Super Flower Leadex Titanium 1600W (ATX v3.1)

Serial Number S2307199003

Lab ID SF16002220

Certification ID 252220

Test Result Report ID: 23PS2220A

Certificate Issue Date: Aug 22, 2023

Scheme: ETA-EMI PSU



Scheme: LAMBDA PSU







Outside Validation Scope



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	Super Flower
Model	Leadex Titanium 1600W (ATX v3.1)
OEM/ODM	Super Flower
Serial Number	S2307199003
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	115-240
Rated Current (Arms)	17

Rated Frequency (Hz)	60-50
Rated Power (W)	1600
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Fluid Dynamic Bearing Fan (ZFF142512D)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	SF16002220
Date of receipt	Jul 31, 2023
Testing Date	Aug 18, 2023
Report Issued Date	Aug 22, 2023
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	In Cable Capacitors
ATX connector 24 pin (600mm)	1	1	16-22AWG	Yes
4+4 pin EPS12V (750mm)	2	2	16-22AWG	Yes
6+2 pin PCIe (750mm+150mm)	5	10	16-22AWG	Yes
6+2 pin PCIe (750mm)	4	4	16-22AWG	Yes
12+2 pin PCIe (600mm) (600W)	1	1	16-24AWG	No
SATA (550mm+100mm+100mm+100mm)	3	12	18-20AWG	No
SATA (550mm+100mm) / 4-pin Molex (+100mm+100mm)	1	2 / 2	18AWG	No

4-pin Molex (550mm+100mm+100mm)	1	3	18AWG	No
FDD Adapter (100mm)	2	2	20AWG	No
AC Power Cord (1680mm) - C19 coupler	1	1	16AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	24	133.3	3	0.5
	Watts	120		1599.6	15	6
Total Max. Power (W)		1600				

Parts Description

General Data	
Manufacturer (OEM)	Super Flower
PCB Type	Double-Sided
Primary Side	
Transient Filter	5x Y caps, 5x X caps, 2x CM chokes, 1x MOV (TVR14511)
Inrush Protection	NTC Thermistor SCK-254R7 (4.7 Ohm) & Relay
Bridge Rectifier(s)	Bridgeless Design - 1x US30K80R & 8x Infineon FETs
APFC MOSFETs	8x Infineon FETs
APFC Boost Diode	4x Infineon IDH08G65C5 (650V, 8A @ 145°C)
Bulk Cap(s)	4x Nippon Chemi-Con (400 V, 2x 330 uF, 2x 470 uF, 1600 uF combined, 105°C, KMW)
Main Switchers	4x Infineon IPB60R099C6 (650V, 24A @ 100°C, Rds(on): 0.099Ohm)
APFC Controller	SF29603
Resonant Controller	S9602
Topology	Primary side: Bridgeless PFC & Full-Bridge LLC & Resonant Converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	8x Infineon BSC027N04LSG (40V, 88A @ 100°C, Rds(on): 2.7mOhm)
5V & 3.3V	DC-DC Converters: 8x Infineon BSC0906NS (30V, 40A @ 100°C, Rds(on): 4.5mOhm) PWM Controllers: 2x

Filtering Capacitors	Electrolytic: 10x Nippon Chemi-Con (105°C, W), 5x Nippon Chemi-Con (4-10,000 @ 105°C, KY), 20x Rubycon (3-5,000 @ 105°C, ML), 11x Rubycon (6-10000 @ 105°C, ZLH) Polymer: 12x Chemi-Con
Supervisor IC	JTC113 & LM324ADG
Fan Model	ZIC ZFF142512D (140mm, 12V, 0.65A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	1x PFR20L60CT SBR (60V, 20A)
Standby PWM Controller	29604

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	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	91.082%
Average Noise Output (>1450 Load Combinations)	39.79dBA
Average PF (>1450 Load Combinations)	0.995
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.688%
Standby Power Consumption	0.1003W
Non-Accredited	

12V Ripple (Full Load)	11.86mV
5V Ripple (Full Load)	31.89mV
3.3V Ripple (Full Load)	28.15mV
5VSB Ripple (Full Load)	22.49mV
12V Load Regulation	0.65%
5V Load Regulation	0.24%
3.3V Load Regulation	0.12%
5VSB Load Regulation	2.64%
Inrush Current	36.050A

230V

Accredited	
Average Efficiency (>1450 load combinations)	92.647%
Average Noise Output (>1450 Load Combinations)	39.94dBA
Average PF (>1450 Load Combinations)	0.966
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.316%
Standby Power Consumption	0.2235W
Non-Accredited	
12V Ripple (Full Load)	11.23mV
5V Ripple (Full Load)	32.70mV
3.3V Ripple (Full Load)	28.49mV
5VSB Ripple (Full Load)	19.06mV
12V Load Regulation	0.66%
5V Load Regulation	0.28%
3.3V Load Regulation	0.18%
5VSB Load Regulation	2.64%
Inrush Current	67.850A
12V Transient Response (200%)	11.58V
5V Transient Response (200%)	4.973V
3.3V Transient Response (200%)	3.211V
5VSB Transient Response (200%)	4.964V
Hold-Up Time & PWR_OK Signal	21.70ms

