

Anex

Pichau Gaming Nidus 850

Lab ID#: PC85002398
Receipt Date: Feb 8, 2024
Test Date: Mar 27, 2024

Report: 24PS2398A
Report Date: Mar 29, 2024

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	Pichau Gaming	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	CWT	Rated Current (Arms)	10
Series	Nidus	Rated Frequency (Hz)	50-60
Model Number		Rated Power (W)	850
Serial Number		Type	ATX12V
DUT Notes		Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
		Semi-Passive Operation	✓ (selectable)
		Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P
Power Analyzers	RS HMC8015, N4L PPA1530, N4L PPA5530
Oscilloscopes	Picoscope 4444, Rigol DS7014, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A, Keithley 2015 - THD
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Isolation Transformer	4kVA

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Pichau Gaming Nidus 850

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 v3.1 PSU Power Excursion	✓

115V

Average Efficiency	88.836%
Efficiency With 10W (≤500W) or 2% (>500W)	75.512
Average Efficiency 5VSB	79.034%
Standby Power Consumption (W)	0.0154000
Average PF	0.991
Avg Noise Output	30.50 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard++

230V

Average Efficiency	90.911%
Average Efficiency 5VSB	78.059%
Standby Power Consumption (W)	0.0727000
Average PF	0.965
Avg Noise Output	30.48 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard++

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	70.8	3	0.3
	Watts	120		0	15	3.6
Total Max. Power (W)		850				

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

Hold-Up Time (ms)	18.9
AC Loss to PWR_OK Hold Up Time (ms)	16.7
PWR_OK Inactive to DC Loss Delay (ms)	2.2

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (640mm)	1	1	18AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (600mm+150mm)	2	4	16-18AWG	No
12+4 pin PCIe (610mm) (600W)	1	1	16-24AWG	No
SATA (500mm+150mm+150mm+150mm)	3	12	18AWG	No
4-pin Molex (500mm+150mm+150mm+150mm)	1	4	18AWG	No

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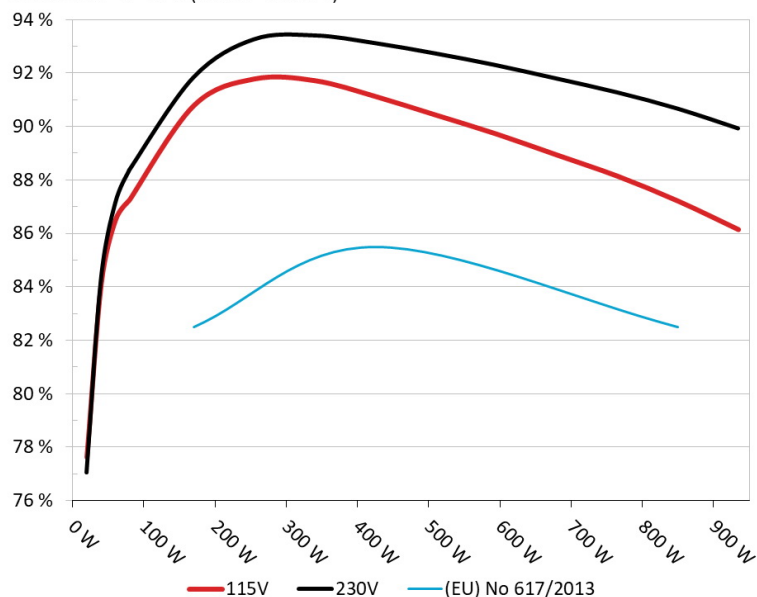
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Pichau Nidus 850

