Kolink Continuum 1200W (#2)

173291B00PTT1F05004468

Lab ID 181

Certification ID 25181

Test Result Report ID:

Certificate Issue Date: Sep 26, 2018

Scheme: ETA-EMI PSU

115V

230V

115V

230V

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 1200W (#2)
OEM/ODM	Sirfa / High Power
Serial Number	173291B00PTT1F05004468
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	15
□□□□ (Hz)	50-60

额定功率 (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
类别	ATX12V
线材设计	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
散热	135mm Double Ball-Bearing Fan (RL4Z B1352512H)
半被动运转	✗
Cybenetics Testing Information	
Lab ID	181
Date of receipt	Sep 14, 2018
Testing Date	Sep 23, 2018
Report Issued Date	Sep 26, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

线材与接头 **(Non-accredited measurements)**

模组化线材			
描述	线材数量	总连接器数量	Gauge
ATX 接头 20+4 pin (600mm)	1	1	18AWG
4+4 pin EPS 12V 接头 (700mm)	1	1	16AWG
8 pin EPS 12V 接头 (600mm)	1	1	16AWG
6+2pin PCIe接头 (600mm+200mm)	6	12	18-16AWG
SATA接头 (400mm+150mm+150mm+150mm)	2	8	18AWG
大 4pin Molex接头 (450mm+100mm+100mm+100mm)	2	8	18AWG

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	25	25	100	3	0.3
	□	130		1200	15	3.6
□□□□□ (W)		1200				

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

温度范围 (°C /°F)	28-32 / 82.4-89.6
符合 ErP Lot3/6规范	✓
符合 (EU) No 617/2013规范	✓

Performance Summary

115V

Accredited	
平均效率 (>1450 load combinations)	89.668%
Average Noise Output (>1450 Load Combinations)	32.96dBA
PF平均值 (>1450 Load Combinations)	0.980
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
待机功率耗损	0.0999W
Non-Accredited	
12V Ripple (Full Load)	70.04mV
5V Ripple (Full Load)	27.25mV
3.3V Ripple (Full Load)	22.50mV
5VSB Ripple (Full Load)	34.97mV
12V Load Regulation	1.15%
5V Load Regulation	0.93%
3.3V Load Regulation	1.66%
5VSB Load Regulation	6.97%
Inrush Current	106.901A

230V

Accredited		
平均效率 (>1450 load combinations)		91.320%
Average Noise Output (>1450 Load Combinations)		32.69dBA
PF平均值 (>1450 Load Combinations)		0.943
Efficiency With 10W (≤500W) or 2% (>500W) Load		-
待机功率耗损		0.1189W
Non-Accredited		
12V Ripple (Full Load)		69.56mV
5V Ripple (Full Load)		30.95mV
3.3V Ripple (Full Load)		21.83mV
5VSB Ripple (Full Load)		51.78mV
12V Load Regulation		1.16%
5V Load Regulation		1.13%
3.3V Load Regulation		1.78%
5VSB Load Regulation		6.36%
Inrush Current		79.026A
保持时间 & PG信号		18.40ms
AC Loss to PWR_OK Hold Up Time		13.00ms
PWR_OK Inactive to DC Loss Delay		5.40ms
OPP (0.00°C / 0.00°C)	-	-

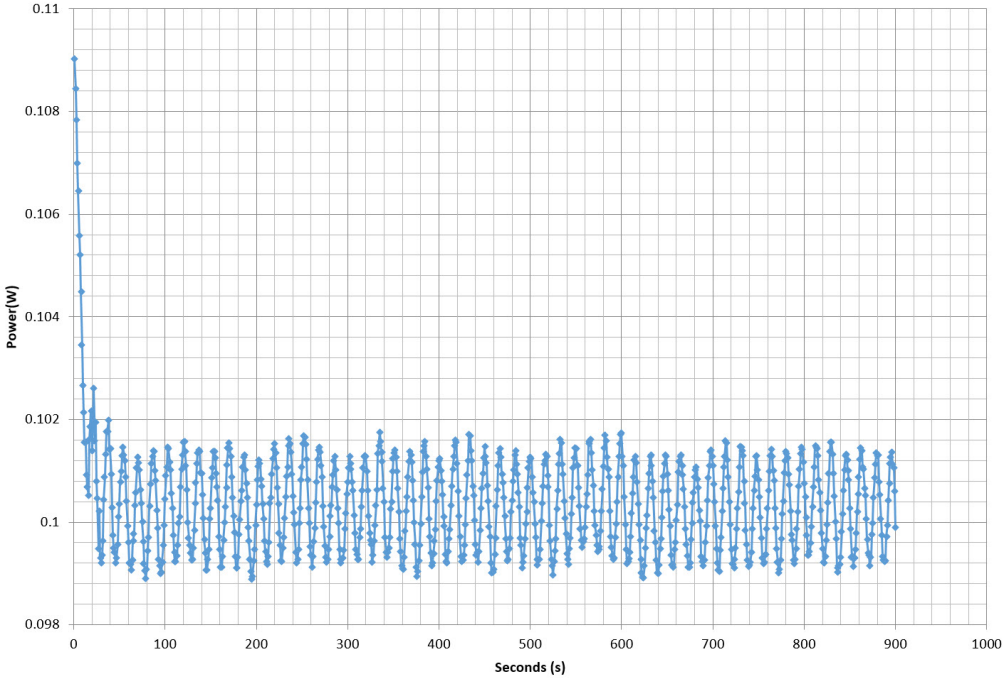
保持时间 & PG信号

Hold-Up Time (ms)	18.4
AC Loss to PWR_OK Hold Up Time (ms)	13
PWR_OK Inactive to DC Loss Delay (ms)	5.4