AC Loss to PWR_OK Hold Up Time		17.00ms
PWR_OK Inactive to DC Loss Delay		4.70ms
PSU Timings: T1 (20% / 100%)	106.0ms	106.0ms
PSU Timings: T3 (20% / 100%)	115.0ms	114.0ms
12V OCP (30.1°C / 39.6°C)	194.20A (145.69%), 12.019V	194.40A (145.84%), 12.021V
5V OCP (30.1°C / 39.6°C)	27.5A (114.58%), 5.056V	27.1A (112.92%), 5.064V
3.3V OCP (30.1°C / 39.6°C)	28.3A (117.92%), 3.358V	28.3A (117.92%), 3.36V
5VSB OCP (30.1°C / 39.6°C)	5.8A (193.33%), 4.959V	5.7A (190.00%), 4.958V
OPP (32.28°C / 42.50°C)	145.70%	145.70%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	21.7
AC Loss to PWR_OK Hold Up Time (ms)	17
PWR_OK Inactive to DC Loss Delay (ms)	4.7

Vampire Power

Tables

115V

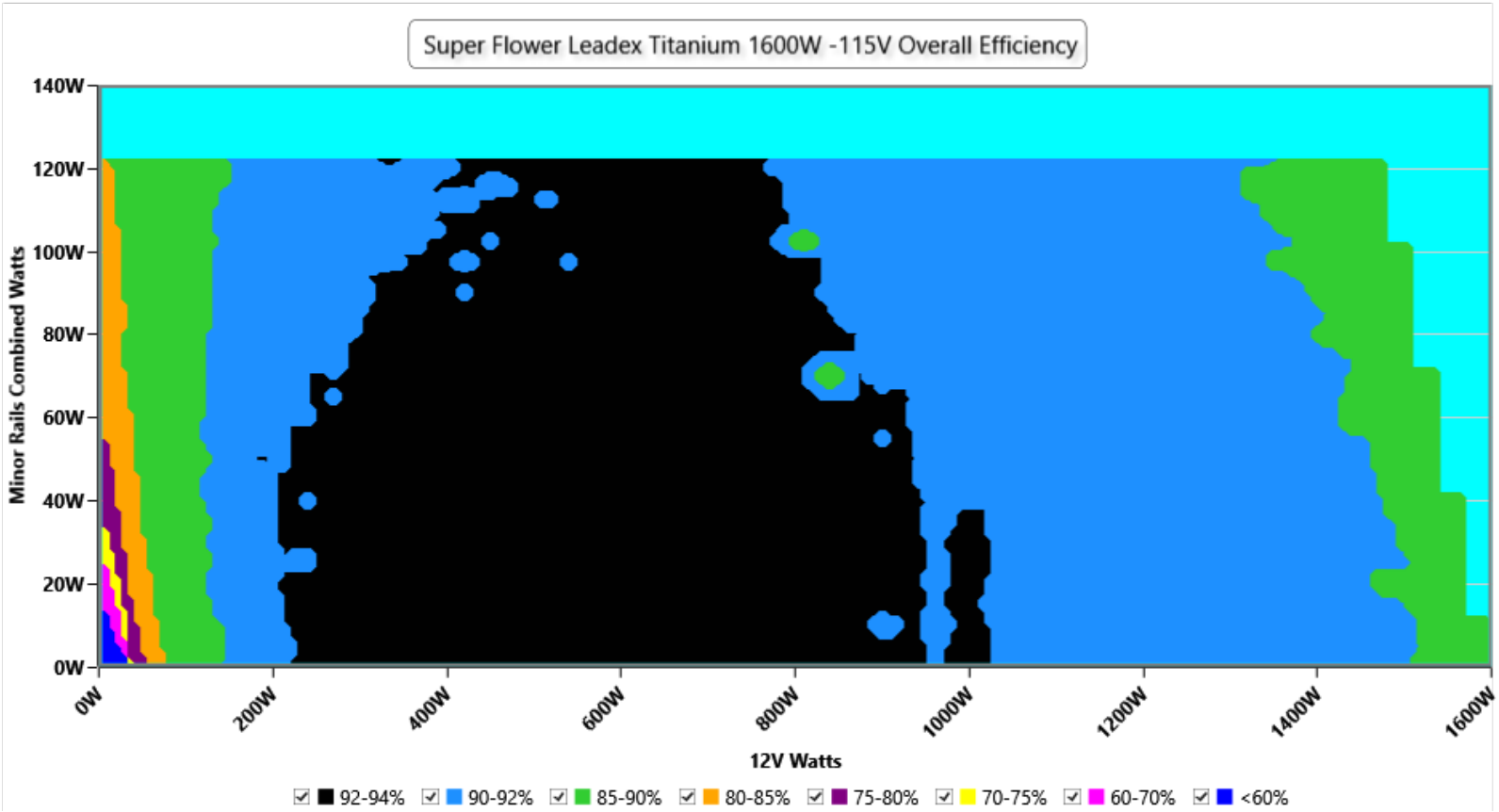
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.84 V	114.79 V	113.85 V	114.90 V	116.15 V	PASS
Mains Frequency:	60.01 Hz	60.00 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.419	1.417	1.340	1.421	1.490	PASS
Mains Voltage THD:	0.15 %	0.09 %	N/A	0.31 %	2.00 %	PASS
Real Power:	0.100 W	0.078 W	N/A	0.126 W	N/A	N/A
Apparent Power:	20.964 W	20.926 W	N/A	21.012 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.86 V	229.79 V	227.70 V	229.92 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.224 W	0.167 W	N/A	0.288 W	N/A	N/A
Apparent Power:	70.094 W	70.046 W	N/A	70.156 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

