Kolink Continuum 1050W

Serial Number 173591A00PTT1F04001795

Lab ID 182

Certification ID 25182

Test Result Report ID:

Certificate Issue Date: Sep 27, 2018

115V 230V

Scheme: ETA-EMI PSU

CYBENETICS PLATINUM

115V 230V

CYBENETICS STANDARD++

Scheme: LAMBDA PSU

Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, 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
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Kolink
Model	Continuum 1050W
OEM/ODM	Sirfa / High Power
Serial Number	173591A00PTT1F04001795
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15
Rated Frequency (Hz)	50-60

Rated Power (W)	1050
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Double Ball-Bearing Fan (RL4Z B1352512M)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	182
Date of receipt	Sep 16, 2018
Testing Date	Sep 25, 2018
Report Issued Date	Sep 27, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	18AWG
4+4 pin EPS12V (700mm)	1	1	16AWG
8 pin EPS12V (600mm)	1	1	16AWG
6+2 pin PCIe (600mm+200mm)	3	6	16-18AWG
SATA (400mm+150mm+150mm+150mm)	2	8	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	87.5	3	0.3
	Watts	130		1050	15	3.6
Total Max. Power (W)		1050				

Parts Description

General Data	
Manufacturer (OEM)	CWT
Platform Model	-
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Diode
Bridge Rectifier(s)	2x GBU1006 (600V, 10A @ 100°C)
APFC MOSFETS	2x Infineon IPW50R280CE (550V, 11.4A @ 100°C, 0.28Ohm)
APFC Boost Diode	1x Power Integrations QH08TZ600 (600V, 8A @ 150°C)
Hold-up Cap(s)	1x Nichicon (400V, 390uF, 2000h @ 105 °C, GG)
Main Switchers	2x Vishay SiHG20N50C (560V, 11A @ 100°C, 0.27Ohm)
Combo APFC/PWM Controller	Champion CM6800TX & CM03X Green PFC controller
Topology	Primary side: Half-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	4x APEC AP9990GH-HF (60V, 100A @ 25°C, 6mOhm)
5V & 3.3V	DC-DC Converters: 6x APEC AP72T03GP (30V, 47A @ 100°C, 9.5mOhm) PWM Controller: APW7159C
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (1-5,000 @ 105°C, KZE), Su' scon (2-5,000h @ 105°C, MF), TAICON (105°C) Polymers: APAQ, EneSol
Supervisor IC	Weltrend WT7502 (OVP, UVP, SCP, PG)
Fan Model	Power Logic PLA13525S12M (12V, 0.40A, 111.1CFM, 41.6 dBA, Hydro Dynamic Bearing)
5VSB Circuit	
Rectifier	1x MBR2045CT SBR (45V, 20A) & CEF04N7G (700V, 4A, 3.3Ohm)