Graphs

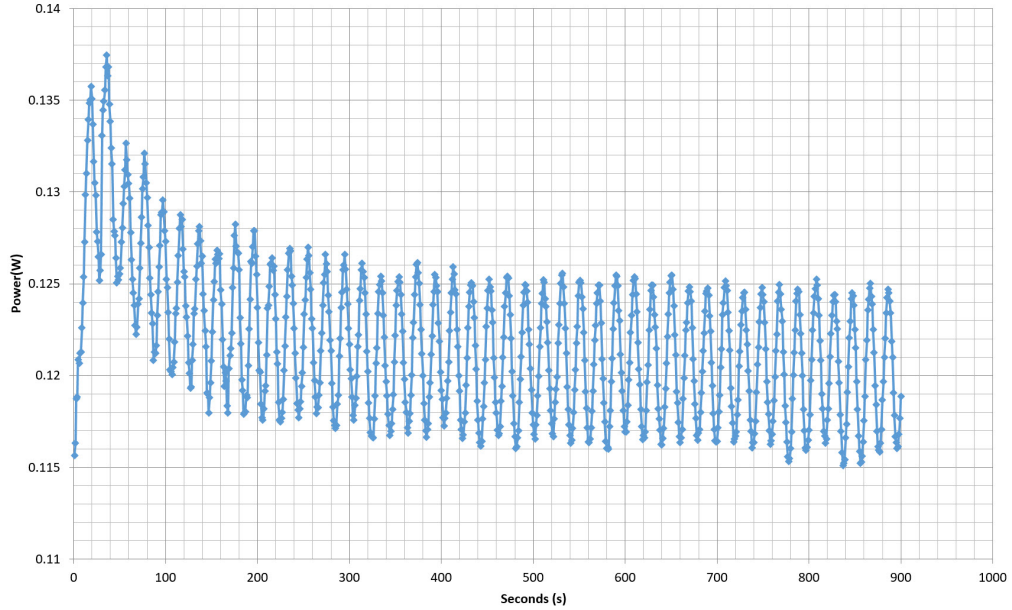
115V

Power - 173291B00PTT1F05004468 - 25/09/2017 - 11:50

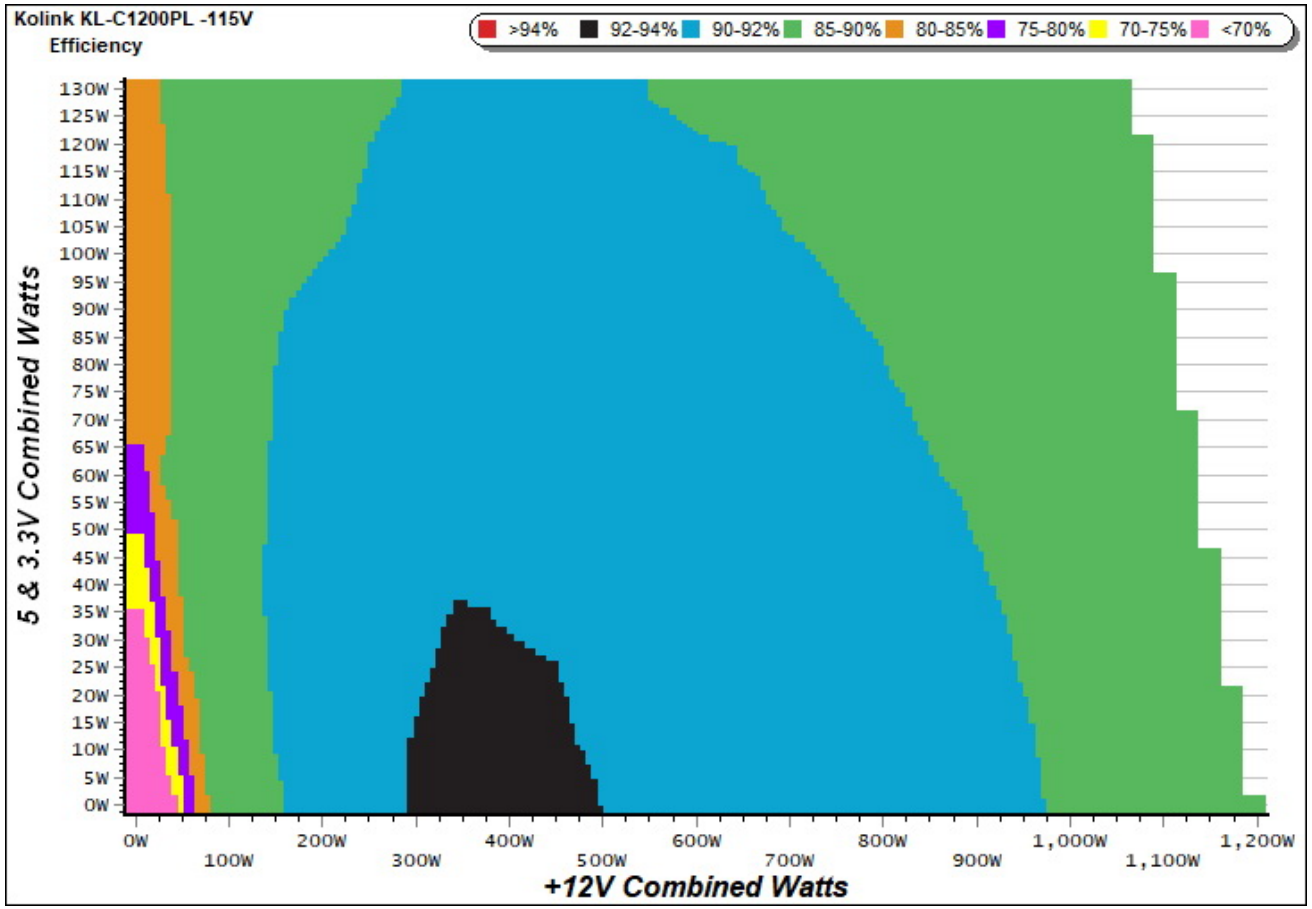


230V

