EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

FSP Technology Inc. AURUM PT 1200W

Lab ID#: 300
Receipt Date: Feb 15, 2018
Test Date: Feb 26, 2018

Report:
Report Date: Feb 28, 2018

DUT INFORMATION

Brand	FSP Technology Inc.
Manufacturer (OEM)	FSP
Series	AURUM PT
Model Number	PT-1200FM
Serial Number	S4290000157
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-9
Rated Frequency (Hz)	50-60
Rated Power (W)	1200
Type	ATX12V
Cooling	135mm Hydro Dynamic Bearing Fan (PLA13525S12M)
Semi-Passive Operation	✗
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	100	3	0.8
	Watts	160		1200	15	9.6
Total Max. Power (W)		1200				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-24AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (500mm+100mm)	4	8	18AWG	No
SATA (550mm+150mm+150mm)	3	9	18AWG	No
SATA (550mm+50mm+50mm+50mm)	1	4	18AWG	No
4 pin Molex (550mm+150mm+150mm)	2	6	18AWG	No
FDD Adapter (+100mm)	1	1	22AWG	No
AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	89.557%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000
Average Efficiency 5VSB	77.419%
Standby Power Consumption (W)	0.0538541
Average PF	0.992
Avg Noise Output	32.61 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	S++

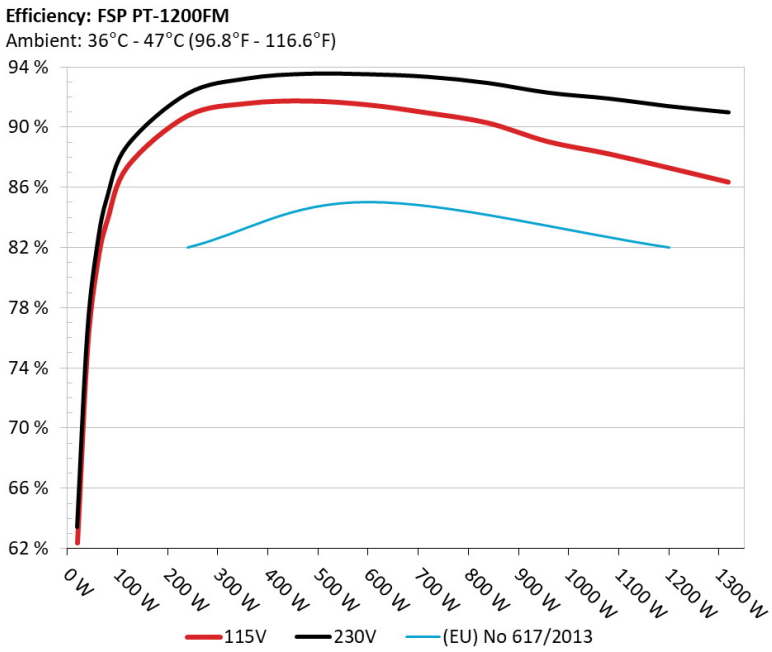
230V

Average Efficiency	91.998%
Average Efficiency 5VSB	75.471%
Standby Power Consumption (W)	0.0854534
Average PF	0.966
Avg Noise Output	31.19 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	S++