Standby PWM Controller	On-Bright OB5269CP
-12V Circuit	
Rectifier	UTC 2SB834L

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

Performance Summary 115V

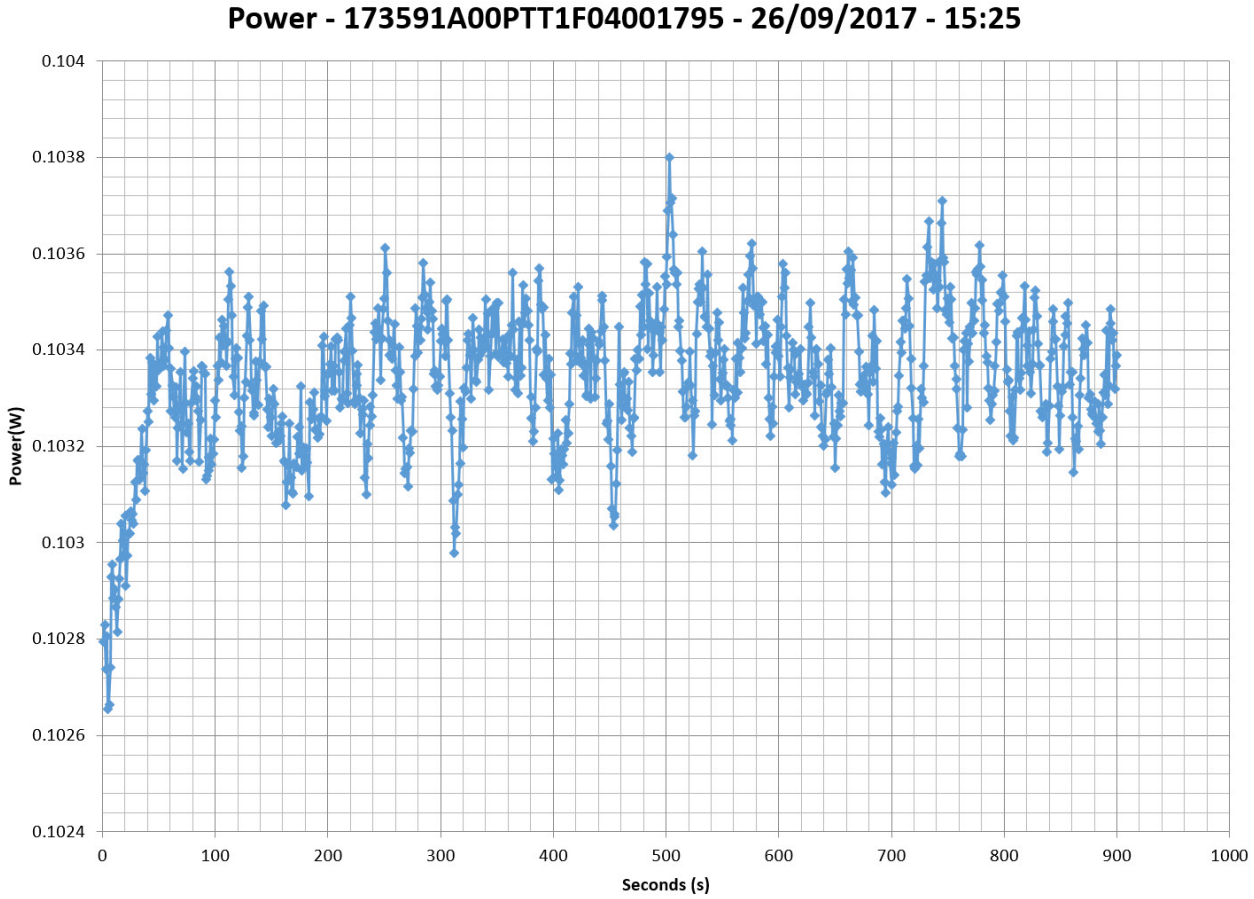
Accredited	
Average Efficiency (>1450 load combinations)	90.029%
Average Noise Output (>1450 Load Combinations)	31.64dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.1034W
Non-Accredited	
12V Ripple (Full Load)	73.19mV
5V Ripple (Full Load)	42.66mV
3.3V Ripple (Full Load)	48.71mV
5VSB Ripple (Full Load)	51.77mV
12V Load Regulation	1.30%
5V Load Regulation	1.15%
3.3V Load Regulation	1.67%
5VSB Load Regulation	3.26%
Inrush Current	117.914A

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.1
AC Loss to PWR_OK Hold Up Time (ms)	13.9
PWR_OK Inactive to DC Loss Delay (ms)	3.2

