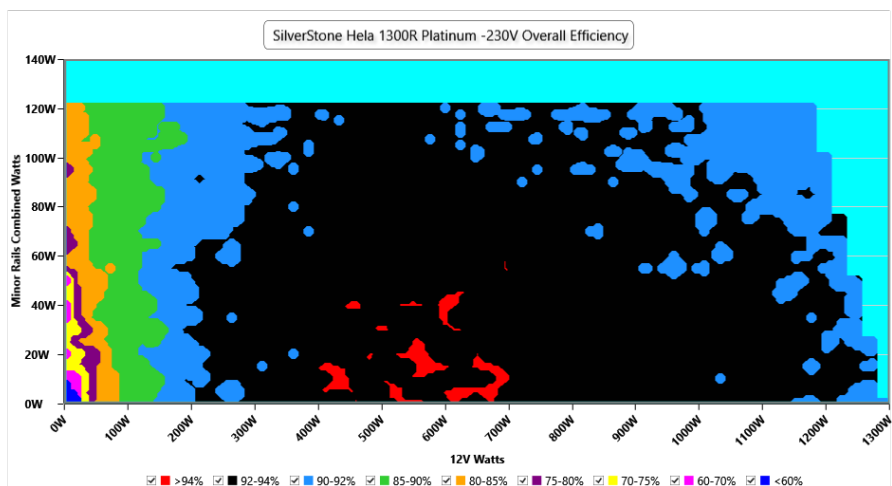
230V

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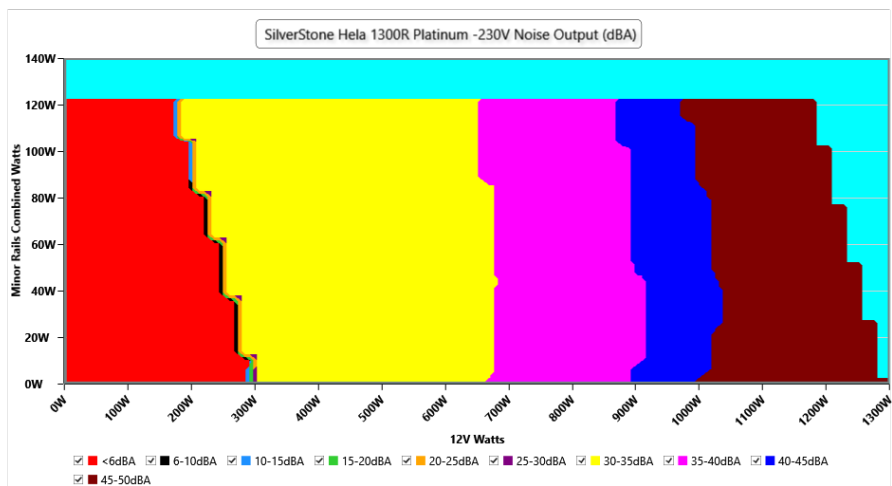
EFFICIENCY GRAPH 230V



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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VAMPIRE POWER -230V

Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.88 V	229.83 V	227.70 V	229.95 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.416	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.19 %	0.17 %	N/A	0.22 %	2.00 %	PASS
Real Power:	0.160 W	0.133 W	N/A	0.204 W	N/A	N/A
Apparent Power:	37.531 W	37.498 W	N/A	37.570 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