TEST EQUIPMENT

Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

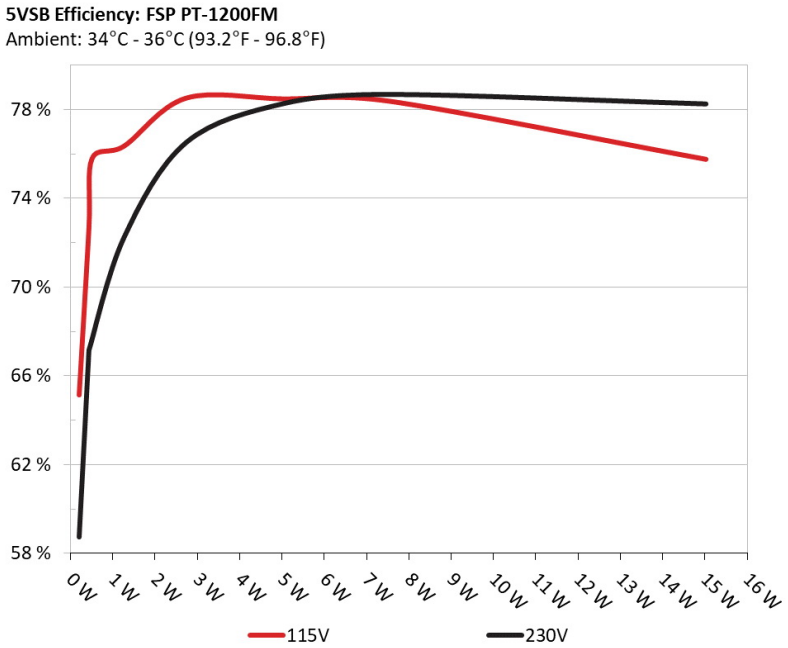
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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 -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	65.123%	0.028
	5.057V	0.324		115.08V
2	0.087A	0.441	72.652%	0.052
	5.056V	0.607		115.08V
3	0.542A	2.737	78.514%	0.237
	5.048V	3.486		115.08V
4	1.002A	5.050	78.477%	0.336
	5.039V	6.435		115.08V
5	1.502A	7.555	78.371%	0.395
	5.030V	9.640		115.08V
6	3.001A	15.016	75.754%	0.473
	5.003V	19.822		115.07V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	58.726%	0.009
	5.057V	0.361		230.22V
2	0.087A	0.442	66.970%	0.017
	5.056V	0.660		230.22V
3	0.542A	2.737	76.517%	0.088
	5.047V	3.577		230.22V
4	1.002A	5.050	78.282%	0.150
	5.039V	6.451		230.22V
5	1.502A	7.555	78.690%	0.205
	5.030V	9.601		230.22V
6	3.001A	15.019	78.261%	0.313
	5.004V	19.191		230.21V

115V

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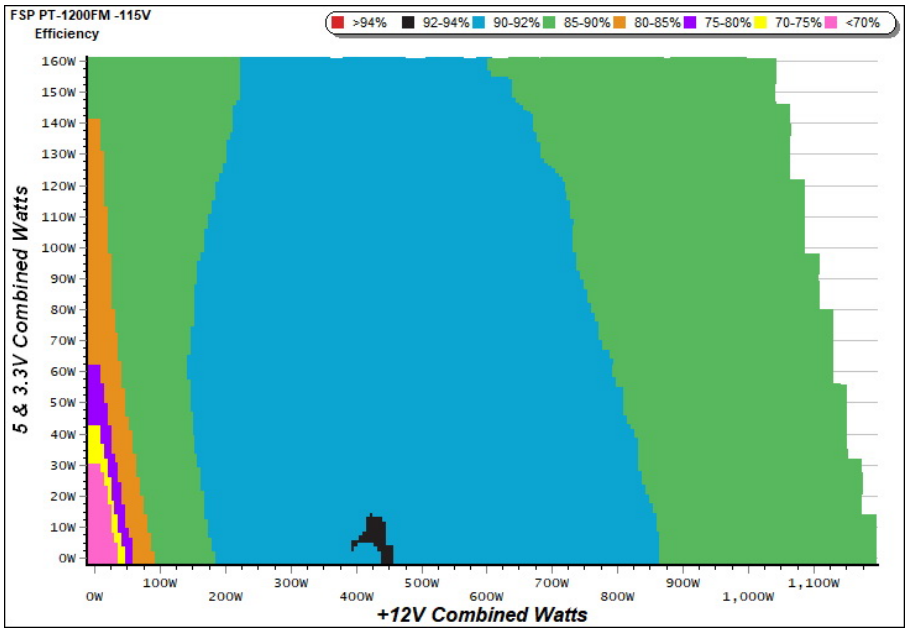
EFFICIENCY GRAPH 115V