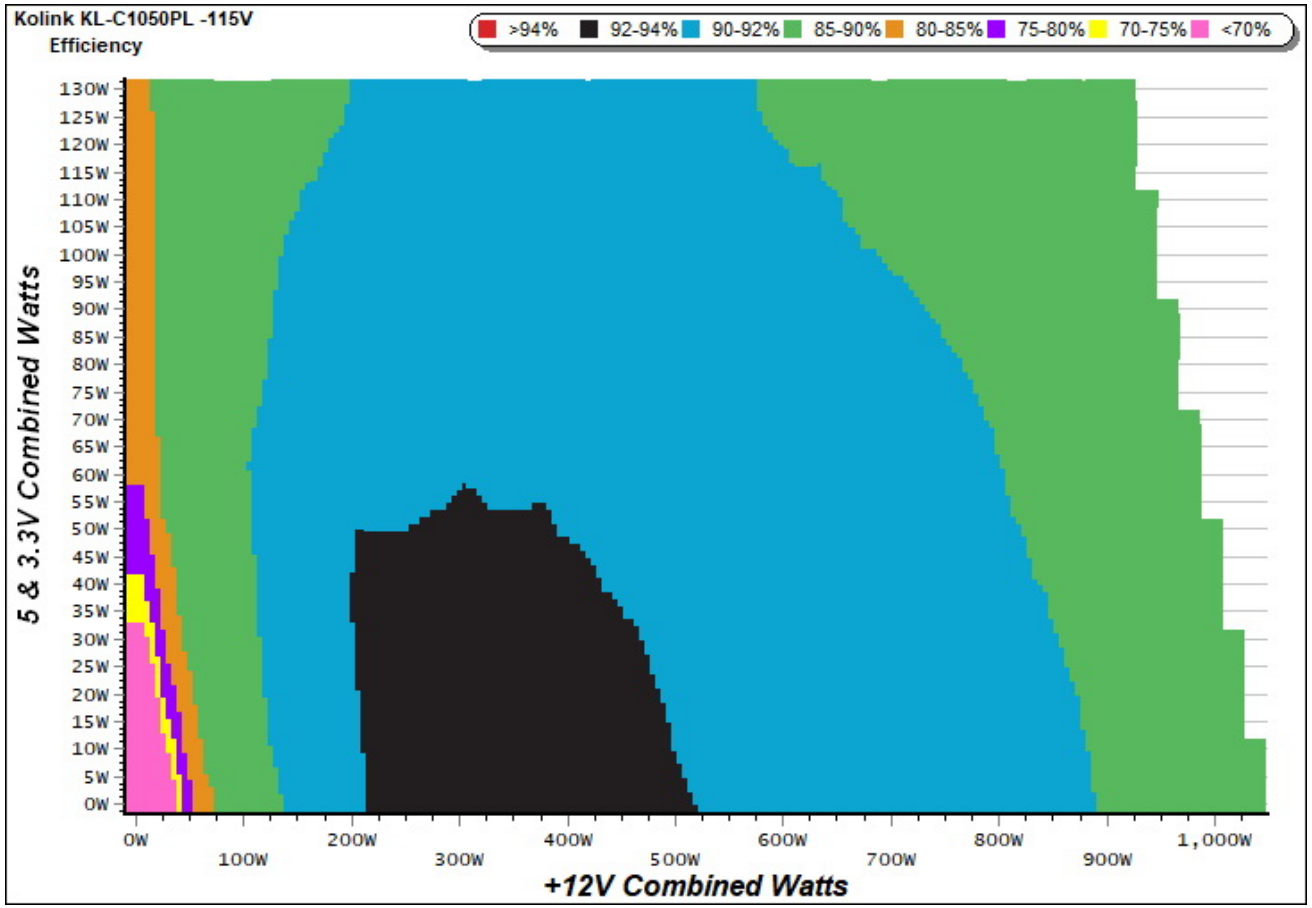
Vampire Power

Graphs 115V



Efficiency Graph

115V