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



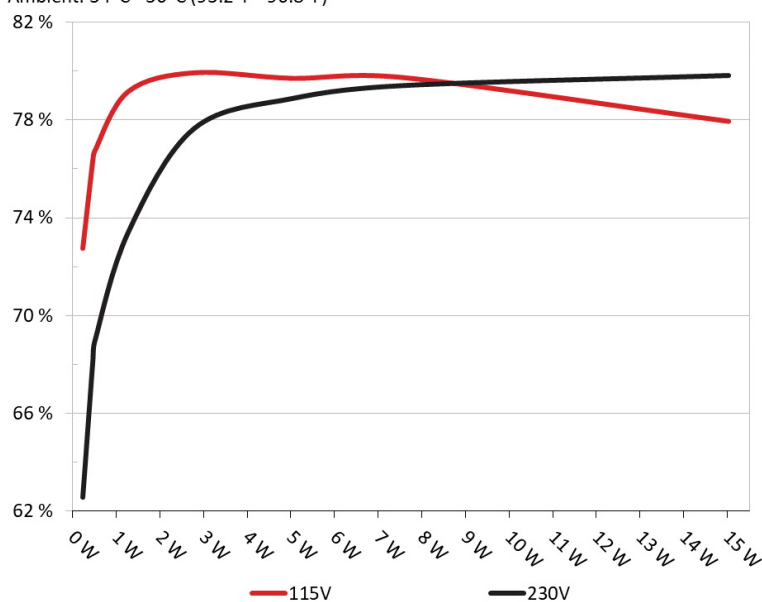
INFO

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: Pichau Nidus 850

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	0.229W	72.255%	0.032
	5.081V	0.317W		114.84V
2	0.09A	0.457W	75.837%	0.06
	5.08V	0.603W		114.84V
3	0.55A	2.788W	79.447%	0.271
	5.069V	3.509W		114.84V
4	1A	5.058W	79.216%	0.359
	5.058V	6.385W		114.85V
5	1.5A	7.57W	79.25%	0.421
	5.046V	9.552W		114.85V
6	3A	15.03W	77.458%	0.497
	5.01V	19.404W		114.84V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	62.078%	0.011
	5.08V	0.37W		229.85V
2	0.09A	0.457W	67.604%	0.02
	5.08V	0.676W		229.88V
3	0.55A	2.787W	77.159%	0.103
	5.069V	3.612W		229.86V
4	1A	5.057W	78.387%	0.172
	5.058V	6.452W		229.85V
5	1.5A	7.568W	78.906%	0.233
	5.045V	9.591W		229.85V
6	3A	15.027W	79.318%	0.33
	5.009V	18.947W		229.85V

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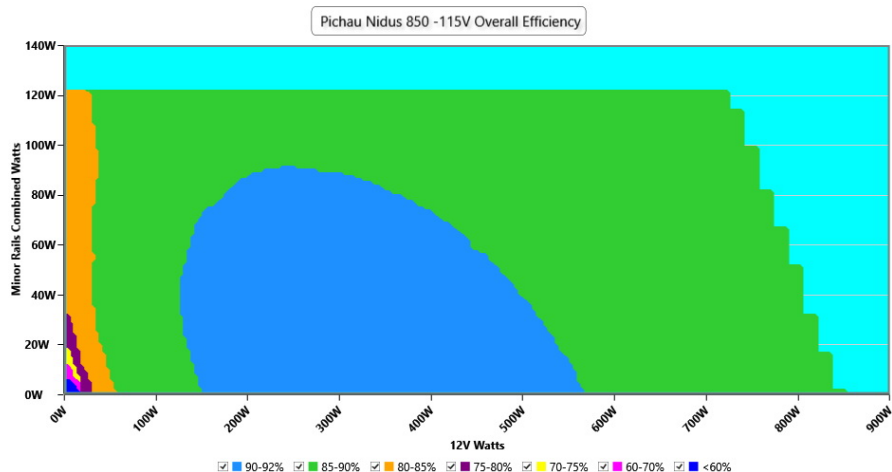
115V