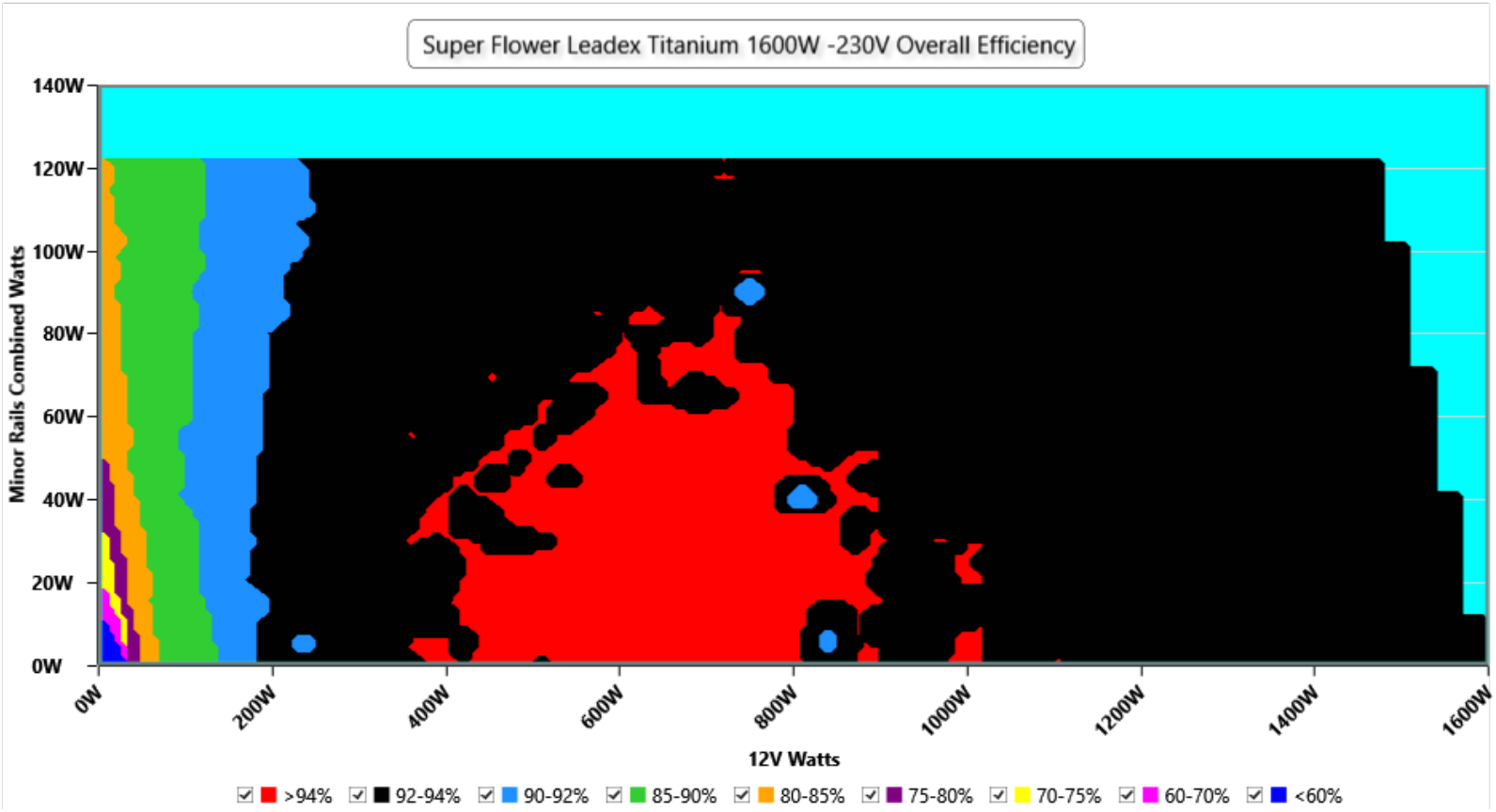
115V



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

230V

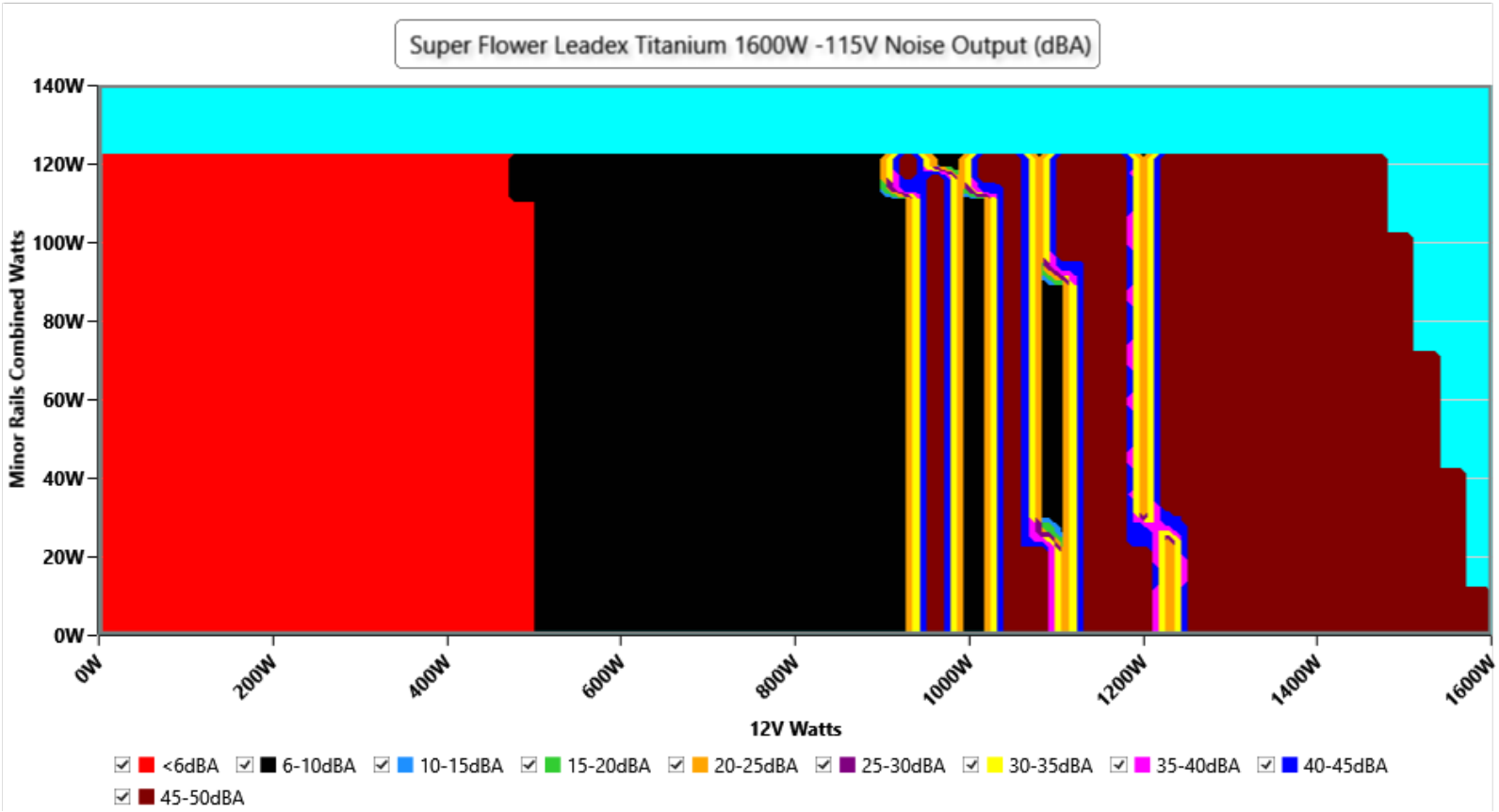


INFO

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

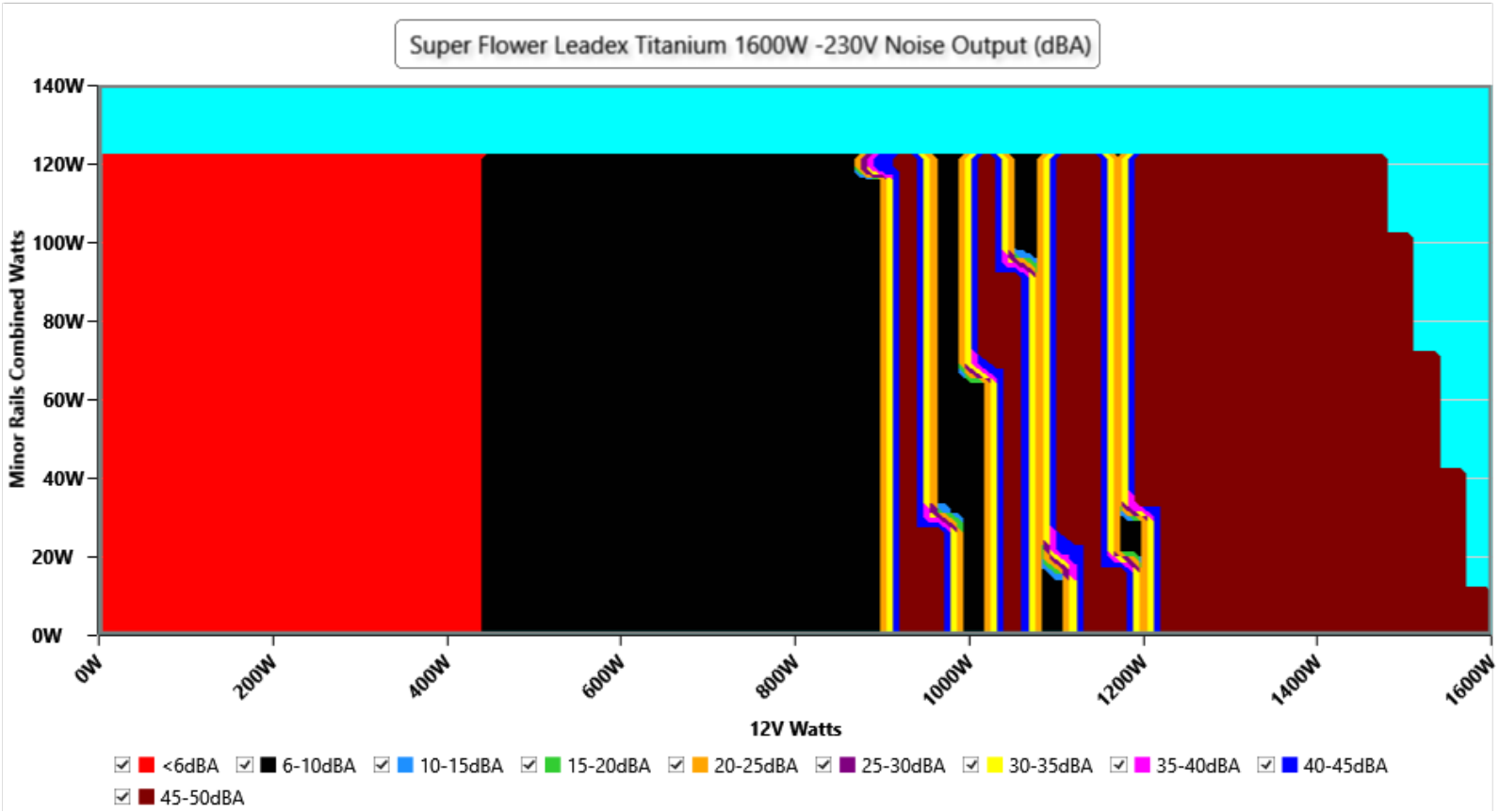
115V



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

230V

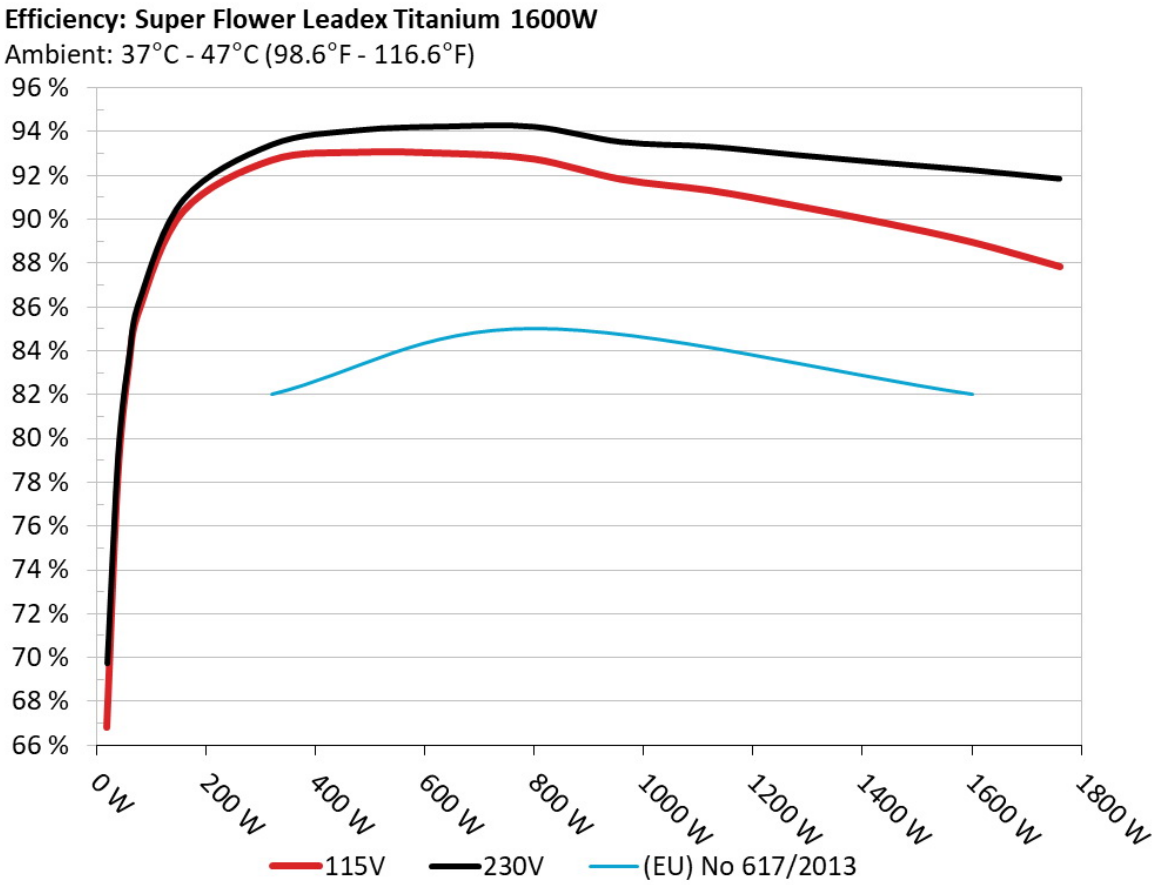


INFO

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