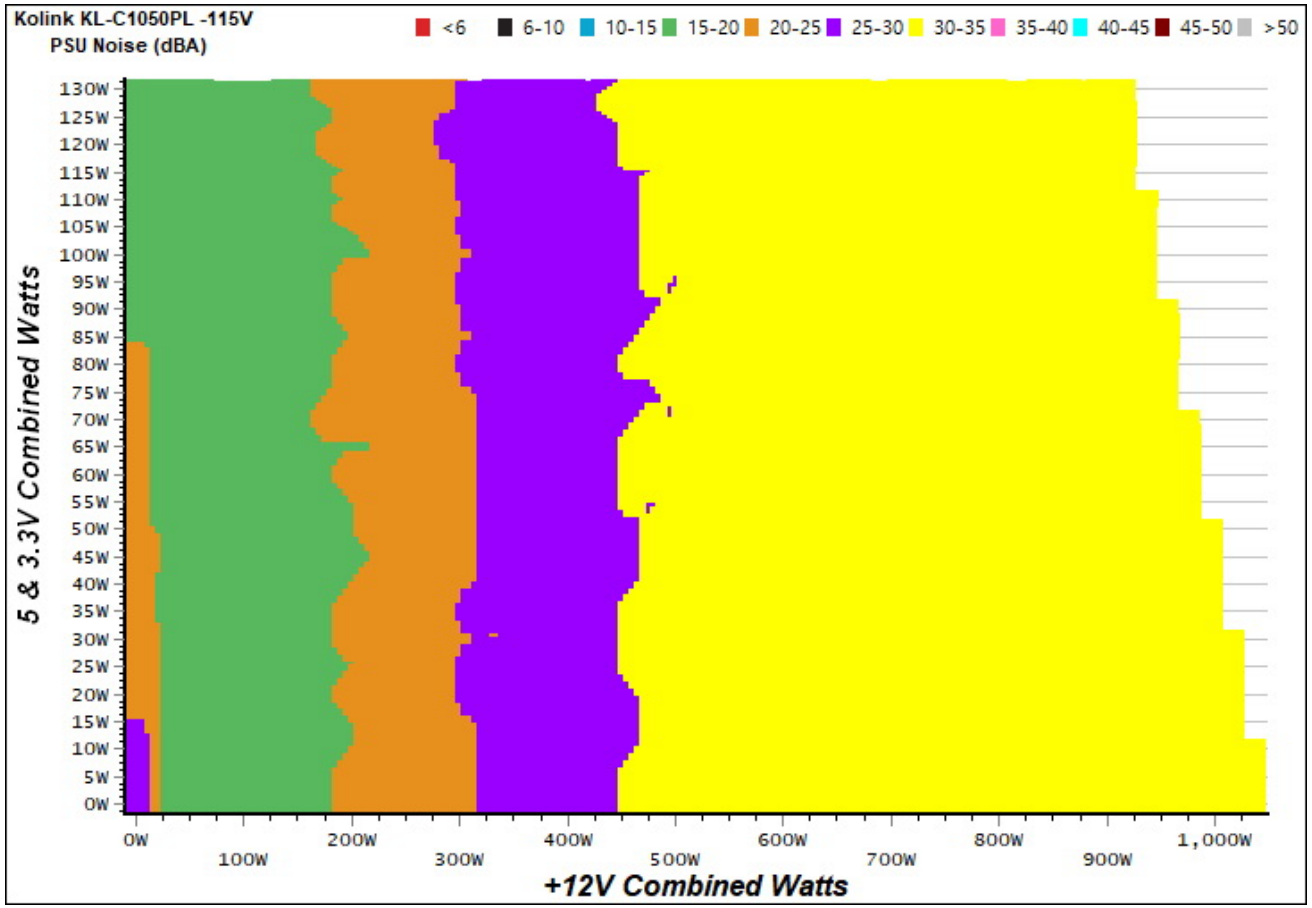


INFO

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