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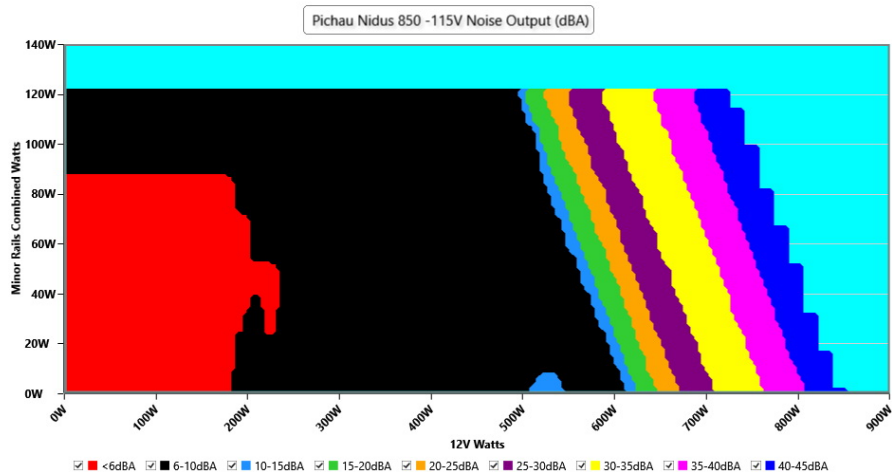
EFFICIENCY GRAPH 115V



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:	115.06 V	115.01 V	113.85 V	115.10 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.14 %	0.10 %	N/A	0.21 %	2.00 %	PASS
Real Power:	0.015 W	0.013 W	N/A	0.018 W	N/A	N/A
Apparent Power:	9.961 W	9.901 W	N/A	10.025 W	N/A	N/A
Power Factor:	0.002	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%	5.262A	1.986A	1.952A	0.975A	85.006	86.749%	0	<6.0	44.44°C	0.979
	12.049V	5.034V	3.382V	5.128V	97.99				40.19°C	114.81V
20%	11.455A	2.982A	2.931A	1.173A	169.945	90.268%	0	<6.0	45.44°C	0.99
	12.138V	5.03V	3.378V	5.117V	188.266				40.88°C	114.79V
30%	18.068A	3.48A	3.42A	1.371A	254.955	91.264%	0	<6.0	46.07°C	0.993
	12.116V	5.029V	3.377V	5.105V	279.36				41.03°C	114.76V
40%	24.680A	3.979A	3.911A	1.571A	340.045	91.201%	0	<6.0	47.33°C	0.991
	12.109V	5.027V	3.375V	5.092V	372.852				41.78°C	114.73V
50%	30.931A	4.975A	4.893A	1.772A	424.867	90.61%	0	<6.0	48.41°C	0.992
	12.103V	5.025V	3.373V	5.079V	468.896				42.34°C	114.7V
60%	37.162A	5.973A	5.877A	1.974A	509.42	89.918%	415	7.5	42.83°C	0.993
	12.099V	5.023V	3.37V	5.066V	566.538				49.4°C	114.67V
70%	43.473A	6.973A	6.863A	2.177A	594.744	89.209%	646	18.2	43.23°C	0.994
	12.091V	5.02V	3.367V	5.053V	666.687				50.28°C	114.64V
80%	49.794A	7.972A	7.849A	2.281A	679.576	88.423%	876	28.1	43.62°C	0.995
	12.084V	5.017V	3.363V	5.042V	768.556				51.73°C	114.61V
90%	56.522A	8.476A	8.331A	2.385A	764.997	87.63%	1086	34.5	44.46°C	0.996
	12.075V	5.014V	3.361V	5.032V	872.986				53.52°C	114.58V
100%	62.985A	8.979A	8.844A	2.995A	849.815	86.699%	1367	41.2	45.64°C	0.996
	12.068V	5.012V	3.358V	5.009V	980.187				55.67°C	114.55V
110%	69.330A	9.983A	9.927A	3A	934.386	85.638%	1663	46.7	46.58°C	0.996
	12.060V	5.008V	3.354V	5.001V	1091.086				57.48°C	114.5V
CL1	0.116A	14.399A	14.196A	0A	121.305	83.249%	413	7.7	41.43°C	0.988
	12.054V	5.015V	3.36V	5.14V	145.714				46.96°C	114.81V
CL2	0.116A	21.891A	0A	0A	111.305	81.704%	413	7.7	41.14°C	0.987
	12.058V	5.021V	3.381V	5.145V	136.23				48.23°C	114.8V
CL3	0.115A	0A	21.631A	0A	73.986	76.425%	412	7.7	40.88°C	0.979
	12.048V	5.032V	3.356V	5.145V	96.811				49.93°C	114.82V
CL4	70.413A	0A	0A	0A	849.557	87.644%	1412	41.9	45.35°C	0.996
	12.066V	5.038V	3.381V	5.091V	969.332				56.32°C	114.55V