Power - 173291B00PTT1F05004468 - 25/09/2017 - 11:50

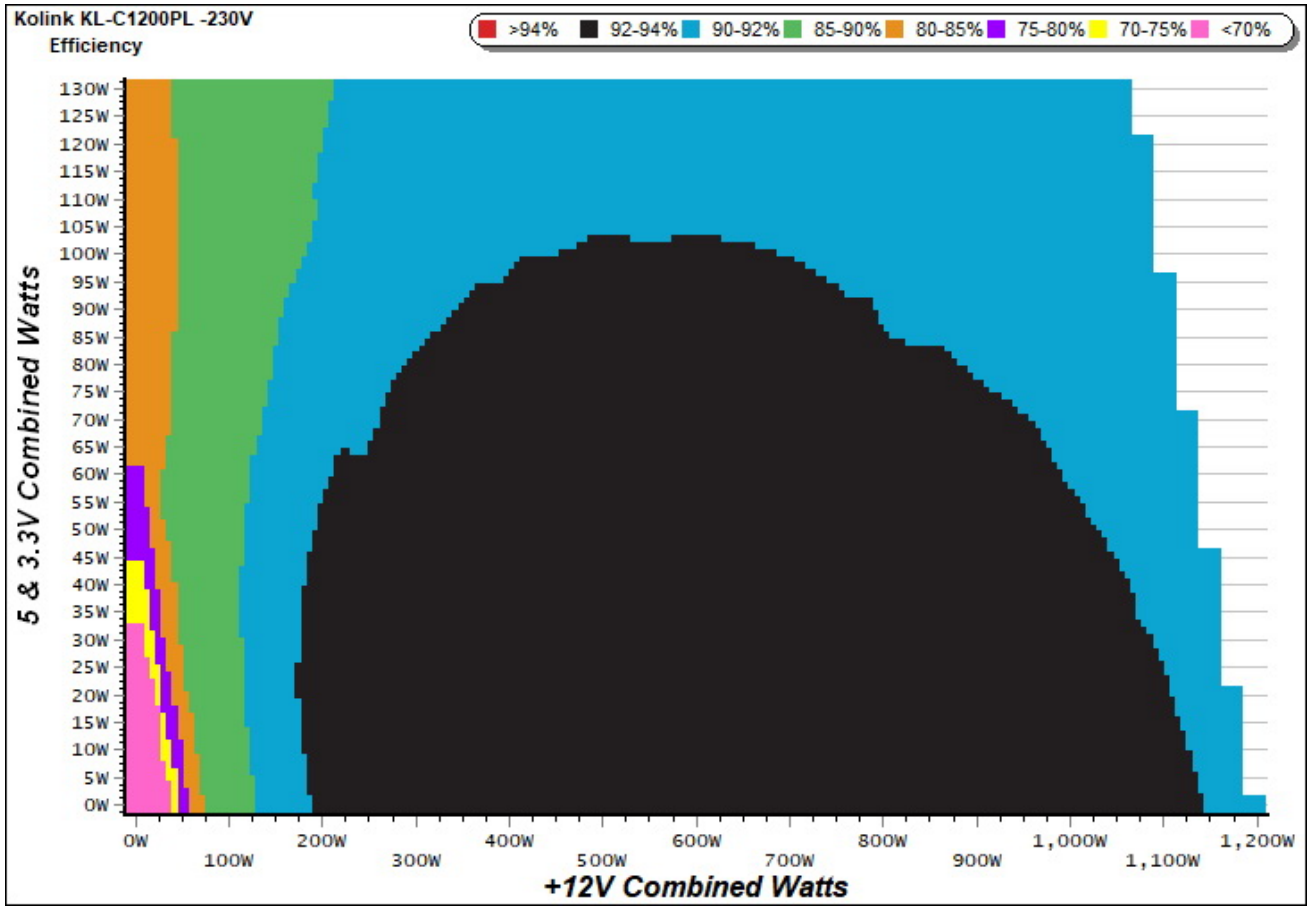


115V



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.