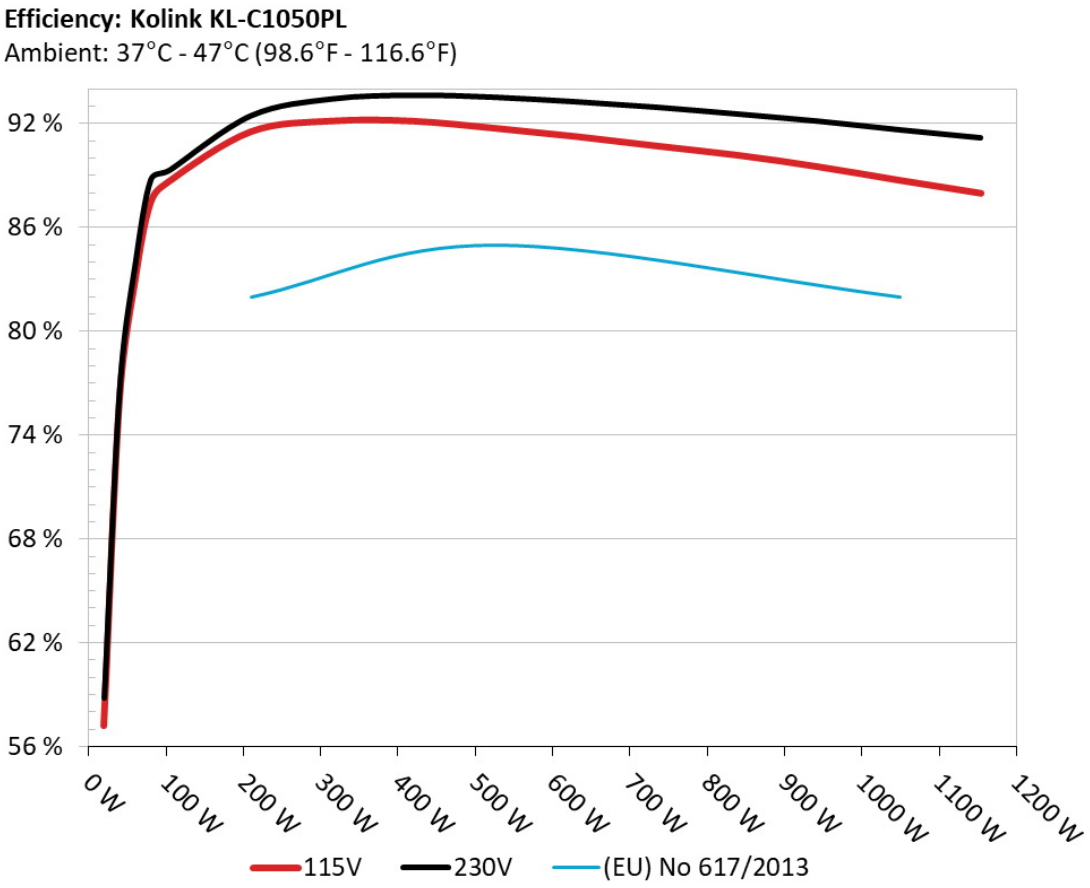


INFO

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.