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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	1.234A	0.495A	0.487A	0.197A	20	77.134%	0	<6.0	39.83°C	0.861
	12.028V	5.052V	3.391V	5.08V	25.93				36.77°C	114.84V
40W	2.716A	0.693A	0.681A	0.295A	40.001	83.6%	0	<6.0	40.9°C	0.946
	12.038V	5.051V	3.391V	5.08V	47.849				37.59°C	114.83V
60W	4.197A	0.892A	0.877A	0.389A	60.002	85.988%	0	<6.0	41.98°C	0.966
	12.041V	5.042V	3.385V	5.142V	69.779				38.21°C	114.82V
80W	5.670A	1.092A	1.073A	0.486A	79.948	86.982%	0	<6.0	43.36°C	0.979
	12.048V	5.037V	3.383V	5.141V	91.913				39.37°C	114.82V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	33.09mV	14.99mV	14.06mV	8.47mV	Pass
20% Load	19.74mV	15.45mV	15.65mV	8.47mV	Pass
30% Load	22.04mV	15.45mV	14.26mV	8.31mV	Pass
40% Load	23.68mV	16.01mV	14.77mV	9.24mV	Pass
50% Load	21.53mV	15.76mV	16.42mV	9.80mV	Pass
60% Load	22.91mV	16.53mV	16.98mV	10.36mV	Pass
70% Load	21.99mV	16.94mV	16.06mV	10.16mV	Pass
80% Load	23.22mV	17.04mV	16.78mV	10.67mV	Pass
90% Load	24.96mV	17.55mV	17.90mV	11.08mV	Pass
100% Load	36.34mV	18.19mV	18.57mV	12.34mV	Pass
110% Load	36.16mV	17.57mV	19.03mV	13.03mV	Pass
Crossload1	38.74mV	19.01mV	18.12mV	10.93mV	Pass
Crossload2	34.93mV	25.35mV	16.36mV	10.16mV	Pass
Crossload3	32.89mV	14.78mV	19.08mV	9.34mV	Pass
Crossload4	32.91mV	16.41mV	16.91mV	12.11mV	Pass

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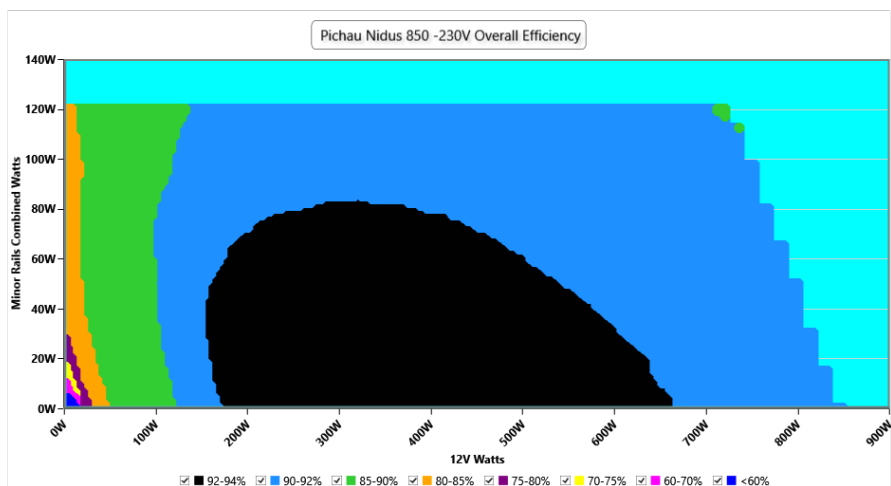
230V

