

Anex

Thermaltake TR2 S 700W

Lab ID#: TT70001693
 Receipt Date: Jul 17, 2020
 Test Date: Jul 23, 2020

Report: 20PS1693A
 Report Date: Jul 28, 2020

DUT INFORMATION	
Brand	Thermaltake
Manufacturer (OEM)	Jiu Zhou Yang Guang Power Supply (HKC)
Series	TR2 S
Model Number	TRS-0700P-2
Serial Number	PSTRS0700NPCWEU2X1000097
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	230
Rated Current (Arms)	9
Rated Frequency (Hz)	50-60
Rated Power (W)	700
Type	ATX12V
Cooling	120mm Sleeve Bearing Fan [TT-1225(XW12025MS)]
Semi-Passive Operation	X
Cable Design	Fixed cables

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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RESULTS

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

230V

Average Efficiency	84.403%
Average Efficiency 5VSB	77.101%
Standby Power Consumption (W)	0.1387210
Average PF	0.959
Avg Noise Output	40.45 dB(A)
Efficiency Rating (ETA)	BRONZE
Noise Rating (LAMBDA)	Standard

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	17	54	2.5	0.5
	Watts	120		648	12.5	6
Total Max. Power (W)		700				

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

Hold-Up Time (ms)	12.5
AC Loss to PWR_OK Hold Up Time (ms)	12.6
PWR_OK Inactive to DC Loss Delay (ms)	-0.1

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CABLES AND CONNECTORS

Native Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Caps
ATX connector 20+4 pin (520mm)	1	1	18-22AWG	No
4+4 pin EPS12V (620mm)	1	1	18AWG	No
6+2 pin PCIe (520mm+150mm)	1	2	18-20AWG	No
SATA (530mm+150mm+150mm) / 4-pin Molex (+150mm)	2	4 / 2	18-20AWG	No
SATA (530mm) / 4-pin Molex (+150mm+150mm)	1	1 / 2	18-20AWG	No
SATA (530mm) / 4-pin Molex (+150mm) / FDD(+150mm)	1	1 / 1 / 1	18-22AWG	No

Modular Cables

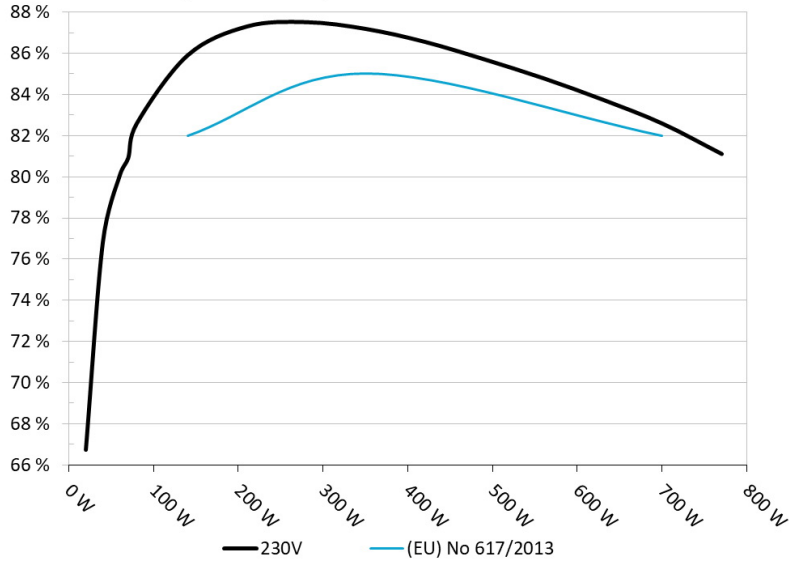
AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Thermaltake TRS-700AH2NK
 Ambient: 33°C - 41°C (91.4°F - 105.8°F)

