

## Anex

Deepcool PN550D

Lab ID#: DC55002395  
 Receipt Date: Feb 27, 2024  
 Test Date: Mar 21, 2024

Report: 24PS2395A  
 Report Date: Mar 26, 2024

DUT INFORMATION	
Brand	Deepcool
Manufacturer (OEM)	CWT
Series	PN-D
Model Number	PN550D-FC
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	8-4
Rated Frequency (Hz)	50-60
Rated Power (W)	550
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (DF1202512SEHN)
Semi-Passive Operation	X
Cable Design	Fixed cables

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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Deepcool PN550D

### 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	88.152%
Efficiency With 10W (≤500W) or 2% (>500W)	61.942
Average Efficiency 5VSB	78.091%
Standby Power Consumption (W)	0.0455000
Average PF	0.977
Avg Noise Output	31.98 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard++

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	45.5	3	0.3
	Watts	100		546	15	3.6
Total Max. Power (W)		550				

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

Hold-Up Time (ms)	16.6
AC Loss to PWR_OK Hold Up Time (ms)	15.4
PWR_OK Inactive to DC Loss Delay (ms)	1.2

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PAGE 2/11

### CABLES AND CONNECTORS

#### Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (550mm)	1	1	18-20AWG	No
4+4 pin EPS12V (730mm+150mm)	1	2	18AWG	No
6+2 pin PCIe (590mm+120mm)	1	2	18AWG	No
6+2 pin PCIe (580mm)	1	1	18AWG	No
12+4 pin PCIe (610mm) (450W)	1	1	16-24AWG	No
SATA (450mm+120mm+120mm) / 4-pin Molex (+120mm)	2	6 / 2	18AWG	No

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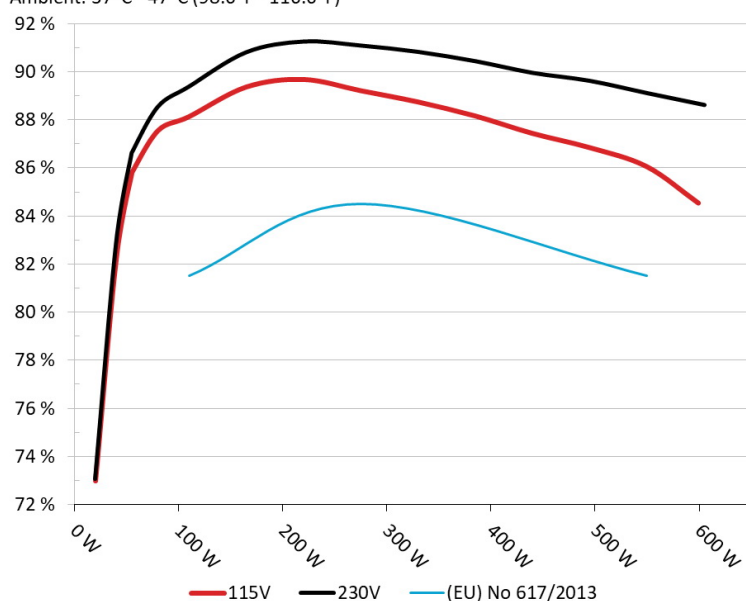
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PAGE 3/11

### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: Deepcool PN550D

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



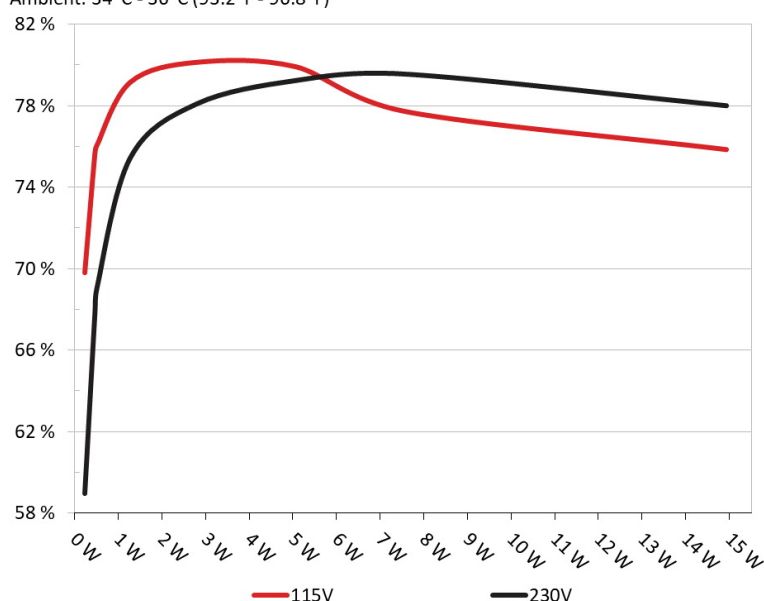
#### INFO

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: Deepcool PN550D

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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Anex

