EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Anex

Kolink SFX-350

Lab ID#: KL35001790
Receipt Date: Jun 27, 2020
Test Date: Feb 9, 2021

Report: 21PS1790A
Report Date: Feb 11, 2021

DUT INFORMATION

Brand	Kolink
Manufacturer (OEM)	
Series	SFX
Model Number	
Serial Number	2002120039191350BRP1H03000363
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	230
Rated Current (Arms)	3
Rated Frequency (Hz)	50
Rated Power (W)	350
Type	SFX
Cooling	80mm Sleeve Bearing Fan (S0801512M)
Semi-Passive Operation	✗
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	ErP Lot 6 2010: ✓ ErP Lot 6 2013: ✓ ErP Lot 3 2014 & CEC: Partially
(EU) No 617/2013 Compliance	✓

230V

Average Efficiency	84.752%
Average Efficiency 5VSB	74.273%
Standby Power Consumption (W)	0.2248500
Average PF	0.971
Avg Noise Output	29.52 dB(A)
Efficiency Rating (ETA)	BRONZE
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	16	15	27	3	0.3
	Watts	105		324	15	3.6
Total Max. Power (W)		350				

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

Hold-Up Time (ms)	8.1
AC Loss to PWR_OK Hold Up Time (ms)	46.2
PWR_OK Inactive to DC Loss Delay (ms)	-38.1

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CABLES AND CONNECTORS

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (300mm)	1	1	20-22AWG	No
4+4 pin EPS12V (400mm)	1	1	18-20AWG	No
6+2 pin PCIe (400mm)	1	2	18-20AWG	No
SATA (300mm+150mm)	1	2	20AWG	No
4-pin Molex (300mm+150mm)	1	2	20AWG	No

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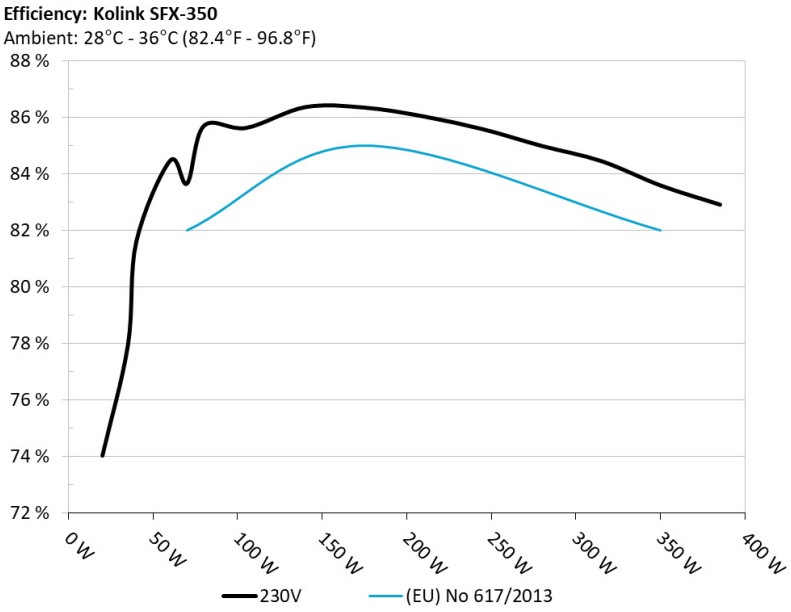
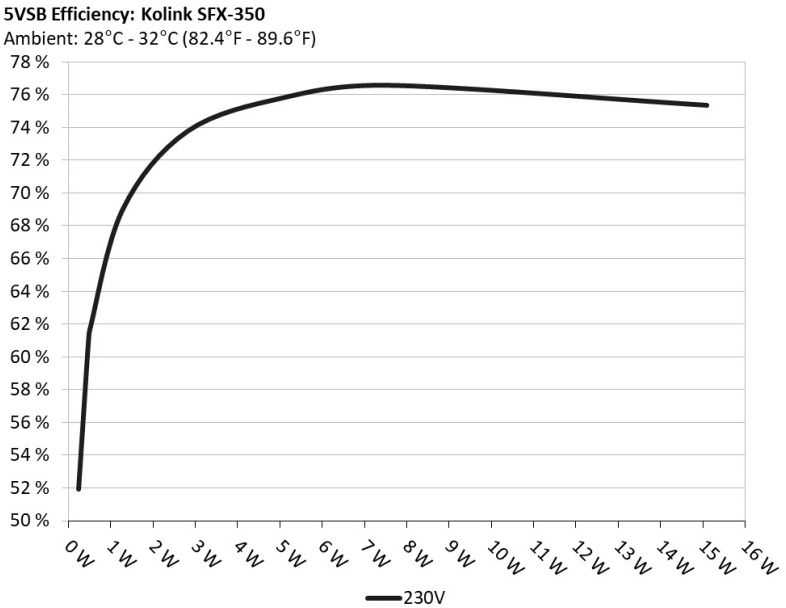
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	51.919%	0.027
	5.123V	0.443		230.26V
2	0.090A	0.461	60.898%	0.046
	5.119V	0.757		230.26V
3	0.550A	2.806	73.745%	0.195
	5.104V	3.805		230.26V
4	1.000A	5.091	75.804%	0.277
	5.092V	6.716		230.26V
5	1.500A	7.616	76.550%	0.328
	5.078V	9.949		230.26V
6	2.999A	15.098	75.336%	0.396
	5.034V	20.041		230.26V