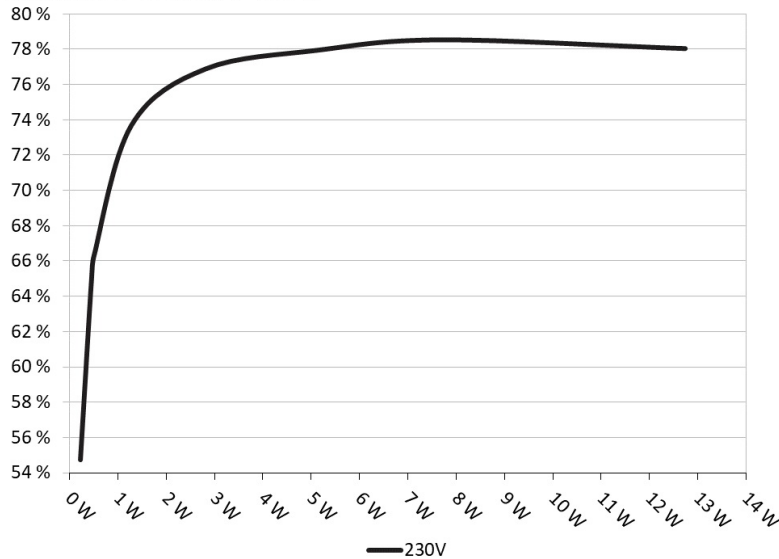


INFO

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: Thermaltake TRS-700AH2NK
 Ambient: 28°C - 32°C (82.4°F - 89.6°F)



INFO

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

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.232	54.717%	0.026
	5.156V	0.424		230.37V
2	0.090A	0.464	65.077%	0.043
	5.155V	0.713		230.37V
3	0.550A	2.830	76.881%	0.182
	5.144V	3.681		230.36V
4	1.000A	5.134	77.930%	0.256
	5.133V	6.588		230.36V
5	1.500A	7.683	78.518%	0.300
	5.121V	9.785		230.36V
6	2.501A	12.743	78.025%	0.346
	5.096V	16.332		230.36V

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230V

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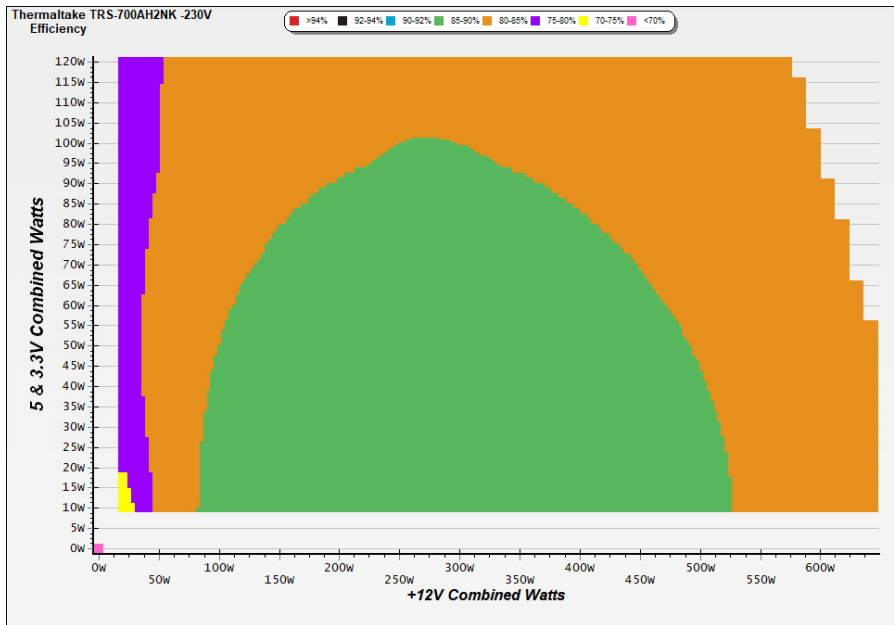
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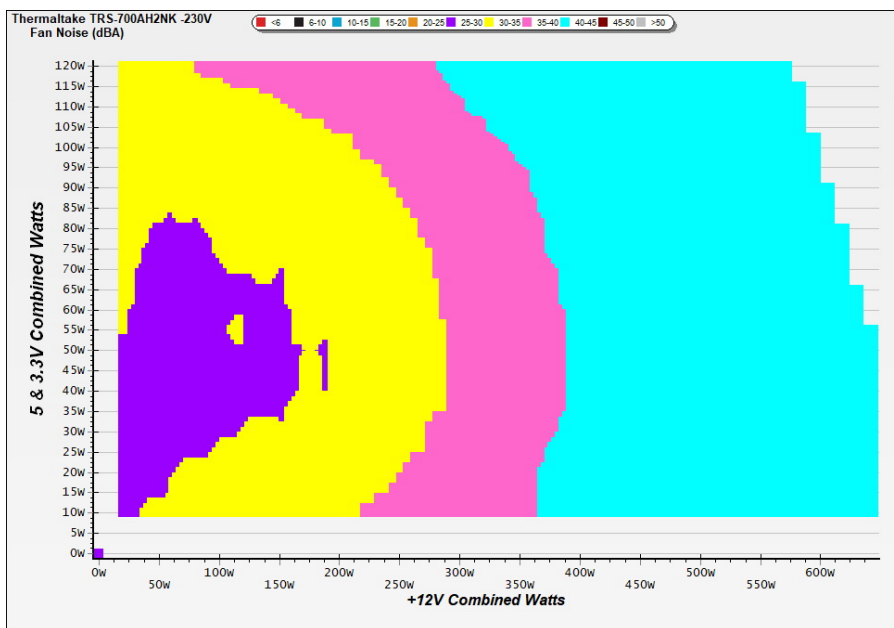
EFFICIENCY GRAPH 230V