Deepcool PN550D

## 5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	69.326%	0.032
	5.098V	0.33W		114.84V
2	0.09A	0.459W	75.157%	0.058
	5.096V	0.611W		114.84V
3	0.55A	2.793W	79.642%	0.261
	5.078V	3.507W		114.84V
4	1A	5.061W	79.427%	0.359
	5.06V	6.372W		114.84V
5	1.5A	7.561W	77.236%	0.405
	5.04V	9.789W		114.84V
6	3A	14.939W	75.365%	0.474
	4.979V	19.821W		114.84V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	58.475%	0.011
	5.097V	0.392W		229.85V
2	0.09A	0.459W	67.284%	0.019
	5.096V	0.682W		229.88V
3	0.55A	2.793W	77.607%	0.098
	5.078V	3.6W		229.86V
4	1A	5.06W	78.756%	0.164
	5.06V	6.425W		229.85V
5	1.5A	7.561W	79.072%	0.207
	5.04V	9.562W		229.85V
6	3A	14.938W	77.519%	0.319
	4.979V	19.27W		229.85V

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PAGE 5/11

Anex

Deepcool PN550D

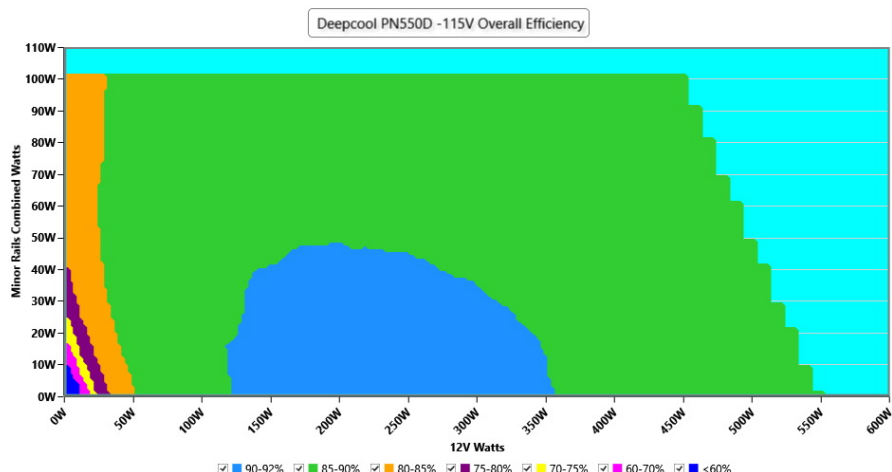
# 115V

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**PAGE 6/11**

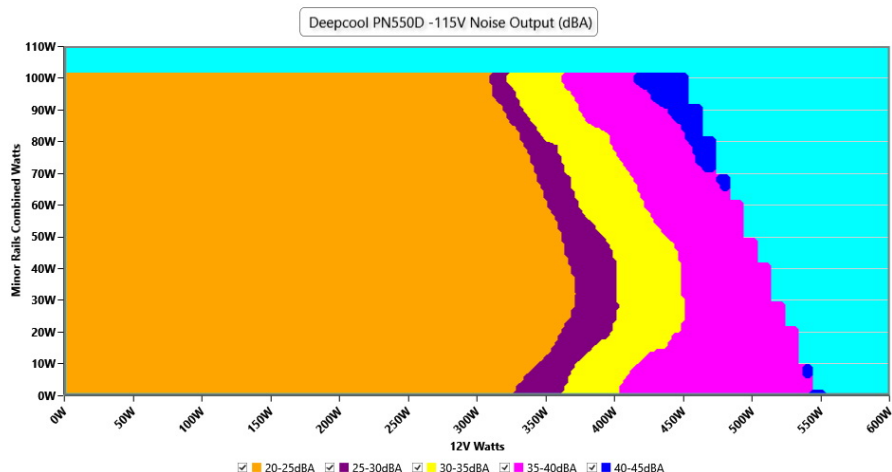
### EFFICIENCY GRAPH 115V



#### 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:	115.05 V	115.01 V	113.85 V	115.09 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.96 Hz	59.40 Hz	60.03 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	0.19 %	2.00 %	PASS
Real Power:	0.046 W	0.015 W	N/A	0.063 W	N/A	N/A
Apparent Power:	10.831 W	10.570 W	N/A	11.119 W	N/A	N/A
Power Factor:	0.005	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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PAGE 8/11