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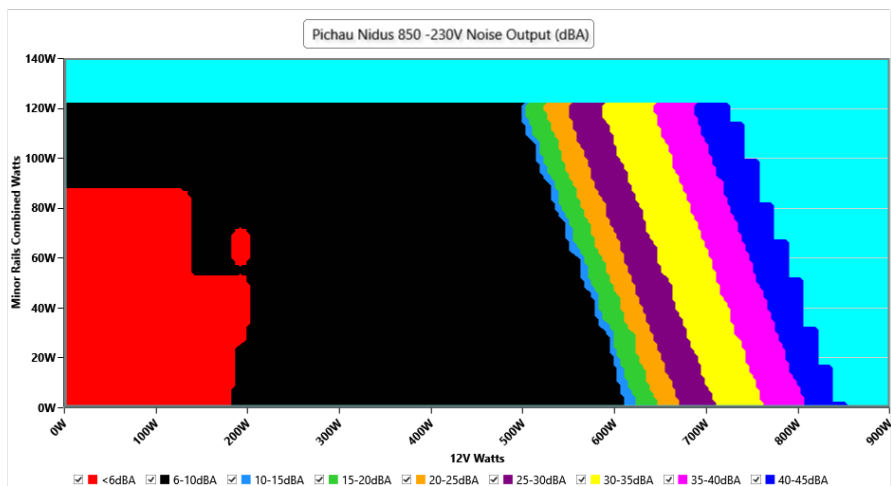
EFFICIENCY GRAPH 230V



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:	231.00 V	230.89 V	227.70 V	231.06 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:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.14 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.073 W	0.064 W	N/A	0.089 W	N/A	N/A
Apparent Power:	33.437 W	33.262 W	N/A	33.603 W	N/A	N/A
Power Factor:	0.002	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%	5.260A	1.986A	1.952A	0.975A	85.006	87.884%	0	<6.0	44.57°C	0.862
	12.053V	5.036V	3.382V	5.128V	96.725				40.35°C	229.83V
20%	11.451A	2.981A	2.93A	1.173A	169.942	91.35%	0	<6.0	45.45°C	0.945
	12.142V	5.032V	3.379V	5.117V	186.034				40.86°C	229.82V
30%	18.062A	3.479A	3.421A	1.371A	254.951	92.776%	0	<6.0	46.28°C	0.968
	12.119V	5.031V	3.377V	5.105V	274.803				41.28°C	229.8V
40%	24.673A	3.977A	3.912A	1.571A	340.033	92.921%	0	<6.0	47.29°C	0.977
	12.112V	5.029V	3.375V	5.092V	365.937				41.71°C	229.79V
50%	30.922A	4.974A	4.894A	1.772A	424.832	92.633%	0	<6.0	48.1°C	0.982
	12.105V	5.027V	3.372V	5.079V	458.618				42.09°C	229.77V
60%	37.155A	5.972A	5.878A	1.974A	509.369	92.247%	471	9.0	42.88°C	0.985
	12.100V	5.024V	3.369V	5.067V	552.18				49.41°C	229.77V
70%	43.468A	6.972A	6.865A	2.177A	594.691	91.807%	683	20.1	43.19°C	0.987
	12.091V	5.021V	3.365V	5.054V	647.766				50.23°C	229.75V
80%	49.793A	7.97A	7.852A	2.28A	679.528	91.305%	836	26.7	43.61°C	0.988
	12.082V	5.018V	3.362V	5.044V	744.24				51.7°C	229.74V
90%	56.527A	8.474A	8.334A	2.384A	764.969	90.786%	1085	34.5	44.07°C	0.989
	12.073V	5.015V	3.359V	5.034V	842.595				53.16°C	229.72V
100%	62.994A	8.977A	8.847A	2.994A	849.773	90.177%	1368	41.2	45.77°C	0.99
	12.066V	5.013V	3.357V	5.011V	942.334				55.85°C	229.71V
110%	69.336A	9.981A	9.93A	2.999A	934.351	89.441%	1651	46.5	46.56°C	0.99
	12.059V	5.009V	3.353V	5.003V	1044.661				57.49°C	229.69V
CL1	0.116A	14.397A	14.201A	0A	121.301	84.41%	414	7.7	41.62°C	0.921
	12.055V	5.015V	3.359V	5.141V	143.707				47.14°C	229.83V
CL2	0.116A	21.89A	0A	0A	111.302	82.838%	412	7.7	41.81°C	0.913
	12.058V	5.021V	3.379V	5.146V	134.363				48.87°C	229.83V
CL3	0.115A	0A	21.641A	0A	73.984	77.345%	412	7.7	40.79°C	0.86
	12.047V	5.032V	3.354V	5.145V	95.655				49.82°C	229.83V
CL4	70.413A	0A	0A	0A	849.54	91.03%	1411	41.9	45.25°C	0.989
	12.066V	5.039V	3.38V	5.092V	933.255				56.29°C	229.71V