230V



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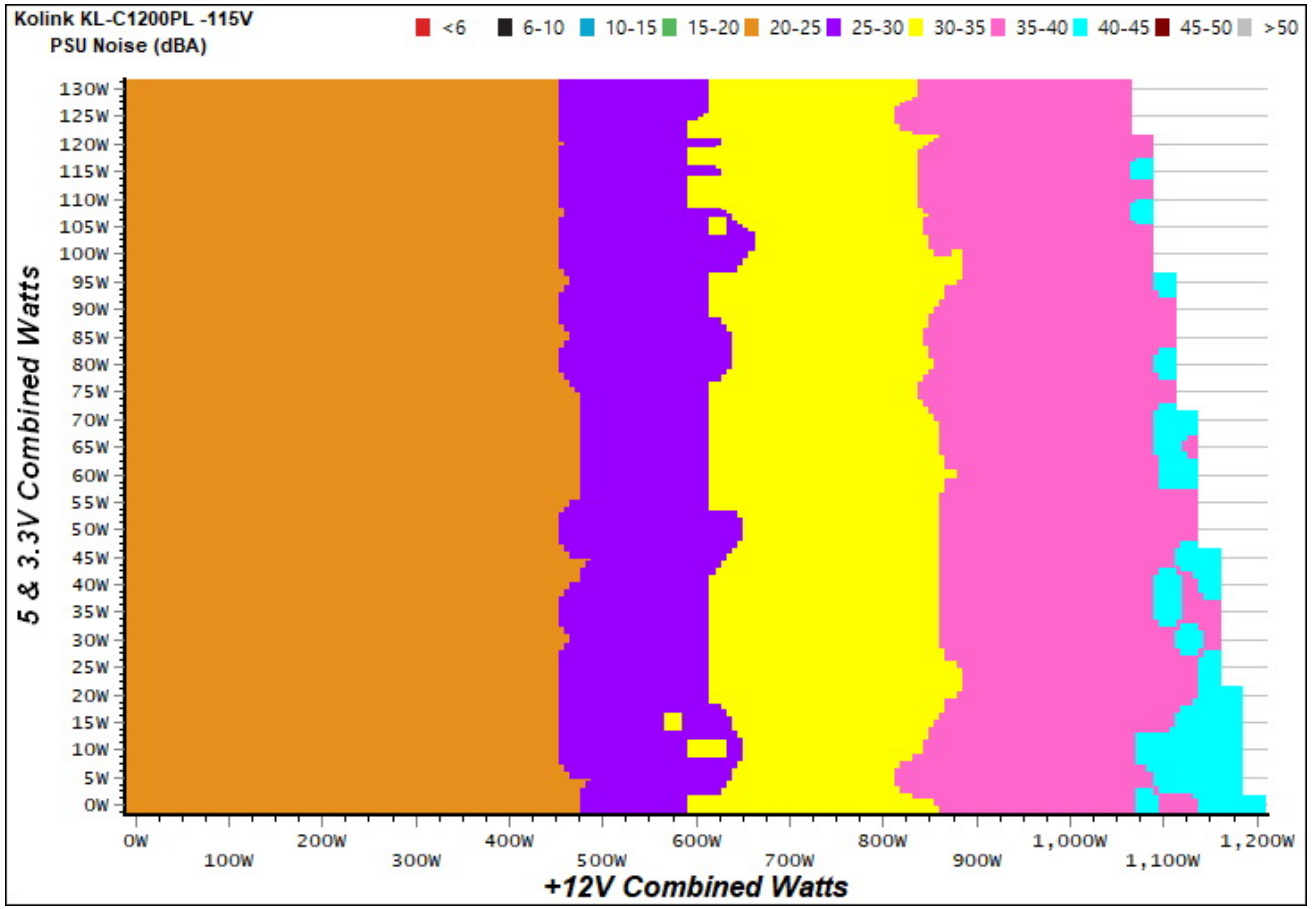
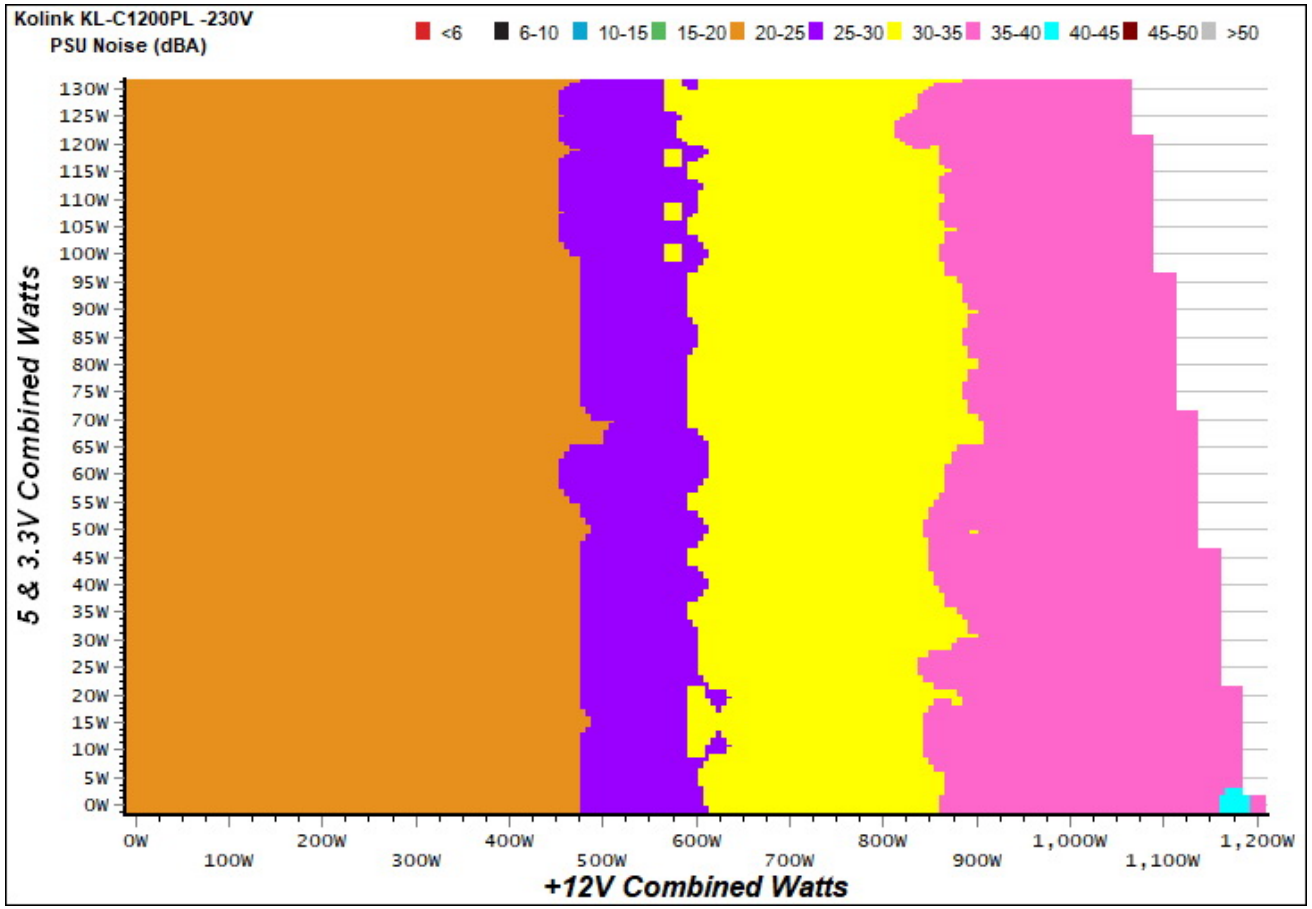
115V