### 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%	2.773A	1.974A	1.978A	0.991A	55	84.599%	998	22.8	40.06°C	0.94
	12.044V	5.065V	3.337V	5.044V	65.013				44.3°C	114.83V
20%	6.568A	2.964A	2.971A	1.194A	109.933	88.637%	1001	22.9	40.64°C	0.968
	12.033V	5.061V	3.333V	5.026V	124.026				45.21°C	114.82V
30%	10.718A	3.46A	3.468A	1.398A	164.929	89.869%	1004	23.1	41.03°C	0.975
	12.024V	5.058V	3.33V	5.007V	183.521				46.1°C	114.79V
40%	14.883A	3.956A	3.967A	1.604A	220.012	90.183%	1008	23.3	41.83°C	0.98
	12.014V	5.055V	3.328V	4.987V	243.961				47.34°C	114.77V
50%	18.703A	4.95A	4.964A	1.813A	275.009	89.714%	1371	32.8	42.12°C	0.982
	12.004V	5.051V	3.324V	4.966V	306.539				48.19°C	114.75V
60%	22.533A	5.945A	5.964A	2A	329.897	89.245%	1729	39.6	42.69°C	0.983
	11.991V	5.047V	3.32V	4.946V	369.652				49.25°C	114.73V
70%	26.367A	6.94A	6.965A	2.234A	385.005	88.663%	2110	45.0	43.19°C	0.984
	11.980V	5.044V	3.317V	4.924V	434.239				50.25°C	114.72V
80%	30.211A	7.937A	7.968A	2.344A	439.48	87.945%	2338	48.1	43.92°C	0.984
	11.968V	5.039V	3.313V	4.907V	499.721				52.08°C	114.69V
90%	34.451A	8.436A	8.458A	2.454A	494.519	87.352%	2338	48.1	44.3°C	0.984
	11.960V	5.038V	3.31V	4.89V	566.122				53.37°C	114.67V
100%	38.494A	8.935A	8.978A	3.095A	549.731	86.561%	2339	48.1	45.76°C	0.985
	11.950V	5.036V	3.308V	4.848V	635.079				55.9°C	114.64V
110%	42.210A	9.934A	10.077A	3.104A	599.551	85.039%	1802	41.9	46.67°C	0.951
	11.879V	5.033V	3.304V	4.834V	705.037				57.58°C	114.63V
CL1	0.115A	11.933A	11.97A	0A	101.294	82.695%	1222	29.2	40.5°C	0.968
	12.034V	5.045V	3.316V	5.058V	122.491				45.95°C	114.8V
CL2	0.115A	19.773A	0A	0.001A	101.354	81.442%	1125	27.1	40.22°C	0.968
	12.034V	5.055V	3.332V	5.065V	124.45				47.23°C	114.81V
CL3	0.117A	0A	19.896A	0.001A	67.408	75.93%	1007	23.2	40.33°C	0.956
	12.034V	5.068V	3.317V	5.065V	88.776				49.36°C	114.82V
CL4	45.994A	0A	0A	0A	549.584	87.964%	2343	48.3	45.07°C	0.986
	11.949V	5.06V	3.328V	4.998V	624.79				56.01°C	114.65V

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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	1.232A	0.493A	0.494A	0.197A	19.994	73.479%	978	22.0	36.65°C	0.818
	12.042V	5.067V	3.339V	5.086V	27.208				39.74°C	114.84V
40W	2.715A	0.691A	0.692A	0.295A	39.996	82.758%	985	22.3	37.11°C	0.913
	12.040V	5.066V	3.338V	5.079V	48.327				40.41°C	114.84V
60W	4.197A	0.888A	0.89A	0.394A	59.997	86.319%	989	22.4	38.48°C	0.944
	12.039V	5.066V	3.338V	5.071V	69.507				42.33°C	114.83V
80W	5.675A	1.086A	1.088A	0.494A	79.939	88.049%	993	22.6	39.31°C	0.957
	12.037V	5.066V	3.337V	5.063V	90.789				43.29°C	114.83V

### RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	23.17mV	20.63mV	18.67mV	13.29mV	Pass
20% Load	26.85mV	18.73mV	17.60mV	12.57mV	Pass
30% Load	32.94mV	18.53mV	18.93mV	16.42mV	Pass
40% Load	33.40mV	20.22mV	19.19mV	14.62mV	Pass
50% Load	37.13mV	27.77mV	20.32mV	20.57mV	Pass
60% Load	37.80mV	28.64mV	21.85mV	20.63mV	Pass
70% Load	38.51mV	31.20mV	23.19mV	25.61mV	Pass
80% Load	40.82mV	29.36mV	25.29mV	24.12mV	Pass
90% Load	39.54mV	24.63mV	25.91mV	24.27mV	Pass
100% Load	60.06mV	25.64mV	26.67mV	26.70mV	Pass
110% Load	57.96mV	27.29mV	29.27mV	27.69mV	Pass
Crossload1	51.18mV	31.48mV	27.89mV	17.38mV	Pass
Crossload2	39.18mV	38.49mV	24.99mV	21.60mV	Pass
Crossload3	48.74mV	24.43mV	39.45mV	17.34mV	Pass
Crossload4	44.96mV	20.96mV	24.03mV	13.52mV	Pass

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PAGE 10/11

Anex

Deepcool PN550D



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Power specifications label

## CERTIFICATIONS 115V




**Aristeidis Bitziopoulos**  
Lab Director

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PAGE 11/11