Indicative Performance

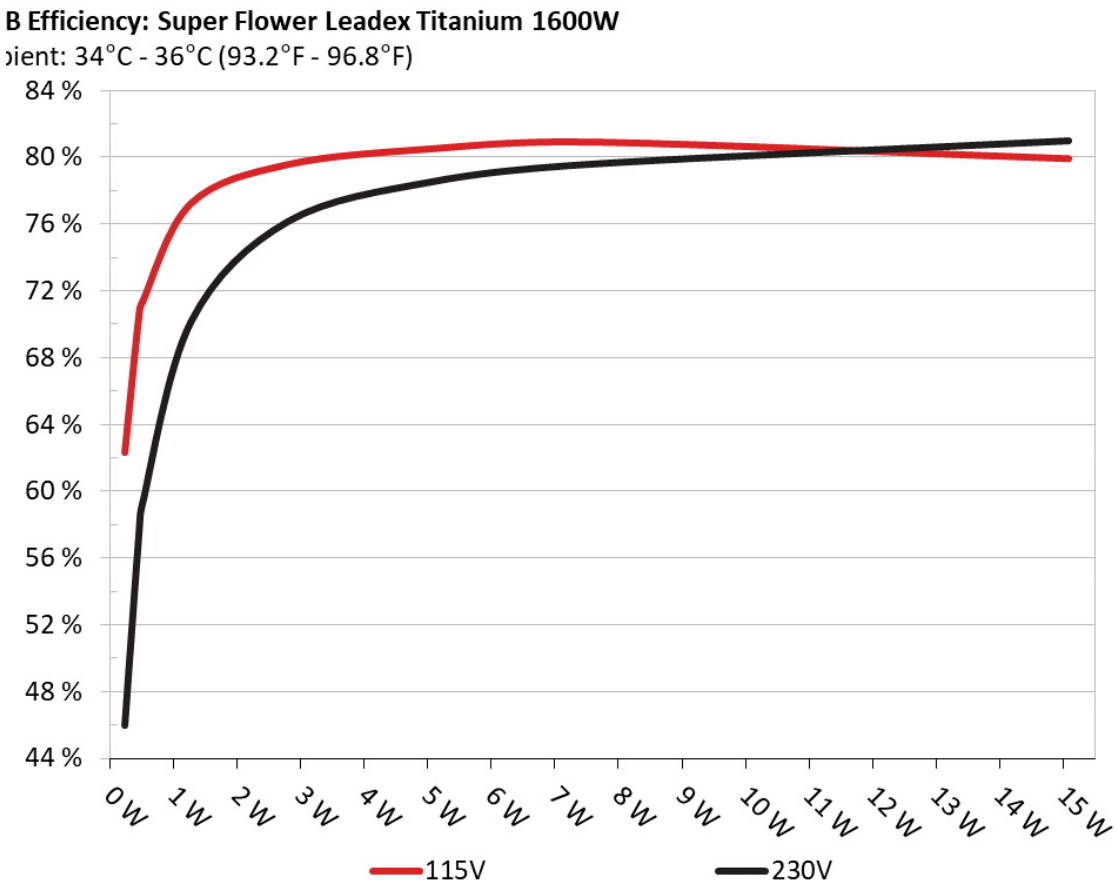
Efficiency under high ambient temperature



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	0.045A	0.229W	61.837%	0.018
	5.09V	0.37W		114.85V
2	0.09A	0.458W	70.256%	0.031
	5.089V	0.652W		114.86V
3	0.55A	2.794W	79.042%	0.156
	5.079V	3.535W		114.86V
4	1A	5.07W	79.984%	0.25
	5.07V	6.339W		114.86V
5	1.5A	7.59W	80.382%	0.325
	5.06V	9.443W		114.85V