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

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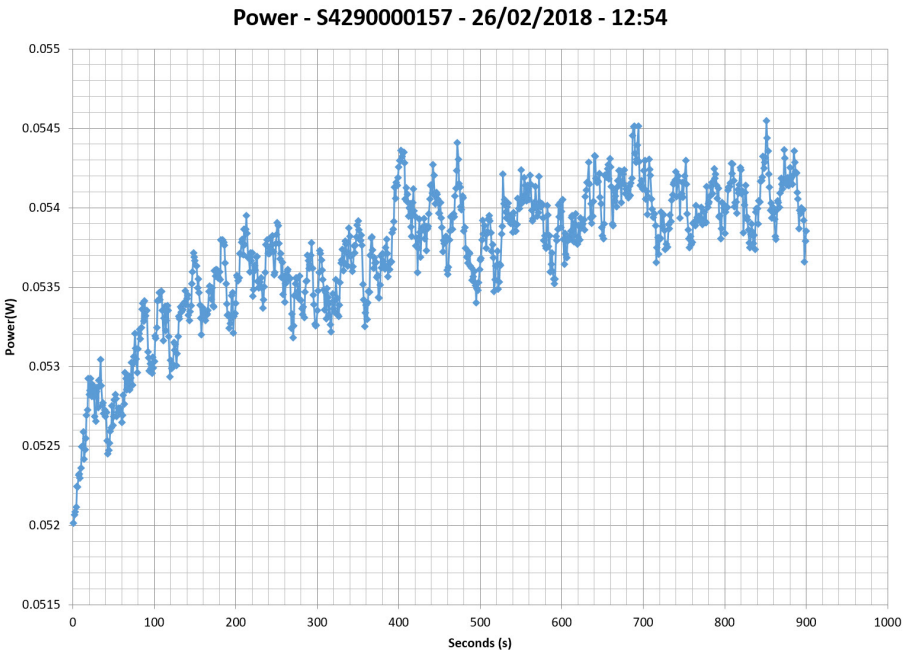
VAMPIRE POWER -115V



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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230V

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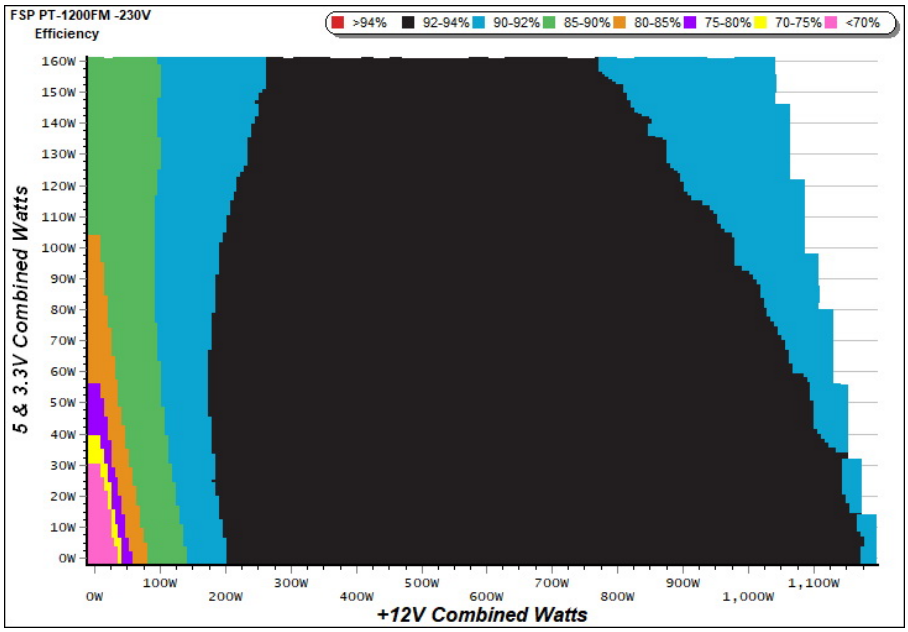
EFFICIENCY GRAPH 230V