Indicative Performance

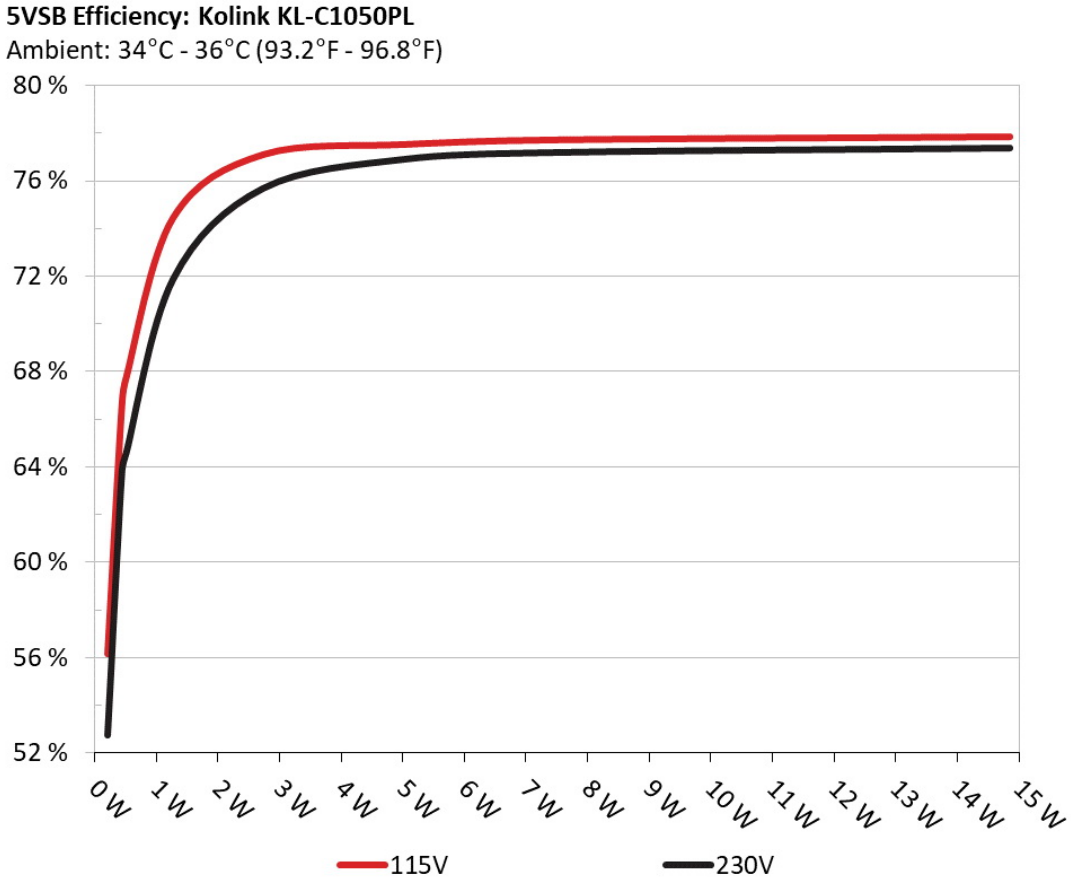
Efficiency under high ambient temperature



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



INFO

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

5VSB Efficiency (ERP LOT 3/6 & CEC) 115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.041A	0.210	56.150%	0.055
	5.064V	0.374		115.18V

2	0.087A	0.440	66.566%	0.093
	5.062V	0.661		207.59V
3	0.542A	2.734	77.123%	0.263
	5.044V	3.545		115.16V
4	1.002A	5.036	77.549%	0.307
	5.027V	6.494		115.16V
5	1.501A	7.520	77.742%	0.329
	5.009V	9.673		115.17V
6	3.001A	14.850	77.871%	0.365
	4.948V	19.070		115.17V

Supplementary Tests (For Reference)

Typical 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	6.706A	1.952A	1.965A	0.980A	104.808	88.681%	1088	30.4	38.16°C	0.956
	12.411V	5.123V	3.358V	5.083V	118.186				41.51°C	115.18V
2	14.425A	2.927A	2.950A	1.180A	209.647	91.530%	1128	32.2	38.33°C	0.975
	12.395V	5.117V	3.352V	5.070V	229.048				42.98°C	115.18V
3	22.519A	3.425A	3.464A	1.380A	314.830	92.147%	1160	33.6	38.84°C	0.981
	12.379V	5.110V	3.345V	5.057V	341.659				44.81°C	115.18V
4	30.611A	3.913A	3.950A	1.585A	419.632	92.139%	1215	34.2	39.39°C	0.983
	12.364V	5.104V	3.340V	5.043V	455.433				46.80°C	115.18V
5	38.392A	4.908A	4.945A	1.786A	524.563	91.734%	1230	34.9	39.99°C	0.983
	12.348V	5.098V	3.335V	5.031V	571.832				49.14°C	115.17V
6	46.196A	5.892A	5.944A	1.990A	629.459	91.253%	1240	35.2	40.74°C	0.986
	12.332V	5.092V	3.328V	5.018V	689.795				52.04°C	115.17V
7	54.022A	6.885A	6.951A	2.195A	734.373	90.704%	1240	35.2	41.97°C	0.988
	12.315V	5.086V	3.322V	5.004V	809.641				55.49°C	115.17V
8	61.863A	7.884A	7.960A	2.401A	839.280	90.169%	1240	35.2	43.23°C	0.990
	12.299V	5.080V	3.316V	4.990V	930.789				59.23°C	115.16V