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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	1.234A	0.495A	0.486A	0.197A	20.001	76.561%	0	<6.0	39.74°C	0.466
	12.035V	5.054V	3.392V	5.088V	26.124				36.65°C	229.84V
40W	2.714A	0.693A	0.681A	0.295A	40.001	83.752%	0	<6.0	41.01°C	0.671
	12.043V	5.053V	3.392V	5.089V	47.762				37.66°C	229.84V
60W	4.195A	0.892A	0.877A	0.389A	60	86.626%	0	<6.0	41.79°C	0.784
	12.045V	5.043V	3.386V	5.143V	69.263				38.29°C	229.84V
80W	5.668A	1.091A	1.073A	0.486A	79.945	88.065%	0	<6.0	43.17°C	0.848
	12.052V	5.039V	3.384V	5.141V	90.78				39.34°C	229.84V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	34.63mV	16.83mV	16.01mV	9.65mV	Pass
20% Load	34.73mV	16.89mV	16.78mV	8.93mV	Pass
30% Load	21.23mV	16.58mV	15.85mV	8.93mV	Pass
40% Load	18.77mV	14.63mV	14.21mV	9.24mV	Pass
50% Load	18.92mV	14.94mV	16.78mV	8.57mV	Pass
60% Load	20.10mV	14.68mV	14.32mV	8.93mV	Pass
70% Load	23.32mV	16.73mV	16.36mV	10.82mV	Pass
80% Load	21.69mV	16.78mV	16.72mV	10.62mV	Pass
90% Load	19.43mV	14.27mV	14.00mV	10.36mV	Pass
100% Load	36.41mV	18.05mV	19.22mV	12.12mV	Pass
110% Load	37.01mV	17.84mV	18.18mV	12.69mV	Pass
Crossload1	34.72mV	18.37mV	17.16mV	9.99mV	Pass
Crossload2	35.91mV	24.74mV	15.85mV	10.47mV	Pass
Crossload3	33.86mV	14.63mV	19.60mV	9.24mV	Pass
Crossload4	31.83mV	15.97mV	16.10mV	10.78mV	Pass

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

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

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Anex

Pichau Gaming Nidus 850



Top side



Especificações

Entrada AC	100-240V~				
Corrente	10.0A Máx.				
Frequência	50-60Hz				
Saída DC	+5V	+3.3V	+12V	-12V	+5V _{SB}
Carga Máxima	22.0A	22.0A	70.8A	0.3A	3.0A
Potência Combinada	850W				

Made in China

Power specifications label

CERTIFICATIONS 115V




Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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