□□

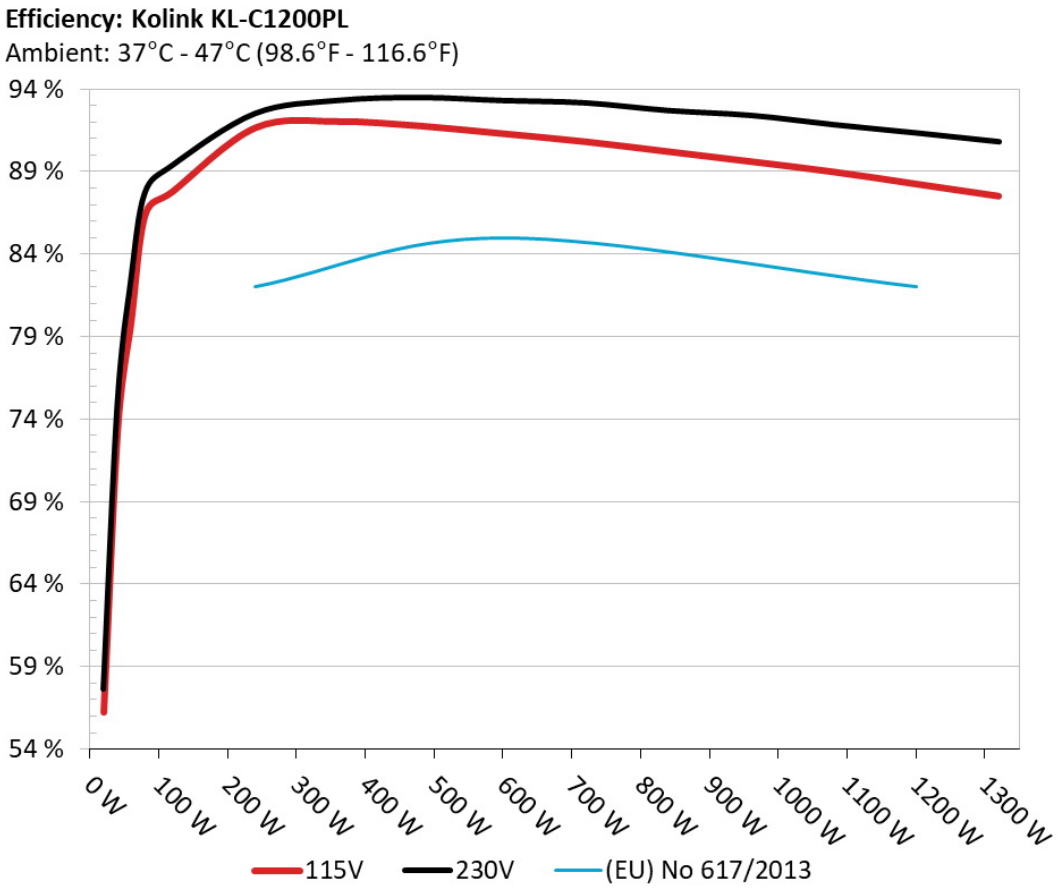
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