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

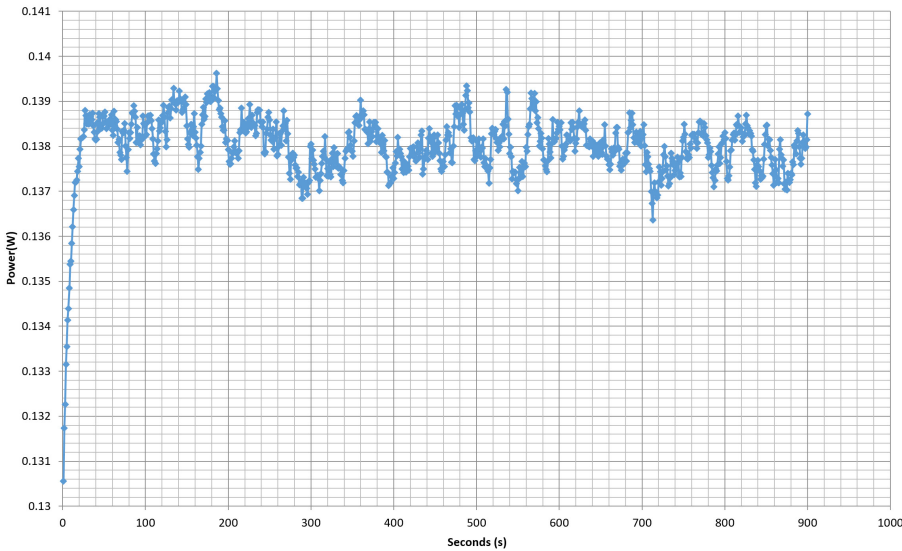
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -230V