6	3A	15.083W	79.39%	0.444
	5.028V	18.999W		114.85V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	45.48%	0.007
	5.09V	0.505W		229.85V
2	0.09A	0.458W	57.278%	0.011
	5.089V	0.801W		229.86V
3	0.55A	2.794W	75.652%	0.052
	5.079V	3.694W		229.85V
4	1A	5.07W	78.045%	0.09
	5.07V	6.496W		229.84V
5	1.5A	7.589W	79.103%	0.129
	5.059V	9.595W		229.84V
6	3A	15.089W	80.495%	0.226
	5.029V	18.746W		229.85V

Protection Features

OCP (Normal @ 30.1°C)	12V: 194.20A (145.69%), 12.019V 5V: 27.5A (114.58%), 5.056V 3.3V: 28.3A (117.92%), 3.358V 5VSB: 5.8A (193.33%), 4.959V
OCP (Hot @ 39.6°C)	12V: 194.40A (145.84%), 12.021V 5V: 27.1A (112.92%), 5.064V 3.3V: 28.3A (117.92%), 3.36V 5VSB: 5.7A (190.00%), 4.958V
OPP (Normal @ 32.3°C)	2331.22W (145.70%)
OPP (Hot @ 42.5°C)	2331.23W (145.70%)
OTP	✓ (161°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