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230V

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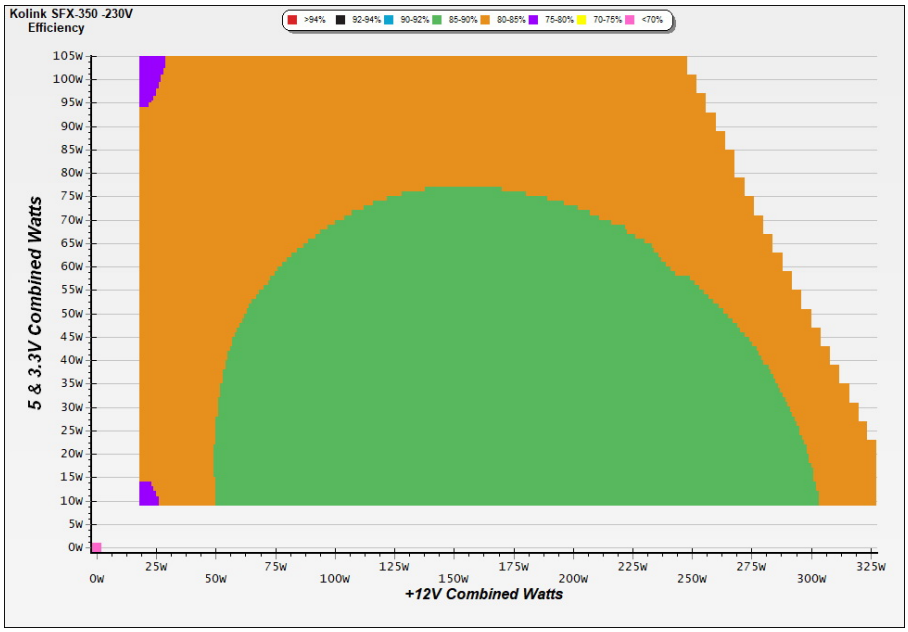
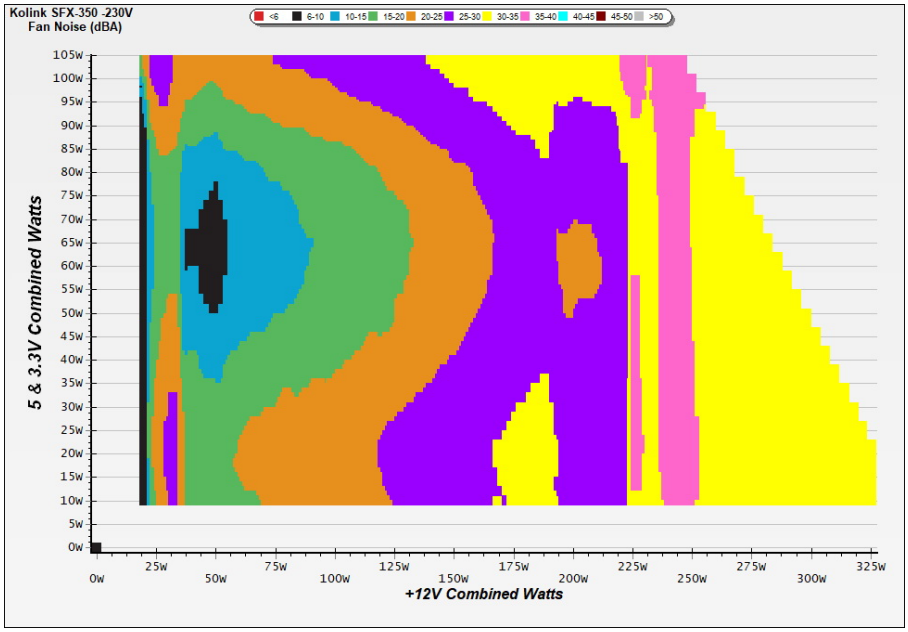
EFFICIENCY GRAPH 230V