230V



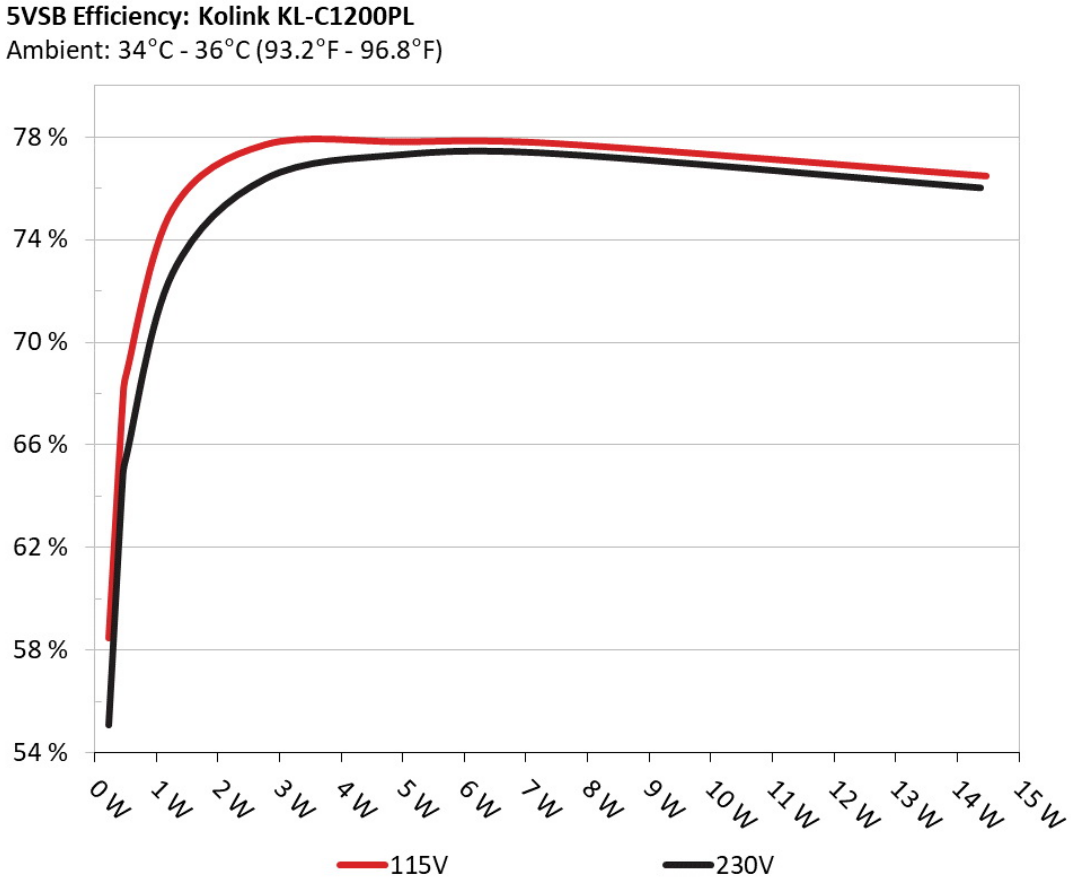
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance



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□□□



□□

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

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC)