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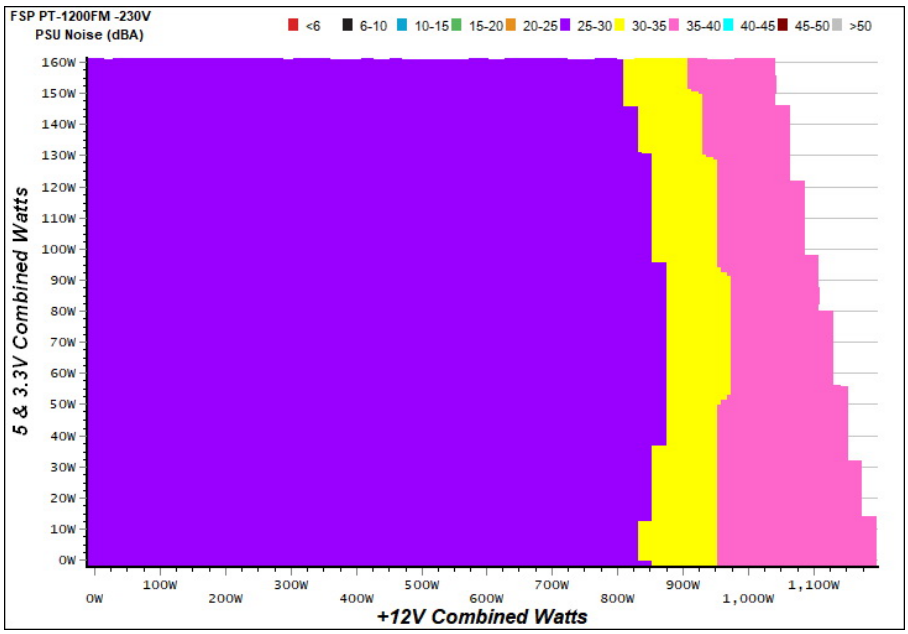
NOISE GRAPH 230V



INFO

The PSU's noise in its entire operational range and under 30-32 °C (+-2 °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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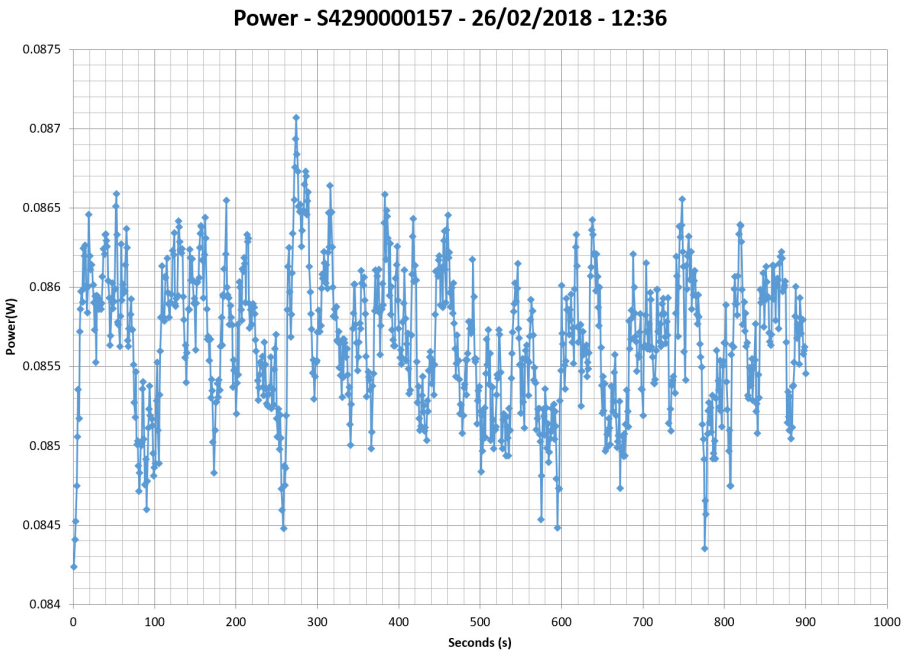
VAMPIRE POWER -230V



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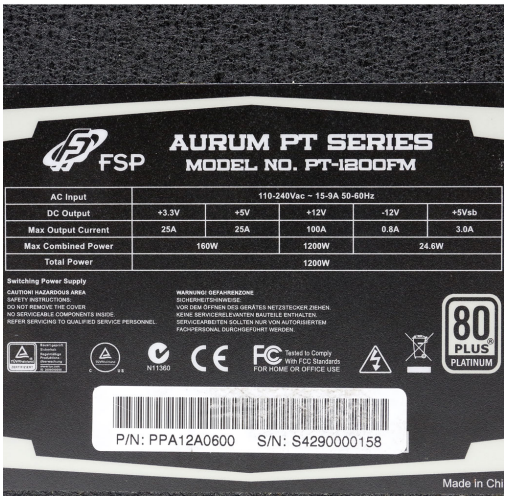
Top side



Power specifications label

CERTIFICATIONS 115V

CYBENETICS PLATINUM

CYBENETICS STANDARD++

CERTIFICATIONS 230V

CYBENETICS PLATINUM 230v

CYBENETICS STANDARD++ 230v

Aris Mpitsiopoulos
Lab Director