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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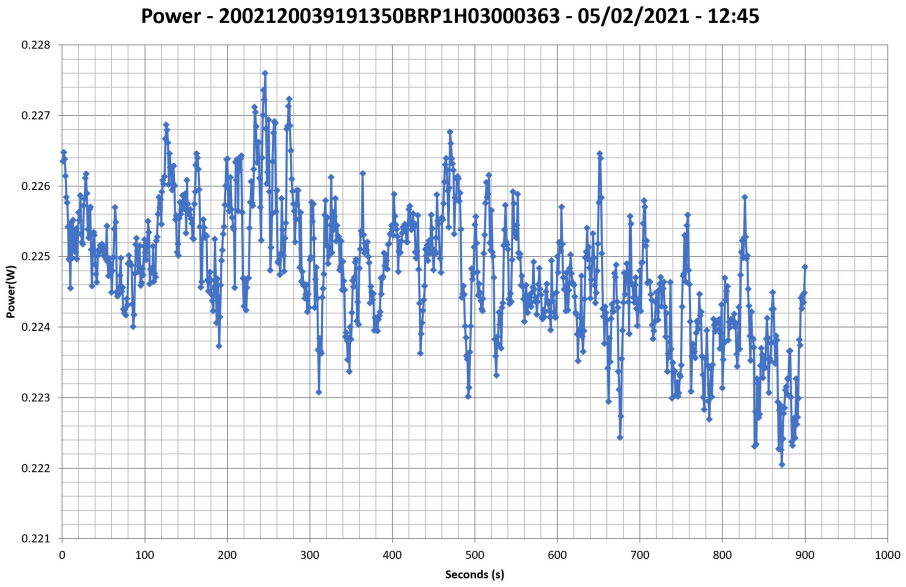
VAMPIRE POWER -230V