9	70.148A	8.382A	8.485A	2.406A	944.184	89.497%	1240	35.2	44.68°C	0.991
	12.282V	5.074V	3.312V	4.985V	1054.988				64.02°C	115.18V
10	78.208A	8.882A	8.983A	3.025A	1048.916	88.718%	1240	35.2	45.89°C	0.992
	12.265V	5.069V	3.305V	4.953V	1182.309				67.76°C	115.18V
11	86.880A	8.890A	9.000A	3.030A	1153.814	87.968%	1240	35.2	46.67°C	0.993
	12.248V	5.064V	3.300V	4.947V	1311.628				68.98°C	115.16V
CL1	0.098A	16.031A	16.003A	0.004A	136.637	83.719%	1240	35.2	45.63°C	0.965
	12.411V	5.109V	3.343V	5.140V	163.210				62.38°C	115.19V
CL2	87.418A	1.004A	1.001A	1.002A	1084.952	88.774%	1240	35.2	46.14°C	0.992
	12.257V	5.081V	3.315V	5.040V	1222.157				66.45°C	115.17V

The results above are not used in the certification process

Light Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.174A	0.482A	0.474A	0.196A	19.664	57.183%	977	27.9	0.917
	12.431V	5.129V	3.363V	5.120V	34.388				115.19V
2	2.375A	0.970A	0.981A	0.391A	39.781	75.918%	1015	28.6	0.904
	12.426V	5.128V	3.361V	5.111V	52.400				115.19V
3	3.574A	1.461A	1.485A	0.586A	59.862	82.871%	1065	29.4	0.949
	12.421V	5.127V	3.360V	5.100V	72.235				115.19V
4	4.769A	1.955A	1.963A	0.785A	79.821	87.383%	1070	29.5	0.946
	12.416V	5.124V	3.359V	5.093V	91.346				115.18V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	45.3 mV	35.2 mV	33.0 mV	38.6 mV	Pass
20% Load	48.7 mV	34.6 mV	36.7 mV	44.9 mV	Pass
30% Load	46.8 mV	32.0 mV	32.0 mV	43.1 mV	Pass
40% Load	48.2 mV	36.9 mV	41.6 mV	50.6 mV	Fail

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	53.0 mV	30.0 mV	29.5 mV	30.2 mV	Pass
60% Load	54.4 mV	32.2 mV	34.9 mV	37.1 mV	Pass
70% Load	60.8 mV	35.3 mV	36.4 mV	37.1 mV	Pass
80% Load	64.0 mV	40.9 mV	41.0 mV	36.9 mV	Pass
90% Load	68.8 mV	39.7 mV	45.9 mV	42.7 mV	Pass
100% Load	73.2 mV	42.7 mV	48.7 mV	51.8 mV	Fail
110% Load	80.1 mV	44.9 mV	55.9 mV	53.0 mV	Fail
Crossload 1	51.1 mV	37.5 mV	33.6 mV	38.9 mV	Pass
Crossload 2	71.3 mV	40.9 mV	47.1 mV	49.8 mV	Pass

The results above are not used in the certification process

Kolink Continuum 1050W

Top side

Power specifications label

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

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com