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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
10%	8.979A	1.986A	1.966A	0.993A	130.028	88.626%	0	<6.0	44.33°C	0.891
	12.075V	5.034V	3.358V	5.035V	146.819				40.02°C	229.88V
20%	18.983A	2.981A	2.952A	1.194A	260.001	92.434%	0	<6.0	45.69°C	0.953
	12.069V	5.032V	3.354V	5.024V	281.281				40.73°C	229.86V
30%	29.352A	3.482A	3.45A	1.396A	389.794	93.21%	965	32.0	41.03°C	0.973
	12.051V	5.027V	3.348V	5.015V	418.058				46.47°C	229.85V
40%	39.742A	3.982A	3.948A	1.599A	519.755	93.601%	964	32.0	41.68°C	0.985
	12.041V	5.023V	3.344V	5.004V	555.287				47.64°C	229.83V
50%	49.812A	4.98A	4.942A	1.803A	649.886	93.636%	1254	39.0	42.61°C	0.99
	12.033V	5.02V	3.339V	4.993V	693.992				48.84°C	229.82V
60%	59.895A	5.98A	5.937A	2A	779.984	92.997%	1264	39.2	42.79°C	0.992
	12.024V	5.018V	3.335V	4.981V	838.639				49.51°C	229.8V
70%	69.988A	6.981A	6.935A	2.214A	910.097	92.744%	1469	43.0	43.29°C	0.994
	12.017V	5.015V	3.331V	4.97V	981.146				50.47°C	229.79V
80%	80.088A	7.984A	7.934A	2.32A	1039.721	92.43%	1827	48.4	43.96°C	0.997
	12.009V	5.012V	3.327V	4.959V	1124.963				52°C	229.77V
90%	90.602A	8.486A	8.425A	2.425A	1169.975	92.004%	2127	52.0	44.88°C	0.997
	12.002V	5.01V	3.323V	4.949V	1271.736				53.92°C	229.76V
100%	100.872A	8.989A	8.948A	3.043A	1299.597	91.495%	2398	54.6	45.7°C	0.998
	11.994V	5.008V	3.319V	4.93V	1420.462				55.78°C	229.74V
110%	111.071A	9.993A	10.045A	3.049A	1429.817	91.017%	2400	54.8	47.33°C	0.998
	11.988V	5.005V	3.315V	4.921V	1571.029				58.25°C	229.72V
CL1	0.117A	14.391A	14.212A	0A	121.335	82.141%	975	32.0	42.67°C	0.896
	12.066V	5.019V	3.356V	5.043V	147.791				48.11°C	229.88V
CL2	0.116A	23.965A	0A	0A	121.441	80.427%	977	32.0	43.51°C	0.895
	12.066V	5.009V	3.362V	5.05V	150.998				50.59°C	229.88V
CL3	0.116A	0A	23.603A	0A	80.589	74.771%	960	32.0	44.08°C	0.834
	12.062V	5.039V	3.355V	5.044V	107.841				52.18°C	229.88V
CL4	108.308A	0A	0A	0A	1300.045	92.186%	2125	51.9	45.96°C	0.998
	12.003V	5.022V	3.323V	4.985V	1410.238				55.94°C	229.74V

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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])	Temps (In/Out)	PF/AC Volts
20W	1.238A	0.497A	0.491A	0.198A	20.015	68.68%	0	<6.0	40.14°C	0.422
	12.012V	5.035V	3.359V	5.057V	29.149				37°C	229.89V
40W	2.728A	0.695A	0.688A	0.297A	40.011	74.426%	0	<6.0	41.01°C	0.632
	11.985V	5.035V	3.359V	5.054V	54.037				37.62°C	229.89V
60W	4.264A	0.894A	0.884A	0.396A	60.011	80.476%	0	<6.0	42.38°C	0.732
	11.852V	5.035V	3.359V	5.05V	74.632				38.87°C	229.88V
80W	5.659A	1.092A	1.081A	0.495A	79.973	84.864%	0	<6.0	42.63°C	0.801
	12.077V	5.035V	3.359V	5.047V	94.307				38.92°C	229.88V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.57mV	5.67mV	7.42mV	10.75mV	Pass
20% Load	9.23mV	5.87mV	6.96mV	11.11mV	Pass
30% Load	10.51mV	5.47mV	7.26mV	11.11mV	Pass
40% Load	10.82mV	5.92mV	7.06mV	11.36mV	Pass
50% Load	11.77mV	7.40mV	8.80mV	11.67mV	Pass
60% Load	12.49mV	6.85mV	8.18mV	11.57mV	Pass
70% Load	13.51mV	7.71mV	8.08mV	11.77mV	Pass
80% Load	15.30mV	7.92mV	9.10mV	12.23mV	Pass
90% Load	15.92mV	8.63mV	9.05mV	13.10mV	Pass
100% Load	22.92mV	10.00mV	11.05mV	14.67mV	Pass
110% Load	25.78mV	10.63mV	11.13mV	15.00mV	Pass
Crossload1	11.81mV	8.03mV	10.02mV	11.77mV	Pass
Crossload2	7.73mV	9.96mV	7.06mV	10.39mV	Pass
Crossload3	7.73mV	6.38mV	10.79mV	10.64mV	Pass
Crossload4	23.10mV	8.17mV	9.09mV	14.39mV	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

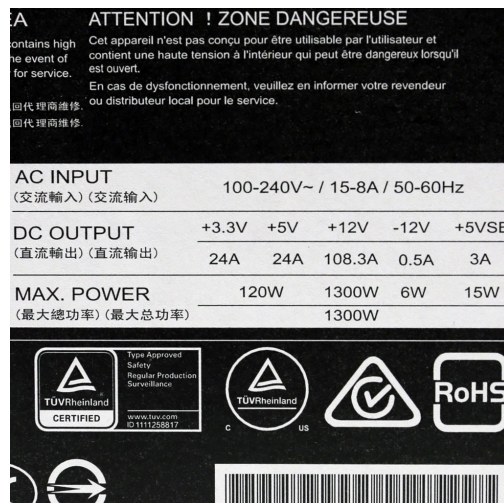
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Anex

SilverStone HELA 1300R Platinum



Top side



Power specifications label

CERTIFICATIONS 115V



CERTIFICATIONS 230V



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