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	1.094A	1.995A	1.973A	0.983A	35.028	77.944%	730	8.1	30.94°C	0.827
	12.271V	5.014V	3.345V	5.087V	44.940				34.19°C	230.28V
2	3.188A	3.000A	2.965A	1.182A	70.010	83.670%	751	6.6	31.11°C	0.923
	12.268V	5.001V	3.338V	5.076V	83.674				34.82°C	230.29V
3	5.633A	3.501A	3.465A	1.382A	104.998	85.634%	1025	8.6	31.56°C	0.956
	12.240V	5.000V	3.332V	5.065V	122.613				35.77°C	230.29V
4	8.085A	4.001A	3.968A	1.583A	139.986	86.373%	1271	16.4	32.28°C	0.968
	12.219V	4.997V	3.327V	5.054V	162.071				37.14°C	230.29V
5	10.184A	5.019A	4.971A	1.785A	174.972	86.353%	1543	23.2	33.31°C	0.976
	12.222V	4.981V	3.320V	5.042V	202.625				38.67°C	230.30V
6	12.282A	6.046A	5.976A	1.988A	209.956	86.040%	1789	27.9	33.51°C	0.980
	12.225V	4.964V	3.313V	5.029V	244.021				39.65°C	230.30V
7	14.385A	7.077A	6.985A	2.192A	245.021	85.585%	1942	30.7	33.69°C	0.980
	12.229V	4.947V	3.307V	5.017V	286.289				40.71°C	230.30V
8	16.487A	8.003A	7.995A	2.397A	279.455	84.999%	2146	33.4	33.95°C	0.980
	12.228V	4.932V	3.300V	5.005V	328.775				41.92°C	230.30V
9	19.042A	8.625A	8.496A	2.400A	314.923	84.458%	2282	35.0	34.62°C	0.980
	12.206V	4.928V	3.295V	4.999V	372.876				43.39°C	230.31V
10	21.369A	9.139A	9.030A	3.016A	349.976	83.593%	2520	37.8	35.14°C	0.980
	12.181V	4.923V	3.288V	4.973V	418.667				44.75°C	230.32V
11	24.360A	9.117A	9.042A	3.019A	384.986	82.918%	2658	39.6	35.51°C	0.981
	12.122V	4.936V	3.284V	4.968V	464.297				46.23°C	230.32V
CL1	8.000A	12.999A	12.997A	0.000A	205.634	82.821%	2281	35.0	33.77°C	0.980
	12.581V	4.778V	3.299V	5.078V	248.288				39.29°C	230.32V
CL2	26.977A	0.999A	1.000A	1.000A	329.322	84.651%	1977	31.0	35.32°C	0.981
	11.706V	5.171V	3.312V	5.051V	389.037				45.29°C	230.32V

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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	1.217A	0.493A	0.492A	0.196A	19.978	74.034%	706	8.2	0.713
	12.184V	5.066V	3.355V	5.112V	26.985				230.25V
2	2.434A	0.989A	0.985A	0.392A	39.968	81.609%	710	9.0	0.841
	12.189V	5.055V	3.350V	5.103V	48.975				230.26V
3	3.654A	1.486A	1.481A	0.589A	60.000	84.478%	717	9.5	0.902
	12.192V	5.044V	3.345V	5.095V	71.024				230.26V
4	4.869A	1.986A	1.974A	0.786A	79.951	85.710%	742	7.1	0.932
	12.191V	5.036V	3.340V	5.087V	93.281				230.27V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.70mV	11.10mV	14.10mV	10.50mV	Pass
20% Load	8.90mV	9.70mV	15.60mV	11.40mV	Pass
30% Load	8.90mV	8.70mV	15.40mV	12.40mV	Pass
40% Load	10.50mV	7.70mV	15.40mV	13.00mV	Pass
50% Load	12.70mV	8.20mV	16.70mV	13.10mV	Pass
60% Load	14.40mV	9.90mV	17.80mV	13.60mV	Pass
70% Load	25.20mV	28.10mV	21.40mV	19.90mV	Pass
80% Load	19.10mV	11.30mV	21.90mV	15.00mV	Pass
90% Load	21.50mV	11.50mV	21.00mV	14.50mV	Pass
100% Load	38.80mV	19.60mV	23.50mV	15.60mV	Pass
110% Load	44.20mV	22.80mV	23.50mV	15.70mV	Pass
Crossload1	20.90mV	18.70mV	24.00mV	24.90mV	Pass
Crossload2	33.50mV	13.10mV	10.90mV	13.60mV	Pass

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Top side

Power specifications label

CERTIFICATIONS 230V