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
10%	11.441A	1.976A	1.963A	0.987A	159.99	90.387%	0	<6.0	44.26°C	0.981
	12.097V	5.061V	3.362V	5.068V	177.012				40°C	114.79V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	23.912A	2.963A	2.946A	1.187A	319.951	92.697%	0	<6.0	45.29°C	0.995
	12.088V	5.063V	3.361V	5.057V	345.16				40.66°C	114.74V
30%	36.680A	3.455A	3.436A	1.387A	479.153	93.066%	0	<6.0	46.39°C	0.998
	12.080V	5.065V	3.361V	5.046V	514.856				41.27°C	114.69V
40%	49.567A	3.945A	3.927A	1.589A	639.602	93.019%	441	6.5	41.8°C	0.999
	12.072V	5.07V	3.362V	5.034V	687.609				47.53°C	114.64V
50%	62.074A	4.931A	4.91A	1.792A	799.374	92.759%	444	6.5	42.22°C	0.999
	12.065V	5.07V	3.36V	5.023V	861.801				48.26°C	114.59V
60%	74.657A	5.919A	5.894A	1.996A	959.832	91.828%	1520	45.6	42.65°C	0.999
	12.056V	5.069V	3.359V	5.011V	1045.236				49.19°C	114.53V
70%	87.200A	6.91A	6.88A	2.2A	1119.605	91.33%	1513	45.4	43.38°C	0.999
	12.047V	5.066V	3.358V	5V	1225.862				50.43°C	114.47V
80%	99.819A	7.895A	7.862A	2.304A	1279.661	90.617%	1514	45.4	43.61°C	0.999
	12.039V	5.067V	3.358V	4.991V	1412.12				51.66°C	114.41V
90%	112.788A	8.386A	8.338A	2.409A	1439.427	89.845%	2010	54.3	44.71°C	0.999
	12.031V	5.068V	3.358V	4.981V	1602.129				53.75°C	114.36V
100%	125.541A	8.876A	8.844A	3.024A	1599.451	88.966%	2002	54.0	45.42°C	0.998
	12.026V	5.07V	3.358V	4.961V	1797.771				55.46°C	114.28V
110%	138.149A	9.858A	9.916A	3.029A	1760.079	87.854%	1999	54.0	46.73°C	0.997
	12.029V	5.072V	3.358V	4.953V	2003.435				57.65°C	114.21V
CL1	0.116A	14.273A	14.223A	0A	121.302	82.815%	453	6.8	40.41°C	0.979
	12.101V	5.059V	3.354V	5.092V	146.499				45.88°C	114.82V
CL2	0.114A	23.622A	0A	0A	121.238	82.764%	608	16.2	40.88°C	0.979
	12.101V	5.074V	3.354V	5.093V	146.462				47.97°C	114.81V
CL3	0.114A	0A	23.569A	0A	80.582	76.612%	594	15.3	40.34°C	0.964
	12.103V	5.064V	3.36V	5.094V	105.201				49.37°C	114.82V
CL4	133.032A	0.001A	0A	0.001A	1600.001	89.575%	2036	54.1	45.34°C	0.998
	12.027V	5.076V	3.366V	5.031V	1786.259				55.99°C	114.31V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	11.441A	1.973A	1.962A	0.987A	159.992	90.947%	0	<6.0	44.66°C	0.883
	12.097V	5.067V	3.363V	5.068V	175.959				40.38°C	229.83V
20%	23.912A	2.96A	2.945A	1.187A	319.951	93.425%	0	<6.0	45.38°C	0.936
	12.088V	5.067V	3.362V	5.057V	342.458				40.76°C	229.8V
30%	36.681A	3.452A	3.436A	1.387A	479.158	94.091%	0	<6.0	46.28°C	0.977
	12.080V	5.07V	3.362V	5.046V	509.26				41.06°C	229.78V
40%	49.567A	3.943A	3.927A	1.589A	639.575	94.261%	444	6.5	41.72°C	0.986
	12.072V	5.072V	3.362V	5.034V	678.534				47.28°C	229.76V
50%	62.071A	4.931A	4.911A	1.792A	799.335	94.253%	446	6.7	42.44°C	0.992
	12.064V	5.07V	3.36V	5.023V	848.079				48.53°C	229.72V
60%	74.658A	5.921A	5.896A	1.996A	959.826	93.555%	1533	45.9	42.72°C	0.995
	12.056V	5.067V	3.359V	5.012V	1025.993				49.23°C	229.7V
70%	87.199A	6.91A	6.88A	2.2A	1119.566	93.346%	1531	45.9	43.58°C	0.996
	12.046V	5.065V	3.358V	5V	1199.395				50.62°C	229.67V
80%	99.823A	7.895A	7.862A	2.304A	1279.612	92.96%	1532	45.9	43.87°C	0.997
	12.039V	5.067V	3.358V	4.991V	1376.575				52.01°C	229.65V
90%	112.794A	8.387A	8.339A	2.409A	1439.425	92.603%	2030	54.3	44.67°C	0.997
	12.030V	5.067V	3.357V	4.982V	1554.398				53.69°C	229.62V
100%	125.553A	8.879A	8.845A	3.024A	1599.456	92.273%	2017	54.4	45.41°C	0.997
	12.025V	5.068V	3.358V	4.961V	1733.342				55.49°C	229.6V
110%	138.158A	9.863A	9.918A	3.028A	1760.081	91.877%	2015	54.4	46.67°C	0.998
	12.028V	5.07V	3.357V	4.954V	1915.704				57.59°C	229.56V
CL1	0.116A	14.275A	14.224A	0A	121.313	82.549%	450	6.8	40.66°C	0.842
	12.101V	5.058V	3.353V	5.092V	147.009				45.79°C	229.84V
CL2	0.114A	23.617A	0A	0A	121.249	83.037%	452	6.8	40.63°C	0.839
	12.101V	5.075V	3.355V	5.093V	146.008				47.71°C	229.84V
CL3	0.114A	0A	23.58A	0A	80.583	76.992%	597	15.3	40.61°C	0.77
	12.102V	5.075V	3.359V	5.094V	104.693				49.8°C	229.84V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	133.048A	0.001A	0A	0.001A	1600.1	92.625%	2049	53.9	45.34°C	0.998
	12.026V	5.075V	3.365V	5.032V	1727.469				56.32°C	229.59V