115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.228	58.462%	0.039
	5.066V	0.390		115.38V
2	0.090A	0.456	67.756%	0.066
	5.062V	0.673		115.39V
3	0.550A	2.767	77.703%	0.243
	5.029V	3.561		115.38V
4	1.000A	4.999	77.818%	0.309
	4.998V	6.424		115.38V
5	1.500A	7.441	77.753%	0.344
	4.960V	9.570		115.38V
6	2.998A	14.463	76.483%	0.390
	4.824V	18.910		115.36V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.228	55.072%	0.014
	5.066V	0.414		230.68V
2	0.090A	0.456	64.773%	0.024
	5.062V	0.704		230.85V
3	0.550A	2.766	76.346%	0.113
	5.028V	3.623		230.85V
4	1.000A	4.996	77.290%	0.181
	4.995V	6.464		230.85V
5	1.500A	7.437	77.332%	0.234
	4.957V	9.617		230.84V
6	2.993A	14.379	75.995%	0.314
	4.804V	18.921		230.84V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	7.946A	1.948A	1.957A	0.989A	120.039	87.816%	960	27.3	38.32°C	0.956
	12.388V	5.134V	3.373V	5.058V	136.694				45.62°C	115.22V
2	16.878A	2.924A	2.941A	1.191A	239.765	91.666%	1010	28.5	38.62°C	0.972
	12.375V	5.129V	3.367V	5.038V	261.563				50.61°C	115.07V
3	26.153A	3.416A	3.422A	1.396A	359.289	92.047%	1023	28.7	39.16°C	0.980
	12.361V	5.124V	3.362V	5.016V	390.331				56.08°C	115.02V
4	35.516A	3.908A	3.932A	1.605A	479.729	91.776%	1125	31.9	39.40°C	0.981
	12.347V	5.120V	3.357V	4.987V	522.718				61.53°C	114.86V
5	44.545A	4.890A	4.923A	1.819A	599.878	91.310%	1215	34.2	40.07°C	0.983
	12.333V	5.114V	3.351V	4.948V	656.965				66.77°C	114.79V
6	53.593A	5.874A	5.922A	2.034A	720.033	90.820%	1320	36.0	41.21°C	0.985
	12.319V	5.109V	3.345V	4.917V	792.817				72.27°C	114.63V
7	62.629A	6.860A	6.921A	2.272A	839.776	90.224%	1465	39.3	42.31°C	0.988
	12.305V	5.104V	3.339V	4.843V	930.766				75.95°C	114.54V
8	71.744A	7.848A	7.921A	2.491A	960.245	89.620%	1500	40.0	43.28°C	0.990
	12.291V	5.100V	3.334V	4.820V	1071.466				80.08°C	114.46V
9	81.214A	8.344A	8.412A	2.493A	1079.576	88.998%	1515	40.5	45.05°C	0.991
	12.277V	5.095V	3.328V	4.815V	1213.037				85.23°C	114.27V
10	90.550A	8.844A	8.941A	3.148A	1199.957	88.265%	1515	40.5	45.42°C	0.992
	12.261V	5.090V	3.322V	4.767V	1359.489				91.02°C	114.18V
11	100.455A	8.851A	8.956A	3.145A	1320.000	87.528%	1515	40.5	47.30°C	0.993
	12.247V	5.086V	3.317V	4.771V	1508.088				95.98°C	113.99V
CL1	0.166A	16.005A	16.003A	0.000A	137.852	82.415%	1480	39.7	45.00°C	0.962
	12.392V	5.123V	3.362V	5.166V	167.266				63.84°C	115.16V

CL2	100.021A	1.004A	1.001A	1.000A	1239.225	88.357%	1515	40.5	47.20°C	0.992
	12.255V	5.099V	3.329V	5.016V	1402.522				98.02°C	114.13V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□ (RPM)	□□□□□ (dB[A])	□□ (□□/□□)	PF/AC □□
1	7.958A	1.948A	1.958A	0.983A	120.203	89.212%	1010	28.5	40.06°C	0.861
	12.390V	5.133V	3.372V	5.088V	134.738				42.79°C	230.68V
2	16.889A	2.929A	2.944A	1.183A	239.925	92.446%	1055	29.6	40.50°C	0.912
	12.375V	5.126V	3.365V	5.075V	259.529				43.52°C	230.87V
3	26.161A	3.419A	3.425A	1.384A	359.397	93.294%	1105	31.2	40.86°C	0.938
	12.361V	5.121V	3.360V	5.061V	385.230				44.17°C	230.62V
4	35.524A	3.911A	3.938A	1.586A	479.795	93.387%	1220	34.4	42.01°C	0.949
	12.346V	5.115V	3.354V	5.046V	513.768				45.87°C	230.72V
5	44.551A	4.893A	4.928A	1.789A	599.903	93.185%	1360	36.8	43.03°C	0.956
	12.332V	5.109V	3.348V	5.032V	643.774				47.30°C	230.63V
6	53.597A	5.883A	5.923A	1.994A	720.030	93.062%	1420	38.7	43.89°C	0.962
	12.318V	5.103V	3.342V	5.018V	773.714				48.62°C	230.38V
7	62.641A	6.872A	6.926A	2.200A	839.739	92.561%	1500	40.0	44.27°C	0.965
	12.302V	5.096V	3.336V	5.002V	907.231				49.53°C	230.39V
8	71.767A	7.862A	7.930A	2.408A	960.222	92.095%	1515	40.5	44.98°C	0.969
	12.287V	5.090V	3.329V	4.985V	1042.641				50.81°C	230.47V
9	81.242A	8.363A	8.424A	2.412A	1079.525	91.553%	1515	40.5	45.28°C	0.972
	12.272V	5.084V	3.324V	4.977V	1179.130				51.94°C	230.37V
10	90.588A	8.865A	8.954A	3.129A	1199.975	90.969%	1515	40.5	46.21°C	0.974
	12.256V	5.078V	3.317V	4.798V	1319.096				53.43°C	230.28V
11	100.511A	8.874A	8.974A	3.165A	1319.982	90.545%	1515	40.5	46.78°C	0.975
	12.240V	5.073V	3.310V	4.741V	1457.815				54.71°C	230.12V
CL1	0.153A	16.006A	16.000A	0.000A	137.654	81.210%	1440	39.0	42.51°C	0.885
	12.391V	5.114V	3.369V	5.200V	169.503				47.61°C	230.90V