Power - PSTRS0700NPCWEU2X1000097 - 21/07/2020 - 09:24



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 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	4.003A	1.937A	1.954A	0.978A	70.008	80.904%	1034	28.8	34.97°C	0.893
	12.092V	5.164V	3.378V	5.114V	86.532				36.80°C	230.39V
2	9.049A	2.914A	2.943A	1.178A	140.050	85.891%	1141	31.5	35.33°C	0.934
	12.061V	5.150V	3.365V	5.093V	163.055				37.48°C	230.39V
3	14.489A	3.404A	3.442A	1.380A	210.056	87.293%	1332	35.6	36.76°C	0.948
	12.009V	5.144V	3.354V	5.074V	240.633				39.23°C	230.40V
4	19.974A	3.895A	3.949A	1.583A	280.061	87.500%	1472	38.5	36.86°C	0.956
	11.958V	5.137V	3.343V	5.054V	320.068				39.86°C	230.38V
5	25.109A	4.883A	4.955A	1.789A	350.060	87.174%	1612	40.6	37.08°C	0.962
	11.930V	5.121V	3.330V	5.033V	401.566				40.89°C	230.38V
6	30.264A	5.878A	5.970A	1.997A	420.017	86.542%	1756	42.8	38.23°C	0.965
	11.902V	5.105V	3.317V	5.010V	485.335				42.31°C	230.36V
7	35.480A	6.878A	6.992A	2.207A	490.152	85.694%	1879	44.3	38.76°C	0.969
	11.867V	5.089V	3.304V	4.987V	571.982				43.34°C	230.38V
8	40.733A	7.888A	8.027A	2.419A	560.290	84.766%	1892	44.6	39.01°C	0.972
	11.830V	5.073V	3.289V	4.962V	660.988				44.51°C	230.38V
9	46.517A	8.393A	8.546A	2.429A	630.016	83.731%	1894	44.7	39.27°C	0.975
	11.770V	5.065V	3.276V	4.942V	752.431				45.39°C	230.34V
10	52.367A	8.905A	9.107A	2.542A	700.338	82.567%	1881	44.4	39.44°C	0.978
	11.708V	5.056V	3.261V	4.919V	848.210				46.47°C	230.35V
11	58.722A	8.905A	9.142A	2.551A	769.981	81.099%	1882	44.4	40.61°C	0.981
	11.627V	5.055V	3.249V	4.901V	949.432				48.53°C	230.41V
CL1	0.119A	14.001A	14.000A	0.002A	114.803	74.553%	2010	45.9	37.47°C	0.938
	13.309V	4.748V	3.338V	5.081V	153.988				41.06°C	230.37V
CL2	54.020A	1.000A	1.000A	1.000A	619.765	83.657%	1836	43.6	39.65°C	0.975
	11.222V	5.255V	3.295V	5.002V	740.840				46.81°C	230.35V

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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	1.227A	0.482A	0.487A	0.194A	19.996	66.731%	1030	28.7	0.731
	12.101V	5.184V	3.391V	5.147V	29.965				230.38V
2	2.456A	0.965A	0.972A	0.390A	39.987	76.808%	1026	28.5	0.829
	12.090V	5.179V	3.387V	5.137V	52.061				230.38V
3	3.690A	1.449A	1.465A	0.585A	60.017	80.065%	1025	28.5	0.877
	12.078V	5.174V	3.381V	5.127V	74.960				230.38V
4	4.916A	1.935A	1.954A	0.782A	79.967	82.573%	1038	29.0	0.904
	12.077V	5.166V	3.377V	5.117V	96.844				230.38V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.10mV	4.60mV	6.70mV	6.00mV	Pass
20% Load	11.10mV	5.10mV	7.30mV	6.60mV	Pass
30% Load	13.00mV	5.70mV	7.50mV	7.70mV	Pass
40% Load	14.10mV	6.70mV	8.00mV	8.60mV	Pass
50% Load	16.60mV	8.30mV	9.80mV	9.60mV	Pass
60% Load	22.00mV	9.00mV	9.90mV	10.10mV	Pass
70% Load	24.10mV	10.40mV	9.90mV	15.90mV	Pass
80% Load	27.70mV	11.40mV	18.50mV	21.20mV	Pass
90% Load	32.40mV	14.70mV	21.70mV	29.90mV	Pass
100% Load	46.00mV	20.60mV	25.70mV	34.00mV	Pass
110% Load	53.90mV	22.10mV	29.20mV	43.70mV	Pass
Crossload1	13.80mV	75.30mV	23.70mV	16.70mV	Fail
Crossload2	45.60mV	12.60mV	18.20mV	17.00mV	Pass

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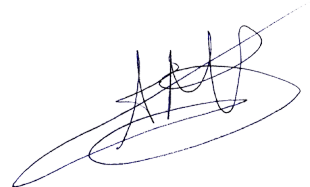
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Top side



Power specifications label



Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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