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])	Temps (In/Out)	PF/AC Volts
20W	1.226A	0.494A	0.491A	0.196A	19.995	66.844%	0	<6.0	39.85°C	0.774
	12.104V	5.058V	3.361V	5.092V	29.911				36.8°C	114.84V
40W	2.700A	0.692A	0.687A	0.295A	39.996	78.23%	0	<6.0	40.66°C	0.894
	12.103V	5.059V	3.362V	5.089V	51.125				37.43°C	114.83V
60W	4.175A	0.889A	0.883A	0.393A	59.996	83.319%	0	<6.0	42.43°C	0.936
	12.102V	5.06V	3.362V	5.086V	72.005				38.7°C	114.82V
80W	5.645A	1.087A	1.079A	0.492A	79.937	85.931%	0	<6.0	43.05°C	0.956
	12.101V	5.06V	3.362V	5.083V	93.024				39.07°C	114.82V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.226A	0.494A	0.491A	0.196A	19.996	69.736%	0	<6.0	39.66°C	0.323
	12.104V	5.058V	3.362V	5.092V	28.678				36.61°C	229.84V
40W	2.701A	0.692A	0.687A	0.295A	39.996	79.32%	0	<6.0	40.87°C	0.493
	12.103V	5.059V	3.362V	5.089V	50.425				37.55°C	229.84V
60W	4.175A	0.889A	0.883A	0.393A	59.996	83.767%	0	<6.0	42.08°C	0.643
	12.102V	5.06V	3.362V	5.086V	71.631				38.5°C	229.84V
80W	5.645A	1.086A	1.079A	0.492A	79.937	86.399%	0	<6.0	43.18°C	0.734
	12.101V	5.064V	3.363V	5.083V	92.508				39.36°C	229.84V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.24mV	10.83mV	8.87mV	7.28mV	Pass
20% Load	6.70mV	14.01mV	12.72mV	8.05mV	Pass
30% Load	6.55mV	18.88mV	15.03mV	8.47mV	Pass
40% Load	8.08mV	25.15mV	40.32mV	9.13mV	Pass
50% Load	6.96mV	22.48mV	18.63mV	10.01mV	Pass
60% Load	7.47mV	28.74mV	24.73mV	12.78mV	Pass
70% Load	7.57mV	25.61mV	20.83mV	17.19mV	Pass
80% Load	7.62mV	27.30mV	22.98mV	19.75mV	Pass
90% Load	8.29mV	28.69mV	24.57mV	17.91mV	Pass
100% Load	11.86mV	31.89mV	28.15mV	22.49mV	Pass
110% Load	12.31mV	32.73mV	28.98mV	25.56mV	Pass
Crossload1	8.43mV	16.06mV	16.11mV	11.17mV	Pass
Crossload2	5.62mV	12.83mV	11.65mV	10.01mV	Pass
Crossload3	6.24mV	15.40mV	11.23mV	9.24mV	Pass
Crossload4	12.46mV	31.85mV	26.73mV	22.59mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.34mV	10.42mV	35.97mV	7.03mV	Pass
20% Load	9.00mV	15.09mV	39.76mV	10.42mV	Pass
30% Load	7.62mV	18.89mV	42.99mV	9.75mV	Pass
40% Load	8.23mV	24.58mV	44.94mV	10.72mV	Pass
50% Load	7.82mV	24.17mV	44.89mV	10.88mV	Pass
60% Load	8.19mV	29.41mV	45.76mV	14.01mV	Pass

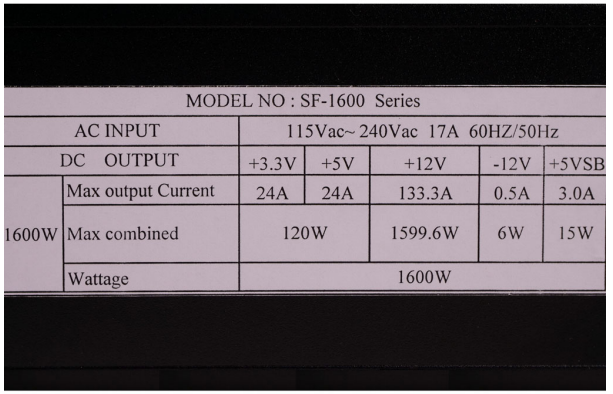
Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	8.08mV	26.23mV	49.56mV	17.60mV	Pass
80% Load	8.90mV	28.84mV	45.86mV	20.37mV	Pass
90% Load	7.83mV	29.36mV	25.65mV	16.27mV	Pass
100% Load	11.23mV	32.70mV	28.49mV	19.06mV	Pass
110% Load	11.82mV	33.30mV	29.52mV	22.97mV	Pass
Crossload1	6.82mV	15.55mV	15.35mV	12.03mV	Pass
Crossload2	7.06mV	14.32mV	14.16mV	11.19mV	Pass
Crossload3	7.01mV	16.06mV	34.32mV	10.57mV	Pass
Crossload4	11.04mV	32.04mV	27.47mV	20.66mV	Pass

The results above are not used in the certification process

Super Flower Leadex Titanium 1600W (ATX v3.1)



Top side



MODEL NO : SF-1600 Series						
AC INPUT		115Vac~ 240Vac 17A 60HZ/50Hz				
DC OUTPUT		+3.3V	+5V	+12V	-12V	+5VSB
1600W	Max output Current	24A	24A	133.3A	0.5A	3.0A
	Max combined	120W		1599.6W	6W	15W
	Wattage	1600W				

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