CL2	100.013A	1.003A	1.000A	1.000A	1238.600	91.388%	1515	40.5	46.09°C	0.974
	12.250V	5.090V	3.322V	5.014V	1355.326				53.08°C	230.27V

The results above are not used in the certification process

20-80□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.161A	0.486A	0.473A	0.195A	19.500	56.262%	808	21.5	0.854
	12.407V	5.139V	3.379V	5.124V	34.659				115.34V
2	2.385A	0.973A	0.974A	0.392A	39.875	73.463%	866	23.5	0.923
	12.404V	5.138V	3.378V	5.109V	54.279				115.32V
3	3.548A	1.460A	1.449A	0.589A	59.383	79.979%	880	24.3	0.933
	12.399V	5.137V	3.376V	5.093V	74.248				115.30V
4	4.777A	1.946A	1.955A	0.788A	79.805	86.416%	894	24.4	0.934
	12.395V	5.136V	3.375V	5.077V	92.350				115.27V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.173A	0.488A	0.475A	0.195A	19.669	58.199%	837	22.5	0.519
	12.409V	5.139V	3.378V	5.130V	33.796				230.76V
2	2.399A	0.974A	0.978A	0.391A	40.068	75.187%	873	23.9	0.751
	12.405V	5.137V	3.377V	5.120V	53.291				230.90V
3	3.562A	1.462A	1.451A	0.587A	59.575	82.391%	894	24.4	0.798
	12.400V	5.136V	3.375V	5.110V	72.308				230.88V
4	4.789A	1.950A	1.957A	0.785A	79.982	87.696%	947	26.7	0.824
	12.396V	5.134V	3.374V	5.100V	91.204				230.71V

The results above are not used in the certification process

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	28.0 mV	10.6 mV	9.0 mV	14.1 mV	Pass
20% Load	33.1 mV	12.0 mV	10.6 mV	14.1 mV	Pass
30% Load	37.4 mV	13.1 mV	11.3 mV	14.0 mV	Pass
40% Load	38.4 mV	14.3 mV	12.2 mV	14.4 mV	Pass
50% Load	41.3 mV	15.2 mV	11.7 mV	14.5 mV	Pass
60% Load	45.8 mV	18.9 mV	12.2 mV	15.8 mV	Pass
70% Load	51.0 mV	19.8 mV	13.0 mV	20.3 mV	Pass
80% Load	56.9 mV	22.2 mV	15.4 mV	15.9 mV	Pass
90% Load	63.1 mV	24.4 mV	16.9 mV	16.3 mV	Pass
100% Load	70.0 mV	27.3 mV	22.5 mV	35.0 mV	Pass
110% Load	78.6 mV	30.5 mV	21.4 mV	21.6 mV	Pass
Crossload 1	32.1 mV	15.7 mV	18.5 mV	14.3 mV	Pass
Crossload 2	69.0 mV	26.8 mV	16.4 mV	21.0 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	30.9 mV	17.2 mV	12.3 mV	14.4 mV	Pass
20% Load	36.7 mV	17.0 mV	12.9 mV	14.1 mV	Pass
30% Load	39.2 mV	17.1 mV	12.7 mV	14.5 mV	Pass
40% Load	39.9 mV	17.6 mV	13.5 mV	15.1 mV	Pass
50% Load	44.5 mV	21.5 mV	14.6 mV	15.9 mV	Pass
60% Load	49.2 mV	25.1 mV	15.9 mV	17.1 mV	Pass
70% Load	53.9 mV	26.6 mV	16.8 mV	17.3 mV	Pass
80% Load	57.9 mV	27.7 mV	18.2 mV	18.5 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	65.0 mV	29.1 mV	19.5 mV	19.9 mV	Pass
100% Load	69.6 mV	31.0 mV	21.8 mV	51.8 mV	Fail
110% Load	74.9 mV	30.9 mV	23.7 mV	40.9 mV	Pass
Crossload 1	36.8 mV	25.4 mV	30.8 mV	14.9 mV	Pass
Crossload 2	67.6 mV	29.5 mV	23.0 mV	21.9 mV	Pass

The results above are not used in the certification process

Kolink Continuum 1200W (#2)

Top side

Power specifications label

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